Market Review

Fixed Voice Call Termination and Mobile Voice Call Termination

Response to Consultation and Decision

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Decision:	D10/19
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An Coimisiún um Rialáil Cumarsáide
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Redacted Information

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Table of Contents

List of Tables

Table of Figures

1 Introduction

1.1 The Commission for Communications Regulation (**'ComReg'**) is the National Regulatory Authority ('**NRA**') responsible for the regulation of the electronic communications sector (telecommunications, radio communications and broadcasting transmission) and the postal sector in the Republic of Ireland.

1.2 Consistent with ComReg's regulatory role to review certain electronic communications markets, this Response to Consultation[1] and Decision ('**Decision**') sets out ComReg's final position regarding its review of competition within the wholesale markets for fixed voice call termination ('**FVCT**') and mobile voice call termination ('**MVCT**'). Both FVCT and MVCT relate to the completion of an inbound telephone call by the Service Provider (('**SP(s)**')[2] of the fixed and mobile called parties respectively. The Decision also sets out the role that regulation will play in promoting effective competition within downstream markets that rely on call termination services for the coming review period.

[1] In October 2017 ComReg issued a consultation entitled "Market Review, Fixed Voice Call Termination and Mobile Voice Call Termination, Consultation and Draft Decision, ComReg Document 17/90, October 2017" ('**Consultation**') which set out ComReg's then preliminary views based on an analysis of the Relevant Termination Markets.https://www.comreg.ie/publication/market-review-fixed-voice-call-termination-mobile-voice-call-termination/.

[2] 'Service Providers' means both Fixed Voice Service Providers ('**FSPs**') and Mobile Voice Service Providers ('**MSPs**').

1.3 A subscriber to retail fixed voice[3] call (‘**RFVC**’) services and retail mobile voice call (‘**RMVC**’) services can make and receive calls to and from subscribers on other fixed and mobile telephony networks.[4] Making and receiving calls across different SPs networks is made possible by means of various wholesale interconnection services which include call origination,[5] call transit[6] (if necessary), and call termination.

1.4 With respect to the termination component, a wholesale charge is applied by the called party’s SP to terminate or complete calls on its individual (fixed or mobile) network. This component of the broader wholesale interconnect services suite is referred to as **wholesale voice call termination** (‘**WVCT’**).

1.5 WVCT[7] services offered by SPs fall into two categories, namely Fixed Voice Call Termination (‘**FVCT**’) and Mobile Voice Call Termination (‘**MVCT**’). When a subscriber of a Fixed Service Provider (‘**FSP**’) or Mobile Service Provider (‘**MSP**’) receives a call, that subscriber’s SP must terminate that call on its network. At a wholesale level a charge is levied by the called party’s SP on the calling party’s SP (either directly or indirectly), in order to cover the costs associated with completing or terminating that incoming call on its network.

[3] Please note that for the purposes of this Decision, the term ‘fixed voice’ refers to voice services provided to end users who make/receive voice calls at a fixed location, i.e. typically within the home or a business premises. While the definition implies that the voice calls service is provided at a fixed location, it does not necessarily imply that the underlying or supporting network is always a wired network.

[4] In this Decision, where appropriate, RFVC and RMVC are collectively referred to as ‘Retail Voice Calls (‘**RVC**’).

[5] Fixed Voice Call Origination (‘**FVCO**’) is a wholesale service that involves the supply of the switching, routing, and conveyance of a voice call up to a designated point of handover on a network, which is typically located at a switching point in a telephone exchange (or equivalent point in a network). Wholesale FVCO services are often supplied with an access path (known as Wholesale Line Rental) over which FVCO is supplied.

[6] Transit is a wholesale service provided to Service Providers that involves the switching, routing and conveyance of calls between the point of handover of the FVCO stage of a call, up to, but not including, the termination stage of a call. The termination stage is typically from the nearest switching point to the called party onwards. Several Service Providers currently provide transit in Ireland, including Eircom, BT and Virgin Media.

[7] Originating Service Providers may not be directly interconnected with a Service Provider and, in such circumstances, the purchase of FVCT or MVCT from the terminating Service Provider may take place via a third-party transit provider. This type of indirect purchase of FVCT or MVCT is not shown in Figure 1: Retail charging (Calling Party Pays) and FVCT arrangements below, as this illustrates the purchase or FVCT or MVCT when both Service Providers are directly interconnected.

1.6 The ‘Calling Party Pays’ (‘**CPP**’)[8] principle is a retail principle, that impacts wholesale termination markets and associated wholesale termination charges. These WVCT charges are not directly visible to retail subscribers of fixed or mobile voice services when they make or receive calls. However, calling parties’ SPs may pass these WVCT charges onto their retail subscribers, either through the cost of making a call or in the overall cost of the service.

1.7 In providing RFVC, the FSP of the called party will apply a charge to the SP (either a FSP or MSP) of the calling party (who originated the call on behalf of its subscriber) known as a Fixed Termination Rate (‘**FTR**’). Thus, an FSP charges an FTR for providing FVCT. The FTR typically reflects the duration of the call and is charged on a per minute basis, with some FSPs varying their per-minute charge by time of day or week (peak / off peak/ weekend minutes), as well as levying a fixed per-call charge.

1.8 Similarly, in providing RMVCs, a MSP will typically levy a charge known as a Mobile Termination Rate (‘**MTR**’) on the SP of the calling party. Thus, an MSP charges an MTR for providing MVCT. Similarly, the MTR reflects the duration of the call and is typically charged on a per minute basis, with some MSPs varying their per minute charge by time of day or week (peak/ off peak/weekend minutes), as well as levying a fixed per-call charge.

1.9 In this Decision, where appropriate, FTRs and MTRs are collectively referred to as ‘Termination Rates’. If a SP originates and terminates a call on its own network (an ‘on-net’ or ‘on-network’ call), the SP effectively provides a termination service to itself.

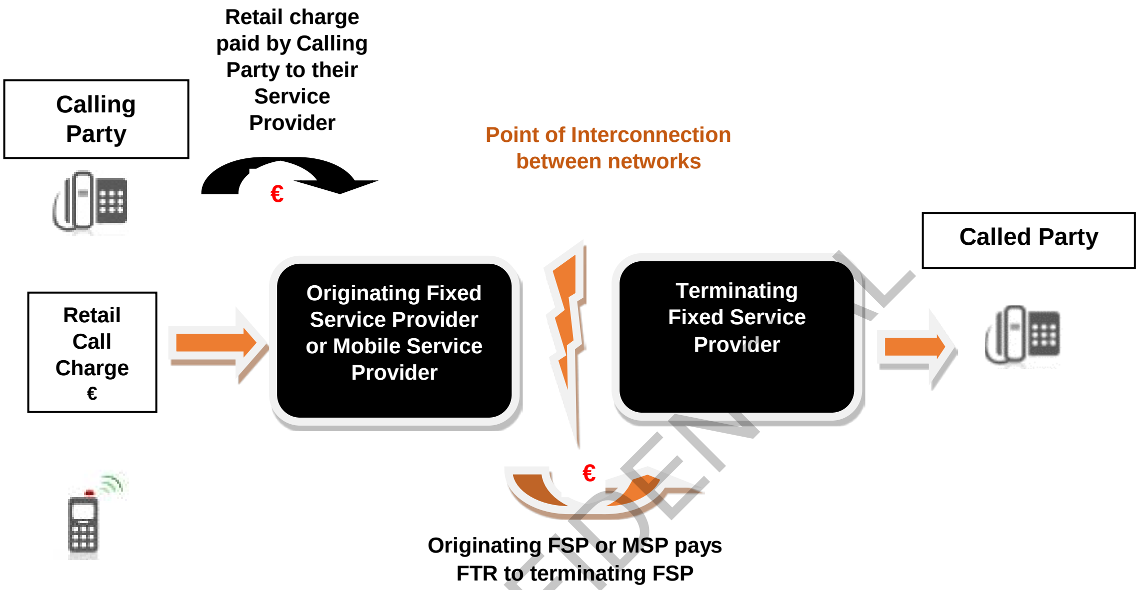
1.10 Figure 1 below outlines a general stylised scenario whereby a subscriber is seeking to make a call (the ‘**calling party**’) from their fixed line telephone or their mobile phone, to contact someone on a fixed line telephone (the ‘**called party**’). The calling party pays their SP a retail charge for making the call. At the wholesale level, the calling party’s SP originates the telephone call on its network and, where it is directly interconnected,[9] hands the call over to the FSP of the called party, thereby facilitating the connection of the call to the called party.

[8] Under the Calling Party Pays principle, the subscriber initiating the call (‘the calling party’) incurs the cost of the call (charged either as a monetary amount, or as a deduction from the subscriber’s allocation of bundled minutes). The subscriber answering the call (‘the called party’) incurs no cost in doing so.

[9] The calling party’s Service Provider may also be indirectly interconnected to the called party’s FSP, via another Service Provider which provides a wholesale call transit service.

1.11 The called party's FSP charges the calling party's SP a FTR to reflect the cost of providing the FVCT service. While the calling party and the called party do not have direct visibility of FTR charging arrangements, it is likely that the calling party's Service Provider will pass some or all of the FTR through to the calling party via retail call (or other) charges.[10]

Figure 1: Retail charging (Calling Party Pays) and FVCT arrangements



1.12 As demonstrated in Figure 2 below, a MVCT service is provided when the calling party's SP hands the call over to the MSP of the called party.[11] Similarly, the called party's MSP will then charge the calling party's SP an MTR to reflect the cost of providing the MVCT service.

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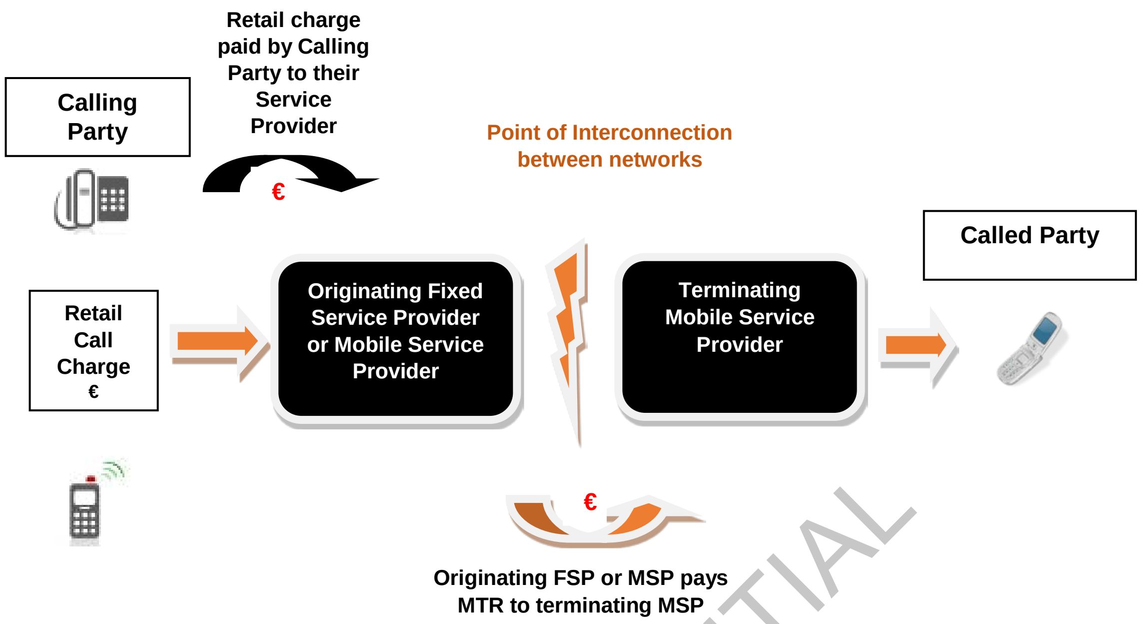
[10] This may be reflected in the cost of making calls or the overall cost of the package.

[11] Either directly where it is interconnected, or indirectly, via another Service Provider who provides a wholesale call transit service.

Figure 2: Retail charging (Calling Party Pays) and MVCT arrangements



1.13 In accordance with ComReg's regulatory role to review certain electronic communications markets, this Decision presents ComReg's position on its analysis of the wholesale markets for both the provision of FVCT (the '**Relevant FVCT Market(s)**') and, separately, the provision of MVCT on individual mobile networks (the '**Relevant MVCT Market(s)**').

1.14 The objective of this review is, ultimately, to decide if, absent regulation, any FSP or MSP has Significant Market Power ('**SMP**') in a Relevant FVCT Market(s) or Relevant MVCT Market(s) (together the '**Relevant Termination Markets**') and, if so, to impose appropriate remedies to address any competition problems that have arisen or could arise in the duly-defined Relevant Termination Markets. Such competition problems could, for example, include:

(a) Refusal to supply FVCT or MVCT, resulting in an undermining of competition and the inability for consumers to make calls across networks;

(b) The levying of excessive Termination Rates, resulting in higher costs for those Service Providers originating calls, with such higher costs passed through to retail subscribers in the form of increased charges for calls and/or other services.

1.15 Remedies (or obligations) imposed by NRAs in other European Union ('**EU**') Member States, and by ComReg to date to address such competition problems have generally focussed on access obligations and price controls with respect to WVCT services, in addition to other remedies designed to ensure non-discrimination and transparency.

1.16 In this Decision, ComReg presents its findings on its analysis of the Relevant Termination Markets. The analysis set out in this Decision adopts the approach recommended by the European Commission ('**EC**') and, in doing so, takes the utmost account of:

(a) The 2014 Recommendation[12] and the Explanatory Note to the 2014 Recommendation[13] on relevant product and service markets susceptible to ex ante regulation within the electronic communications sector[14];

(b) The 2002 SMP Guidelines and 2018 SMP Guidelines[15] on market analysis and the assessment of SMP[16];

(c) The 2009 Termination Rate Recommendation on the regulatory treatment of Wholesale Termination Rates in the EU[17]; and

(d) The 2005 Accounting Separation and Cost Accounting Recommendation[18].

1.17 ComReg also takes account of:

[12] European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (C(2014) 7174 final) ("the 2014 Recommendation").

[13] Explanatory Note accompanying the Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation, dated 9.10.2014 (the '**Explanatory Note to the 2014 Recommendation**'). The Explanatory Note to the 2014 Recommendation is available at https://ec.europa.eu/digital-single-market/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets.

[14] See paragraph 1.21.

[15] European Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic networks and services, OJ 2002 C 165/3 (hereafter, the '**2002 SMP Guidelines**'), and the updated European Commission Guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services, C(2018) 2374 {SWD(2018) 124} (the '**2018 SMP Guidelines**', collectively, the '**SMP Guidelines**').

[16] See paragraphs 1.22, 1.23, and 1.24.

[17] European Commission Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/396/EC) (OJ L124/67) (the '**2005 Accounting Separation and Cost Accounting Recommendation**').

[18] European Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications ((2005/698/EC) (OJ L266/64).

(a) The European Commission's Notice on Market Definition for the purposes of community competition law[19]; and

(b) Any relevant common positions adopted by the Body of European Regulators for Electronic Communications ('**BEREC**').[20]

1.18 ComReg has also had regard to relevant European Commission comments made, pursuant to Article 7 of the Framework Directive, with respect to other EU NRAs' market analyses.

1.19 This Decision defines the Relevant FVCT Markets and the Relevant MVCT Markets with respect to both product and geographic dimensions. It also assesses competition within those markets and examines potential competition problems before imposing appropriate regulatory remedies, in addition to associated impacts, to address the competition problems identified. Specifically, the Decision sets out ComReg's findings on the following matters:

(a) the definition of the Relevant Termination Markets from both a product and geographic perspective;

(b) on the basis of an assessment of competition within the Relevant Termination Markets, which FSPs and MSPs are being designated as having SMP; and

(c) the specification and imposition of appropriate wholesale access, pricing and other related remedies on such SMP FSPs and SMP MSPs in order to address competition problems that have arisen or could arise in each of these Relevant Termination Markets, absent ex ante regulation.

[19] Commission notice on the definition of relevant market for the purposes of Community competition law, (the '**Notice on Market Definition'**), Official Journal C 372, 09/12/1997 pp.5-13.

[20] BEREC, as established by Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing BEREC and the Office.

Separate Pricing Decision

1.20 Separately, ComReg issued a Consultation in March 2018 (the '**2018 Separate Pricing Consultation'**) which further specified the price control obligations proposed in the Consultation, and which ComReg proposed to apply (as appropriate) on the Relevant Markets[21]. The consideration by ComReg of responses to the 2018 Separate Pricing Consultation is set out in the Separate Pricing Decision[22], which has issued alongside this Decision.

Legal basis and regulatory framework

1.21 This market review is undertaken by ComReg in accordance with the obligation set out in the **Framework Directive**[23] (transposed into Irish law as the **Framework Regulations**)[24] that NRAs should analyse relevant markets, taking utmost account of the EC's 2014 Recommendation and the 2018 SMP Guidelines.

1.22 This market review was predominantly carried out during the currency of the 2002 SMP Guidelines. On April 26th 2018,[25] the European Commission announced the adoption of an updated set of 2018 SMP Guidelines, which were published in the Official Journal of the EU on May 7th, 2018. Accordingly, while the Consultation had regard to the 2002 SMP Guidelines, this Decision has regard to the 2018 SMP Guidelines. ComReg has taken care to ensure that its analysis is consistent with the 2018 SMP Guidelines.

1.23 As set out in the Staff Working Paper which accompanies the 2018 SMP Guidelines,

[21] Further Specification of Proposed Price Control Obligations for Fixed and Mobile Call Termination Rates https://www.comreg.ie/publication/price-consultation-specification-proposed-price-control-obligations-fixed-mobile-call-termination-rates/

[22] Price Control Obligations for Fixed and Mobile Call Termination Rates: Response to Consultation and Decision, ComReg Document 19/48, ComReg Decision D11/19.

[23] Article 16 of Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, as amended by Directive 2009/140/EC (the '**Framework Directive'**).

[24] European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011) (the ''**Framework Regulations'**). The Framework Regulations transpose the Framework Directive.

[25] https://ec.europa.eu/digital-single-market/en/news/communication-smp-guidelines.

> *"Given that the Guidelines continue to be based on competition law principles, if an NRA had already carried out a public consultation in line with the 2002 Guidelines, the mere adoption of these Guidelines should not per se require that NRA to conduct a new public consultation."*[26]

1.24 Accordingly, it is not necessary for ComReg to conduct a new public consultation, pursuant to the issuing of the 2018 SMP Guidelines.

1.25 Regulation 26 of the Framework Regulations requires that ComReg, taking the utmost account of the 2014 Recommendation and of the 2018 SMP Guidelines, define relevant markets appropriate to national circumstances, in accordance with the principles of competition law.

1.26 The European Commission, in the 2014 Recommendation, describes the Relevant Termination Markets in the following terms:[27]

> *"Wholesale call termination on individual public telephone networks provided at a fixed location" ('**Market 1**')*

> *"Wholesale voice call termination on individual mobile networks" ('**Market 2**')*

1.27 Regulation 25 of the Framework Regulations requires that, where ComReg determines, as a result of a market analysis and in accordance with Regulation 27, that a given market (defined in accordance with Regulation 26) is not effectively competitive, that ComReg is obliged under Regulation 27(4) to designate an undertaking or undertakings with SMP in that market. In addition ComReg must, as it considers appropriate, impose specific obligations on such undertaking(s), or maintain or amend such obligations where they already exist.

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[26] Commission staff working document accompanying the document communication from the commission guidelines on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (Text with EEA relevance) {C(2018) 2374 final}, ('**Staff Working Document**') at p.7.

[27] Annex to the 2014 Recommendation.

1.28 In line with the "Modified Greenfield Approach" ('**MGA**') set out in the Explanatory Note to the European Commission's 2014 Recommendation,[28] ComReg's market assessment starts from the assumption that SMP regulation is not present in the specific market under consideration. However, regulation present in other related markets or through the general regulatory framework is considered. This approach avoids erroneously drawing conclusions regarding the competitive structure of a particular market which may be influenced by, or indeed premised on, existing regulation on that market. Considering how markets may function absent regulation helps to ensure that SMP-based regulation is only applied (or withdrawn) in circumstances where it is justified and proportionate to do so.

1.29 Where an operator is ultimately designated as having SMP in a market, ComReg is obliged, under Regulation 8(1) of the **Access Regulations**,[29] to impose on such an operator (or maintain where they already exist) such of the obligations set out in Regulations 9 to 13 of the Access Regulations as it considers appropriate. Obligations imposed must:

(a) be based on the nature of the problem identified;

(b) be proportionate and justified in the light of the objectives laid down in section 12 of the Communications Regulation Act 2002 (as amended),[30] and Regulation 16 of the Framework Regulations; and

(c) only be imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations.

1.30 Section 12(1)(a) of the Communications Regulation Act 2002 (as amended) sets out ComReg's objectives in exercising its functions in relation to the provision of electronic communications networks, electronic communications services and associated facilities, namely to:

(a) Promote competition;

(b) Contribute to the development of the internal market; and

(c) Promote the interests of users within the European Union.

[28] Please refer to Page 13 of: https://ec.europa.eu/digital-single-market/en/news/explanatory-note-accompanying-commission-recommendation-relevant-product-and-service-markets.

[29] The European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011, S.I. No. 334 of 2011 (the '**Access Regulations**'). The Access Regulations transpose Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities as amended by amended by Directive 2009/140/EC.

[30] Communications Regulation Act 2002 (No. 20 of 2002), as amended (the '**Communications Regulation Act 2002 (as amended)**').

1.31 Apart from conducting a public consultation in accordance with Regulation 12 of the Framework Regulations, ComReg is also obliged to make its draft measures accessible to the European Commission, BEREC and NRAs in other Member States pursuant to Regulation 13(3) of the Framework Regulations.

Previous Reviews of the Relevant Termination Markets

1.32 The Relevant FVCT Markets are regulated in accordance with ComReg's 2007 FVCT Decision (the '**2007 FVCT Decision**')[31] in which Eircom and the following six alternative FSPs[32] were designated as having SMP on their respective networks: BT Communications; Verizon; UPC[33]; Colt; Smart Telecom;[34] and Magnet Networks (the '**2007 Alternative SMP FSPs**').

1.33 The 2007 FVCT Decision imposed a range of access, transparency, non-discrimination, price control, accounting separation and cost accounting obligations on Eircom. Transparency, non-discrimination and price control obligations were imposed on the 2007 Alternative SMP FSPs.

[31] ComReg Decision No. D06/07, Market Analysis – Interconnection Market Review Fixed Wholesale Call Termination Services, ComReg Document 07/109, 21 December 2007. See https://www.comreg.ie/csv/downloads/ComReg07109.pdf ('**2007 FVCT Decision**'). Notified to the EC under Cases IE/2007/0701.

[32] Note the names of the FSPs identified is shorthand and not their full legal title.

[33] Ntl Communications (Ireland) Limited and Chorus Communications Limited. UPC is the parent company of Ntl Communications (Ireland) Ltd and Chorus Communications Ltd. Chorus, the wholly owned subsidiary of UPC, acquired Ntl in 2005.

[34] Smart Telecom has since been acquired by Digiweb, which itself subsequently acquired Viatel.

1.34 In June 2012 ComReg consulted on the detail of an updated pricing obligation for both mobile and fixed voice call termination, with obligations regarding fixed voice call termination rates intended to apply to the SMP FSPs the subject of the 2007 FVCT Decision ('**2012 Termination Rates Consultation**'[35]). A response to consultation and final decision was published in November 2012 (the '**2012 Pricing Decision**'[36]). The mobile aspect of the 2012 Pricing Decision (and the associated mobile market review[37]) were subsequently appealed (the '**Mobile Termination Rates Appeal**'). The Mobile Termination Rates Appeal had, amongst other things, challenged a pricing methodology that was also utilised in the 2012 FVCT Consultation[38] (see below).

1.35 In 2012 ComReg had undertaken a market review of the then Relevant FVCT Markets and published a Consultation and Draft Decision in September 2012 ('**2012 FVCT Consultation**'[39]). The 2012 FVCT Consultation, amongst other things, proposed to broaden the list of SMP FSPs from the 2007 FVCT Decision and accordingly extend the pricing obligation that was contained in the 2012 Termination Rates Consultation to those FSPs.

[35] ComReg Document No. 12/67 "Voice Termination Rates in Ireland - Proposed Price Control for Fixed and Mobile Termination Rates" dated 28 June 2012 ('**2012 Termination Rates Consultation'**).

[36]See ComReg Document 12/125, ComReg Decision D12/12, "Mobile and Fixed Voice Call Termination Rates in Ireland", 21 November 2012 (the '**2012 Pricing Decision**'). Notified to the EC under Case IE/2012/1373.

[37] See ComReg Document 12/124, Decision D11/12, "Market Review – Voice Call Termination on Individual Mobile Networks – Response to Consultation and Decision Notice", 21 November 2012 (the '**2012 MVCT Decision'**), with this setting out the adopted measures which were consulted upon in the 2012 Termination Rates Consultation. Notified to the EC under Case IE/2012/1371.

[38] See ComReg Information Notice 12/139, "Appeal of ComReg's Decision on Mobile Termination Rates", of 20 December 2012; ComReg Information Notice 13/80, "High Court Judgment on Mobile Termination Rates", of 16 August 2013; ComReg Information Notice 13/97, "High Court Order following its Judgment of 14 August 2013 on Mobile Termination Rates", of 21 October 2013; ComReg Information Notice 13/99, "Supreme Court Appeal – Mobile Termination Rates Case", of 6 November 2013; and ComReg Information Notice 13/108, "Mobile Termination Rates Case", of 21 November 2013.

[39] ComReg Document No. 12/96, "Market Review – Wholesale Voice Call Termination Provided at a Fixed Location, Consultation and Draft Decision", dated 3 September 2012 (the '**2012 FVCT Consultation**').

1.36 While the subsequent draft measures which were subject of the 2012 FVCT Consultation were, in July 2013, notified to the European Commission ('**2013 FVCT Draft Decision**'),[40] a final decision was not adopted by ComReg. This was because of issues that had arisen in the context of the then appeal of the Mobile Termination Rates Appeal. That Mobile Termination Rates Appeal was ultimately settled in February 2016[41] and a final decision, the 2016 MTR Decision, was adopted in respect of the MVCT Markets on 12 February 2016.[42] It should be noted that as the fixed aspect of the 2012 Pricing Decision had not been appealed it remained in place for the 2007 SMP FSPs.

1.37 Furthermore, as no final SMP decision was adopted in respect of the then FVCT market following the settlement of the Mobile Termination Rates Appeal, regulation of the Relevant FVCT Markets has remained pursuant to the 2007 FVCT Decision. In addition to the 2012 Pricing Decision (which is described above), there were some other amendments to remedies in the then FVCT Market in 2009[43] and 2011[44].

1.38 The Relevant MVCT Markets are regulated in accordance with ComReg's 2012 MVCT Decision[45] and ComReg's 2016 MTR Decision. The 2012 MVCT Decision designated six Mobile Service Providers ('**MSPs**')[46] as having Significant Market Power ('**SMP**') on six defined relevant MVCT Markets.[47] Various obligations were imposed on these MSPs in respect of transparency, non-discrimination, access, and price control, pursuant to Regulations 9, 10, 12 and 13 of the Access Regulations. ComReg did not, at the time, consider it necessary or justified to impose either cost accounting obligations or accounting separation obligations. The 2016 MTR Decision imposed cost oriented MTRs, determined using a Bottom-Up Pure LRIC cost model.

[40] Case Reference Number Case IE/2013/1469.

[41] ComReg Information Notice 16/14, "Mobile Termination Rates", of 16 February 2016.

[42] ComReg Document No. 16/09, ComReg Decision D02/16, "Mobile Termination Rates: Response to Consultation 14/29 and Supplementary Consultation 15/19 and Decision Document", dated 12 February 2016 (the '**2016 MTR Decision**').

[43] Notified to the EC under Case IE/2009/0917 concerning amendments to transparency obligations.

[44] Notified to the EC under Case IE/2011/1220 concerning amendments to price control obligations.

[45] ComReg Document No. 12/124, ComReg Decision D11/12, "Market Review – Voice Call Termination on Individual Mobile Networks – Response to Consultation and Decision Notice", 21 November 2012 (the '**2012 MVCT Decision**').

[46] Three, Lycamobile, Meteor, Telefónica, Tesco Mobile and Vodafone.

[47] Wholesale MVCT supplied by Hutchinson 3G Ireland Limited; Wholesale MVCT supplied by Lycamobile Ireland Limited; Wholesale MVCT supplied by Meteor Mobile Communications Limited; Wholesale MVCT supplied by Telefónica Ireland Limited; Wholesale MVCT supplied by Tesco Mobile Ireland Limited; and Wholesale MVCT supplied by Vodafone Ireland Limited

Information Sources Relied Upon

1.39 As part of this market review, ComReg has obtained qualitative and quantitative information from SPs through a series of formal and informal information requests, as well as through industry meetings. ComReg has also reviewed, in detail, the experience of NRAs in regulating Relevant Termination Markets in other jurisdictions and has carefully analysed guidance from the European Commission, BEREC and other relevant commentators before arriving at its final position, as set out in this Decision.

1.40 In conducting its analysis, ComReg has drawn on data from a number of sources, including:

(a) Consumer and Business Market Research commissioned by ComReg and carried out on its behalf by Red C during 2016 (the **'2016 Market Research'**)[48]. This research included attitudinal surveys of retail end users of fixed voice, mobile voice and other related telecommunications services. The results of the research are reported in the following documents:

(i) 2016 Consumer and Business FVCT Market Research (ComReg 17/90a)[49]; and

(ii) Consumer and Business MVCT Market Research (ComReg 17/90b)[50]

[48] References in this Decision to specific pages or slides in the 2016 Market Research Reports will be cited as follows with reference to whether they relate to the Consumer or Business FVCT Research or Consumer or Business MVCT Research: (i) 2016 Consumer FVCT Market Research; (ii) 2016 SME FVCT Market Research; (ii) 2016 Consumer MVCT Market Research; (iv) 2016 SME MVCT Market Research.

[49] https://www.comreg.ie/publication/comreg-fvct-market-research/.

[50] https://www.comreg.ie/publication/comreg-mvct-market-research/.

(b) Information provided by Service Providers in response to detailed statutory information requests[51] issued by ComReg in which both quantitative and qualitative information on the Relevant Termination Markets and on other related telecommunications services was sought ('**Statutory Information Requests**' or '**SIR(s)**');

(c) Information provided to ComReg in subsequent follow-up correspondence and discussions in relation to (b) above or other areas where information was sought;

(d) Information provided to ComReg by Service Providers for the purpose of ComReg's Quarterly Key Data Report ('**QKDR**');[52]

(e) The 2017 Ireland Communicates Survey of Information and Communication Technology (ICT) usage by consumers and small and medium enterprises (SME) conducted by ComReg and its survey partner Ipsos MRBI (the **'2017 Ireland Communicates Survey'**)[53]. The results of the survey are reported in the following documents:

(i) Ireland Communicates Survey 2017 – Consumer (ComReg 18/23a)[54]; and

(ii) Ireland Communicates Survey 2017 – SME (ComReg 18/23b).[55]

(f) Other information in the public domain.

[51] In July 2016 pursuant to its powers under section 13D(1) of the Communications Regulation Act 2002 (as amended), ComReg issued a series of statutory information requests ('**SIR(s)**') to the following Service Providers: Eircom Ltd, BT Ireland Communications Ltd, Vodafone Ireland Ltd, Verizon Ireland Ltd, Virgin Media Ireland Ltd, PlanNet 21, Airspeed Communications Ltd, Colt Technology Services Ltd, Imagine Telecommunications Ltd, Magnet Networks Ltd, Telcom Ltd, In2com Ltd, Finarea SA, Viatel Ireland Limited, BlueFace, Modeva Networks Ltd, Equant Network Systems Ltd, Dialoga Servicios Interactivos SA, Intellicom Ireland Ltd, Magrathea Telecommunications Ltd, Voxbone SA, Three Ireland Ltd, Meteor Mobile Communications Ltd, Tesco Mobile Ireland Ltd, Lycamobile Ireland Ltd, and Carphone Warehouse Ireland Mobile Ltd.

[52] This Decision used data presented in ComReg's QKDR as at Q3 2018, which is available online at https://www.comreg.ie/industry/electronic-communications/market-information/quarterly-key-data-report/.and . The ComReg data portal is available online at: https://www.comreg.ie/industry/electronic-communications/data-portal/

[53] References in this Decision to specific pages or slides in the 2017 Ireland Communicates Survey reports will be cited as follows with reference to whether they relate to the consumer survey or the SME survey: (i) Ireland Communicates Survey 2017 – Consumer; (ii) Ireland Communicates Survey 2017 – SME

[54] https://www.comreg.ie/publication/ireland-communicates-survey-sme-consumer/

[55] https://www.comreg.ie/publication/ireland-communicates-survey-2017-small-medium-enterprises-sme/

1.41 The 2016 Market Research referred to above was undertaken on behalf of ComReg to inform its FVCT and MVCT market reviews and examine the attitudes of both personal and Small and Medium-sized Enterprise (**'SME'**) end users to various issues related to the provision of fixed voice, mobile voice and other related electronic communications services. The field work supporting the 2016 Market Research took place in the period July 2016 to September 2016 with the results finalised and provided to ComReg in October 2016.

1.42 As part of the 2016 Market Research, 1,000 residential households were surveyed through face-to face interviews[56] and 500 SMEs[57] were surveyed via a computer aided telephone interview ('**CATI**'), with the person interviewed being the individual responsible for selecting the relevant business's telecommunications providers.

1.43 The surveys examined, *inter alia*:

(a) Importance placed by end users on ownership and usage of particular technologies;

(b) Willingness of end users to switch between communications providers and technologies;

(c) Attitudes to, and actual reactions to, changing scenarios in the price of telecommunications services;

(d) The importance of bundled service offers for residential customers; and

(e) The use of OTT and VoIP services.

1.44 ComReg refers to the outputs from the 2016 Market Research, the 2017 Ireland Communicates Survey, along with the other data sources referred to above, throughout the remainder of the analysis in this Decision.

1.45 It should be noted that, rather than being definitive, the 2016 Market Research informs the analysis throughout this Decision, and its outputs are considered alongside empirical data/evidence, where available, in particular, alongside data presented in the QKDR and in response to Statutory Information Requests.

1.46 Taking account of the analysis in the Consultation, the information sources indicated above, the views expressed by Respondents and ComReg's assessment of these views, ComReg presents its final views on the issues in this Decision.

56 2016 Consumer FVCT Market Research and 2016 Consumer MVCT Market Research

57 2016 SME FVCT Market Research and 2016 SME MVCT Market Research

Liaison with other bodies

1.47 In accordance with Regulation 27(1) of the Framework Regulations, ComReg has consulted with the Competition and Consumer Protection Commission ('**CCPC**') on the Relevant Markets set out in this Decision. The CCPC issued its opinion to ComReg on 12 November 2018 in which it noted that it was satisfied with ComReg's proposed market definitions and SMP designations. A copy of correspondence from the CCPC (the '**CCPC Response**') is set out at Annex: 1.

1.48 On 11 March 2019 ComReg also made its draft measures accessible to the EC, BEREC and NRAs in other Member States pursuant to Regulation 13(3) of the Framework Regulations ('**Notified Draft Measures**'). The EC provided its response to ComReg ('**European Commission's Response**') on 11 April 2019 a copy of which is set out in Annex: 2. In arriving at the positions set out in this Decision, ComReg has taken utmost account of the EC's comments. ComReg's consideration of the EC's comments is set out in Annex: 3 and elsewhere throughout this Decision, as appropriate.

Consultation Process

1.49 In accordance with Regulation 12 of the Framework Regulations, in October 2017 ComReg issued a Consultation which set out ComReg's then preliminary views based on an analysis of the Relevant Termination Markets.

1.50 This Decision considers the 11 submissions received (referred to as a '**Consultation Submission' or 'Consultation Submissions'**) in response to the Consultation. Such Consultation Submissions were received[58] from the following respondents (together the '**Respondents**'):

(a) Alternative Operators in the Communications Market ("**Alto**");

(b) AT&T Global Network Services Ireland Limited ("**AT&T**");

(c) BT Communications Ireland Limited ("**BT**");

(d) Eircom Limited ("**Eircom**");

(e) Carphone Warehouse Ireland Mobile Limited (trading as "**iD**");

(f) Three Ireland (Hutchison) Limited ("**Three**");

(g) Virgin Media Ireland Limited ("**Virgin Media**");

(h) Vodafone Ireland Limited ("**Vodafone**");

(i) Lycamobile Ireland Limited ("**Lycamobile**");

[58] Non-confidential submissions received from respondents (the **'Respondents' Submissions**'); are set out in Annex: 14.

(j) Verizon Enterprise Solution on behalf of Verizon Ireland Limited ("**Verizon**"); and

(k) Tesco Mobile Ireland Limited ("**TMI**")

1.51 In Question 17 of the 2018 Separate Pricing Consultation, ComReg provided an opportunity[59] for interested parties to provide additional comments on the price control obligations set out in the Consultation. Four of the Respondents provided a response to this additional question ('**Question 17 Price Control Submission**(s)'), namely:

(a) Eircom[60];

(b) TMI;

(c) Verizon; and

(d) Vodafone[61].

1.52 In this Decision, ComReg collectively refers to the Consultation Submissions and the Question 17 Price Control Submissions as the '**Submissions**'.

1.53 In a letter to ComReg dated 2 April 2019 (hereinafter referred to as **'Eircom's April 2019 Letter'**), Eircom raised issues regarding the detailed specification of certain cost orientation price control obligations as set out in ComReg's Notified Draft Measures as submitted to the EC on 11 March 2019[62]. Eircom's April 2019 Letter is set out in Annex: 15 of this Decision and Comreg considers the issues raised, as appropriate, in Annex: 11 of this Decision.

1.54 In this Decision, and consistent with all previous Decisions, ComReg has carefully considered Respondents' views before setting out its final position. ComReg has summarised and considered Respondents' main views in Annex: 11 of this Decision.

[59] Question 17 in the 2018 Separate Pricing Consultation asked "Having considered this Consultation are there any further comments you would like to make on the proposed decision to impose a price control of cost orientation in the associated Market Review Consultation? If so can you please refer in your comments to the relevant Paragraphs in that decision and support any comments with economics based argumentation and facts. Please note that the text of the draft decision instruments at Annexes 1 and 2 of this document may be subject to change to reflect any final decision taken in regard to the decision instruments proposed in the Market Review Consultation?"

[60] Eircom indicated it has nothing further to add.

[61] Vodafone indicated that no further comments to make.

[62] See paragraph 1.48.

1.55 This approach is a departure from that adopted by ComReg in previous market analysis decisions. To date, summaries of Respondents' views were threaded throughout the main body of the relevant document. ComReg has adopted this updated approach in order to provide greater clarity in its consideration of Respondents' views and to improve the overall readability and comprehension of its market analysis decisions. However, this principally structurally related as detailed further below.

Structure of the Decision

1.56 In the Sections that follow ComReg presents its final position and supporting analysis in a similar structure to that set out in the Consultation. ComReg's position has been updated, where applicable, to reflect current information and any new developments arising. ComReg has also taken into account the views expressed by Respondents in their Submissions, as appropriate.

1.57 In taking account of Respondents' views, ComReg has adopted a new approach in which Respondents' Submissions are consolidated and summarised on a thematic basis in Annex: 11. In this regard, ComReg has included Annex: 11, which contains a summary of Respondents' views grouped into relevant themes reflecting the main issues which ComReg assesses in arriving at a final position.

1.58 Where appropriate, the assessment of Respondents' views is addressed in the main body of the Decision, with references to relevant themes reflecting views of multiple Respondents which have been summarised and also considered in Annex: 11. In such instances reference is made to the applicable theme in a Respondent neutral manner, with cross references to the relevant paragraphs in Annex: 11, thus reducing the extent of duplication[63]. The reader is referred to Annex: 11 for any additional details pertaining to the views of specific Respondents not covered explicitly in the main body of this Decision.

1.59 The remainder of this Decision is structured as follows:

Section 2: This Section contains the executive summary of the key issues and ComReg's ultimate approach for the regulation of the Relevant FVCT and MVCT Markets.

Section 3: This Section provides an updated overview of the main trends that have occurred in the retail fixed voice market(s) and the retail mobile voice market(s) since the last market reviews in 2007 and 2012 respectively.

[63] There are exceptions to this where particular respondents are referred to directly throughout the main body of the Decision. However, this is limited as far as possible to those instances where this is necessary due to the context and the facts at hand.

Section 4: This Section provides an assessment of the structural and behavioural characteristics in the retail fixed voice market(s) and the retail mobile voice market(s), with a view to informing the subsequent definition and SMP analysis of the wholesale Relevant Termination Markets.

Section 5: This Section defines the wholesale Relevant Termination Markets from both a product and a geographic perspective.

Section 6: This Section assesses competition within each of the defined Relevant Termination Markets and identifies those FSPs and MSPs operating within such markets that hold a position of SMP.

Section 7: This Section sets out the main competition problems that could, absent regulation, occur within the Relevant Termination Markets, along with the likely consequential impacts on competition and consumers.

Section 8: This Section sets out regulatory remedies to address competition problems, namely, in the form of obligations that are now imposed on FSPs and MSPs having SMP.

Section 9: This Section sets out the Regulatory Impact Assessment (‘**RIA**’) of the approaches to regulation in the Relevant Termination Markets.

Section 10: This Section sets out the next steps that will follow the publication of this Decision.

Annex 1: Contains a copy of the formal Competition and Consumer Protection Commission (‘**CCPC**’) response to ComReg’s draft Decision.

Annex 2: Contains the formal European Commission (‘**EC**’) response to ComReg’s draft Decision.

Annex 3: Contains ComReg’s response to the views of the European Commission as set out in Annex: 2.

Annex 4: Sets out the other SMP assessment criteria considered.

Annex 5: Identifies the wholesale FVCT and MVCT Service Providers.

Annex 6: Contains ComReg’s Retail price sensitivity and switching analysis (with respect to RFVCs) insofar as it informs the analysis of the Relevant Termination Markets.

Annex 7: Contains ComReg's Retail price sensitivity and switching analysis (with respect to RMVCs) insofar as it informs the analysis of the Relevant Termination Markets.

Annex 8: Contains the FSP and MSP Retail Price Plans insofar as it informs the analysis of the Relevant Termination Markets.

Annex 9: Contains the list of Consultation Questions.

Annex 10: Sets out the framework for the Countervailing Buyer Power ('**CBP**') assessment.

Annex 11: Contains a summary of Respondents' views on ComReg's preliminary views as set out in the Consultation and an assessment of same.

Annex 12: Contains a summary of NRA responses to ComReg Survey regarding regulation of termination of non-EEA originated calls.

Annex 13: Contains a Glossary of frequently used terms.

Annex 14: Contains the non-confidential Submissions in Response to Consultation.

Annex 15: Contains a copy of Eircom's 2 April 2019 letter to ComReg along with ComReg's response. Separately ComReg has addressed points raised by Eircom in Annex: 11.

Annex 16: Contains the FVCT Decision Instrument which specifies, in legal form, the decisions made arising from this Decision.

Annex 17: Contains the MVCT Decision Instrument which specifies, in legal form, the decisions made arising from this Decision.

1.60 This is a non-confidential version of the Decision. Certain information within the Decision has been redacted for reasons of confidentiality, with such redactions indicated by the symbol ✂. Should an individual SP wish to review its own redacted information, it should make a request for such in writing to ComReg and indicate, where possible, the specific paragraph numbers within which the redacted information being requested is contained. ComReg will consider requests for redacted information and will, subject to the protection of confidential information, respond accordingly.

2 Executive Summary

Overview

2.1 Telephone calls made from one network to another are initiated (or 'originated') on one Service Provider's ('**SP's**') network and completed (or 'terminated') on another's. While the person making the call (the 'calling party') pays the originating SP for doing so, a separate transaction usually takes place at wholesale level, whereby the terminating Service Provider charges the originating Service Provider for completing the call.

2.2 This wholesale interconnection service is known as **Wholesale Voice Call Termination** ('**WVCT**'), and can be subdivided into Fixed Voice Call Termination ('**FVCT**') in the case of calls delivered to telephones at a fixed location and Mobile Voice Call Termination ('**MVCT**') in the case of calls delivered to mobile telephones. WVCT allows retail subscribers of the originating SP the ability to call and be connected to retail customers of the recipient SP. SPs can be subdivided into Fixed Service Providers ('**FSPs**') and Mobile Service Providers ('**MSPs**'), depending on whether they operate fixed or mobile networks.

2.3 In the context of facilitating subscribers' abilities to make calls to subscribers of other networks ('**off-net calls**'), the originating SP pays a wholesale charge to the terminating SP, known as a termination rate. Termination rates levied by MSPs are known as Mobile Termination Rates ('**MTRs**'), or Fixed Termination Rates ('**FTRs**') when levied by FSPs. The termination rate allows the terminating Service Provider to recover relevant costs associated with the provision of the WVCT service, which completes the incoming leg of a call to its subscriber.

2.4 Six MSPs are currently active on the retail mobile telephony market, three of whom own mobile networks. The other three MSPs have commercially negotiated Mobile Virtual Network Operator ('**MVNO**') access to other MSPs' networks. In general, under an MVNO arrangement a Service Provider will rent access to a Mobile Network Operator's ('**MNO**'**s**') mobile access network, whether in the form of buying volumes of minutes, texts or data or other capacity arrangements. Together, these six MSPs provide mobile voice services to just under 4.9 million subscribers in Ireland.

2.5 A large number of FSPs are currently active on the retail fixed telephony market, some of which operate their own network infrastructures or switching equipment, and some of which own no infrastructure and operate on a purely resale basis. Only some of these FSPs are involved in the provision of FVCT, having regard to their underlying network infrastructure, including their wholesale network access arrangements.[64]

2.6 ComReg is required to review certain electronic communications markets in order to decide whether regulation is appropriate and, if so, what form such regulation should take. The European Commission ('**EC**') has recommended that wholesale MVCT and wholesale FVCT markets are, in general, susceptible to *ex ante* regulation and this Decision presents ComReg's position on its analysis of the wholesale markets for the provision of FVCT and MVCT (the '**Relevant FVCT Market(s)**' and the '**Relevant MVCT Market(s)**', collectively, the '**Relevant Termination Markets**') in the State.

2.7 Pursuant to ComReg's previous analysis of the Relevant FVCT Markets, set out in its 2007 FVCT Decision,[65] seven FSPs had been subject to regulation, namely Eircom, BT, Digiweb, Magnet, Virgin Media, Colt and Verizon. Having regard to developments since the 2007 FVCT Decision and the 2012 FVCT Consultation,[66] ComReg has carried out a new analysis to assess whether regulation of FVCT provided by such FSPs continues to be warranted, and whether it needs to be extended, for the first time, to other FSPs operating in a Relevant FVCT Market. ComReg's findings from this new analysis, and taking into account the views of Respondents' in response to the Consultation, are reflected in this Decision.

[64] For example, Eircom is required by regulation to provide a wholesale line rental and calls access service (called 'Single Billing through Wholesale Line Rental' or '**SB-WLR**'). This enables FSPs that do not have sufficient network presence to provide retail line rental/calls services to their subscribers. In these circumstances, when a call is terminated to these SB-WLR based subscribers, it is Eircom that provides the FVCT service and collects the FTR revenues.

[65] ComReg Decision No. D06/07, Market Analysis – Interconnection Market Review Fixed Wholesale Call Termination Services, December 2007 (hereafter, the '**2007 FVCT Decision**').

[66] Market Review Wholesale Voice Call Termination Services Provided at a Fixed Location, ComReg Document No. 12/96. https://www.comreg.ie/csv/downloads/ComReg1296.pdf ('**2012 FVCT Consultation**'). As set out in paragraph 1.36 above, ComReg did not proceed to issue a final FVCT Decision, due to uncertainties arising from the Vodafone High Court challenge to ComReg's 2012 MVCT and Pricing Decisions.

2.8 Likewise, pursuant to ComReg's previous analysis of the Relevant MVCT Markets, as set out in the 2012 MVCT Decision, six MSPs had been subject to regulation, namely O2, Three, Tesco Mobile Ireland ('**TMI**'), Lycamobile, Meteor,[67] and Vodafone.[68] Having regard to developments since 2012, ComReg carried out a new analysis to assess whether regulation of MVCT provided by such MSPs continues to be warranted and whether it needs to be extended, for the first time, to other MSPs. ComReg's findings from this new analysis, and taking into account the views of Respondents' in response to the Consultation, are reflected in this Decision.

2.9 In carrying out a market review, ComReg follows a three stage process. First, the scope of the markets in question is quantified and defined ('market definition'). Second, ComReg assesses whether any Service Provider possesses Significant Market Power ('**SMP**') on any of those markets ('competition assessment'). Third, ComReg assesses what harm to competition could result from the potential exercise of market power, having regard to Service Providers' abilities and incentives to engage in anti-competitive behaviour ('competition problems'), and, arising from this, what preventative measures or obligations ('remedies') must be put in place to prevent harm to competition, competitors and, ultimately, consumers.

2.10 In respect of **FVCT**, and following its assessment of Respondents' Submissions and other relevant information, ComReg has decided to maintain the position it set out in the Consultation that the Relevant FVCT Markets are individually defined as:

[67] Meteor announced in July 2017 that its branding would be retired and replaced with Eircom branding from September 2017. Accordingly, all references to 'Meteor' in this document, with the exception of the Decision Instrument at Annex: 17, refer to the entity of that name designated with SMP in the 2012 MVCT Decision. All forward-looking references in this Consultation to that entity will refer to 'eir Mobile', following the naming convention described by eircom Holdings (Ireland) Limited in its 2017 Annual Report for Bondholders: *"Our Mobile division is comprised of both consumer and eir business mobile. From September 2017, the Meteor brand has been retired; both mobile divisions will operate under the eir Mobile brand going forward."* https://www.eir.ie/opencms/export/.content/pdf/IR/reports/2016_2017/quarter4/eir_4th_quarter_and_full_year_results_to_30_June_2017_annual_bond_document_1.pdf at p.61.

[68] The 2012 MVCT Decision designated six MSPs with SMP, but one – O2 – subsequently exited the market, following the 2014 Three/O2 merger, leaving five remaining SMP MSPs.

> *"the provision by an FSP of a wholesale FVCT service to other Service Providers from the nearest point to the End User or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers,*[69] *and in respect of which that FSP is able to set the FTR."*

2.11 ComReg considers that all 22 FSPs which provide FVCT and control the FTR that is charged constitute separate individual relevant markets for the purposes of this review. ComReg's position on the competition assessment is that each of the 22 FSPs providing such FVCT services has SMP in its own Relevant FVCT Market (together the '**2019 Designated SMP FSPs**') with these FSPs identified in paragraph 2.33 below.

2.12 Accordingly, ComReg finds that FSPs which provide FVCT services must be subject to regulation having regard to identified competition problems. One aspect of ComReg's regulatory findings is that FTRs, being the price charged by FSPs for the provision of FVCT, are to be regulated on the basis of what is known as cost orientation. The precise details of the cost orientation price control methodology are set out in a Separate Pricing Decision[70] which has issued in parallel with this Decision.

2.13 ComReg further notes that, after the Consultation was published, three additional FSPs, namely Phone Pulse Ltd[71], Goldfish[72] and TSFY Ltd (trading as Nuacom[73]) ('**Additional FSPs**'), were identified as potentially providing FVCT services. ComReg intends to issue a further consultation within six months of the effective date of this Decision to assess whether these Additional FSPs are operating within a Relevant FVCT Market, whether they have SMP and, if so, whether they should have regulatory obligations imposed upon them. ComReg takes utmost account of the EC's comments[74] regarding the importance of conducting timely reviews in order to ensure appropriate regulatory measures and market predictability.

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[69] As set out in Section 5 of this Decision, and for the purposes of this market review, 'Fixed Numbers' encompasses Geographic Numbers, Nomadic Numbers (076 numbers), and emergency (112/999) numbers.

[70] Price Control Obligations for Fixed and Mobile Call Termination Rates: Response to Consultation and Decision, ComReg Document 19/48, ComReg Decision D11/19.

[71] https://www.phonepulse.ie/

[72] https://www.goldfish.ie/

[73] https://nuacom.ie/

[74] See paragraph A3.5 in Annex: 3 of this Decision

2.14 In respect of **MVCT**, and following its assessment of Respondents' Submissions and other relevant information, ComReg has decided to maintain the position it set out in the Consultation that the Relevant MVCT Markets are individually defined as:

> *"the provision by a MSP of a wholesale MVCT service to other Service Providers for the purpose of terminating incoming voice calls to mobile numbers, and in respect of which that MSP is able to set the MTR."*

2.15 ComReg considers that all the 6 MSPs which provide MVCT[75] and control the MTR that is charged (including an assessment based on other factors) constitute separate individual Relevant MVCT Markets for the purposes of this review. ComReg's position on the competition assessment is that each of the 7 MSPs providing such MVCT services has SMP in its own Relevant MVCT Market (together the '**2019 Designated SMP MSPs**') with these MSPs identified in paragraph 2.41 below.

2.16 Accordingly, ComReg finds that MSPs which provide MVCT services must be regulated in light of identified competition problems. One aspect of ComReg's regulatory findings is that MTRs, being the price charged by MSPs for the provision of MVCT, are to be regulated on the basis of what is known as cost orientation. The precise details of the cost orientation price control methodology are set out in a Separate Pricing Decision which has issued in parallel with this Decision.

2.17 ComReg's position is that each of Three, Meteor[76], Lycamobile, TMI, Virgin Media, and Vodafone has SMP in their Relevant MVCT Markets.

2.18 ComReg notes that one MSP identified in the Consultation as potentially having SMP, namely iD Mobile, has since exited from its operations in the State.

2.19 Throughout this Decision, in the interests of consistency, ComReg refers to the various categories of SPs in the following terms:

[75] Three, Meteor, Lycamobile, TMI, Virgin Media, and Vodafone.

[76] Meteor Mobile Communications Ltd means Meteor Mobile Communications Limited, which is the mobile arm of the eir Group (which includes Eircom Limited and Eircom Holdings (Ireland) Limited), trading under the business name eir Mobile, and for the purpose of the Decision Instrument (see Annex: 16) includes its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns. It is noted that Meteor trades as 'eir Mobile'.

Table 1: Service Provider terminology

FVCT Service Providers	
Name	**Description**
2007 SMP FSPs	The 7 FSPs designated with SMP in the 2007 FVCT Decision
2007 Alternative SMP FSPs	The 6 FSPs designated with SMP in the 2007 FVCT Decision, excluding Eircom
2019 Designated SMP FSPs	The 22 FSPs now designated with SMP in this Decision
2019 Designated Alternative SMP FSPs	The 21 FSPs now designated with SMP in this Decision, excluding Eircom
2019 Newly Designated SMP FSPs[77]	The 15 FSPs newly designated with SMP in this Decision but which had not been so designated beforehand.
Unregulated FSP	Any FSP offering FVCT which, prior to this Decision had not been designated with SMP.[78]
MVCT Service Providers	
2012 SMP MSPs	The 6 MSPs designated with SMP in the 2012 MVCT Decision[79]
2019 Designated SMP MSPs	The 6 MSPs now designated with SMP in this Decision
2019 Newly Designated SMP MSP[80]	The MSP newly designated with SMP in this Decision, but which had not been designated beforehand.
Unregulated MSP	Any MSP offering MVCT which, prior to this Decision, had not been designated with SMP
Service Providers	
Existing SMP Service Providers	The 2007 SMP FSPs and the 2012 SMP MSPs
2019 Newly Designated SMP Service Providers	The 2019 Newly Designated SMP FSPs and the 2019 Newly Designated SMP MSPs
2019 Designated SMP Service Providers	The 2019 Designated SMP FSPs and the 2019 Designated SMP MSPs
Unregulated Service Providers	Unregulated FSPs and Unregulated MSPs

2.20 A central competition problem arising in each of the Relevant Termination Markets is the ability and incentive of an SMP Service Provider, by virtue of its market power, to set its termination rates above the level which would otherwise be expected in a competitive market. Having regard to the definitions of the Relevant Termination Markets, at the retail level, due to the Calling Party Pays ('**CPP**') principle, the calling party typically bears the entire cost of the call and the called party incurs no direct cost in doing so. As FTRs and MTRs (together, '**Termination Rate(s)**') feed into the retail costs of making off-net calls, they ultimately feed into the retail prices charged by SPs for making off-net calls (or to the entire cost of the service provided).

2.21 Because of the CPP principle, the subscriber receiving the call is not typically sensitive to the termination rate set by its SP (as the termination rate is paid for by the originating SP and fed through into charges to its retail subscriber). This called party indifference to termination rates, coupled with excessively priced termination rates may distort competition between SPs, as excessive termination rates, depending on relative traffic flows, effectively raise the costs (or reduce the profitability) of rival SPs with whom the terminating SP is in competition.

2.22 Regulation within the Relevant Termination Markets to address the exercise of SMP by SPs includes, for example, imposing price control obligations that seek to ensure termination rates charged by SMP Service Providers are reflective of costs. In this regard, ComReg is required to take utmost account of the European Commission's 2009 recommendation on the appropriate cost methodology to be employed by all NRAs when setting termination rates (the '**2009 Termination Rate Recommendation**').

[77] Vodafone Ireland; PlanNet 21 Communications; Airspeed Communications; Imagine Communications Ireland; Telcom; In2com; Finarea SA; IP Telecom; Blueface; Modeva Networks; Equant Network Systems Limited; Dialoga Servicios Interactivos, SA; Intellicom Ireland; Magrathea Telecommunications; and Voxbone SA.

[78] The Additional FSPs identified at paragraph 2.13 are captured as a separate category. There are nonetheless not subject to SMP regulation pursuant to this Decision.

[79] While the 2012 MVCT Decision designated 6 SMP MSPs, this number fell to 5 in 2014, following the merger of two SMP MSPs, Three and O2.

[80] Virgin Media Ireland Limited.

2.23 ComReg has specified in detail in this Decision the regulatory obligations to be imposed on the 2019 Designated SMP Service Providers with respect to access, transparency, non-discrimination, and a price control obligation. Insofar as price control obligations are concerned, ComReg has decided that Termination Rates should be cost oriented, with the Separate Pricing Decision specifying the specific methodology to applied, along with the level of the maximum Termination Rates which can be charged by the 2019 Designated SMP Service Providers.

2.24 The main issues set out in this Decision are further summarised below.

Definition of the Relevant Termination Markets and Competition Assessment

2.25 Prior to assessing whether a SP has SMP, ComReg must first define the Relevant Termination Markets. In this regard, ComReg has, as a first step, carried out an assessment of retail markets to examine whether any retail consumer behaviour is likely to indirectly constrain a Service Provider in setting termination rates above the level which would otherwise be expected to pertain in a competitive market. ComReg then analysed the upstream wholesale Relevant Termination Markets to determine whether any wholesale products or services could be considered by a SP as an effective substitute for WVCT, taking account of any demand-side and supply-side considerations.

2.26 Having regard to the CPP principle, and a number of other factors, ComReg concludes that retail consumer behaviour is unlikely to act as an effective indirect constraint on WVCT pricing behaviour.

2.27 ComReg considers the key features of WVCT from a technological and numbering perspective, including whether there are any effective substitutes for WVCT, taking account of demand-side and supply-side considerations.

2.28 ComReg's analysis, and following its assessment of Respondents' Submissions and other relevant information identified in this Decision, suggests that neither retail nor wholesale constraints are likely to be effective in preventing a SP who supplies WVCT from setting its termination rates above the level which would be expected to exist in a competitive market.

Relevant FVCT Markets

2.29 Key characteristics of FVCT services include:

(a) the FSP's control (either through the grant of a right of use by ComReg, or the transfer of that right of use to another authorised undertaking) of the subscriber's fixed number,[81] which is used by the terminating FSP to route the final leg of an inbound call to an end user at a fixed location;

(b) interconnection between networks and the FSP's ability to set/control the FTR for inbound calls to fixed telephone numbers; and

(c) technological neutrality (i.e. FVCT services for calls to all fixed telephone numbers are included, regardless of whether the underlying technology is wired or wireless).

2.30 ComReg's position, and following its assessment of Respondents' Submissions and other relevant information identified in this Decision, is that there are no effective substitutes for such FVCT services (and there are not likely to be within the timeframe of this market review). Technically, the appropriate handover point for FVCT at wholesale level is also considered to reflect the final point on the network at which the originating SP can interconnect with the terminating FSP, and beyond which only the terminating FSP can complete the call to the called party.

2.31 ComReg's position therefore is that the Relevant FVCT Markets consist of:

> *"the provision by a FSP of a wholesale FVCT service to other Service Providers from the nearest point to the End User or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers, and in respect of which that FSP is able to set the FTR.*
>
> *The geographic scope of the Relevant FVCT Market(s) corresponds to the geographic coverage of each individual FSP's network."*

2.32 Accordingly, and having considered a range of other factors, ComReg defines 22 separate Relevant FVCT Markets, by reference to characteristics which, *inter alia*, are related to the allocation to FSPs of Fixed Numbers (which are used by subscribers to make calls, and used by FSPs to route the final leg of an inbound call to a subscriber's fixed line telephone), and the FSP's ability to set the FTR.

2.33 It is ComReg's position that the following 22 separate Relevant FVCT Markets exist:

(a) Wholesale FVCT supplied by Airspeed Communications Unlimited ("**Airspeed Communications**");

[81] As set out in Section 5, and for the purposes of this market review, 'fixed numbers' encompasses Geographic Numbers, 076 numbers, and emergency (112/999) numbers.

(b) Wholesale FVCT supplied by BT Communications Ireland Limited ("**BT Communications**");

(c) Wholesale FVCT supplied by Blueface Limited (trading as "**Blueface**");

(d) Wholesale FVCT supplied by Colt Technology Services Limited ("**Colt Technology**");

(e) Wholesale FVCT supplied by Dialoga Servicios Interactivos, SA ("**Dialoga Servicios**");

(f) Wholesale FVCT supplied by Eircom Limited ("**Eircom**");

(g) Wholesale FVCT supplied by Equant Network Systems Limited ("**Equant**");[82] (which is a subsidiary of Orange Business Services and includes its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes Equant Network Systems Limited and Equant Network Services International Limited.)

(h) Wholesale FVCT supplied by Finarea SA ("**Finarea**");

(i) Wholesale FVCT supplied by Imagine Communications Ireland Limited ("**Imagine**");

(j) Wholesale FVCT supplied by In2com Limited ("**In2com**");

(k) Wholesale FVCT supplied by Intellicom Ireland Limited ("**Intellicom**");

(l) Wholesale FVCT supplied by Internet Protocol Telecom Limited ("**IP Telecom**");

(m) Wholesale FVCT supplied by Magnet Networks Limited ("**Magnet Networks**");

(n) Wholesale FVCT supplied by Magrathea Telecommunications (Ireland) Limited ("**Magrathea**");

(o) Wholesale FVCT supplied by Modeva Networks Unlimited ("**Modeva Networks**");

(p) Wholesale FVCT supplied by PlanNet 21 Communications Limited (which means PlanNet 21 Communications Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes 3Play Plus Limited.)("**PlanNet21 Communications**");

(q) Wholesale FVCT supplied by Telcom Limited ("**Telcom**");

[82] A subsidiary of Orange Business Services.

(r) Wholesale FVCT supplied by Verizon Ireland Limited ("**Verizon**");

(s) Wholesale FVCT supplied by Viatel Ireland Limited ("**Viatel**") (Viatel means Viatel Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes Digiweb Telecom Ireland Limited);

(t) Wholesale FVCT supplied by Virgin Media Ireland Limited ("**Virgin Media**");

(u) Wholesale FVCT supplied by Vodafone Ireland Limited ("**Vodafone**"); and

(v) Wholesale FVCT supplied by Voxbone SA ("**Voxbone**").

2.34 It is recognised that additional FSPs not identified above could start supplying FVCT. ComReg proposes to monitor and consider such developments on a case-by-case basis. In doing so, ComReg proposes to rely substantively on the current detailed assessment in this Decision to determine whether the services provided by any such FVCT supplier constitute a Relevant FVCT Market, whether such an FSP has SMP, and if it would be appropriate to impose similar regulatory obligations on it.

2.35 In this respect, as noted in paragraph 2.13 above, ComReg intends to consult within six months of the effective date of this Decision as to whether the Additional FSPs are operating within a Relevant FVCT Market, whether they have SMP and, if so, whether they should have regulatory obligations imposed upon them

2.36 ComReg has assessed whether each of the FSPs operating within the above separate Relevant FVCT Markets has SMP, that is, the ability to behave, to an appreciable extent, independently of its competitors, customers and consumers. Having considered existing competition, the potential for competition to emerge over the next few years, along with other factors (such as FSPs' FTR pricing behaviour and the strength of any SP's buyer power in its FVCT negotiations with FSPs), and following its assessment of Respondents' Submissions and other relevant information, it is ComReg's position that each of the Relevant FVCT Markets is not effectively competitive. Consequently, ComReg designates each of the FSPs operating within each Relevant FVCT Market as having SMP.

Relevant MVCT Markets

2.37 Key characteristics of MVCT services include:

(a) the MSP's control (either through the grant of a right of use by ComReg, or the transfer of that right of use to another authorised undertaking) of the subscriber's mobile number, which is used by the terminating MSP to route the final leg of an inbound call to an end user;

(b) interconnection between networks and the MSP's ability to set/control the MTR for inbound calls to mobile numbers; and

(c) technological neutrality (i.e. MVCT services for calls to all mobile numbers are included, regardless of whether the underlying technology is wired or wireless).

2.38 ComReg's position, and following its assessment of Respondents' Submissions and other relevant information identified in this Decision, is that there are no effective substitutes for such MVCT services (and there are not likely to be within the timeframe of this market review).

2.39 ComReg's position therefore is that a Relevant MVCT Markets consist of:

> *"the provision by a MSP of a wholesale MVCT service to other Service Providers for the purpose of terminating incoming voice calls to mobile numbers, and in respect of which that MSP is able to set the MTR.*
>
> *The geographic scope of the Relevant MVCT Market(s) corresponds to the geographic coverage of each individual MSP's network."*

2.40 Accordingly, and having considered a range of other factors, ComReg defines six separate Relevant MVCT Markets, by reference to characteristics related to, *inter alia*, the allocation to MSPs of mobile numbers (which are used by subscribers to make calls, and used by MSPs to route the final leg of an inbound call to a subscriber's mobile), and the MSP's ability to set the MTR.

2.41 It is ComReg's position that the following separate Relevant MVCT Markets exist:

(a) Wholesale MVCT supplied by Meteor[83] (trading as eir Mobile, a business name of Eircom Limited);

(b) Wholesale MVCT supplied by Lycamobile Ireland Limited;

(c) Wholesale MVCT supplied by Tesco Mobile Ireland Limited;

(d) Wholesale MVCT supplied by Three Ireland (Hutchison) Limited;

(e) Wholesale MVCT supplied by Virgin Media Ireland Limited; and

(f) Wholesale MVCT supplied by Vodafone Ireland Limited.

2.42 It is worth noting that, since the 2012 MVCT Decision, one MVNO (Virgin Media) entered and is still present in the market while another MVNO (iD Mobile) entered and later exited the market.

[83] See Footnote 76 above.

2.43 Given the definition of the Relevant MVCT Markets, other MSPs (such as Postmobile[84]) do not constitute a Relevant MVCT Market, given that they do not charge, nor do they currently have the ability to set, an MTR (although their host network may do so). However, were they (or new entrant MSPs) to do so, then ComReg considers that there is a strong case, subject to any further consultation in this regard, to be made that such providers would each constitute a defined Relevant MVCT Market in their own right.

2.44 ComReg has assessed whether each of the MSPs operating within the above separate Relevant MVCT Markets has SMP, that is, the ability to behave, to an appreciable extent, independently of its competitors, customers and consumers. Having considered existing competition, the potential for competition to emerge over the next two years, along with other factors (such as MSPs' MTR pricing behaviour and the strength of any Service Provider's buyer power in its MVCT negotiations with MSPs), and following its assessment of Respondents' Submissions and other relevant information, it is ComReg's position that each of the Relevant MVCT Markets is not effectively competitive. Consequently, ComReg designates each of the MSPs operating within each Relevant MVCT Market as having SMP.

Imposition of Regulatory Obligations on Service Providers designated with SMP

2.45 Competition problems could, absent regulation, arise in the Relevant Termination Markets due, *inter alia*, to the ability and incentives of an SMP Service Provider, having regard to its market power, to set its termination rates above the competitive level. Termination rates ultimately feed into the cost of making calls and thus impact on consumers. Where termination rates are set above efficient cost, financial and competitive imbalances between Service Providers can also result. Such distortions imply that consumers as a group ultimately pay more in terms of reduced competition, lower innovation and higher prices.

2.46 In Section 8 of this Decision ComReg describes the range of remedies (or obligations) which it has decided to impose on the 2019 Designated SMP Service Providers. The FVCT Decision Instrument at Annex: 16, and the MVCT Decision Instrument at Annex: 17 give effect to the implementation of these remedies. The remedies, which in ComReg's view are, *inter alia*, reasonable and proportionate, are designed to address the potential competition problems identified in Section 7, which might arise absent regulation in the Relevant Termination Markets.

[84] Postfone relaunched at Postmobile in 2015.

Changes to Remedies relative to Proposals in the Consultation

2.47 Below ComReg highlights some changes in its approach to imposing certain remedies, relative to the proposals set out in the Consultation.

Change to Transparency requirement for 60-day pre-notification to ComReg for termination rates

2.48 In Section 8 of the Consultation, with reference to proposed transparency remedies, ComReg had proposed that the then Proposed SMP FSPs (and Proposed SMP MSPs) provide ComReg with 60 (sixty) calendar days advance pre-notification of any changes to FTRs (and likewise for any change by Proposed SMP MSPs to MTRs). After taking account of Respondents' Submissions, ComReg has decided to amend this advance pre-notification period such that the 2019 Designated SMP FSPs (likewise the 2019 Designated SMP MSPs) will be required instead to provide 30 (thirty) calendar days' notification in advance of the date on which any such termination rate amendments come into effect. This is dealt with in Section 8 of this Decision in paragraphs 8.36 to 8.56 (with respect to remedies in the Relevant FVCT Markets) and paragraphs 8.245 to 8.257 (with respect to remedies in the Relevant MVCT Markets).

Price Control Remedies in the Relevant WVCT Markets – EEA and non-EEA countries

2.49 In respect of the Relevant Termination Markets, in the Consultation ComReg had proposed allowing the then Proposed SMP Service Providers the ability to differentiate the application of price control remedies with respect to termination provided for calls originating within the European Economic Area ('**EEA**') on the one hand, and originating in non-EEA countries on the other. This was to address concerns whereby certain non-EEA countries/SPs were charging unreasonably high termination rates to Irish Service Providers, and given existing regulation, Irish SPs could not respond to these (as they were required to charge the regulated termination rate). The proposal in the Consultation was to allow Irish Service Providers the ability to commercially negotiate termination rates with non-EEA countries/SPs.

2.50 ComReg's position as set out in detail in this Decision[85] is that such differentiation will be permitted. However, in response to concerns raised by some Respondents, some conditionality will be imposed on this differentiated approach. In this respect, the 2019 Designated SMP Service Providers may apply a differentiated approach in respect of the termination charges to be levied for calls originated outside the EEA, subject to the following conditions applicable to 2019 Designated SMP Service Providers.

(a) Irish 2019 Designated SMP FSPs/MSPs must charge the prevailing Irish Regulated FTR[86]/MTR[87] (as the case may be) when terminating traffic originated by those non-EEA FSP/MSPs who charge termination rates that do not exceed the highest EEA pure BU-LRIC FTR/MTR ('**Threshold EEA FTR/MTR**') (as the case may be); and

(b) Irish 2019 Designated SMP FSPs/MSPs (as the case may be) may charge a FTR/MTR above the Irish Regulated FTR/MTR for terminating calls originated by a non-EEA FSP/MSP (as the case may be) where such a non-EEA FSP/MSP charges the 2019 Designated SMP FSP/MSP a FTR/MTR above the Threshold EEA FTR/MTR. Where this condition is met, the FTR/MTR that can be charged by the 2019 Designated SMP FSP/MSP (as the case may be) shall be no higher than the prevailing Irish Regulated FTR/MTR (as the case may be) plus the difference between the FTR/MTR charged by the non-EEA FSP/MSP and the Threshold EEA FTR/MTR. The overall applicable FTR/MTR charged, being the applicable Irish Regulated FTR/MTR plus the differential between the FTR/MTR charged by the applicable non-EEA FSP/MSP and the Threshold EEA FTR/ MTR, is referred to in the Decision as the Applicable Maximum Allowable FTR/MTR.

[85] See section 8 of the Decision paragraphs 8.169 to 8.193 (with respect to FVCT) and paragraphs 8.310 to 8.334 (with respect to MVCT).

[86] The Irish Regulated FTR is the maximum fixed termination rate that FSPs are permitted to charge for calls originated within the EEA.

[87] The Irish Regulated MTR is the maximum mobile termination rate that MSPs are permitted to charge for calls originated within the EEA.

2.51 This is a change to the current practice, which applies the price control obligation to all calls terminated in the State, regardless of their geographic point of origin. This condition is set out in greater detail at Section 8[88] of this Decision as it applies specifically to cases where Irish 2019 Designated SMP FSPs, on the one hand, and Irish 2019 Designated SMP MSPs, on the other hand, are purchasing termination from either non-EEA FSPs or non-EEA MSPs, as the case may be[89].

Cost Accounting Obligations Applicable to Eircom

2.52 In the Consultation, in the Relevant FVCT Market within which Eircom operates, ComReg proposed to impose Cost Accounting obligations on Eircom alone. However on further consideration and with regard to Eircom's Submission to Consultation, ComReg does not consider it to be proportionate or necessary, at this point, to impose such an obligation on Eircom (or any of the other 2019 Designated SMP FSPs).

Maintenance of Position on Imposition Remedies relative to Proposals in the Consultation

2019 Designated SMP FSPs

2.53 To mitigate identified potential competition problems that could arise from the exercise of market power by 2019 Designated SMP FSPs, ComReg imposes *ex ante* regulatory remedies to ensure effective and efficient access to FVCT to the benefit of competition and, ultimately, consumers. The FVCT Decision Instrument at Annex: 16 gives effect to the implementation of these remedies. ComReg considers it proportionate and justified to impose largely the same obligations on all 2019 Designated SMP FSPs (see Section 8 of this Decision), save with respect to Eircom where some additional obligations are required having regard to its presence across multiple markets and the need to address specific competition concerns:

All 22 2019 Designated SMP FSPs (including Eircom) are subject to the following obligations:

(a) **Transparency Obligations**: in addition to a general transparency obligation, each 2019 Designated SMP FSP shall be required to make publicly available and keep updated on its website a Reference Interconnect Offer ('RIO') and to make FTRs publicly available and publish such FTRs in an easily accessible manner on its website.

[88] See paragraphs 8.70 to 8.193 of this Decision.

[89] See paragraphs 8.310 to 8.334 of this Decision.

(b) **Non-Discrimination Obligations**: which include requirements to ensure that equivalent conditions are applied, including in respect of FTRs or other charges, in equivalent circumstances to other undertakings requesting or being provided with access to FVCT and associated facilities; and requirements to ensure that such access and information are provided to all other undertakings under the same conditions and of the same quality as the 2019 Designated SMP FSP provides to itself or to its subsidiaries, affiliates or partners.

(c) **Access Obligations**: which include a requirement to provide access to FVCT and associated facilities; requirement to negotiate in good faith; requirement not to withdraw access to facilities already granted; requirement to grant open access to technical interfaces, protocols and other key technologies; and requirements governing fairness, reasonableness and timeliness of access.

(d) **Price Control Obligations**: a price control obligation of cost orientation is being imposed on all 2019 Designated SMP FSPs. The detailed nature of the specific costing methodology being adopted in light of the cost orientation obligation is out in the Separate Pricing Decision and has issued in parallel with this Decision.

2.54 As noted in paragraph 2.50 above, ComReg's position is that 2019 Designated SMP FSPs may apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the conditions referred to in paragraph 2.50 above and set out in detail in the Decision.

2.55 The ability of FSPs to distort competition in related markets by virtue of their SMP in FVCT (via leveraging behaviour) was also identified. In particular, Eircom's integrated position across related markets implies that it has a strong ability and incentive to use its market power in FVCT to distort competition and raise barriers to entry at various levels of the supply chain (e.g. in wholesale and retail voice markets). In view of this the additional obligations below are being imposed on Eircom only.

(a) **Transparency Obligations:** requirements to publish detailed documentation on all terms (other than price), conditions, SLAs, guarantees and other product-related assurances associated with its provision of FVCT within its Wholesale SV Services; and

(b) **Access Obligations:** requirement to provide access to Interconnection Paths as an associated facility in view of its ubiquitous network coverage.

2.56 The justification for the imposition of these additional obligations is set out in Section 8 of the Decision.

2.57 As noted in paragraph 2.52 above ComReg advised that it is removing the existing cost accounting obligation from Eircom.

2.58 Further to the Regulatory Impact Assessment ('**RIA**') set out in Section 9 of this Decision, ComReg's position is that the remedies specified above in respect of the 2019 Designated SMP FSPs are appropriate, proportionate and justified in light of the market analysis and the identified competition problems.

2019 Designated SMP MSPs

2.59 In order to promote regulatory certainty and predictability, and to ensure a continued non-discriminatory approach to regulation, ComReg considers it justified to impose the same obligations on all 2019 Designated SMP MSPs. The MVCT Decision Instrument at Annex: 17 gives effect to the implementation of these remedies. ComReg accordingly imposes the following obligations on 2019 Designated SMP MSPs:

(a) **Transparency Obligations:** requirements to publish a Reference Interconnect Offer setting out the contractual terms and conditions and technical basis upon which Service Providers can obtain access to MVCT and associated facilities; requirements to publish MTRs and provide advance notice of changes to them.

(b) **Non-Discrimination Obligations:** requirements to ensure that access (including access to MVCT and associated facilities) and information are provided to all other undertakings under the same conditions and of the same quality as the SMP MSP provides to itself or to its subsidiaries, affiliates or partners, and requirements to ensure that other Service Providers being provided with MVCT are not treated differently with respect to the level of MTRs charged, the quality of service provided and the provision of information concerning MVCT.

(c) **Access Obligations:** the requirement to provide access to MVCT and associated facilities, and to do so in a fair, reasonable and timely manner; the requirement to negotiate in good faith with Service Providers requesting access to MVCT; the requirement not to withdraw access to facilities already granted; and the requirement to grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services.

(d) **Price Control:** requirements that MTRs are cost oriented, with the detailed nature of the specific costing methodology being adopted in light of the cost orientation obligation being set out in the Separate Pricing Decision.

2.60 As noted in paragraph 2.50 above, ComReg's position is that 2019 Designated SMP MSPs may apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the conditions referred to in paragraph 2.50 above and set out in detail in this Decision.

2.61 ComReg has also given consideration to other potential obligations relating to maintenance of cost accounting systems and separated accounts and considers that such remedies are not, at this time, warranted, largely having regard to proportionality grounds and given that the remedies proposed above should, if applied, address the relevant competition and other concerns.

2.62 Further to the RIA set out in Section 9 of this Decision, ComReg's position is that the remedies specified above in respect of the 2019 Designated SMP MSPs are appropriate, proportionate and justified in light of the market analysis and the identified competition problems.

3 Retail Fixed Voice and Mobile Voice Market Trends

Overview

3.1 This Section presents the main behavioural trends in the provision of RFVCs and RMVCs insofar as it might be relevant to the subsequent analysis of the Relevant Termination Markets.[90] Market trends over the period 2013 to 2018 are also set out in this Section 3.

3.2 The analysis of the trends and main developments originally presented in Section 3 of the Consultation have been updated to include relevant QKDR data up to Q3 2018, the 2017 Ireland Communicates Survey and other sources cited in this Decision. These updates also inform ComReg's stated positions as set out throughout this Decision.

3.3 Of the 11 Submissions received, 8 Respondents commented on whether or not ComReg had identified the main retail trends and developments in the Consultation. 3 Respondents (ALTO, AT&T and Lycamobile) did not comment. Of those Respondents that commented, 6 agreed (Eircom, iD Mobile, Three, Verizon, Virgin Media and Vodafone), while 1 Respondent (TMI) disagreed. Another Respondent (BT) provided comments, but did not indicate whether or not they agreed[91].

3.4 In Annex: 11, paragraphs A11.9 to A11.24 of this Decision, ComReg summarises the main views of these Respondents on the retail and fixed voice and mobile voice market trends identified in the Consultation, followed by ComReg's assessment of these in paragraphs A11.25 to A11.43.

3.5 Where appropriate, ComReg addresses themes arising from Respondents' Submissions directly in this Section 3.

3.6 Below ComReg sets out its position, having considered Respondents' views, on the main retail trends and developments insofar as they are relevant to the analysis of the Relevant Termination Markets.

(a) Relationship between Wholesale Termination Markets (discussed in paragraphs 3.7 to 3.9 below);

(b) Structure of the Retail Fixed Voice Market (discussed in paragraphs 3.10 to 3.21 below);

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[90] The purpose of this section is to set out high-level retail trends only. Any references to market shares or market preferences should not be taken as necessarily representing ComReg's view as to the particular scope/definition of any retail market(s).

[91] See paragraph A11.9.

(c) Behavioural Trends in the Retail Fixed Voice Market (discussed in paragraphs 3.22 to 3.65 below);

(d) Structure of the Retail Mobile Voice Market (discussed in paragraphs 3.66 to 3.99 below); and

(e) Behavioural Trends in the Retail Mobile Voice Market (discussed in paragraphs 3.100 to 3.146 below).

Relationship between Wholesale Termination Markets and Retail Markets

3.7 The demand for both FVCT and MVCT services is derived from consumer demand for retail voice services. Therefore, before assessing the strength of any indirect competitive constraints arising from retail voice services on WVCT services, this Decision reviews the main trends in the supply of both RFVC and RMVC services in the State since the last market reviews.

3.8 The provision of WVCT is necessary to support retail customers of both MSPs and FSPs in making and receiving calls, since WVCT services enable calls to connect and then terminate on traditional fixed and mobile voice platforms, irrespective of which (fixed or mobile) network they are calling from. A wholesale termination fee is levied by the terminating SP on the originating Service Provider to terminate a call (in some cases via a transit provider).

3.9 The cost of wholesale termination services, if passed on to consumers via an increase in retail call (or other) prices, can impact on demand for traditional fixed and mobile voice services. ComReg therefore assesses whether consumers may seek to avoid the retail charges associated with FTR or MTR pass-through into retail prices by not making a traditional fixed or mobile voice call, reducing the length of the call, or making contact with the other party via an alternative means of communication and, if so, whether this is likely to effectively discipline the competitive behaviour of SPs offering WVCT services.

Structure of the Retail Fixed Voice Market

3.10 The RFVC market in Ireland has several active suppliers who provide voice telephony services at a fixed location. These suppliers differ in their size, technological platforms and geographical coverage. Broadly, for the purposes of this discussion, FSPs fall into one of three categories, based on the extent of their own network coverage:[92]

[92] The list of FSPs in this section is not intended as an exhaustive list of all active suppliers of retail voice services in Ireland at present, but rather as illustrative examples.

(a) **Independent FSPs:** these FSPs provide voice call services at a fixed location, predominantly using their own network and infrastructure. They are not typically reliant on wholesale inputs from other FSPs, except when they require a WVCT service on behalf of their retail customers calling a different network. Eircom and Virgin Media are two examples of independent FSPs.

(b) **Partially Independent FSPs:** these FSPs operate a physical telephone/data switching platform and potentially other infrastructure, but also rely (to varying degrees) on third-party wholesale network access to originate and/or terminate calls to and from their retail customers' premises. The extent of these providers' networks greatly varies. BT Communications, Vodafone, Viatel, Imagine and Magnet Networks are some examples of partially independent FSPs.

(c) **FSPs with resale activities:** these FSPs operate retail fixed voice activities which, usually, do not involve use of their own physical network. In some instances, these FSPs may also be regarded as partially independent FSPs. When acting in a resale capacity these FSPs purchase wholesale end-to-end voice call services from a third-party network operator and resell/repackage that service in the form of a retail market offer. Sky Ireland and Pure Telecom are two examples of FSPs with resale activities.

FVCT Providers

3.11 **Eir** (a trading name of Eircom Limited, referred to as "Eircom"), an independent FSP, is currently the largest provider of retail voice services at a fixed location in Ireland. It owns and operates a ubiquitous Public Switched Telephone Network ('**PSTN**')[93] which it uses to provide retail voice calls at a fixed location, along with various other services to its business and residential customers. Eircom had approximately a 38.7% market share of retail fixed voice subscribers as of Q3 2018[94] and its voice traffic accounted for [✂ [redacted]][95] of total retail call traffic volumes as of Q3 2018, which is a decline from approximately [✂ [redacted]][96] in Q4 2012.

[93] PSTN refers to the international copper wire-based telephone system which carries analogue voice data.

[94] See Figure 6

[95] Between 35% and 40%.

[96] Between 50% and 60%.

3.12 Eircom has also traditionally been the predominant supplier of wholesale Fixed Access Call Origination ('**FACO**') and Transit services to SPs which do not possess a comprehensive network for the provision of retail voice services at a fixed location. ComReg published its Fixed Voice Call Origination and Transit Decision[97] in 2015 (the '**2015 FACO and Transit Decision**'). In the 2015 FACO and Transit Decision, the transit market was deregulated, while the FACO market continued to be regulated.

3.13 Eircom also offers a wholesale Switchless Voice ('**SV**') service which allows SPs to provide retail voice services at a fixed location, effectively becoming FSPs without the need to invest in their own interconnection infrastructure. This wholesale SV service, known as 'White Label' voice, allows FSPs to purchase end-to-end wholesale voice services. Eircom terminates these calls on behalf of FSPs who purchase White Label voice on Eircom's network.[98]

3.14 Liberty Global plc (trading as UPC) completed its acquisition of **Virgin Media UK** in 2013 and in 2016 rebranded UPC to Virgin Media. Virgin Media has upgraded its Cable Access Television ('**CATV**') network to the DOCSIS[99] 3.0 standard and as at Q3 2018 provided broadband services to approximately 375,100[100] premises, all of which are also capable of receiving voice services (it had 352,600 telephony subscribers at this same period). Virgin Media also provides Retail Mobile Telecommunications Services ('**RMTS**') services via an MVNO arrangement with Three, as discussed in greater detail below.[101]

3.15 **Vodafone Ireland**, a partially independent FSP, mainly uses third-party networks to originate, transit and terminate voice calls to and from end users at a fixed location on its behalf (it also operates a mobile network and offers RMTS).

3.16 Since the 2012 FVCT Consultation, Sky Ireland ('**Sky**') has expanded into other electronic communications markets, offering voice and broadband alongside its TV services. Sky purchases wholesale end-to-end voice call services from BT Communications. As of Q3 2018 Sky Ireland had a 13.2% market share in the RFVC market, as measured by the number of retail subscriptions. Sky is classified as a resale-based FSP.

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[97] ComReg Decision 05/15, Wholesale Fixed Voice Call Origination and Transit Markets Response to Consultation and Decision, (the '**2015 FACO and Transit Decision**').

[98] Certain components of the underlying wholesale inputs to the wholesale Switchless Voice service are currently not regulated, notably wholesale Call Transit. The FVCT component is the subject of this review.

[99] Data Over Cable Service Interface Specification.

[100] See https://www.libertyglobal.com/wp-content/uploads/2018/11/LG-Q3-2018-Press-Release.pdf

As of Q3 2018 Virgin Media had 24% of fixed line subscribers.

[101] At paragraphs 3.95 to 3.96 below.

3.17 Like Sky, **Pure Telecom** is classified as a resale-based FSP. Pure Telecom provides fixed line, broadband and cloud telecoms services. Pure Telecom mainly uses third-parties to originate, transit, and terminate voice calls to and from end users at a fixed location on its behalf. It accesses these third-party networks by purchasing wholesale voice services.

Fixed Wireless Access Providers

3.18 Voice services at a fixed location may also be provided by means of Fixed Wireless Access ('**FWA**'). In essence, FWA delivers voice services wirelessly via equipment located on nearby masts or towers and presented as a 'fixed' telephony service at the end user's premises. ComReg's QKDR data indicates that there were 49,041 FWA subscriptions in Q3 2018, representing a decline of 25% from 65,668 in Q4 2012.[102]

3.19 **Imagine** is a partially independent FSP operating a FWA network which provides broadband coverage in predominantly rural areas in 24 counties via WiMax and Fixed LTE. WiMax is a fixed wireless technology which provides consumers with high speed broadband and voice. Imagine continues to develop its FWA services and network capability in rural areas around Ireland. With fixed LTE the provider leverages off an existing 4G infrastructure by making use of base station antennas and radio equipment that is dedicated to its fixed LTE services.

3.20 Digiweb is also a partially independent FSP. Founded in 1997, it merged with **Viatel** in 2013. Digiweb operates a wireless network[103] and satellite services. It provides broadband access, fixed-line products and services to residential, business and public sector customers.

3.21 Having described in general terms the structure of the retail supply of voice services at a fixed location, including the suppliers of such services, paragraphs 3.22 to 3.65 below describe the headline trends and developments in respect of the provision of retail voice calls focussing on fixed voice.

[102] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 29.

[103] https://www.digiweb.ie/digiweb-profile/

Behavioural Trends in the Retail Fixed Voice Market

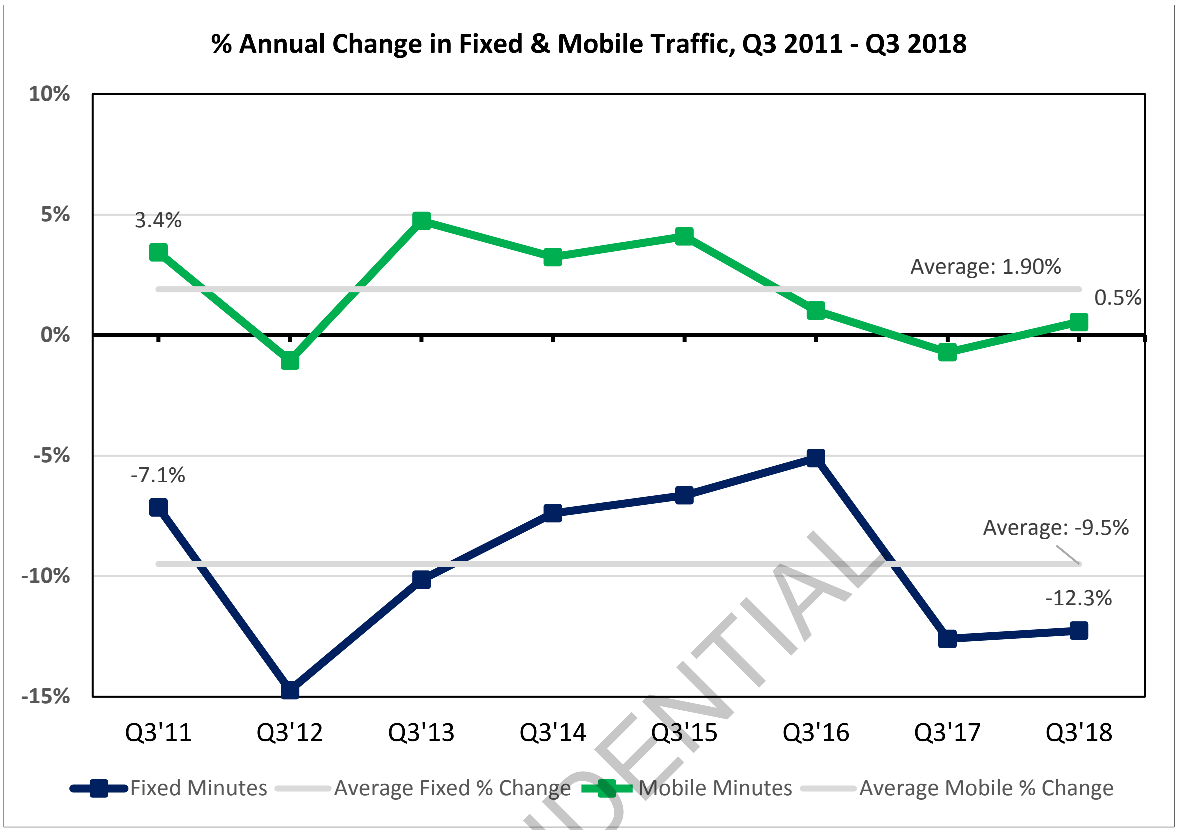
3.22 In this sub-section, ComReg identifies and discusses key behavioural trends in the Retail Fixed Voice Market. A decline in fixed retail voice traffic and revenue has been evident, and is outlined as part of the analysis in paragraphs 3.23 to 3.33. Developments in VoIP and standalone Broadband ('**SABB**') are outlined in paragraphs 3.34 to 3.50. Key trends from the 2016 Market Research and 2017 Ireland Communicates Survey highlight trends in packages and bundles, including spend and types of bundles purchased. Section 3 concludes with ComReg's position on the retail trends in relation to fixed voice insofar as it might impact the WVCT assessment.

A persistent decline in fixed retail voice traffic

3.23 There has been a steady decline in fixed voice retail traffic and associated revenues since 2012. Fixed retail voice traffic has fallen from 1.51 billion minutes in Q1 2012 to 0.79 billion minutes in Q3 2018, a 47.8% reduction[104]. As shown in Figure 3 below, on average, fixed voice traffic in Q3 of each year has fallen 9.5% relative to Q3 of the previous year. However, mobile traffic in Q3 of each year has increased by an average of 1.9% relative to Q1 in the previous year, over the same period.

[104] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

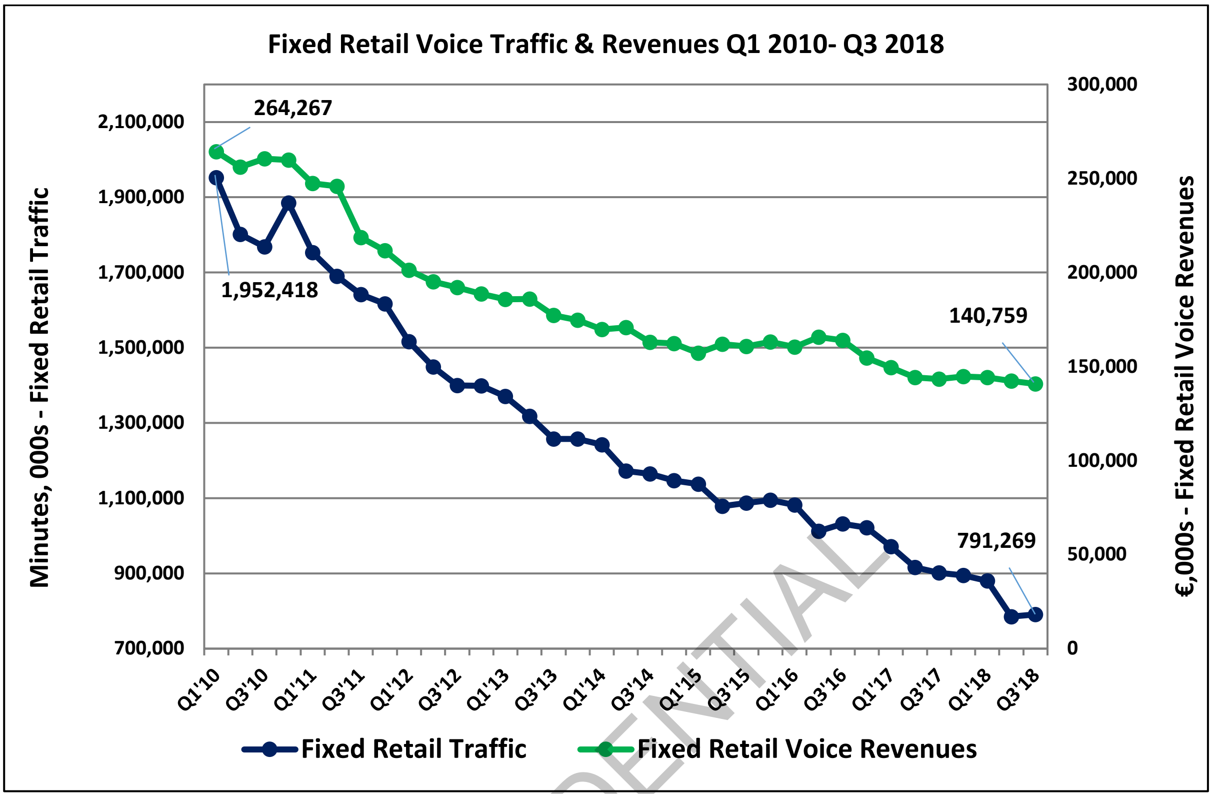
Figure 3: % Annual Change in Fixed & Mobile Traffic, Q3 2011- Q3 2018[105]



3.24 The decline across both retail fixed voice traffic volumes and revenues is shown in Figure 4 below, which shows that, from Q1 2010 to Q3 2018, revenues attributable to voice traffic have fallen by 47%, while traffic has fallen by 59%.

105 ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

Figure 4: % Fixed Retail Voice Traffic & Revenues, 2010- Q3 2018[106]

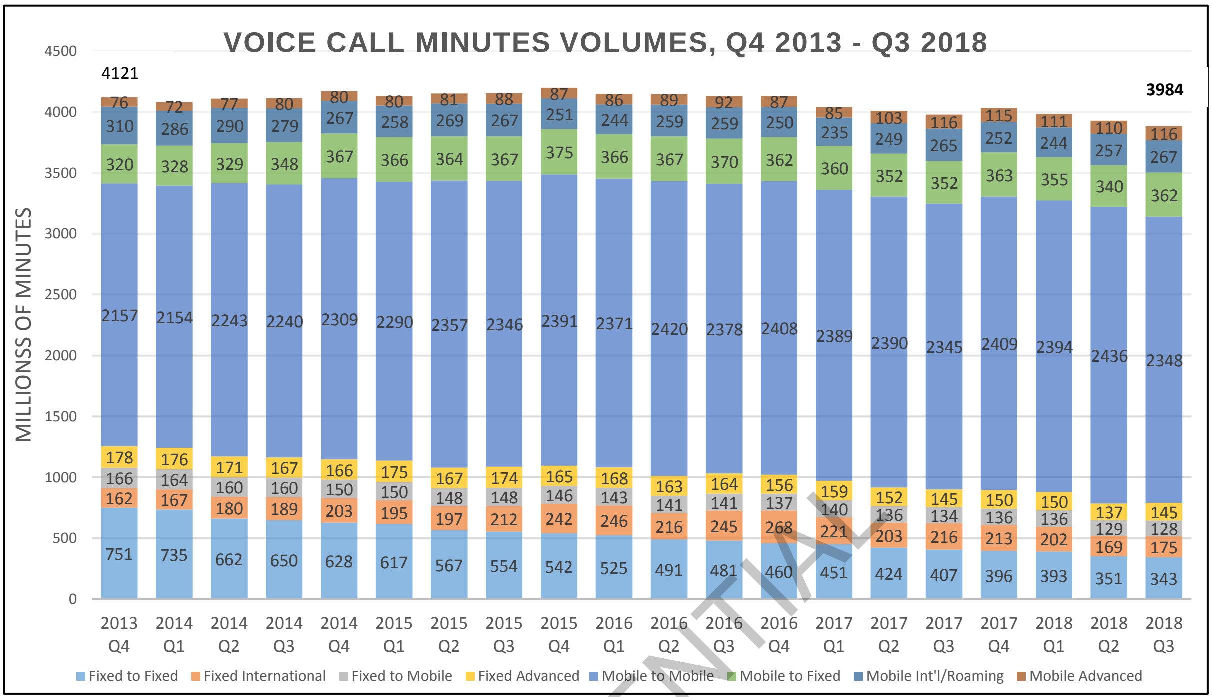


3.25 Figure 5 below shows fixed and mobile voice call volumes, and subcategories within both of these. Over the period Q4 2013 to Q3 2018 the main changes are decreases in fixed-to-fixed minutes (down 54%) and mobile-to-mobile minutes increasing 9% over the same period. Mobile advanced minutes[107] have increased by 52% over the same period. Total voice call volumes for fixed and mobile voice decreased by 5.7% from Q4 2013 to Q3 2018, with total fixed voice minutes decreasing by 37% and total mobile minutes increasing by 8% over the period.

[106] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

[107] Mobile advanced minutes include premium rate services minutes and other mobile minutes such as voicemail, DQ, call completion minutes etc.

Figure 5: Fixed & Mobile Voice Call Minute Volumes, Q4 2013 – Q3 2018[108]



Source: QKDR Q4 2013 to Q3 2018

3.26 Market shares by subscription are presented in Figure 6 below from Q3 2015 to Q3 2018. Over this period Eircom's share has fallen from 43.2% to 38.7%, while Virgin Media's share remained steady at 24.0%. Vodafone's market share has fallen from 14.9% to 13.6%, while Sky's market share has increased quarter on quarter to now hold a 13.2% share as of Q3 2018. Other changes over this period include a decrease in market shares for Digiweb and an increase for Pure Telecom. The share for Other Authorised Operators ('**OAOs**') overall has increased slightly[109].

3.27 At the end of Q3 2018 retail fixed voice subscriptions stood at 1,468,853 (having fallen from 1,492,129 in Q3 2015) of which 444,554 were Managed Voice over Broadband ('**VoB**')[110] based subscriptions. 79.3% of these Managed VOB subscriptions are accounted for by the self-supply of Virgin Media over its CATV network.

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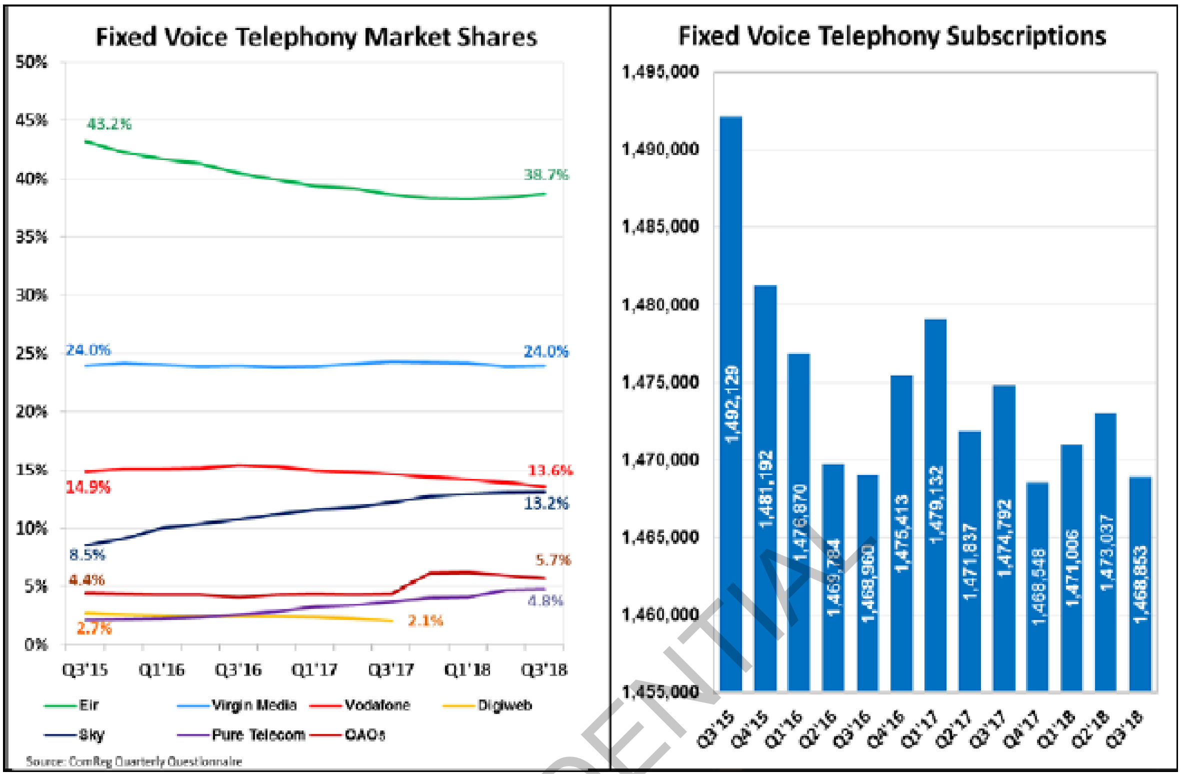
[108] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

[109] OAOs in this context refers to operators other than those specifically listed in Figure 6 and for purposes of showing the fixed voice telephony market shares.

[110] The term Voice over Broadband, or VoB, is frequently used interchangeably with VoIP. Managed VoIP/Managed VoB is discussed in greater detail in paragraphs 3.36 to 3.38 below.

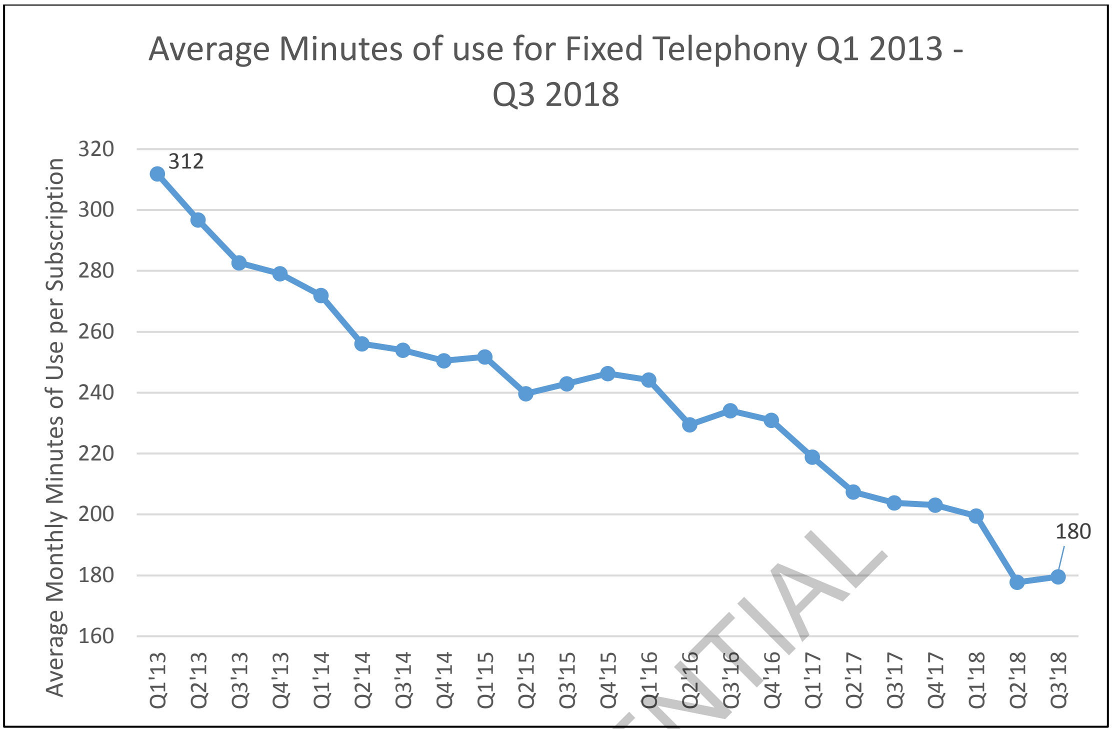
Figure 6: Fixed Voice Telephony Market Shares, Q3 2015– Q3 2018[111]



3.28 Figure 7 below shows the average minutes of use per subscription for fixed telephony in Ireland. Average usage has declined by 42.4% from 312 minutes in Q1 2013 down to 180 minutes in Q3 2018.

[111] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 19.

Figure 7: Average Minutes of Fixed Telephony Use, Q1 2013 – Q3 2018[112]



Fixed line ownership

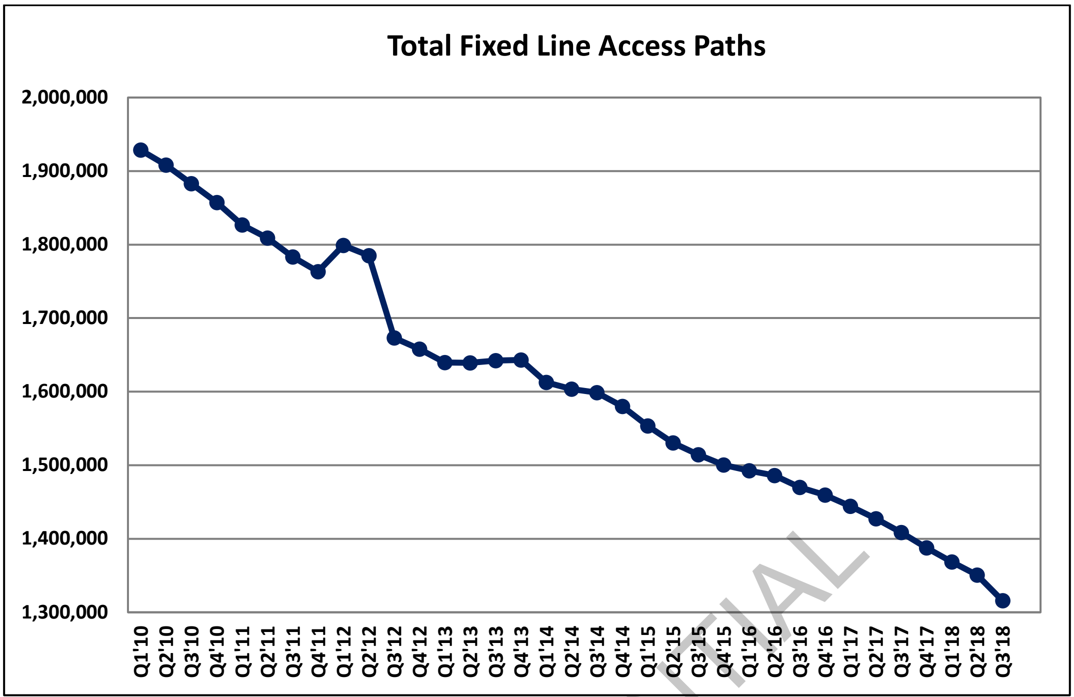
3.29 Based on information from ComReg's Q3 2018 QKDR, Figure 8 below shows that Eircom's[113] total fixed access paths (direct and indirect PSTN and ISDN), which are usually used for voice services, have declined by 32% since Q1 2010 and stood at 1.31m in Q3 2018.[114]

[112] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

[113] Taking Eircom as an indicative proxy for fixed line ownership generally. Note these figures exclude fixed line services provided by other SPs using their own network inputs.

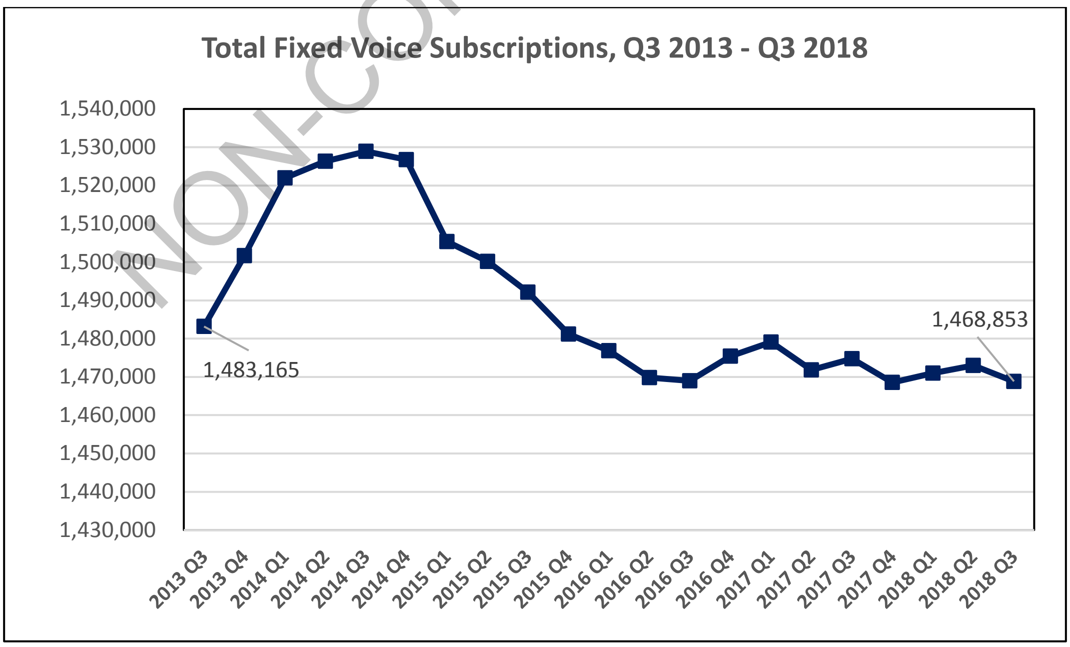
[114] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 17.

Figure 8: Eircom fixed line access paths, Q1 2010 – Q3 2018[115]



3.30 The number of Fixed Voice Telephony Subscriptions from all SPs likely provides a more complete picture of overall trends in the provision of fixed voice telephony services. In this respect, Figure 9 below shows total fixed voice subscriptions for the period Q1 2013 to Q3 2018.

Figure 9: Total Fixed Voice Subscriptions, Q3 2013 – Q3 2018



[115] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

3.31 Total fixed voice subscriptions decreased slightly from 1,483,165 to 1,468,853 between Q3 2013 and Q3 2018, a decrease of 0.8%. Subscriptions increased consistently between Q3 2013 and Q3 2014 but have fallen 2.4% since Q1 2015.

3.32 ComReg notes that the fall in Eircom's fixed line access paths shown in Figure 8 above has developed in the presence of SMP regulation of the Fixed Access Call Origination (**'FACO'**)[116] markets, including obligations requiring Eircom to provide Single Billing through Wholesale Line Rental (**'SB-WLR'**) products[117] at cost-oriented prices. Access Seekers (i.e. SPs buying wholesale services) continue to use SB-WLR products in order to provide retail fixed voice subscription services (rather than Managed VOB), with Virgin Media being the exception to this (as noted above Virgin Media had 352,600 telephony subscribers at Q3 2018).

3.33 For example, Sky's retail fixed telephony market share[118] (at 13.2%) is entirely based on the indirect use of Eircom's SB-WLR products. Notably, Sky's market share has increased quarter on quarter in recent years, rising from 7.3% in Q1 2015 to 13.2% in Q3 2018. Combined, Vodafone (whose provision of retail fixed telephony is also predominantly based on SB-WLR) and Sky accounted for 26.8% of retail fixed telephony subscriptions as of Q3 2018.

Developments in VoIP - Voice over Internet Protocol

3.34 Demand for and developments in VoIP[119] services in the Irish market has increased since 2012[120]. VoIP is considered below under the following 3 categories; Managed, Partially Managed and Unmanaged VoIP, which are defined in detail below. In addition to changes in VoIP services, it is also important to consider how Standalone Broadband ('**SABB**') services may contribute to changes in behaviour, enabling a potential move away from traditional voice services.

116 See paragraph 3.12 above.

117 SB-WLR is a wholesale product combining the fixed access path with call origination and falls within the scope of the access obligations imposed under the 2015 FACO Decision.

118 See Figure 6 above.

119 VoIP delivers a telephone service over the Internet, rather than over the legacy PSTN. The term Voice over Broadband, or VoB, is frequently used interchangeably with VoIP.

120 See paragraphs 3.36 to 3.50 below.

3.35 A SABB service is a broadband service without a traditional PSTN-based[121] fixed telephony service. In other words, only a standalone broadband service is provided to the subscriber. SABB services consist of a data-only service where a customer requires broadband access, but does not require a PSTN service. Demand for SABB services is increasing, and Service Providers including Eircom,[122] Vodafone[123] and Virgin Media[124] offer SABB services without the requirement to have a home phone. These changes could enable a potential move away from PSTN-based telephony services, and fixed voice services are increasingly being carried over IP technology (although this still remains at a low base relative to PSTN based telephony).

VoIP Categories

Managed VoIP Service Providers

3.36 There are a number of Managed VoIP (or VOB) SPs in Ireland, including Virgin Media, Vodafone, Pure Telecom, and Digiweb. These 'Managed VoIP' providers predominantly use their own network and infrastructure (or wholesale upstream network inputs purchased from other SPs) to provide VoIP services and manage the access path for end users. The majority of Managed VoIP services are provided over cable and, to a lesser extent, fibre networks to the end user. Many managed VoIP subscriptions (i.e. Virgin Media) are only provided as part of a bundle and cannot be bought on a standalone basis, i.e. must be bought with broadband or television services.

3.37 Managed VoIP Service Providers typically have an allocation of Geographic[125] or 076 number ranges from ComReg and they may also provide FVCT services.

3.38 Apart from Virgin Media's Managed VoB based retail fixed voice subscription service (provided over its cable network) there is limited provision by other service providers of Managed VoB based retail fixed voice subscription services (only 20.7% of the 417,570 VoB based subscriptions identified above). However, Eircom's VoB based subscriptions have increased notably in recent quarters, rising from [✂ [redacted]].

121 Public Switched Telephone Network.

122 https://www.eir.ie/broadband-only.

123 http://www.vodafone.ie/home/broadband.

124 https://www.virginmedia.ie/naked-broadband-only-deal/.

125 A geographic number means a number from the National Numbering Scheme where part of its digit structure contains geographic significance used for routing calls to the physical location of the network termination point ('**NTP**');

Partially-managed VoIP Service Providers

3.39 Partially-managed VoIP differs from Managed VoIP, as the Service Provider only controls part of the infrastructure that is being used to provide the service. A partially-managed VoIP service may, for example, involve customers having an existing broadband connection supplied by a third-party but using a separate VoIP Service Provider that has its own switch and associated interconnects, meaning that it can manage that part of the service directly.

3.40 These partially-managed VoIP providers typically have numbers that are hosted by, and assigned to, another Service Provider, for example Eircom or Virgin Media, which terminates calls on behalf of the VoIP service provider, and sets the associated FTRs. However, some of these VoIP providers have been assigned various number ranges (Geographic, Non-Geographic, 076 numbers, and SMS codes) by ComReg.[126]

Unmanaged VoIP Service Providers

3.41 Unmanaged VoIP services are web-based VoIP services accessed via a personal computer, laptop, smartphone or tablet in order to communicate with other users of the service on a compatible device. Unmanaged VoIP service providers include Skype, Viber and WhatsApp, for example. Research carried out on behalf of ComReg indicates that regular usage of OTT apps for voice and video calls is 72% of the total survey sample in Dublin.[127] This figure rises to 82% among the 18-35 years age bracket. Unmanaged VoIP-to-VoIP calls are typically free, but unmanaged VoIP calls to fixed or mobile numbers typically incur a charge.

3.42 The emergence of SABB may enable growth of unmanaged VoIP, particularly offered by OTT providers. 2016 Consumer FVCT Market Research indicated that 61%[128] of households with a fixed broadband service in their home claimed to have used unmanaged VoIP services for voice and video calls.

[126] As set out at https://www.comreg.ie/industry/licensing/numbering/number-assignments-availability/.

See also https://www.comreg.ie/industry/licensing/numbering/applications-numbering-plan/

[127] 2016 Consumer FVCT Market Research, slide 4.

[128] 2016 Consumer FVCT Market Research, slide 32.

3.43 According to the 2017 Ireland Communicates Consumer Survey, 677[129] of 1,468 consumers (46%)[130] use unmanaged VoIP-to-VoIP calls. Based on this survey, unmanaged VoIP-to-VoIP calls appear to be supplementing traditional fixed line calls, rather than replacing them. For example, 43%[131] of the 677 respondents who use unmanaged VoIP-to-VoIP calls claimed that these calls have had no impact on the number of traditional fixed line voice calls they make. Only 4% of the 677 respondents claimed to have ceased using traditional voice calls over a fixed line and a further 12% claim that they have reduced the number of traditional fixed line voice calls they make due to the impact of VoIP-to-VoIP calls.

3.44 Given the above, 5.5%[132] of the total consumer survey sample make fewer traditional fixed line calls and 1.8%[133] of the total sample have ceased making traditional fixed line calls, due to the impact of unmanaged VoIP-to-VoIP calls.

3.45 Further, the 2017 Ireland Communicates Consumer Survey found that of those with a fixed line phone (50%), the vast majority use it for making/receiving calls - 84% and 87% respectively - and less than half of such respondents (45%) say that they have the landline service in order to access broadband[134]. 97% of all survey respondents indicated that they had a mobile telephone service[135].

3.46 As set out in Figure 10 below, 69% of SMEs never use VOIP calls while 10% use VoIP calls at least several times a week.

[129] Ireland Communicates Survey 2017 - Consumer, slide 39.

[130] n=1,468, so approximately 46% of the total sample.

[131] Ireland Communicates Survey 2017 - Consumer, slide 39.

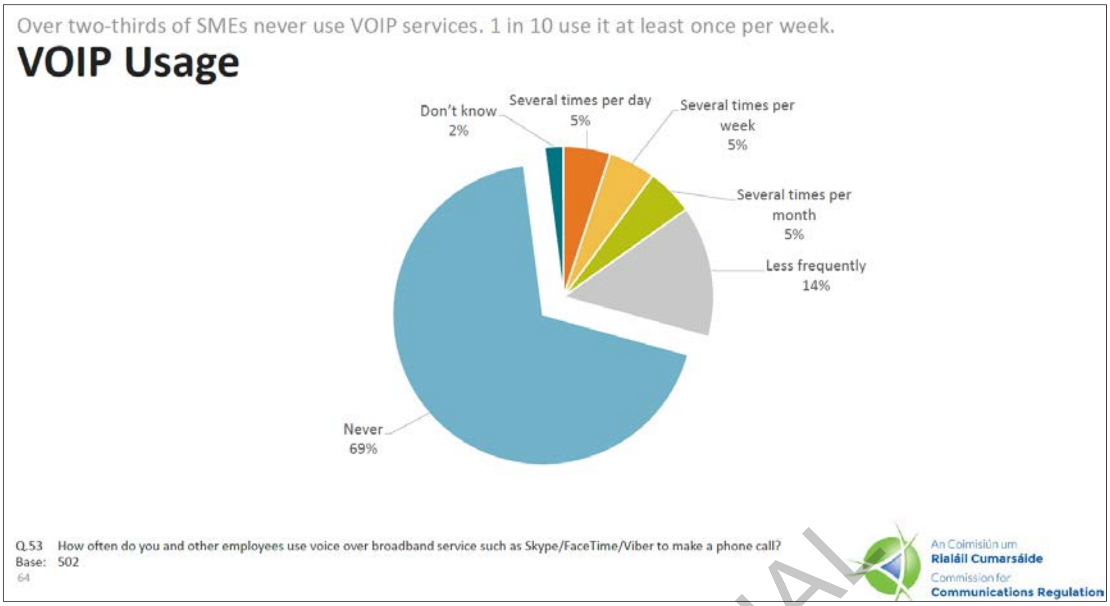
[132] 12% of 677= 81, 81 as a percentage of the total number of mobile users in the sample (n=1,468) = 5.5%.

[133] 4% of 677= 27, 27 as a percentage of the total number of mobile users in the sample (n=1,468) = 1.8%.

[134] Ireland Communicates Survey 2017 - Consumer, slide 23.

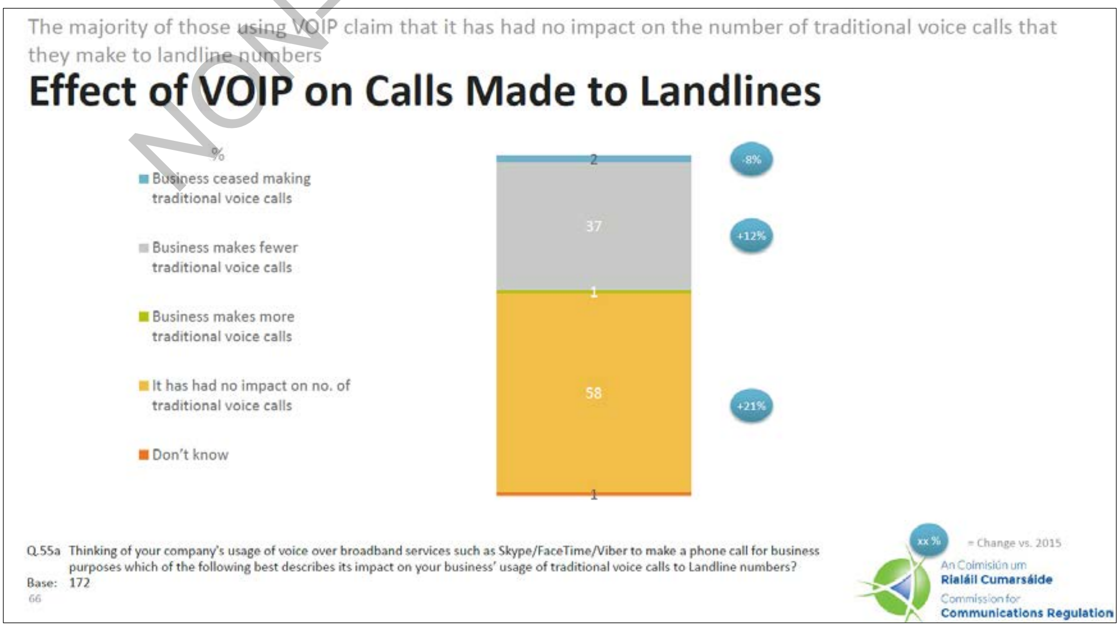
[135] Ireland Communicates Survey 2017 - Consumer, slide 23.

Figure 10: VoIP usage among SMEs - Ireland Communicates SME Survey 2017



3.47 Therefore, 31% of respondents to the 2017 Ireland Communicates SME Survey use VoIP calls. Figure 11 below shows that the majority (58%) of these SMEs (who use VoIP calls) claim that it has had no impact of the number of traditional voice calls they make to landline numbers, up from 37% in 2015. 37% of SMEs which use VoIP calls (13% of the overall SME sample) claim that making VoIP calls has reduced the number of traditional calls made to landlines, while 2% (0.7% of the overall SME sample) claim they have ceased making traditional voice calls to landlines.

Figure 11: Effect of VoIP calls on Calls Made to Landlines by SMEs – Ireland Communicates SME Survey 2017



ComReg's Consideration of Respondents' Views

3.48 ComReg notes the Submissions made by a number of Respondents regarding the impact of OTT on retail trends in relation to fixed voice services and the concerns expressed by some that ComReg had underestimated the extent of the impact of OTT on developments in the retail market[136].

3.49 Respondents' views on this are summarised in Annex: 11, from paragraphs A11.11 to A11.21 and ComReg's assessments of those views is set out in paragraphs A11.28 to A11.36.

3.50 In summary, ComReg does not agree that it has underestimated the impact of OTT. As noted in paragraph 3.44, with reference to the 2017 Ireland Communicates Consumer Survey, 43% of those using voice calling through a smartphone app said that it has had no impact on the number of traditional voice calls that they make. Further, as noted in paragraph 3.44 only 5.5%[137] of the total sample surveyed make fewer traditional fixed line calls and 1.8%[138] of the total sample have ceased making traditional fixed line voice calls. As noted in paragraph 3.45, the 2017 Ireland Communicates Consumer Survey found that the vast majority of those with a fixed line use it for making/receiving calls - 84% and 87% respectively - and less than half (45%) say that they have the landline service in order to access broadband. These results suggest that OTT voice applications are being used in conjunction with traditional voice services rather than replacing them[139].

Further key insights from 2016 Consumer FVCT Market Research and the 2017 Ireland Communicates Consumer Survey carried out on behalf of ComReg

3.51 Among survey respondents that did not use OTT apps for voice/video calls in the 2016 Consumer FVCT Market Research, the main barrier to OTT usage was preference; 59% of respondents[140] indicated that they preferred standard mobile calls, while 32% preferred calling from their landline.

[136] In their respective Submissions, Eircom, TMI and Vodafone indicated that ComReg had underestimated the importance of OTT on the analysis.

[137] See footnote 132.

[138] See footnote 133.

[139] Respondents' views are summarised in Annex: 11, paragraphs A11.9 to A11.24 and ComReg's assessments of those views are set out in paragraphs A11.25 and A11.43.

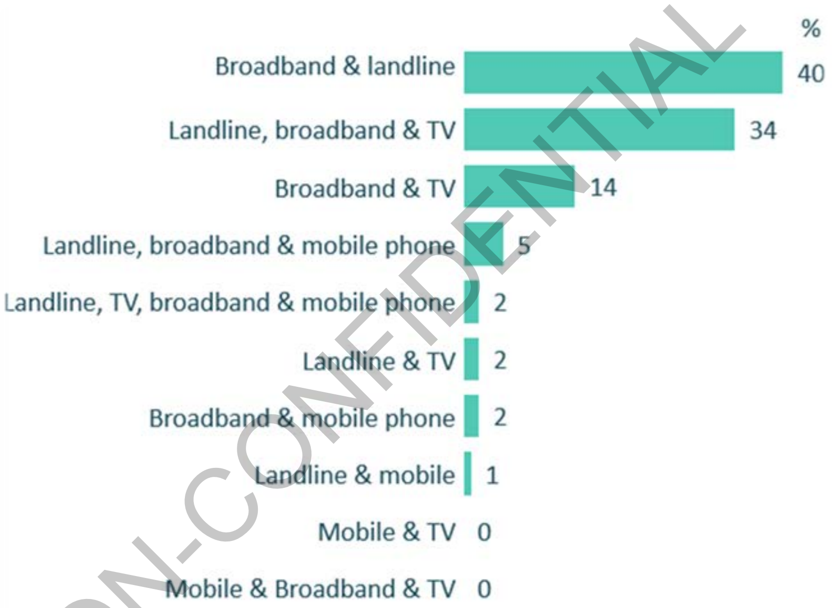
[140] 2016 Consumer FVCT Market Research, slide 36.

3.52 In terms of those respondents using OTT apps for calls, the principal driver for doing so was price, with 51%[141] saying that international phone calls are too expensive and 37% saying local/national calls are too expensive. Improved technology also plays a role, with 37% of respondents stating this as a reason.

Types of package or bundle purchased by consumers

3.53 According to the 2016 Consumer FVCT Market Research, 58% of the total sample purchased products in a bundle, with respondents living in Dublin having higher incidences of bundle purchases (82%). Broadband and Landline bundles are the most common bundle combination (40%),[142] particularly in rural areas (60%). 42% of respondents said they had not bought a bundle.

Figure 12: Total bundle types purchased by consumers - 2016 Consumer FVCT Market Research



3.54 According to the 2017 Ireland Communicates Consumer Survey, of those respondents who have two or more services, 56%[143] purchase some or all of their services in a bundle. Of those with a bundle, Broadband and Landline bundles are the most common combination (35%), followed by Broadband and TV at 22%, with 15% including Landline, TV, Broadband and mobile phone.[144] See Figure 13 below.

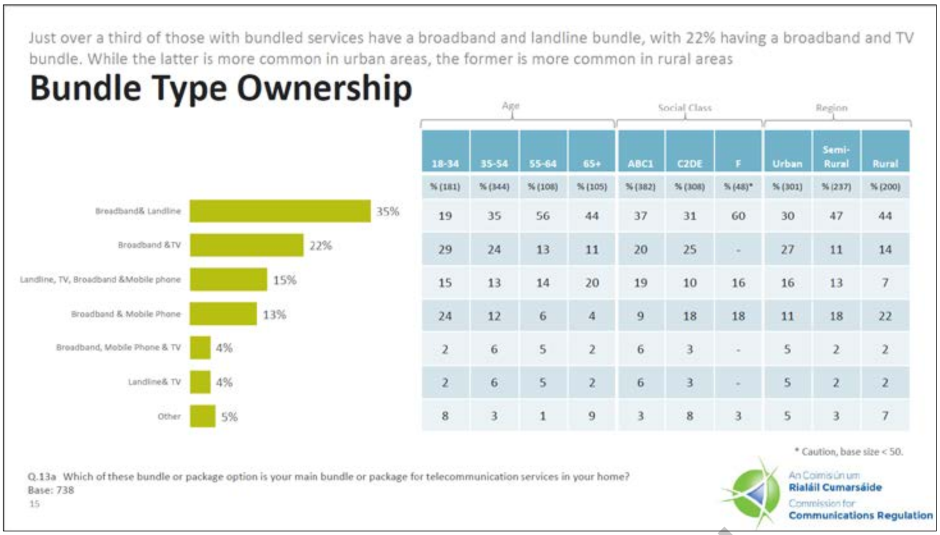
[141] 2016 Consumer FVCT Market Research, slide 39.

[142] Ibid.

[143] Ireland Communicates Survey 2017 – Consumer, slide 14.

[144] Ireland Communicates Survey 2017 – Consumer, slide 15.

Figure 13: Bundle Type Ownership - Ireland Communicates Consumer Survey 2017



3.55 Based on Q3 2018 QKDR data, of those residential subscriptions with a bundle, broadband and landline (double play) accounts for [✂ [redacted]] of bundles, while broadband and TV (double play) accounts for just [✂ [redacted]] of bundles. Landline, TV, Broadband and mobile phone (quad play) bundles account for [✂ [redacted]] of bundles, while Landline, Broadband and TV bundles account for [✂ [redacted]] of bundles.

3.56 As noted in Figure 14 below, over half (52%)[145] of bundle owners surveyed in the 2016 Consumer FVCT Market Research spent between €51- €100 per month on their package. Similarly, in the 2017 Ireland Communicates Consumer Survey, 49%[146] of respondents surveyed spent between €51- €90.

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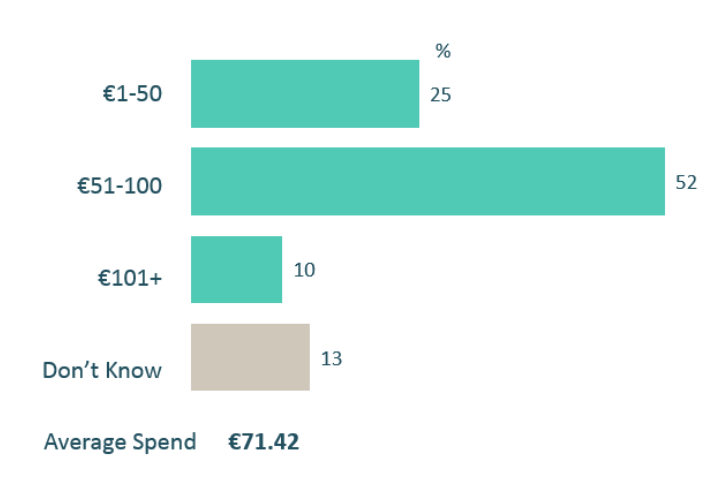
[145] 2016 Consumer FVCT Market Research, slide 55.

[146] Ireland Communicates Survey 2017 – Consumer, slide 17.

Figure 14: Amount spent per month on bundles by consumers - 2016 Consumer FVCT Market Research



3.57 Over half (52%)[147] of bundle purchasers in the 2016 Consumer FVCT Market Research indicated that they had availed of the bundle for more than three years. The average length of tenure amongst those questioned is three years and four months. In the 2017 Ireland Communicates Consumer Survey, 55%[148] of those subscribing to a bundle indicated that they have availed of their bundle for at least two years, while 33% indicated that they have availed of their bundle for at least 3 years.

3.58 Of those who have a landline (non-bundled) in the 2017 Ireland Communicates Consumer Survey, 70%[149] have been with their Service Provider for at least three years, while 9% have been with their current providers for less than a year. 30% of those who have a landline (non-bundled) have switched providers.

3.59 As part of the 2016 SME FVCT Market Research, respondents were presented with a series of reasons as to why they purchased voice services as part of a bundle.

(a) 55%[150] of SMEs in the survey with fixed line phone services purchase this service as part of a bundle;

(b) Fixed Voice bundles held by the businesses in the survey are most likely bundled with fixed broadband (85%)[151] followed by mobile telephony at 26%; and

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[147] 2016 Consumer FVCT Market Research, slide 56.

[148] Ireland Communicates Survey 2017 – Consumer, slide 16.

[149] Ireland Communicates Survey 2017 – Consumer, slide 25.

[150] 2016 Business FVCT Market Research, slide 37.

[151] 2016 Business FVCT Market Research, slide 38.

(c) 23%[152] of SMEs in the survey purchasing fixed line services as part of a bundle report purchasing mobile phone services outside of the bundle.

3.60 Of the SMEs that purchased a bundle in the 2017 Ireland Communicates SME Survey, 68%[153] purchase a bundle of fixed line phone and broadband, 20% have bundles which include, a fixed line phone, broadband and a mobile phone, 7% purchased bundles including fixed line phone and mobile while 6% avail of a bundle including Broadband and mobile phone.

ComReg's overall position on retail trends in relation to fixed voice

3.61 Further to the above assessment of retail trends in the provision of retail voice services since the 2012 FVCT Consultation, ComReg notes that a number of key trends may be observed.

3.62 While the number of SPs providing retail telephony services has increased, a gradual decline in retail voice traffic and subscriptions at a fixed location is evident. From Q4 2014 to Q3 2018 fixed voice subscriptions decreased by 3.5% for business subscriptions and 3.8% for residential subscriptions. However, a majority of households in Ireland (68%) continue to avail of retail telephony services at a fixed location.[154] Moreover, according to the 2017 Ireland Communicates SME survey, 93%[155] of SMEs have a landline service. This is an increase on the equivalent 2015 and 2013 figures.

3.63 Bundles are an increasingly popular choice for the consumer. ComReg's QKDR data indicates that the proportion of customers using services within bundles (double, triple or quadruple) in Q3 2018 was 51%.[156]

3.64 Developments in IP technology have enabled existing Services Providers to offer multiple propositions, and move towards convergence, with the barriers between separate markets and a number of separate service providers being slowly eroded:

[152] 2016 Business FVCT Market Research, slide 39.

[153] Ireland Communicates Survey 2017 – SME, slide 19.

[154] These figures are ComReg's calculations - based on a combination of the Central Statistics Office (**'CSO'**) and QKDR data.

[155] Ireland Communicates Survey 2017 – SME, slide 7.

[156] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 20. See Figure 2.2.4

ComReg's methodology for calculating the proportion of fixed line subscriptions which are sold as part of a bundle was updated in Q4 2017. Comparisons with data prior to Q4 2017 are therefore not valid.

(a) VoIP subscriptions have continued to increase and a number of SPs are now offering VoIP services;

(b) Managed VoIP providers are continuing to provide services, particularly with bundled services over cable and fibre networks e.g. Virgin Media;

(c) Through innovation and development traditional SPs are responding to market changes resulting in the emergence of new services e.g. WiFi calling;

(d) Service Providers (e.g. Eircom and Vodafone) are moving towards IP-based infrastructure, with ComReg having issued a consultation on the transition from Eircom's copper network to a fibre access network or networks;[157] and

(e) MSPs such as Vodafone continue to be active in the provision of RFTS using both wholesale inputs from other FSPs as well as mobile technology to deliver fixed services.

(f) WiFi calling, and VoB appears to be emerging trends in RMTS and RFTS with a number of SPs offer VoB services.[158] Eircom is the first Irish network to roll out WiFi calling[159] services, and this marks another step towards the introduction of Voice over Long Term Evolution ('**VoLTE**'). It is in this context that ComReg has referred to the responsiveness of traditional SPs to market changes and thus their ability to retain market share[160].

3.65 Unmanaged VoIP-to-VoIP calls appear to be supplementing traditional fixed line calls, rather than replacing them[161].

Structure of the Retail Mobile Voice Market

3.66 This Section describes the main developments in the retail mobile market since the 2012 MVCT Decision.

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[157] ComReg Document 16/01. "Transition from Eir's copper network: Proposed principles and notification procedures". Available online at https://www.comreg.ie/publication/transition-from-eirs-copper-network/

[158] Blueface, Rapid Broadband, Magnet, Airspeed, Digiweb, Virgin Media, Imagine, Eircom, Vodafone, A.C.N, Sprint, Three (O2,) Onwave, Ripplecom, Pure Telecom, Permanet, Nova, Ker broadband, Fastcom, Digital Forge, Colt, Casey Cable, BT, AT&T, ATS.

[159] https://www.eir.ie/WiFiCall/

[160] One Respondent, namely Eircom, expressed disagreement with ComReg's preliminary view that traditional SPs are "retaining market share" as set out in paragraph (c) above. Eircom Submission, page 8. See Annex: 11 paragraphs A11.12 to A11.17 of this Decision.

[161] See paragraph 3.43 to 3.50 above.

Mobile Network Operators ('MNOs')

3.67 Vodafone Ireland ('**Vodafone**') launched its retail mobile services in Ireland in 2001 following its acquisition of Eircell from Eircom, which had been in operation since 1984. Vodafone offers both prepay and bill pay mobile services to both retail and business customers. These services typically include voice, data and text services. Vodafone claims that its voice service covers 99% of the population. Vodafone is directly interconnected with a number of other Service Providers. It has been assigned mobile numbers[162] from ComReg in the 087 mobile number range and a Mobile Network Code ('**MNC**') and it utilises these in providing services to its subscribers.

3.68 Vodafone is continuing to roll out its 4G service, and states on its website that it has 90% 4G coverage in every county, with plans for further 4G expansion. Vodafone has also engaged in a pre-standard 5G trial[163].

3.69 **Three** launched as Hutchison 3G Ireland ('**H3GI**') in September 2003, and in July 2005 commenced offering both prepay and bill pay 3G voice, data and text services to retail and business customers.

3.70 In 2014, Three acquired Teléfonica Ireland,[164] which operated the O2 brand, thereby becoming the second largest MSP in Ireland behind Vodafone, measured by subscriptions. As a consequence of Three Ireland's merger with O2, Teléfonica (which owned the O2 brand) exited the Irish market. Three, trading as Three, changed its name to Three Ireland (Hutchison) Limited in September 2014. This is the entity which currently trades as Three in Ireland.

3.71 In return for the European Commission approving Three's acquisition of O2 Ireland, Three committed to facilitate the creation of two Mobile Virtual Network Operators ('**MVNOs**'). Accordingly, Virgin Media and iD Mobile signed MVNO agreements with Three Ireland (Hutchison) Limited. As set out in Section 2 above (see paragraph 2.18) iD Mobile exited mobile operations in Ireland in April 2018.[165]

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[162] ComReg Numbering Conditions of Use and Application Process, ComReg Document, 15/136R1 Available at: https://www.comreg.ie/publication/numbering-conditions-of-use-and-application-process/ ('**Numbering Conditions of Use**').

[163] See https://n.vodafone.ie/aboutus/press/vodafone-hosts-irelands-first-live-5g-test.html.

[164] http://ec.europa.eu/competition/mergers/cases/decisions/m6992_20140528_20600_4004267_EN.pdf.

[165] https://www.idmobile.ie/home-march-2018.

3.72 Three is directly interconnected with a number of SPs. It was assigned mobile numbers from ComReg in the 083 mobile number range and a MNC, and it utilises these in providing services to its subscribers. The 086 number range, previously assigned to O2, is still in use. However, ComReg has suspended assigning new 086 ranges. Three is currently rolling out '4G Plus' services[166] and according to media reports it intends to commence offering 5G services in 2019[167].

3.73 Since the publication of the Consultation (in October 2017), Blueface ceased to offer retail Mobile services and therefore no longer offers MVCT services. However, it still offers FVCT and is therefore included within the Relevant FVCT Market which is discussed later in this Decision.

3.74 **48**[168] which entered the Irish market in January 2012, is not an MVNO, and is correctly described as a business name of Three Ireland. It originally operated on the market using the Quartet MVNE, which was originally set up by O2 to accommodate Tesco Mobile Ireland ('**TMI'**) on its network.[169] The Quartet MVNE, which is now owned by giffgaff, then accommodated TMI, 48, and giffgaff in the UK.[170] However, 48 is now operating directly off the Three network. 48 uses Three Ireland's 089 number range and Mobile Network Codes ('**MNC(s)**'). 48's MTRs are the same as its parent company, Three Ireland. Its wholesale activities are controlled and managed by Three Ireland which charges its MTR to other networks, and hands over calls to 48 subscribers.

3.75 **Eir Mobile** is, as of September 2017, the new name for the former Meteor brand. Meteor Mobile Communications ('**Meteor'**)[171] launched in 2001 and offers both prepay and bill pay mobile voice, data and text services to both retail and business customers. Eir Mobile has stated voice coverage of 99% of the population and 95% 4G coverage. Eir Mobile is a wholly owned subsidiary of the Eircom Group.

166 http://www.three.ie/explore/4g/.

167 See https://www.irishtimes.com/business/technology/three-ireland-plans-to-begin-offering-5g-services-next-year-1.3584677.

168 http://www.48months.ie/

169 https://www.fujitsu.com/ie/Images/o2-ireland.pdf

170 https://community.giffgaff.com/t5/Tips-Guides/How-giffgaff-works/td-p/3454967

171 See www.eir.ie

3.76 Prior to the rebranding of Meteor as Eir Mobile[172], Eir Mobile was an Eircom brand whose wholesale activities were controlled and managed by Meteor Ireland which charged its (regulated) MTR to other networks, with Eir Mobile also using number ranges allocated to Meteor.

3.77 Following the September 2017 rebranding, Eir Mobile now replaces the former Meteor brand.[173] Accordingly, all references to 'Meteor', 'Eir Mobile', or 'Eircom Group Mobile' in this Decision should be taken to refer to Eir Mobile from September 2017 onwards. Since Eir Mobile is the retail trading name used by Meteor, it will be referred to as such throughout this Section (Retail Fixed Voice and Mobile Voice Market Trends) of this Decision.

3.78 Eir Mobile is directly interconnected with a number of authorised undertakings. It has been assigned mobile numbers from ComReg in the 085 mobile number range and a MNC and it utilises these in providing services to its subscribers. Eir Mobile has a 4G product offering including prepay or bill pay customers.

Mobile Virtual Network Operators ('MVNOs')

3.79 A number of Mobile Virtual Network Operators ('**MVNOs**') in the State have entered into commercial wholesale network access arrangements with Mobile Network Operators ('**MNOs**'), which permit them to offer their own branded retail mobile services to customers.

3.80 The MVNO model can vary depending on the requirements and the network capabilities of the MVNO. Typically, an MVNO does not have access to network infrastructure, such as base stations, transceivers, and other associated equipment, and in general all MVNOs are defined by lack of spectrum.

3.81 In the context of the current analysis of the Relevant MVCT Markets, and having regard to the underlying wholesale network and technical arrangements between MSPs described below, in identifying the economic bottleneck associated with mobile termination, it is important to consider:

(a) The nature of arrangements governing the control of the final routing of an incoming call to a MSP's subscriber; and

(b) Who sets/controls the MTR?

3.82 These questions are considered in Section 5 of this Decision where the Relevant MVCT Market Definition is discussed along with in Section 6 in the context of the SMP assessment.

[172] Ibid.

[173] http://www.independent.ie/business/technology/meteor-customers-assured-seamless-transition-as-eir-ditches-mobile-brand-35957852.html

3.83 In the State, MVNOs typically fall into 3 different categories (for the purpose of this Decision, these categories describe the structure of MVNOs in the State, rather than purporting to be an exact and precise categorisation of MVNOs).

(a) Reseller or ‘Light’ MVNOs – these MVNOs simply resell their host’s minutes, and have no infrastructure or billing capability and use the host’s numbers and do not charge (or have the ability to charge) MTRs. They may however, own and operate their own customer care, marketing, and sales operations

(b) Full and Enhanced MVNOs – in addition to their own billing and customer care processes, Enhanced MVNOs usually have some infrastructure which allows them to have complete control over their business and service offerings. Full MVNOs can have complete control over the operations, data and services launched due to certain core network nodes such as the Gateway Mobile Switching Centre (‘**GMS**’) or Home Location Register (‘**HLR**’). Such MVNOs operate in a similar way to an MNO, but without their own radio network. Full infrastructure MVNOs also have their own Short Message Service Centre (‘**SMSC**’), Multimedia Messaging Service (‘**MMS**’) and Gateway GPRS Support Node (‘**GGSN**’) allowing full control over all the services they offer in the market and flexibility in designing and deploying new services. Full service MVNOs can have their own roaming and interconnect agreements. Both Enhanced and Full MVNOs can set and control their own MTRs (although each case requires individual consideration).

3.84 The following MVNOs now operate in the Irish market:

(a) Lycamobile;

(b) Postmobile;

(c) Tesco Mobile; and

(d) Virgin Media.

3.85 **Postmobile**[174] is a reseller MVNO which has entered into a commercial arrangement with Vodafone, which carries its traffic with other service providers. Postmobile commenced offering prepay 2G and 3G mobile services to personal customers in May 2010, including ‘own branded’ mobile voice, data, text messaging and other services. Postmobile does not have any network, switching or interconnect infrastructure. It uses Vodafone’s 087 number range in providing services to its subscribers.

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174 www.postmobile.ie.

3.86 Postmobile's wholesale activities are controlled and managed by Vodafone which charges its MTR to other networks for supplying MVCT, and hands over the relevant calls to Postmobile's subscribers. Postmobile does not therefore have the ability to set an MTR or charge one.

3.87 The following MVNOs can be characterised as full/enhanced MVNOs, where the MVNO uses its host's radio network and core network but has its own applications, services, billing, customer care and marketing capabilities. They typically have numbers assigned to them by ComReg and at a wholesale level these MVNOs can set and control their own MTRs, therefore, they charge their MTR to other networks who originate calls on their behalf.

3.88 **Lycamobile's**[175] MVNO arrangements are classified as a 'full/enhanced MVNO'. It has a network implementation operating essentially the same technology as a mobile network operator, only lacking its own radio networks and spectrum.

3.89 Lycamobile entered into a MVNO commercial arrangement with the then O2 (now Three Ireland) and its traffic is now carried on Three's network. Lycamobile commenced offering prepay mobile services to personal customer segments in 2012. Lycamobile has been assigned mobile numbers from ComReg in the 089 mobile number range and a MNC, and it utilises these in providing services to its subscribers. Lycamobile has its own switching infrastructure and is indirectly interconnected to other authorised undertakings.

3.90 Lycamobile has its own UK-based switching infrastructure and can therefore control MVCT access to its subscribers by switching and routing termination traffic. Lycamobile also sets its own retail tariffs. Lycamobile determines the commercial terms and conditions associated with its supply of MVCT and can set and control its MTRs.

3.91 **Tesco Mobile Ireland**[176] ('**TMI**') is a fully-owned subsidiary of Tesco Ireland Holdings. In June 2017, Tesco Ireland Holdings notified the CCPC of its intention to acquire the shareholding in TMI that were then held by Three Ireland, thus giving Tesco Ireland Holdings sole control of TMI. The CCPC approved this transaction in July 2017.[177]

[175] www.lycamobile.ie/en/

[176] http://www.tescomobile.ie/.

[177] https://www.ccpc.ie/business/mergers-acquisitions/merger-notifications/m17037-tesco-ireland-tesco-mobile/.

3.92 TMI entered into a MVNO commercial arrangement with O2[178] (now Three) and its traffic is carried on Three's network using the Quartet MVNE. Liffey Telecom, a wholly owned subsidiary of Three was assigned[179] 089 mobile numbers and an MNC from ComReg. TMI commenced offering prepay mobile services to personal customer segments in November 2007 and bill pay mobile services to personal customers in September 2011. ComReg notes that as of September 2018 TMI continues to offer 2G, 3G and 4G services over Three's Network. Further, TMI continues to have the ability to determine its own wholesale commercial terms and conditions associated with its supply of MVCT[180]. ComReg's therefore maintains its view that none of these changes would be likely to materially affect ComReg's analysis at this time.

3.93 Pursuant to the commitments offered by Three Ireland as part of the Three/O2 merger in 2014, **Virgin Media**[181] and **iD Mobile**[182] entered into MVNO commercial arrangements with Three Ireland, through which their traffic is carried on Three's network. Virgin Media offer prepay and postpay mobile services.

3.94 iD Mobile commenced offering services in August 2015, but ceased trading in April 2018[183]. iD Mobile has thus exited the market.

3.95 Virgin Media has been assigned mobile numbers in the 089 range along with a MNC from ComReg. Virgin Media provides its services over the Three Ireland network and has established the contractual right to determine its own wholesale commercial terms and conditions associated with its supply of MVCT. The MVCT services provided by Virgin Media are not currently subject to regulation. As stated above, they have the ability to set and control their own MTRs.

178 O2 Ireland established a wholly owned subsidiary called Liffey Telecom to act as a MVNE, and the ownership of Liffey Telecom became vested in Three following the O2/Three merger. This MVNE functionality was subsequently transferred to another entity, Quartet. Given Liffey Telecom's current ownership relationship with Three, it falls within the scope of Three's existing SMP designation and associated regulatory obligations.

179 https://www.comreg.ie/publication-download/numbering-conditions-of-use-and-applications-process.

180 Confirmed by TMI in email correspondence with ComReg dated 18 July 2018.

181 https://www.virginmedia.ie/mobile/.

182 https://www.idmobile.ie/.

183 See https://www.idmobile.ie/faq-march-2018.html.

3.96 Virgin Media manages its own wholesale / billing relationships with other operators. When a call is made from another network to a Virgin Media mobile customer that call is handed over by the operator to Virgin Media - not to Three Ireland. Virgin Media charges an MTR to the operator that handed over the call. Virgin Media also sets its own MTR independently of its host MNO Three Ireland and other MSPs.

3.97 As noted in paragraph 3.78 of the Consultation, the MVNO iD Mobile's parent company, Dixons Carphone, had indicated in June 2017 that it would be exiting the market. iD Mobile has since exited the market having ceased offering services in April 2018. Further, as noted in paragraph 3.2 above ComReg has updated its retail markets trends analysis to reflect the current status of MVNOs with regard to mobile on-net and off-net traffic trends.

ComReg's Consideration of Respondents' Views

3.98 ComReg takes note of the points raised in TMI's Submission regarding the role of MVNOs and changes in the market impacting MVNOs as summarised in A11.22, including the purported poor performance of MVNOs in Ireland; the exit of MVNOs like iD Mobile; and MVNOs being disproportionately impacted by 'Roam like at Home' ('**RLAH**') Regulation[184].

3.99 ComReg does not agree with TMI that insufficient weight has been placed on developments in the market regarding MVNOs. In particular, ComReg disagrees with TMI's assertion that ComReg does not place appropriate weight on the purported inability of TMI to behave anti-competitively vis-à-vis its MTRs. TMI's submissions in this regard and ComReg's assessment thereof is addressed in Annex: 11 in paragraph A11.22 and paragraph A11.37 to A11.42.

Behavioural Trends in the Retail Mobile Voice Market

3.100 In this Section of the Decision, ComReg identifies and discusses key behavioural trends in the Retail Mobile Voice Market. The last five years (from mid-2013) have seen a relatively stable retail mobile market in terms of voice subscriptions, while average minutes of mobile use has consistently shown year-on-year growth. These and other trends are discussed below:

[184] Regulation (EU) No 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union ("Roaming III Regulation") and Commission Implementing Regulation (EU) 2016/2286 of 15 December 2016 laying down detailed rules on the application of fair use policy and on the methodology for assessing the sustainability of the abolition of retail roaming surcharges and on the application to be submitted by a roaming provider for the purposes of that assessment. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2286#ntr1-L_2016344EN.01004601-E0001 ('**RLAH Regulation**').

(a) Total mobile phone subscriptions (discussed at paragraph 3.101 below);

(b) Prepay and bill pay subscriptions (discussed at paragraph 3.102 below);

(c) Mobile phone switching data (discussed at paragraph 3.103 below);

(d) Growth in average number of minutes of use by Irish subscriber (discussed at paragraph 3.104 below);

(e) European monthly mobile minutes of use (‘**MoU**’) (discussed at paragraph 3.105 below);

(f) Voice, SMS, MMS and Data Volumes (discussed at paragraph 3.106 to 3.107 below);

(g) RMVC on-net and off-net traffic trends (discussed at paragraph 3.108 to 3.119 below);

(h) RMTS switching trends (discussed at paragraph 3.120 to 3.126 below)

(i) Mobile phone packages and bundles (discussed at paragraph 3.127 below);

(j) Mobile phone usage relative to fixed phone usage (discussed at paragraph 3.128 to 3.130 below);

(k) Usage of smartphone and OTT services (discussed at paragraph 3.131 to 3.142 below); and

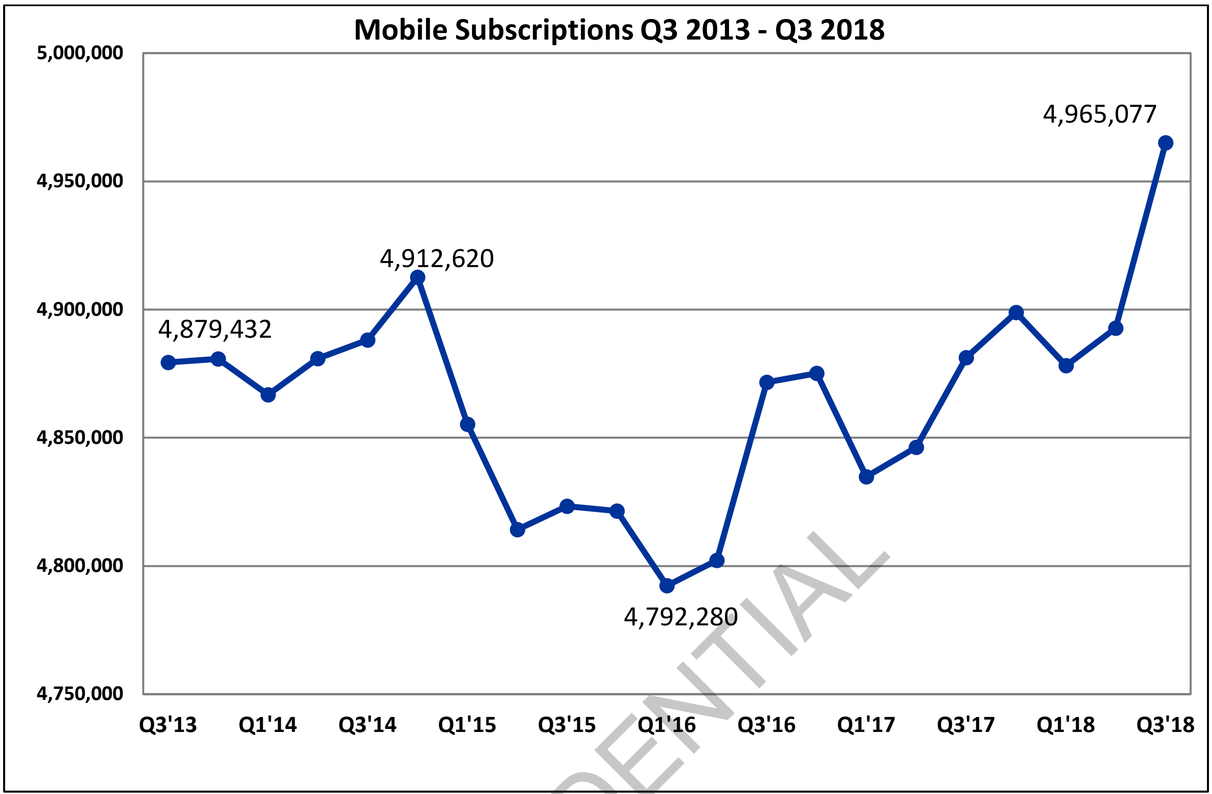
(l) Impact of ‘Roam Like at Home’ (discussed at paragraph 3.143 to 3.144 below).

Mobile phone subscription usage and characteristics

3.101 Figure 15 below shows mobile subscriptions from Q3 2013 to Q3 2018 (excluding mobile broadband and M2M subscriptions). A seasonal pattern can be seen each year with increases from Q2 to Q4, followed by a slight drop in subscriptions from Q4 to Q1.[185]

[185] Prior to Q3 2013 mobile phone subscriptions included M2M metrics. It should also be noted that from Q2 2016 two additional MSPs were included, namely iD Mobile and Virgin Media.

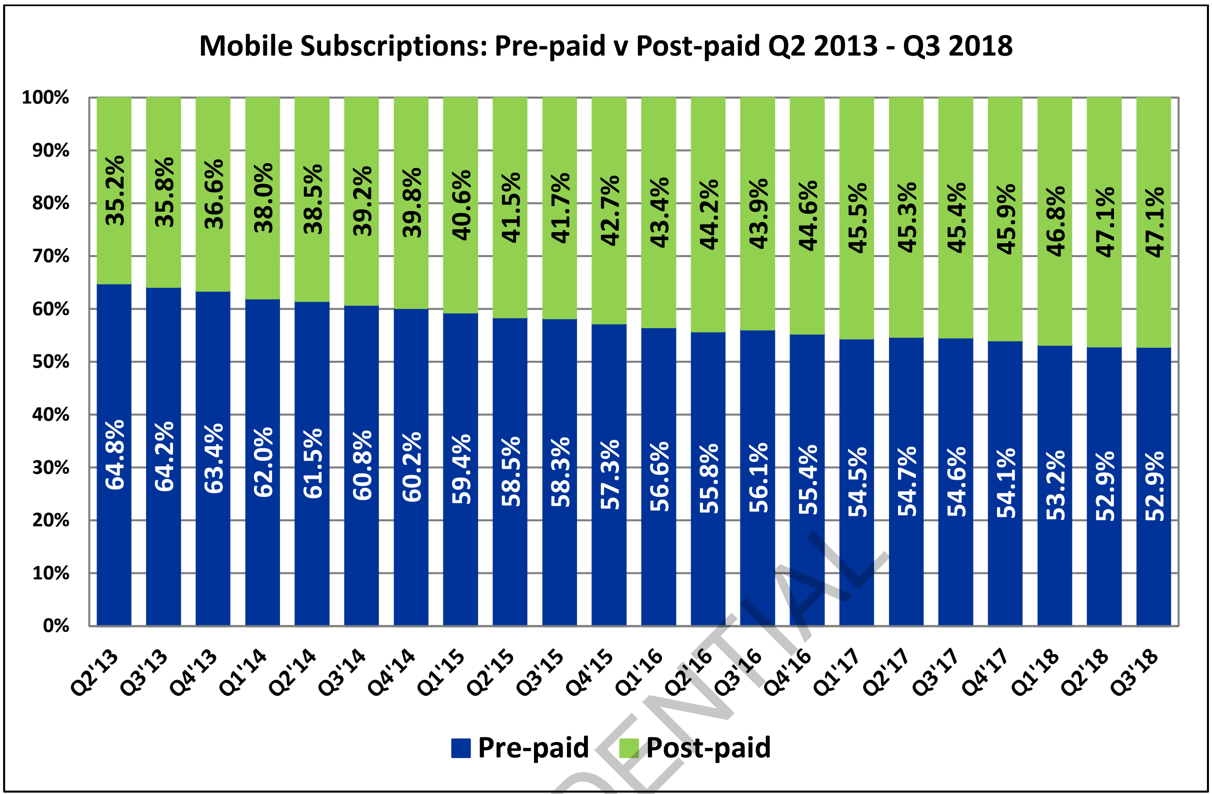
Figure 15: Mobile Voice Subscriptions, Q3 2013 – Q3 2018[186]



3.102 The proportions of prepay and bill pay mobile subscriptions are shown in Figure 16 below. A clear trend shows consistent growth in bill pay subscriptions relative to post. In Q2 2013 bill pay subscriptions stood at 35.2% with prepay at 64.8%, compared to Q3 2018 figures of 47.1% and 52.9% for bill pay and prepay, respectively.

[186] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

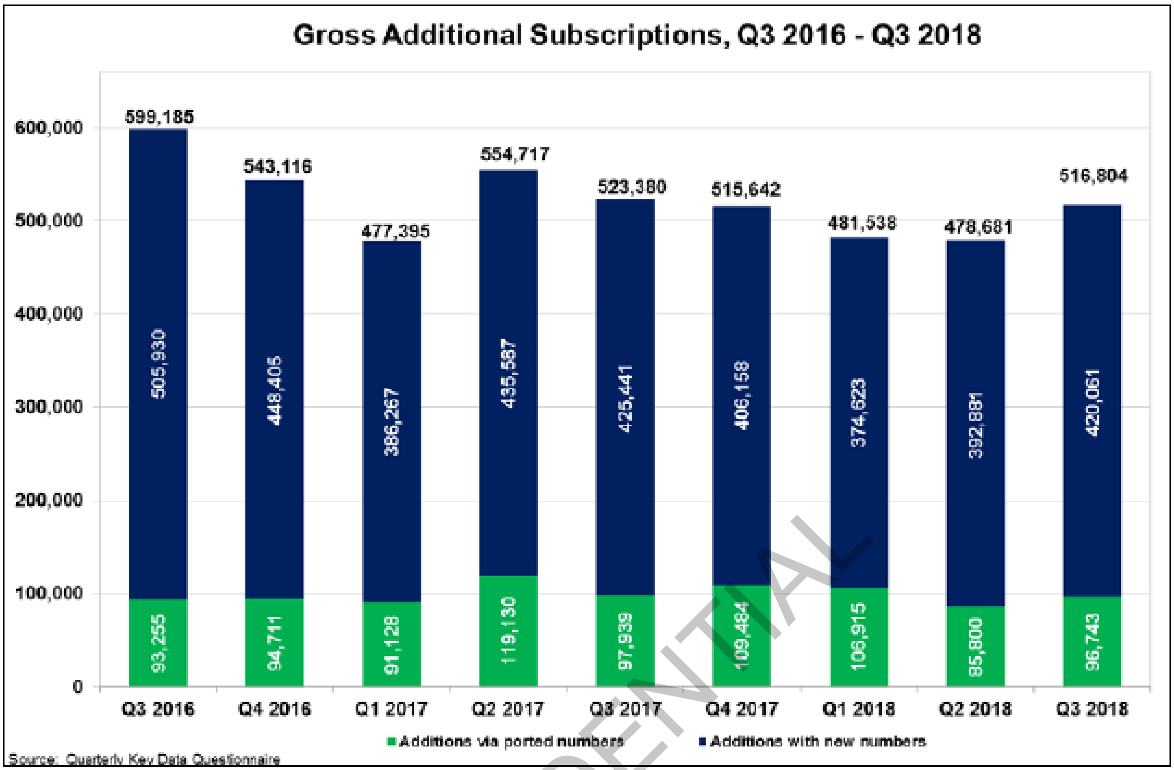
Figure 16: Mobile Subscriptions, prepay and billpay: Q2 2013 – Q3 2018[187]



3.103 The quantities of gross additional mobile subscriptions involving subscribers taking new mobile numbers or porting their existing numbers when switching MSP is shown in Figure 17. In Q3 2018 the proportion of additions that involved subscribers porting their mobile numbers was 18.7% while additional subscriptions that involved new mobile numbers made up the remaining 81.3%.

[187] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

Figure 17: Gross Additional Mobile Subscriptions, Q3 2016 – Q3 2018[188]

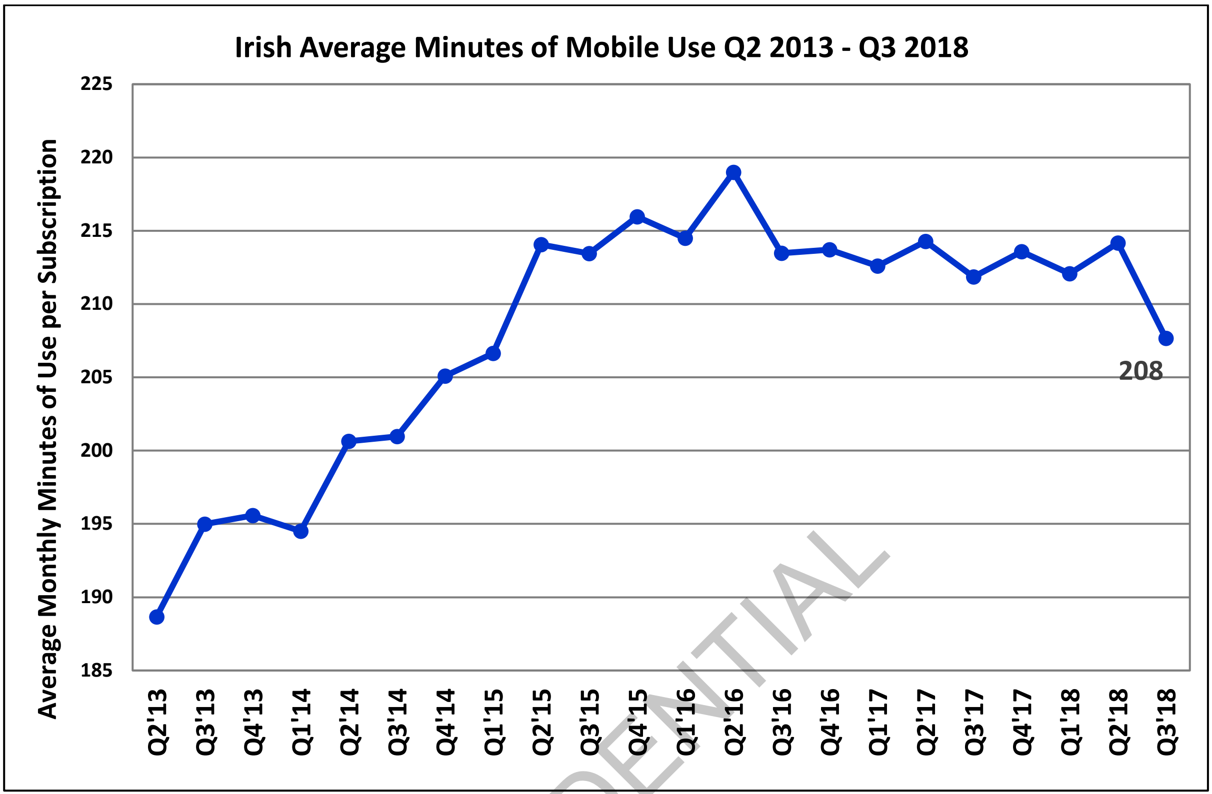


Use of mobile voice services

3.104 Figure 18 shows growth in average number of minutes of use ('**MoU**') by Irish mobile subscribers from Q2 2013 to Q3 2018. Over this period average MoU rose by 10.1%.

[188] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 70. See Figure 4.8.1

Figure 18: Average Minutes of Mobile Use, Q2 2013 – Q3 2018[189]



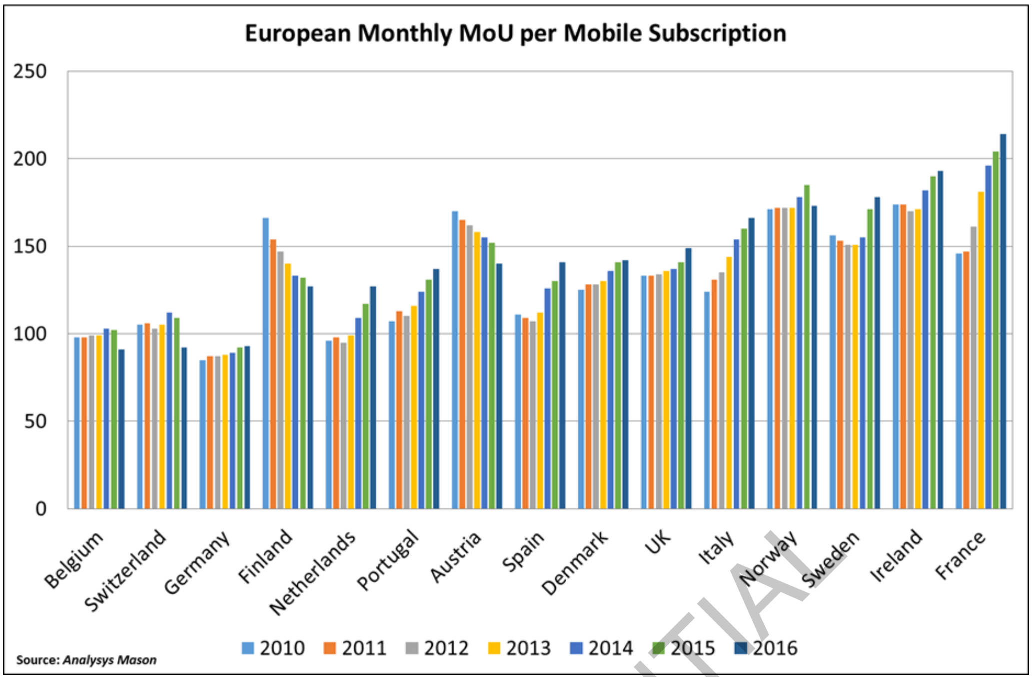
3.105 As highlighted in Figure 19 below, the average number of monthly mobile MoU by Irish mobile subscribers is among the highest in Europe. Market research conducted by Analysys Mason estimates it to be approximately 34% higher than the European average for 2016.[190] Figure 19 shows that in 2016[191] only French mobile subscribers (214 minutes per month) had a greater MoU quantity than Irish subscribers (193 minutes per month).

[189] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

[190] The latest available data for European Minutes of Use is for 2016.

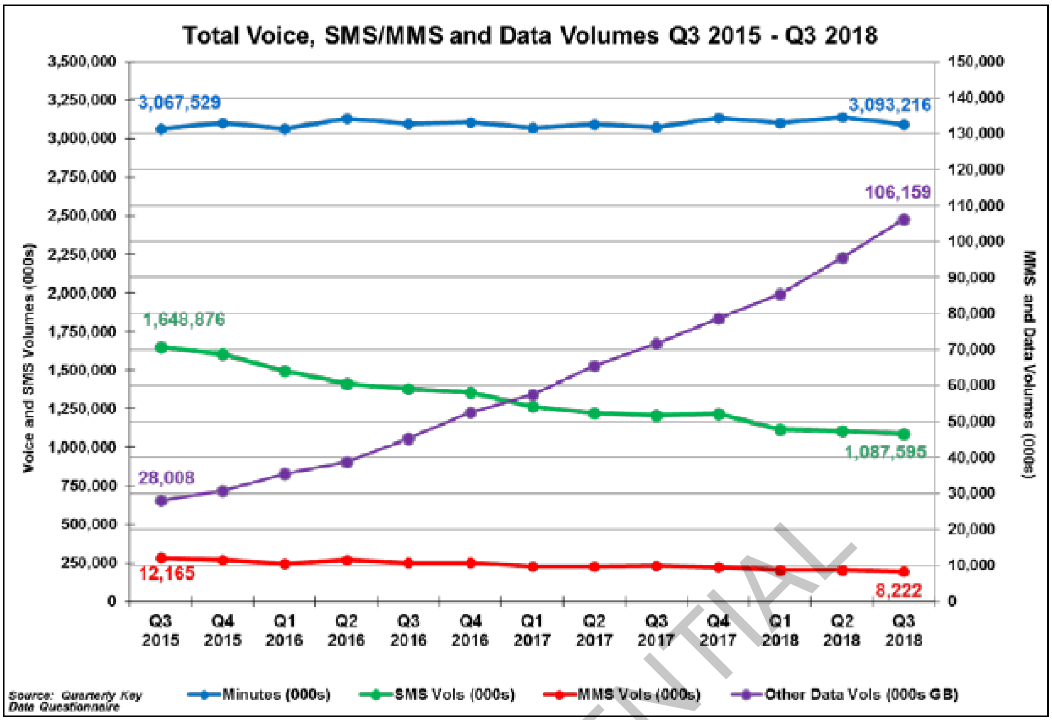
[191] Note that this is the latest period that ComReg has Analysis Mason data available to it.

Figure 19: Average Number of Monthly Mobile MoU 2010-2016



3.106 Figure 20 shows Voice, SMS and Other Data Volumes per quarter from Q3 2015, call minutes have remained relatively steady over the period, with SMS volumes declining, MMS volumes remain steady and other data show a significant increase.

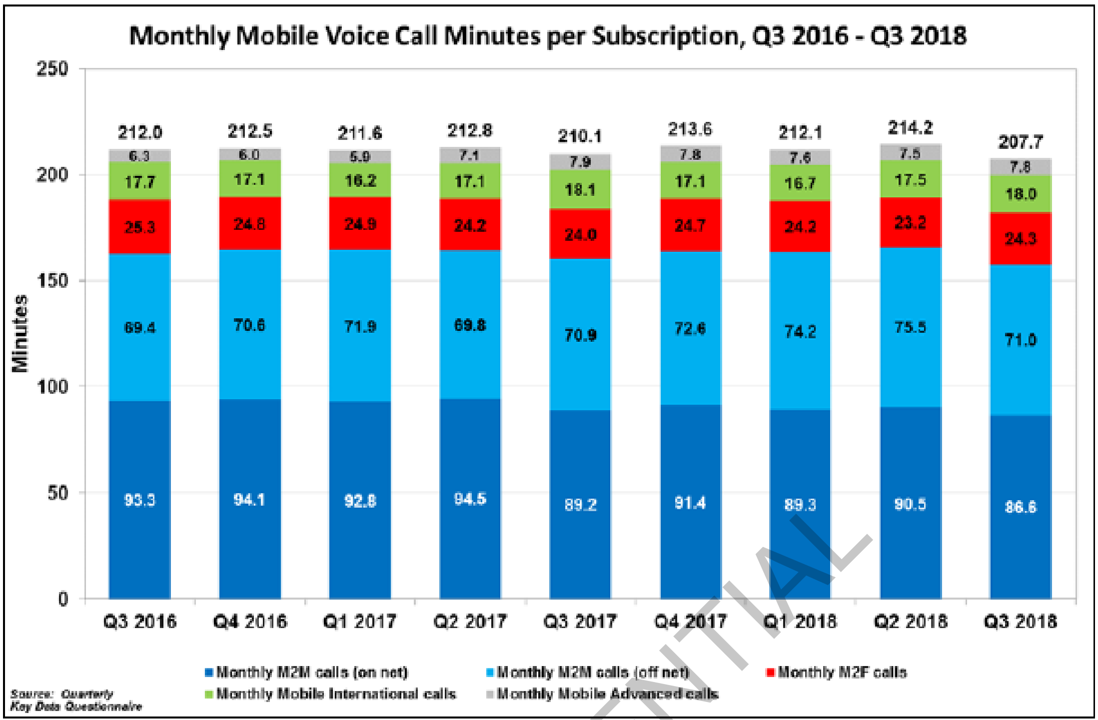
Figure 20: Voice, SMS, MMS and Data Volumes, Q3 2015 – Q3 2018[192]



3.107 Figure 21 shows monthly mobile voice call minutes per subscription, a slight increase is seen on mobile-to-mobile off-net traffic, with a slight decrease in mobile-to-fixed call minutes.

[192] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 60.

Figure 21: Monthly Mobile Call Minutes per Subscription, Q3 2016 – Q3 2018[193]

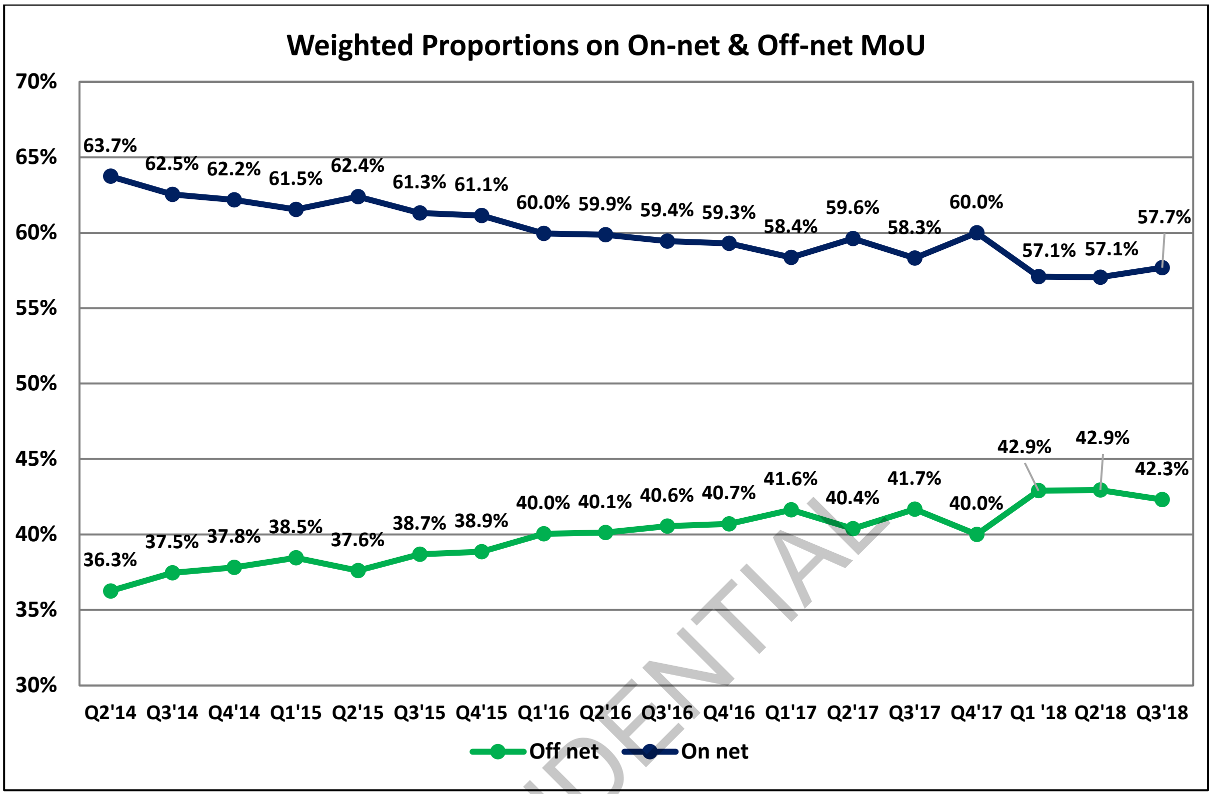


Mobile on-net and off-net traffic trends

3.108 Figure 22 below shows the average off-net MVCT (on another MSP or FSP) and on-net (self-supplied) termination of retail traffic weighted by market share, from Q2 2014 to Q3 2018. In Q2 2014 off-net termination accounted for 36.3% and increased to 42.3% in Q3 2018. Similarly, on-net termination decreased from 63.7% to 57.7% from Q2 2014 to Q3 2018.

[193] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 62.

Figure 22: Proportions of on-net and off-net minutes of use, weighted by market share[194]



3.109 ComReg also examined on-net MVCT[195] traffic trends over the last three years, set out in Figure 23 below.

[194] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

[195] On-net termination refers to the MSP's (or FSP's) self-supply of WVCT - arising from when it completes a call between two of its own customers.

Figure 23: On-net MVCT traffic (weighted by market share), Q2 2014 – Q3 2018 [✂REDACTED][196]

[redacted]

3.110 Individual MSPs' on-net retail MVCT was also considered (self-supply of mobile termination). In Q3 2018 on-net MVCT as a percentage of overall MVCT for each MSP was as follows:

[196] Note: Three merged with O2 in mid-2014 with data amalgamated from Q2 2015. Thus, Three's on-net figures from Q2 2015 are not comparable with previous quarters.

Table 2: MSP on-net termination %, Q2 2014 – Q3 2018 [✂REDACTED]

Mobile Service Provider	On-net % Termination at Q3 2018	Percentage-point Change relative to Q2 2014
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

3.111 [✂ [redacted]]

3.112 Table 2 also shows the percentage point change (column on right) in the proportion of on-net 'self-supplied MVCT' from Q2 2014 to Q3 2018. In all cases on-net traffic growth has decreased in a range from -25.2% to -3.5%. This suggests that, in general, there has been an increase in the number of calls terminating on other SPs networks (although this is in the presence of regulated MTRs).

3.113 Table 3 below shows the actual percentage change in individual MSP's volumes of on-net self-supplied termination minutes from Q2 2014 to Q3 2018. There is large variance in positive and negative growth, ranging from -71% to 102%.

[197] Note: Three merged with O2 in mid-2014 with data amalgamated from Q2 2015. Thus, Three's on-net and off-net minutes are compared with Q2 2015, rather than Q2 2014 figures.

Table 3: MSP % change in on-net MVCT, Q2 2014 – Q3 2018 [✂REDACTED]

Mobile Service Provider	Actual % Point Change in On-net MVCT
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

3.114 ComReg also examined off-net termination traffic trends over the last three years, set out in Figure 24 below.

Figure 24: Off-net termination traffic, (weighted by market share), Q2 2014 – Q3 2018 [✂REDACTED]

[redacted]

3.115 Individual MSPs' off-net traffic profiles are also considered. In Q3 2018 off-net retail termination as a percentage of overall termination for each MSP was as follows:

Table 4: MSP off-net termination %, Q2 2014 – Q3 2018 [✂REDACTED]

Mobile Service Provider	Off-net % Termination	Percentage-point Change since Q2 2014
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

3.116 The proportion of off-net voice termination traffic was highest for [✂ [redacted]]. As of Q3 2018 [✂ [redacted]] of TMI's calls were off-net, [✂ [redacted]] in Q2 2014. Three's off-net calls were [✂ [redacted]] in Q3 2018 [✂ [redacted]] in Q2 2015. As of Q3 2018, Meteor had off-net calls of [✂ [redacted]], Vodafone's off-net calls were [✂ [redacted]] in Q3 2018 [✂ [redacted]] in Q2 2014 and Lycamobile's off-net calls stood at [✂ [redacted]] in Q3 2018 [✂ [redacted]] in Q2 2014.

3.117 Table 4 also shows the percentage point change (column on right) in the proportion of off-net termination from Q2 2014 to Q3 2018. In all cases off-net traffic growth has increased in a range from 3.6% to 25.2%

3.118 Table 5 shows the actual percentage change in individual MSP volumes of off-net termination minutes from Q2 2014 to Q3 2018. Four MSPs increased their off-net termination, with [✂ [redacted]]. [[redacted]] was the only MSP to see a decrease in off-net termination over the period.

Table 5: MSP % change in off-net termination, Q2 2014 – Q3 2018 [✂REDACTED]

Mobile Service Provider	Actual % Change in Off-net Termination
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

3.119 Overall, the proportion of on-net traffic has decreased while off-net traffic has increased. [✂ [redacted]] and [✂ [redacted]] saw increases in both on-net and off-net volumes, while [✂ [redacted]] and [✂ [redacted]] saw decreases in on-net volumes but increases in off-net volumes over the period. [✂ [redacted]] saw decreases in both on-net and off-net volumes over the period. Virgin Media and Postmobile are not included in the analysis as their overall traffic volumes are low relative to other MSPs[198]. Virgin Media's mobile traffic volumes accounted for [✂ [redacted]] of all mobile traffic volumes in Q3 2018, while Postmobile's minutes accounted for [✂ [redacted]] of mobile minutes. As noted at 3.97, iD Mobile exited the market in Q2 2018.

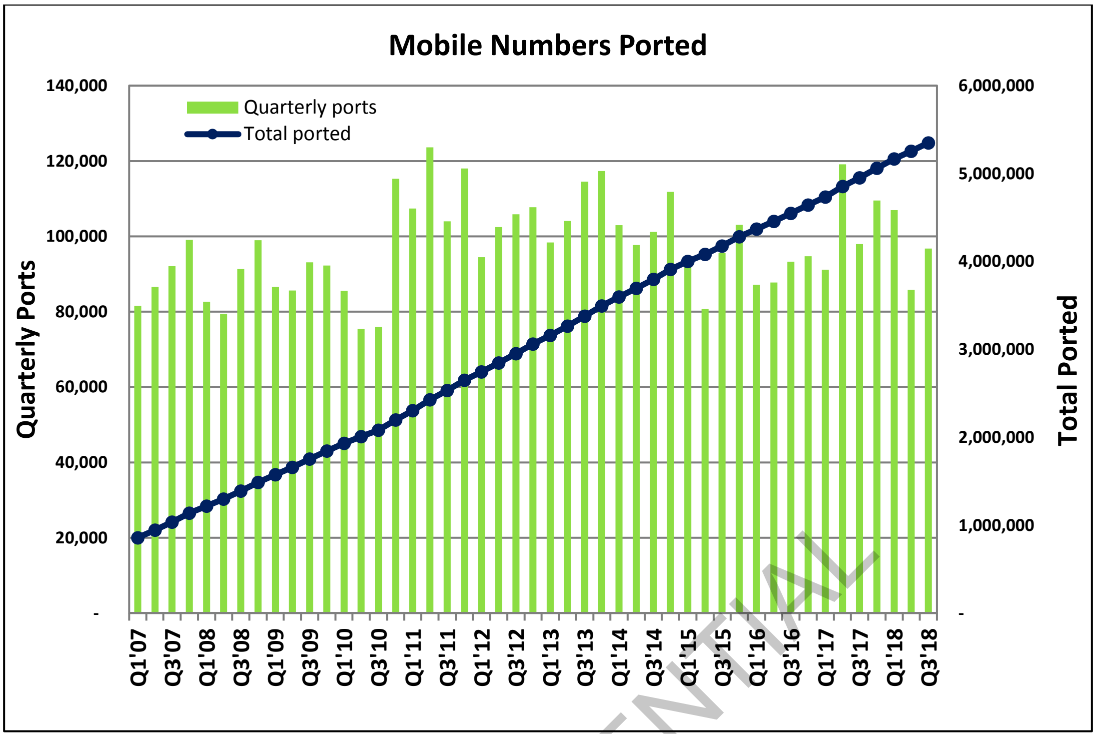
Switching trends

3.120 Mobile Number Portability ('**MNP**') is the process whereby subscribers can keep their mobile number when switching MSP. The level of MNP is, therefore, somewhat indicative of the level of switching[199] in the retail mobile market, although, as noted in paragraph 3.103 above, the majority of subscribers do not seem to port their telephone number when switching MSP. Figure 25 illustrates the cumulative total of mobile numbers ported between MSPs since Q1 2007. Just under 4.5 million mobile numbers have been ported between Q1 2007 and Q3 2018. In Q3 2018, 96,743 mobile numbers were ported between MSPs (a total of 398,942 mobile numbers have been ported in the last four quarters, with an average of 99,736 per quarter for the same period).

[198] iD Mobile data has also been excluded given it ceased trading in April 2018.

[199] In the QKDR the footnote for total gross additions is: "Gross additions include consumers who decide to avail of multiple SIMs and thus, slightly overstate the switching intensity in Ireland."

Figure 25: Mobile numbers ported, 2007- Q3 2018[200]

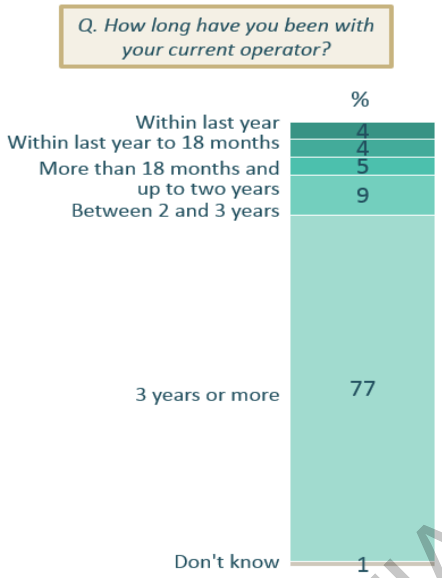


3.121 According to the 2016 Consumer MVCT Market Research, 77%[201] of the survey sample had been with their then current mobile supplier for more than three years (See Figure 26), rising to 84% for older subscribers (aged 55+).

[200] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

[201] 2016 Consumer MVCT Market Research, slide 98.

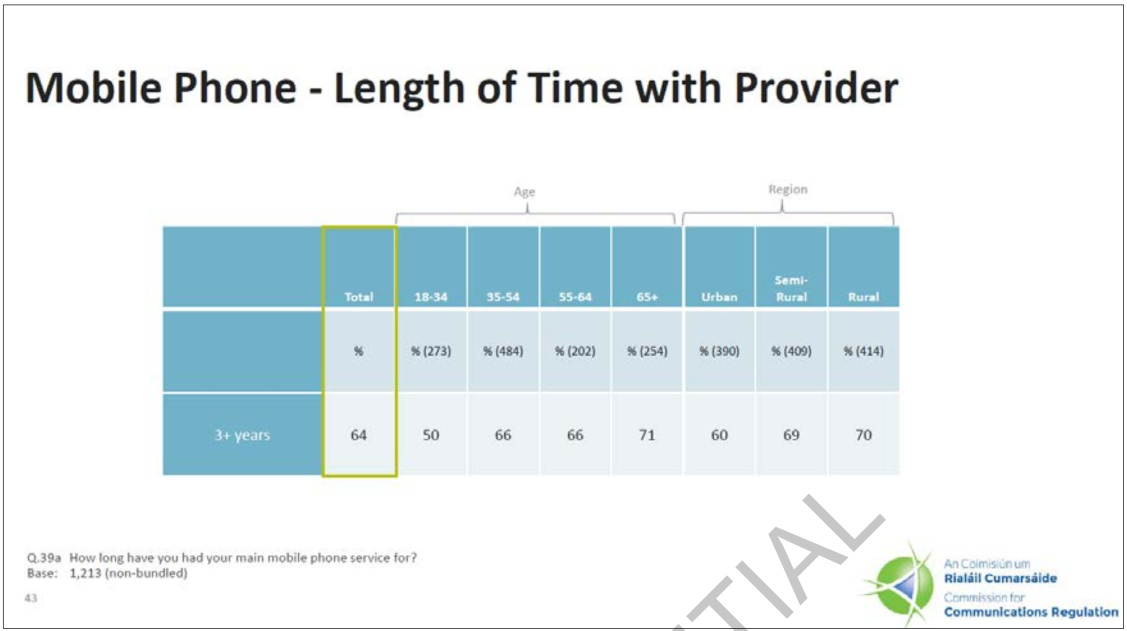
Figure 26: Customer length of time with a MSP - 2016 Consumer MVCT Market Research



3.122 As set out in Figure 27 below, according to the 2017 Ireland Communicates Consumer Survey, 64%[202] of consumers have been with their current mobile supplier for more than three years, rising to 71% for older subscribers (aged 65+).

[202] Ireland Communicates Survey 2017 – Consumer, slide 43.

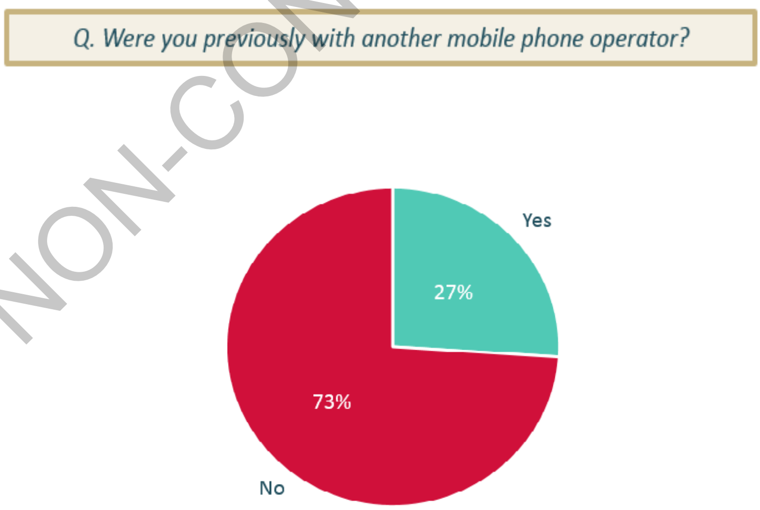
Figure 27: Mobile Phone – Length of Time with Provider - Ireland Communicates Survey 2017 – Consumer



	Total	Age: 18-34	35-54	55-64	65+	Region: Urban	Semi-Rural	Rural
	%	% (273)	% (484)	% (202)	% (254)	% (390)	% (409)	% (414)
3+ years	64	50	66	66	71	60	69	70

3.123 Figure 28 below, 73%[203] of all the 2016 Consumer MVCT Market Research respondents indicated that they have never switched MSP. Respondents in rural areas switched least, with 82% reporting to have never switched.

Figure 28: Customer proportion of switching - 2016 Consumer MVCT Market Research

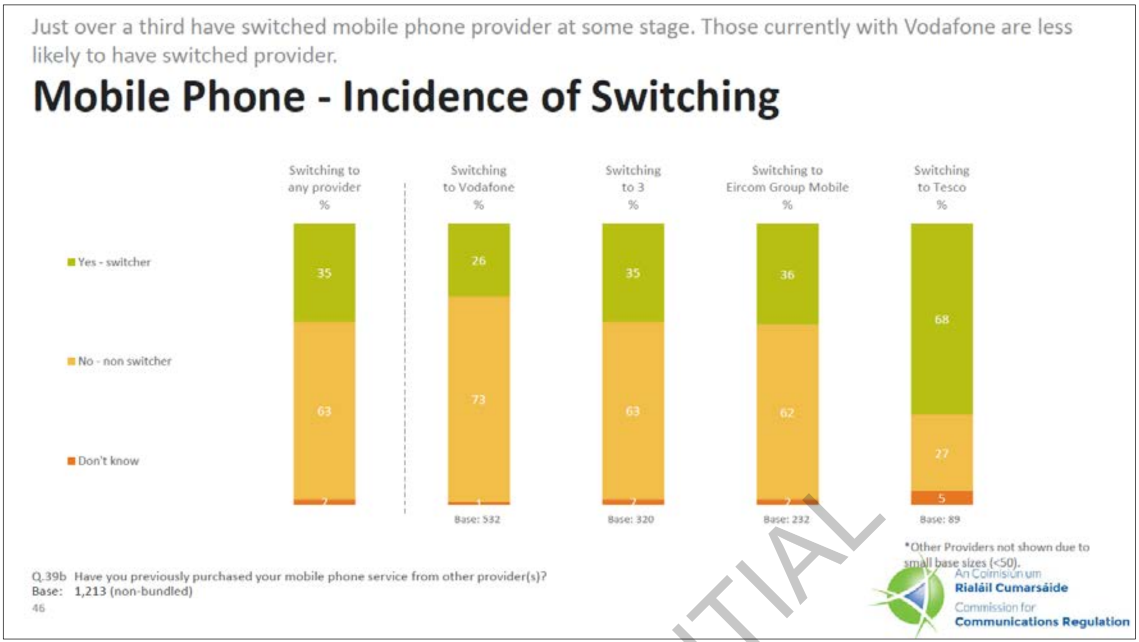


3.124 As noted in Figure 29 below, in the 2017 Ireland Communicates Consumer Survey, 63%[204] of consumers had never switched Mobile Service Provider.

[203] 2016 Consumer MVCT Market Research, slide 100

[204] Ireland Communicates Survey 2017 – Consumer, slide 46.

Figure 29: Mobile Phone – Incidence of Switching - Ireland Communicates Survey 2017- Consumer



3.125 The above switching figures, allied to the long periods that consumers have been with their current MSP, may suggest that customer switching is concentrated amongst a group of mobile subscribers (repeat switchers) rather than among the broader subscriber base.

Retail price plans – Consumer switching choices in the last 12 months – 2016 Consumer MVCT Market Research

3.126 When asked *"Have you switched the price plan/packages you are on with your operator in the last 12 months?"*, 11%[205] of 2016 Consumer MVCT Market Research respondents said that they had switched their mobile price plan in the past year, 89% said they had not switched in the last 12 months and 55+ year olds had lowest incidence of switching, at 7%.

Packages and bundles – most common bundle choice

3.127 8%[206] of those surveyed purchased their mobile phone service as part of a bundle with other telecommunication services. Among respondents who purchased their mobile phone service as part of a bundle, fixed line broadband was the service most commonly bundled with their mobile phone (75%).[207]

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[205] 2016 Consumer MVCT Market Research, slide 20.

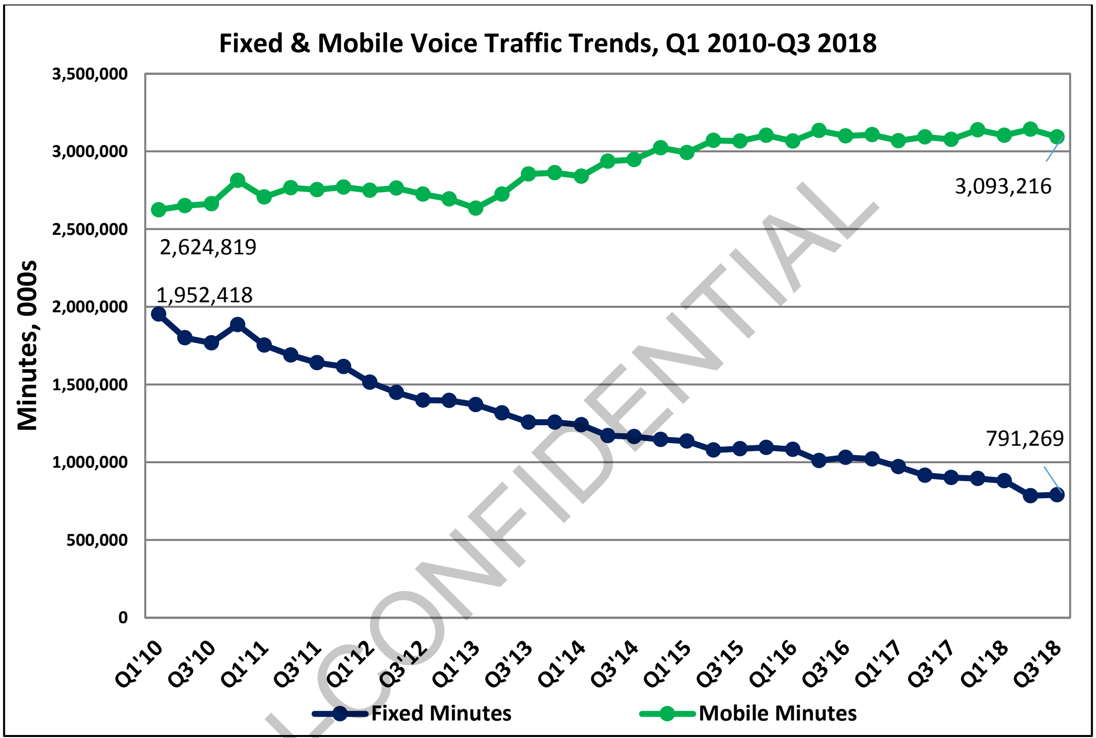
[206] 2016 Consumer MVCT Market Research, slide 21.

[207] 2016 Consumer MVCT Market Research, slide 22.

Mobile phone usage increases relative to fixed phone usage

3.128 Figure 30 below largely shows a continual increase in mobile voice traffic compared to decreasing fixed voice traffic from Q1 2010 to Q3 2018. Retail mobile voice traffic totalled 3.09 billion minutes in Q3 2018, an increase of 17.8% since Q1 2010. Over the same period total fixed minutes declined by 59.5%.

Figure 30: Fixed & mobile voice traffic trends, Q1 2010 – Q3 2018[208]



3.129 As of Q3 2018, approximately 75.9% of all mobile originated voice minutes were mobile-to-mobile (on-net and off-net) minutes with 11.7% being to fixed line phones.[209] In Q1 2010, 75.2% of all mobile originated voice minutes were mobile-to-mobile (on-net and off-net) minutes, with 11.1% being to fixed line phones. Over the same period, the total volume of mobile-to-mobile voice minutes increased by 18.9%, while mobile-to-fixed minutes increased by 23.8%.

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[208] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

[209] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

The remaining mobile minutes are classified as mobile international/roaming minutes (8.6%) and mobile advanced minutes (3.7%).

3.130 As of Q3 2018, 43.4% of all fixed line originated voice minutes were to domestic fixed line phones with 16.2% being to domestic mobiles.[210] In Q3 2011, 58% of all fixed line originated voice minutes were to other domestic fixed line phones with 13.5% being to domestic mobiles. Over this same period, the total volume of fixed-to-mobile voice minutes decreased by 42.4% while fixed-to-fixed minutes decreased by 64.1%.

Smartphone usage – increase usage of Smartphones

3.131 The prevalence of smartphones (i.e. a mobile handset with advanced capabilities such as an integrated computer) has increased in the last five years. According to the ComReg QKDR for Q3 2018, as of Q3 2018 there were 4,683,955 smartphone subscriptions in the State, representing 93.8% of mobile voice subscriptions.[211] This compares to 1,922,485 in Q3 2011 which consisted of 39.4% of mobile voice subscriptions. Smartphone subscriptions have increased by 144% over this period with a percentage-point increase of +54%.

Over-the-top (OTT) services and applications

3.132 74%[212] of respondents to the 2016 Consumer MVCT Market Research indicated that they had a smartphone.[213] Smartphone ownership reduces greatly for those aged 55+ (41%). In contrast, 94% of those aged 15-34 own a Smartphone, according to the market research.

3.133 When asked about frequency of receiving calls, and frequency of using OTT apps to make calls, 27%[214] of the sample with a smartphone use OTT apps on their phone for calls on a daily basis, while 33% say they have never used their smartphone to do so.[215] Among survey respondents that use OTT apps for calls, the most common reason given for doing so is lower price (60%).[216] See Figure 31.

[210] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

[211] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 53

[212] 2016 Consumer MVCT Market Research, slide 24.

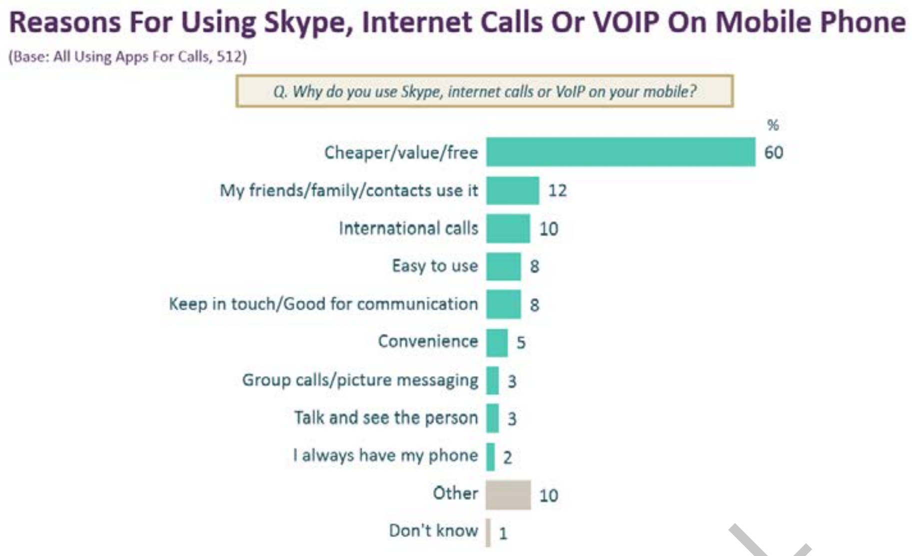
[213] For the purposes of the 2016 RedC Market Research, a mobile phone was considered to be a smartphone when it allows access to email, web surfing and downloading of apps.

[214] 2016 Consumer MVCT Market Research, slide 26.

[215] 40% of mobile users received a mobile call via an OTT application in the last 12 months, according to the Ireland Communicates Survey 2017– Consumer, slide 39.

[216] 2016 Consumer MVCT Market Research, slide 27.

Figure 31: Reasons given for using internet call services



3.134 According to the 2017 Ireland Communicates Consumer Survey, 23%[217] of 1,029 consumers make/receive video calls every day or every couple of days using 3G/4G, and 31% do so using WiFi. The number of overall respondents in the sample which had a mobile was 1,468, meaning 16% of the overall mobile sample make/receive video calls over 3G/4G every day or every couple of days and 22% do so over WiFi.

3.135 Of those who use unmanaged VoIP-to-VoIP calls (n=677), 43%[218] claim there has been no impact on the number of traditional calls they make. 36% claim they now make less traditional mobile calls while 3% have ceased making traditional mobile calls.

3.136 However, only 677 of the total mobile users in the sample (n=1,468) use unmanaged VoIP-to-VoIP calls. Thus, this reduces the overall percentage of respondents who have reduced the number of traditional mobile calls they make. 16.7%[219] of the total mobile users in the survey sample make fewer traditional mobile calls and 1.4%[220] have ceased making traditional mobile calls, due to the impact of unmanaged VoIP-to-VoIP calls.

[217] Ireland Communicates Survey 2017 – Consumer, slide 33-34.

[218] Ireland Communicates Survey 2017 – Consumer, slide 39.

[219] 36% of 677 = 244, 244 =16.7% of the total mobile user base in the survey sample.

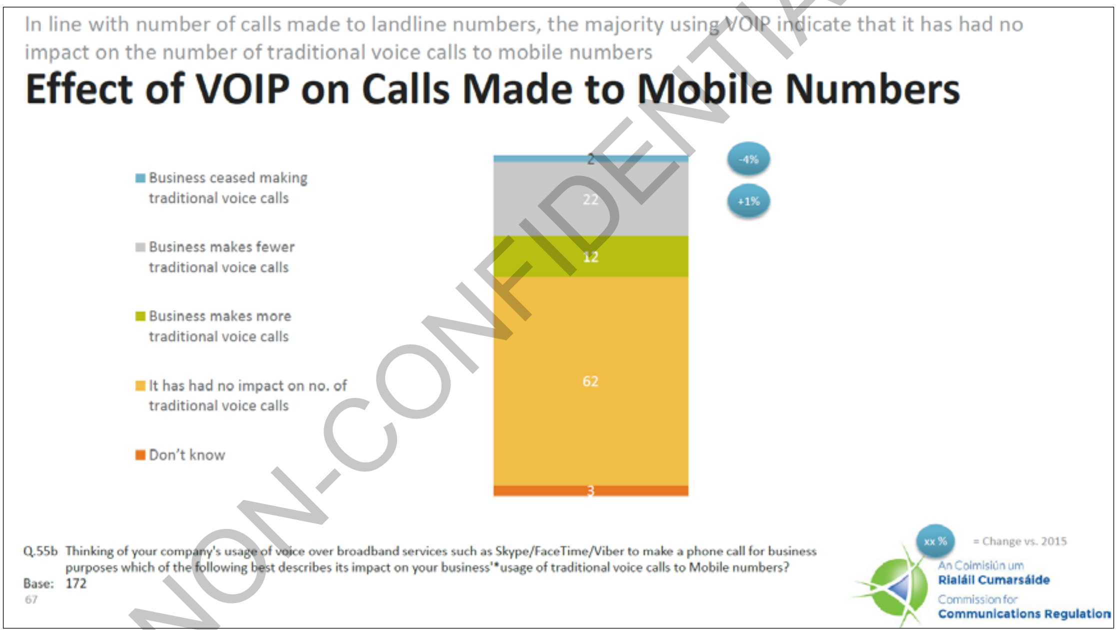
[220] 3% of 677 = 20, 20 = 1.4% of the total mobile user base in the survey sample.

3.137 According to the 2017 Ireland Communicates Consumer Survey, 40%[221] of mobile users have also received a mobile call via an OTT application in the last 12 months.

3.138 According to the 2017 Ireland Communicates SME Survey, 22%[222] of SMEs who have business mobiles phones (18% of the overall SME sample) use them for VoIP calls. This figure represents a decrease of 3% since 2015.

3.139 Figure 32 below shows that the majority (62%[223]) of SMEs who use VoIP calls claim that their usage of VoIP calls has had no impact on the number of traditional calls made to mobile numbers. 22% (7.5% of the overall SME sample) claim that they have reduced the number of traditional calls to mobile numbers, while 2% (0.7% of the overall SME sample) claim to have ceased making calls to mobiles.

Figure 32: Effect of VoIP on Calls Made to Mobile by SMEs – Ireland Communicates Survey 2017 – SME [224]



[221] Ireland Communicates Survey 2017 – Consumer, slide 40.

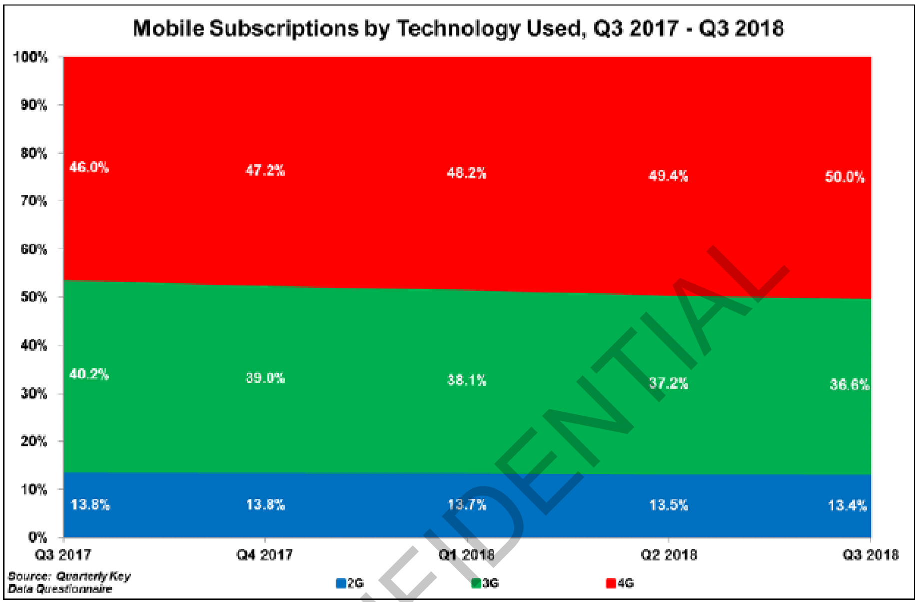
[222] Ireland Communicates Survey 2017 – SME, slide 37.

[223] Ireland Communicates Survey 2017 – SME, slide 67.

[224] Ireland Communicates Survey 2017 – SME, slide 67.

3.140 Figure 33 below shows mobile subscriptions by technology used (including mobile broadband and M2M). From Q3 2017 to Q3 2018 the proportion of subscriptions using 4G technology has risen from 46.0% to 50.0%.[225] Additionally, this number has more than tripled from 12.9% in Q1 2015.[226] This is likely to be reflective of changing technology enabling the use of applications dependent on data consumption.

Figure 33: Mobile subscriptions by technology used[227]



ComReg's Consideration of Respondents' Views

3.141 ComReg notes the submissions made by a number of Respondents regarding the impact of OTT on retail trends in relation to mobile voice and the concerns expressed by certain Respondents that ComReg has underestimated the extent of the impact of OTT on developments in the retail market. Respondents' views on this are summarised in Annex: 11, from paragraphs A11.11 to A11.21 and ComReg's assessments of those views is set out in paragraphs A11.28 to A11.36.

[225] Excluding mobile broadband and M2M, the proportion of subscriptions using 4G technology has risen from 15.3% in Q1 2015 to 62.8% in Q3 2018, according to the ComReg Data Portal.

[226] ComReg Data Portal, Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018].

[227] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 59.

3.142 ComReg does not agree that it has underestimated the effects of OTT (see paragraphs A11.28 to A11.36). As noted in paragraph 3.135, with reference to the 2017 Ireland Communicates Consumer Survey, 43% of those using voice calling through a smartphone app said that it has had no impact on the number of traditional voice calls that they make, with 36% claiming they now make less traditional mobile calls while 3% claiming they have ceased making traditional mobile calls. Further, as noted in paragraph 3.136, only 16.7% of the total sample make fewer traditional voice calls over a mobile phone and 1.4% of the total sample have ceased making traditional voice calls over a mobile phone. Considering that the number of mobile minutes has continued to remain steady (paragraph 3.23) these results suggest that OTT voice applications are being used in conjunction with traditional voice services rather than replacing them.[228]

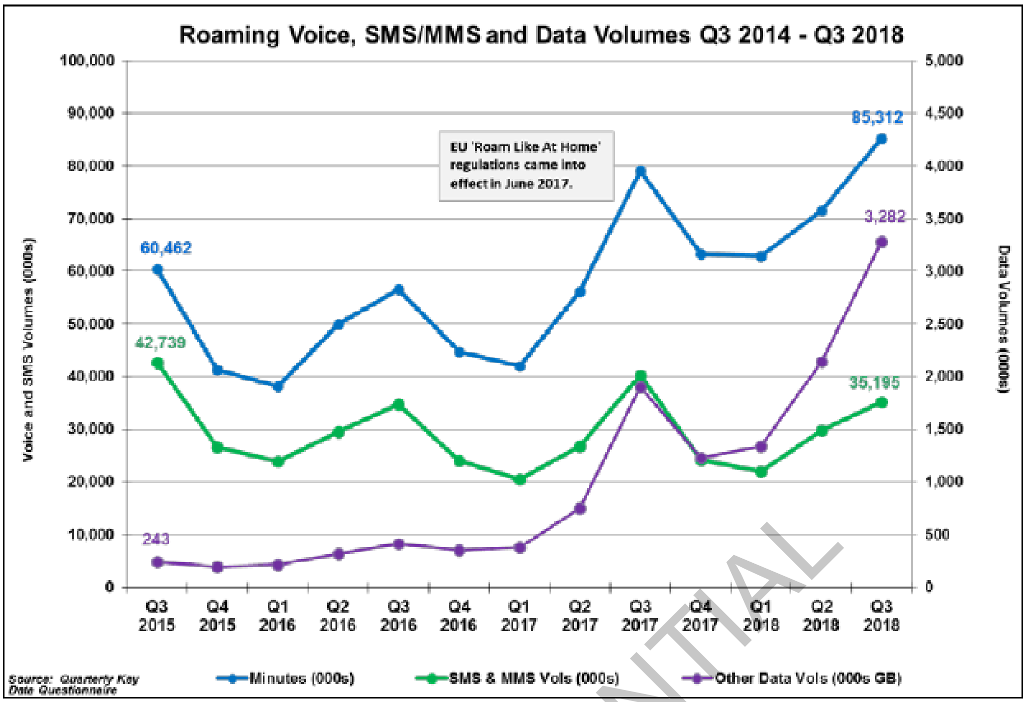
The Impact of 'Roam Like at Home'

3.143 Since June 2017, roaming rates have been abolished within the EU, such that communications (phone calls, SMS, data) made from another EU country will be covered under a subscriber's 'national' bundle: the minutes, SMS and gigabytes of data consumed abroad in the EU are charged or deducted from the volumes of a subscriber's national tariff plan exactly as if they were using their plan in their home country.

3.144 Figure 34 below shows total retail roaming mobile voice traffic was over 85 million minutes in Q3 2018, up by 7.8% on Q3 2017 (and up by approximately 50% on Q3 2016). Data usage volumes for Q3 2018 were 3,282 Tera Bytes ('**TB**'), up 72.3% on Q3 2017 (and up more than 500% on Q3 2016). Total combined SMS and MMS roaming messages sent by Irish mobile users was over 35 million in Q3 2018, down 12.4% on Q3 2017 (and similar to Q3 2016).

[228] See paragraphs 3.132 to 3.142 and the analysis in Section 4 of this decision in which Retail Demand Side Substitution is addressed (4.147 to 4.167 and 4.224 to 4.243).

Figure 34: Roaming Voice, SMS, MMS and Data Volumes[229]



Other emerging trends and innovations

3.145 WiFi calling is an emerging trend in the RMVC market[230]. Further, in the short to medium term, it is likely that services making use of 4G functionality, such as VoLTE,[231] will be launched on the Irish market. VoLTE is currently available on a number of UK mobile networks, including Three, EE, O2 and Vodafone. In July 2017, Vodafone announced plans to launch both Voice over WiFi and VoLTE in Ireland in 2018.[232]

[229] ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 61.

[230] See footnote 159

[231] Voice over Long-Term Evolution (**VoLTE**) is a standard for high-speed wireless communication for mobile phones and data terminals. VoLTE has up to three times more voice and data capacity than 3G UMTS and up to six times more than 2G GSM.

[232] https://www.siliconrepublic.com/comms/vodafone-voice-lte-wifi?utm_source=Silicon+Republic+news+alerts&utm_campaign=9f703ae354-4pm_News_Alerts5_28_2015&utm_medium=email&utm_term=0_1c0c3c9f35-9f703ae354-110005401&mc_cid=9f703ae354&mc_eid=9c34727b49.

3.146 In the longer term, it is likely that the introduction of 5G will facilitate greater data throughput and usage. 5G will dramatically increase the speed at which data is transferred, improve response times and provide capacity for interconnectivity of devices by means of the 'internet of things' ('**IoT'**). ComReg issued spectrum rights of use in the 3.6 GHz band to five SPs (Vodafone, 3 Ireland, Meteor, Imagine and Airspan) by means of an auction, the results of which were announced in May 2017.[233] The 3.6GHz band has been identified by ComReg and by the Radio Policy Spectrum Group ('**RPSG**', the high-level advisory group that assists the European Commission in the development of radio spectrum policy) as being the primary band suitable for the introduction of 5G in Europe.[234] 5G services are not likely to be rolled out in Ireland for a number of years although some trials have been reported[235].

ComReg's position on retail trends in relation to mobile voice

3.147 Further to the above assessment of retail trends in the provision of retail mobile services since the 2012 MVCT Decision, ComReg's final view is that the following key trends may be observed:

(a) Mobile voice subscriptions continue to grow;

(b) The proportion of total mobile phone subscriptions accounted for by the bill pay segment continues to grow while, correspondingly, prepay subscriptions continue to decline;

(c) Ported numbers vary quarter on quarter but average at just over 400,000 per annum; however, the majority of subscribers appear to take on new numbers when switching, rather than porting their old numbers;

(d) The number of SMS messages sent from mobile phones by subscribers continues to decline precipitously;

233 https://www.comreg.ie/five-winning-bidders-comregs-3-6-ghz-band-spectrum-award/

234 As set out in paragraph 1.12 of ComReg Document 17/28, "Results of the 3.6 GHz Band Spectrum Award - Information Notice".

235 See, for example, https://n.vodafone.ie/aboutus/press/vodafone-hosts-irelands-first-live-5g-test.html.

(e) A rise is observed in data usage / OTT services. This is reflected in the packages offered to consumers by MSPs, which respond to consumer preferences for the use of applications which consume data volumes by (a) offering greater data volumes, as measured in GB, and (b) offering access to applications on a 'zero-rated' basis, such that usage of the app in question does not result in consumption of the user's data allowance. For example, eir Mobile[236] currently offers 'More Than You Can Eat' data, whereby accessing YouTube, Facebook, Snapchat, Instagram, Twitter, WhatsApp and Viber messaging does not result in consumption of the data package;[237]

(f) The number of mobile call minutes remain broadly steady (if not increasing slightly); and

(g) Total retail roaming mobile voice traffic and roaming data volumes have increased considerably since the introduction of 'Roam Like at Home'.

[236] Meteor trading as Eir Mobile

[237] https://www.eir.ie/mobile/prepay/

4 Assessment of Retail Fixed and Mobile Voice Calls

4.1 In Section 4 of the Consultation ComReg set out the key structural and behavioural characteristics in the provision of RFVCs and RMVCs, collectively, '**retail voice calls**', or '**RVC(s)**', in the State. The purpose of Section 4 in the Consultation was to inform ComReg's then preliminary views on the subsequent definition of the Relevant FVCT Markets and Relevant MVCT Markets, as well as providing an assessment of any indirect constraints arising from the RFVC and RMVC markets and the subsequent competition assessment of the Relevant Termination Markets.[238]

4.2 In assessing retail telephony services, the Consultation considered possible effective substitutes for RFVC and RMVC which would incur a termination charge, i.e. RFVC to a mobile phone, or to an off-net fixed number,[239] and RMVC to a fixed number, or an off-net mobile number, taking into account:

(a) Factors affecting the responsiveness of consumers to changes in RFVC and RMVC prices, including changes in off-net call prices;

(b) Any potential effective substitutes for an off-net call to a retail telephony subscriber; and

(c) Any potential effective supply-side substitutes for RFVC and RMVC.

4.3 The assessment also set out ComReg's preliminary views on the geographic scope of retail telephony service markets.

[238] Indirect constraints on WVCT may arise if (1) purchasers of WVCT (i.e. the calling party's network) pass on wholesale price increases to retail voice call customers through retail price increases; (2) consumers are aware of, and responsive to, these retail price changes, and (3) a sufficient number of these customers were likely to switch to alternative modes of communication in response to retail price increases.

[239] As set out in Section 5, and for the purposes of this market review, 'fixed numbers' encompasses Geographic Numbers, 076 numbers, and emergency (112/999) numbers.

4.4 Of the 11 Submissions received only Eircom, Three, TMI and Vodafone made specific comments on ComReg's assessment of RVCs in the Consultation. While Three agreed with ComReg's preliminary findings (with comments), Vodafone and Eircom disagreed on specific points. TMI raised no objections in relation to the assessment in Section 4 of the Consultation but reiterated its concerns regarding MVNOs as set out in its response on Section 3.[240] The views of the Respondents, as set out in their Submissions, along with ComReg's assessment of these views, are summarised in Annex: 11 of this Decision in paragraphs A11.45 to A11.58 and A11.59 to A11.77.

4.5 In carrying out this assessment ComReg has considered Submissions received, the 2016 Market Research, the 2017 Ireland Communicates Survey,[241] information provided by Service Providers in response to SIRs,[242] information provided by Service Providers to ComReg for its QKDRs and other available data.

4.6 In the absence of clear, precise data regarding elasticities of demand for calls to subscribers on other networks and their potential substitutes, ComReg also employed the Hypothetical Monopolist Test ('**HMT**') [243] to inform its consideration of relevant issues. This was considered alongside other available data.

4.7 ComReg's position on the key structural and behavioural characteristics of retail voice calls are set out below in paragraphs 4.8 to 4.273 along with ComReg's final position following its assessment of Respondents' views. This assessment is carried out as follows:

(a) Possible effective substitutes for an off-net RFVC or RMVC (discussed in paragraphs 4.8 to 4.107 below);

(b) Assessing the impact of retail consumer behaviour on the Relevant FVCT and MVCT Markets (discussed in paragraphs 4.108 to 4.273 below); and

[240] See A11.22 and A11.58

[241] ComReg notes that the 2016 Market Research or the Ireland Communicates Survey 2017 are not sufficient in themselves to draw definitive conclusions regarding consumer preferences. ComReg also notes that stated consumer behaviour may diverge from actual consumer behaviour in practice. Therefore, such results are considered alongside other evidence, where available, in this Decision.

[242] In July 2016 pursuant to its powers under section 13D (1) of the Communications Regulation Act 2002 (as amended), ComReg issued a series of SIRs to FSPs and MSPs. ComReg received all responses to those SIRs by September 2016. ComReg also supplements this information using data supplied by SPs for its QKDR.

[243] The hypothetical monopolist test ('**HMT'**) involves observing the consumer response to a small but significant non-transitory increase in price (**'SSNIP'**) of the focal product. If a significant number of consumers switch to an alternative product arising from the SSNIP, making the price increase unprofitable, then the alternative product is also included in the relevant product market.

(c) Overall Conclusions on the RFVC and RMVC Assessment (discussed in paragraph 4.274 below).

Possible effective substitutes for an off-net RFVC or RMVC

Factors affecting the responsiveness of end users to changes in RFVC or RMVC prices

4.8 Demand for WVCT is derived from the demand of retail telephony service subscribers who make calls to subscribers on other networks (i.e. calling party requirements), and subscribers who receive calls from subscribers on other networks (i.e. called party requirements).

4.9 A number of (consumer and SME) subscriber characteristics are relevant to determining whether any retail products exist that might constitute a demand-side substitute for making calls to the subscriber of a particular Service Provider. These characteristics are also relevant in assessing the strength of indirect constraints arising from the retail telephony service markets on the WVCT markets. They are considered by ComReg under the following headings:

(a) Calling Party Pays Principle and its impact on call behaviour is considered in paragraphs 4.10 to 4.25 below;

(b) Retail pricing structures for retail telephony services, is considered in paragraphs 4.26 to 4.36;

(c) Consumer/Small and Medium Enterprise ('**SME**') network awareness is considered in paragraphs 4.37 to 4.63;

(d) Consumer/SME awareness of retail voice call costs; is considered in paragraphs 4.64 to 4.76; and

(e) Consumer/SME sensitivity to retail voice call costs is considered in paragraphs 4.77 to 4.101.

Calling Party Pays Principle and its Impact on Call Behaviour

4.10 Under the Calling Party Pays ('**CPP**') principle adopted in the State and throughout the EU, the retail fixed or mobile subscriber who initiates the call generally bears the entire cost of making a RFVC or RMVC. The Service Provider of the called party supplies a WVCT service to the calling party's originating Service Provider.[244] The originating Service Provider accordingly pays a wholesale termination rate to the terminating Service Provider for providing this call completion service. Hence, the termination rate is a cost input for the originating Service Provider and is likely to be reflected in the retail call or other charges (for instance, where the cost input is incorporated into overall costs in the case of a bundle) that it levies on its own subscribers when they make calls.

4.11 The CPP principle thus implies that changes in termination rates directly impact the calling party's Service Provider's costs. Retail subscribers of Service Providers providing WVCT services (i.e. the called parties) have no direct visibility of termination rates and, therefore, this suggests they are unlikely to react significantly to changes in termination rates. As the called party (i.e. the subscriber of the terminating Service Provider) is very unlikely to observe, and therefore respond to, termination rate price signals directly, the CPP principle may facilitate the terminating Service Provider's ability to profitably sustain an increase in its termination rates above the competitive price level.

4.12 Subscriber behaviour in retail markets may nonetheless indirectly impact the ability of the terminating Service Provider to profitably sustain an increase in termination rates above the competitive level[245] (via retail demand-side substitution) depending on:

(a) How much of the termination rate increase by the calling party's Service Provider is passed through by the originating Service Provider to its retail charges for calls made by its subscribers to subscribers of the terminating Service Provider;

(b) The strength of any subsequent calling party reactions to the resulting retail price increase; and

(c) The strength of any subsequent called party reactions to the resultant retail price increase to the calling party.

[244] This can involve Call Termination being provided to a Transit Provider where the originating Service Provider and the terminating Service Provider are not directly interconnected.

[245] Indirect constraints coming from the retail market may affect the termination rate-setting behaviour of a HM in the wholesale FVCT or MVCT Market.

4.13 These factors are considered below.

Termination Rate increase pass-through

4.14 ComReg regulates the termination rates charged by SMP Service Providers. Accordingly, the potential scope for increases in termination rates and retail price increases due to termination rate increase pass-through, is limited. ComReg maintains its position that, absent regulation, SMP Service Providers would have both the means and the incentive to set termination rate charges at supra-competitive levels, given that no effective demand-side or supply-side substitutes exist for the termination of calls to a subscriber on a given network, as discussed in greater detail in Section 5 of the Consultation[246] and Section 5 of this Decision and Response to Consultation[247]. Service Providers would accordingly appear to face little or no effective competitive constraints on the pricing behaviour. Taking the example of existing termination rates detailed in openeir's STRPL,[248] it is notable that MTRs set by the Unregulated MSPs (e.g., Virgin Media) are considerably higher than the MTRs set by the 2012 SMP MSPs which are subject to price control obligations.[249] 5.222 and 5.224

[246] Section 5 FVCT Demand Side Substitution 5.101 to 5.112 and FVCT Supply side substitution 5.113 to 5.142 and MVCT Demand Side Substitution 5.201 to 5.207 and MVCT Supply Side Substitution 5.208 to 5.231.

[247] Section 5 FVCT Demand Side Substitution 5.110 to 5.121 and FVCT Supply side substitution 5.122 to 5.153 and MVCT Demand Side Substitution 5.217 to 5.224 and MVCT Supply Side Substitution 5.225 to 5.247.

[248] The STRPL (Switched Transit Routing and Price List) is a document published by openeir, Eircom's wholesale business. According to page 7 thereof, it *"contains details of the services terminating on the networks of Authorised Operators who have requested openeir to open number ranges that have been granted to them by the National regulator in the Numbering Plan."*

[249] See 5.222 and 5.224 in section 5.

4.15 It is important, however, to recall that termination rates are charged at the wholesale level, and therefore form only one component of the various costs which contribute to the retail cost to a subscriber of making a telephone call. It is therefore likely that, even if termination rates were passed through to retail call costs, taking regulated termination rates as a proxy for competitive termination rates, can constitute a small proportion of the retail cost of making a call. The level of pass-through will also depend on the intensity of competition at the retail level. For example, faced with a strong competitor who had the ability to absorb any termination rate increase (and not pass it through into higher retail prices), a competing Service Provider would need to consider, in response to a termination rate increase, the degree to which it would raise its retail prices for calls and the likely impact that this would have on the potential for its subscribers to switch to a competing Service Provider. Where a decision was made not to pass on the termination rate increase, it would nevertheless represent a cost to the business.

4.16 Table 6 sets out the impact on regulated MSP retail out-of-bundle call charges for off-net mobile calls of a 10% SSNIP of MTRs (assuming that 100% of the MTR is passed through to the retail rate). Table 6, Table 7 and Table 8 show bill pay per minute out-of-bundle call charges for an off-net call to another Irish subscriber, as reported on each Service Provider's website, as well as using information reported in the openeir STRPL. The tables show that, *ceteris paribus*, assuming full pass-through, a 10% SSNIP of termination rates leads to increases in retail call charges of under 1% in all cases. This illustrative example suggests that termination rates, even when fully passed through to retail level, constitute a relatively small component of overall retail call costs, such that pass-through of termination rate increases of the magnitude of a SSNIP would constitute an even smaller component of overall retail call costs. However, ComReg notes that many fixed and mobile price plans now include unlimited or a set amount of minutes for off-net calls. Therefore, a per call assessment may not be determinative, in and of itself, as to the impact of termination rates on overall retail price plans given that SPs may factor in overall costs (including those associated with termination) when setting call prices. Moreover, the evidence available to ComReg suggests that unregulated termination rates are likely to be higher than regulated termination rates and therefore constitute a greater proportion of call/packages rates.

Table 6: Impact on retail call charges of SSNIP in regulated MTRs

Charge in cent per minute	Vodafone	Three	Eir Mobile	TMI	Lycamobile
Current MTR	0.79	0.79	0.79	0.79	0.79
Call charge[250]	25[251]	34.56[252]	30[253]	32[254]	29[255]
MTR as % of call charge	3.2%	2.3%	2.7%	2.5%	2.7%
10% MTR SSNIP	0.079	0.079	0.079	0.079	0.079
New call charge	25.079	34.639	30.079	32.079	29.079
MTR as % of new call charge[256]	3.5%	2.5%	2.9%	2.7%	3.0%
% change in call charge given 10% SSNIP	0.3%	0.2%	0.3%	0.3%	0.3%

Table 7: Impact on retail call charges of SSNIP in regulated FTRs

Charge in cent per minute	Eircom	BT	Magnet	Virgin Media
Current FTR	0.072	0.072	0.072	0.072
Call charge[257]	9[258]	3.9[259]	3[260]	4.5[261]
FTR as % of call charge	0.8%	1.8%	2.4%	1.6%
10% FTR SSNIP	0.0072	0.0072	0.0072	0.0072
New call charge	9.0072	3.9072	3.0072	4.5072
FTR as % of new call charge	0.88%	2.03%	2.63 %	1.76%
% change in call charge given 10% SSNIP	0.08%	0.18%	0.24%	0.16%

Table 8: Impact on retail call charges of SSNIP in unregulated MTRs

Charge in cent per minute	Virgin Media
Current MTR[262]	2.6[263]
Call charge[264]	25[265]
MTR as % of call charge	10.4%
10% MTR SSNIP	0.26
New call charge	25.26
MTR as % of new call charge	11.3%
% change in call charge given 10% SSNIP	1.0%

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250 This is the charge for an out-of-bundle one minute off-net call to an Irish mobile subscriber.

251 http://shop.vodafone.ie/shop/phonesAndPlans/phonesAndPlansHome.jsp?planType=monthly&subPage=plans&bundleSkuItemId=sku3290092&subPage=plans&_requestid=1361871

252 http://www.three.ie/pdf/current-priceguide.pdf

253 https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/pt12.2.pdf

254 https://www.tescomobile.ie/help-centre/Your-Plan

255 https://www.lycamobile.ie/en/nationalrates

256 Post SSNIP.

257 This is the charge for an out-of-bundle one minute off-net call to an Irish fixed subscriber.

258 https://www.eircom.ie/opencms/export/sites/default/.content/pdf/pricing/call_rate_information.pdf Calls are subject to a set-up fee of an additional 33c.

259 https://www.btireland.com/wp-content/uploads/2016/02/bt_consumer_TandCs_services-and-charges-02.pdf

260 https://www.magnet.ie/business/wp-content/uploads/sites/2/2016/04/magnet-Pricing-Guide-New-April2016.pdf Calls are subject to a set-up fee of an additional 13c.

261 https://www.virginmedia.ie/pdf/standard_call_rates_may_2016.pdf Calls are subject to a set-up fee of an additional 20c.

262 Eircom STRPL.

263 Note that this MTR is considered, having regard to cost orientated MTRs, to be above that which would prevail in a competitive market outcome. A SSNIP test using an MTR which is above the competitive level can lead to inappropriate conclusions being drawn given the so-called ‘cellophane fallacy’.

264 This is the charge for an out-of-bundle one minute off-net call to an Irish mobile subscriber.

265 https://www.virginmedia.ie/pdf/Mobile/dec/Mobile-Standard-Rates-Online-version-of-21-12-2017.pdf

4.17 Service Providers have typically not increased their termination rates in recent years. In the case of FTRs, 17 of 26 FSPs have retained their FTRs at the same level over the course of the reporting period set out in the openeir STRPL (i.e. from as early as 2000 in the case of some FSPs), one FSP has increased FTRs, while 8 FSPs have reduced their FTRs over the same period by between 53% and 93%, 7 of whom have done so as a consequence of regulatory SMP-based price control obligations.

4.18 In the case of MSPs, cent per minute MTRs have fallen by between 77% and 94% over the reporting period – in the case of the 2012 SMP MSPs, pursuant to regulatory price control requirements. However, Virgin Media's cent per minute MTRs are unregulated and have not changed since it joined the market in 2015 (See Table 20).

4.19 Accordingly, given the fact that most termination rates are regulated, and also given that, in almost all circumstances, termination rates have been static or falling in recent years, ComReg is of the view that if all termination rate increases are passed through to retail prices, in the context of a SSNIP, the pass through of termination rates increases above the competitive level is not likely to lead to significant increases in retail charges. Consumer reactions to such price changes need to be considered in this context. Such increases would likely be limited in magnitude, relative to per-call prices as set out above, given that termination rates account for a small proportion of overall retail prices.

Calling party reactions

4.20 As the impact of any increase in termination rates is felt by the subscriber of the originating Service Provider (subject to the degree of pass-through to retail prices), it is possible that calling party subscribers could react to termination rate-driven retail price increases in a number of ways, including:

(a) Substituting an off-net call to a fixed line phone or mobile with a viable alternative means of communication (e.g. SMS text message, call to an on-net mobile or other fixed line phone, communicate using OTT applications via voice calls or instant messaging etc.);

(b) Reducing the length of calls made to the called party's Service Provider against which we are examining demand-side response (that increased the termination rate which gave rise to the retail call price increase);

(c) Reducing the number of calls made to the called party's Service Provider that increased the termination rate which gave rise to the retail call price increase; and/or

(d) Ceasing the use of retail telephony services altogether or switching services to the called party's Service Provider, thereby availing of possibly cheaper on-net calls with this Service Provider.

4.21 The likelihood that the calling party would react in any of the above ways depends on a number of factors such as the calling party's:

(a) Awareness of the identity of the called party's Service Provider that increased the termination rate;

(b) Awareness of the costs of making a RFVC or RMVC in general, and the cost of calling subscribers of the Service Provider that increased its termination rate in particular; and

(c) Ability to change calling behaviour and/or switch to any viable substitute products, along with the frequency with which they would do this.

4.22 Each of the non-exhaustive possibilities set out above would, due to the CPP principle, primarily impact the retail revenues of the calling party's Service Provider. However, where subscribers' changes in behaviour result in reductions in call volumes to the Service Provider which increased its termination rate, it could also result in a loss of wholesale termination (and other) revenues for that called party's Service Provider.

Called party reactions

4.23 If a called party was concerned that an increase in its Service Provider's termination rates could result in fewer people calling them[266] (as a result of the termination rate pass-through to the retail call charges levied by the originating Service Providers on their subscribers), the called party could potentially constrain the termination rate price-setting behaviour of its own Service Provider. Called party behaviours which could impact their Service Provider's termination rate price setting behaviour include:

(a) Substituting the receipt of a call with a viable alternative means of communication;

(b) Reducing the length of received calls;

(c) Not taking the call and then phoning the calling party back; and/or

(d) Cancelling their subscription/switching Service Provider.

4.24 The likelihood that the called party would react in any of the above ways depends on a number of factors, including:

(a) Awareness of the identity of the calling party's Service Provider;

(b) Awareness of the cost faced by the calling party when calling them; and

[266] Call externalities arise due to the fact that the recipient of a phone call may derive utility from the receipt of a phone call, assuming that the externality is positive. Economic theory indicates that the presence of (positive) call externalities suggests that the price of phone calls should be reduced.

(c) Ability to change their call receiving behaviour and/or switch to any viable products which may be substitutes for receiving a call, along with the frequency with which they would do this.

4.25 In paragraphs 4.118 to 4.270 the factors that are likely to impact the degree to which subscribers could react to changes in the RFVC and RMVC arising due to an increase in termination rates above the competitive price level are considered (i.e. factors that are likely to affect retail demand-side substitution). ComReg then goes on to consider the strength of supply-side substitution in paragraphs 4.271 to 4.273[267].

Retail pricing structures for retail telephony services

RFVC pricing structures

4.26 RFVC pricing structures typically reflect the following characteristics, which may influence the way in which consumers make RFVCs:[268]

(a) FSPs typically offer an entry-level RFVC tariff plan as well as more expensive tariff plans that include extra call minutes;

(b) Market research indicates that specific or unlimited amounts of free local/national minutes to other fixed line phones are included with the majority of RFVC tariff plans;[269]

(c) Specific or unlimited amounts of free minutes for calls to selected international destinations are included with numerous RFVC tariff plans;

(d) Calls purchased outside of any allocation of minutes included in the tariff or bundle typically incur an extra charge which normally involves a call set-up charge and then a fee per minute of the call.

[267] See paragraphs 4.120 to 4.245 of the Consultation in which the factors likely to impact the degree to which subscribers could react to changes in the RFVC and RMVC arising due to an increase in termination rates above the competitive price level were considered (i.e. factors that are likely to affect retail demand-side substitution). See also paragraphs 4.246 to 4.248 of the Consultation in which ComReg then went on to consider the strength of supply-side substitution.

[268] ComReg has carried out a non-exhaustive, but extensive, review of RFVC tariff plan price structures, as well as the structure of mobile phone tariff charges for calling fixed line phones. This has involved an examination of, for example, whether the cost of calling a fixed line phone differs by network called and by time of day called. The output for this review is summarised in Annex: 8.

[269] The 2016 Market Research indicated that approximately 90% of residential and 48% of SME RFVC subscribers have set or unlimited amount of minutes for calls to local fixed line phones. 80% of responding residential and 42% of SME RFVC subscribers also indicated that their tariff plan includes set or unlimited amount of minutes for calls to national fixed line phones. See slide 63 and 66 of the 2016 FVCT Consumer Market Research and slide 46 and 49 of the 2016 FVCT SME Market Research.

(e) The cost of making local/national calls[270] does not tend to vary based on the fixed voice network called i.e. prices for on-net and off-net fixed-to-fixed calls are the same;

(f) The cost of making local/national calls can vary depending on the time of the day when the call is made;[271] and

(g) In some entry-level RFVC tariff plans inclusive minutes only apply for calls made during off-peak times.[272]

4.27 The characteristics set out above are largely consistent with RFVC tariff plans for SME customers, although, unlike residential RFVC tariff plans, entry level business tariff plans typically contain a set amount of inclusive free minutes and sometimes unlimited minutes for calls to mobiles.

4.28 RFVC pricing structures for calls to mobiles typically exhibit the following characteristics:

(a) FSPs may include a specific or unlimited amount of minutes for calls to mobiles – typically observed in more expensive RFVC tariff plans;[273]

(b) Specific or unlimited amount of free minutes for calls to mobiles are included in some RFVC tariff plans;[274]

[270] The cost of making local and national fixed-to-fixed calls also tends to be the same.

[271] For example, Eircom applies different prices for local/national calls made during the daytime, evenings and weekends. See https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf.

[272] Eircom and Sky both include off-peak calls only in their entry level RFVC tariffs (eir Talk Off Peak Mobile and Sky Talk Freetime). Tariff information retrieved from company websites on 26 September 2018. See: https://www.eir.ie/phone/ and http://www.sky.com/ireland/broadband-talk/talk-compare/

[273] The prevalence of tariffs including the unlimited amount of minutes to any mobile network in the State has increased since the previous market review. In this regard, the 2016 Market Research indicated that approximately 20% of surveyed consumers and 30% of SMEs that purchase RFVC have unlimited amount of minutes for calls to mobiles included in their tariffs. See slide 70 of the 2016 Consumer FVCT Market Research and slide 52 of the 2016 SME FVCT Market Research.

[274] For example, Eircom Talk Unlimited Mobile & UK or Virgin Media Anytime Mobile tariff plans advertised by Eircom and Virgin Media (Tariff information retrieved from company websites on 26 September 2018). See https://www.eir.ie/phone/ and https://www.virginmedia.ie/broadband/learn-about-home-phone/

The 2016 Market Research indicated that approximately 54% of surveyed residential and 45% of SME RFVC subscribers have set or unlimited amount of minutes for calls to mobile phones. See slide 70 of the 2016 Consumer FVCT Market Research and slide 52 of the 2016 SME FVCT Market Research.

(c) Where a FSP also operates on the RMVC market, it may offer favourable pricing terms for calls to mobile subscribers on its own mobile network;[275] and

(d) The cost of calls purchased outside of any allocated inclusive minutes (or bundle) typically differ according to whether it is a call to a landline or a mobile, with calls to mobiles generally being more expensive.

4.29 The pricing structures of RFVC and, in particular, uniformity of prices for on-net and off-net fixed-to-fixed calls and the inclusion of specific or unlimited amounts of free on-net and off-net local and national call minutes mean that the identity of the called party's FSP is unlikely to impact on the calling party's behaviour.[276]

4.30 Furthermore, such pricing structures imply that RFVC subscribers may be less sensitive to the identity of the called party's FSP when selecting their own FSP (i.e. they would be less concerned whether the numbers they frequently call are subscribed to the same FSP, since there is no obvious cost saving to be made by subscribing to the same FSP). When making calls to RFVC subscribers, the calling party is also unlikely to be concerned about the distinction between local and national calls, since the geographic location of the destination fixed line phone within the State will not impact the call cost.

RMVC pricing structures

4.31 RMVC pricing structures typically reflect the following characteristics, which may influence the way in which consumers make RMVCs:[277]

(a) MSPs typically offer an entry level RMVC tariff plan as well as more expensive tariff plans that include extra call minutes and/or data allowances[278] and/or number of SMS messages;

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[275] For example, the price of a call from Eircom's RFVC subscriber to a Meteor subscriber is less than one third of the price of a call to a subscriber of any other MSP. See https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf. Information retrieved from company website on 26 September 2018.

[276] If calls to local/national fixed line phones are free, or if there is very large amount of inclusive minutes in the package, the cost of calling subscribers of specific FSPs is not likely to influence the number of calls made to one particular FSP over another.

[277] ComReg has carried out a non-exhaustive, but extensive, review of RMVC tariff plan price structures, as well as the structure of fixed line phone plan costs for calling mobile phones. This involved an examination of, for example, whether the cost of calling mobiles differs by network called, and by time of day. The output for this review is summarised in Annex: 8 of this Decision.

[278] Data usage on mobile networks has increased since the last market review, and MSPs have increased the inclusive amount of data that can be used without incurring extra charges for both prepay and bill pay tariffs.

(b) Specific or unlimited amounts[279] of free minutes are included within both prepay and bill pay tariffs and can be used for calls to any network, i.e. they are not restricted to particular networks, although a distinction between inclusive on-net and off-net calls is made in some tariffs;[280]

(c) Calls purchased outside of any allocation of minutes included in the tariff or bundle typically incur an extra charge which normally involves a call set-up charge[281] and then a fee per minute of the call. Alternatively, consumers have the option of purchasing an add-on to their standard tariff which contains a set amount of minutes for calls (at an additional cost);

(d) The cost of off-net calls (or text messages) for both prepay and bill pay mobile customers does not tend to vary based on the network called i.e. prices charged for calling other mobile or fixed voice networks do not vary;

(e) The cost of in-bundle calls (or SMS text messages) for both prepay and bill pay customers does not tend to vary based on the time of day called i.e. is invariant between peak and non-peak times;

(f) Some operators have altered aspects of their plans in seeming response to the introduction of 'Roam Like At Home' across the EU in June 2017. These changes have drawn critical comment from the European Commission;[282] and

(g) Some operators have introduced offers which allow subscribers to use various data-intensive apps on their phones without consuming their data allowance.[283]

[279] The prevalence of tariffs including an unlimited amount of minutes to any network in the State has increased significantly since the previous market review. Unlimited plans are typically subject to a fair usage policy which specifies a maximum amount of minutes that can be used within the billing period. In this regard, the 2016 Market Research indicated that 37% of surveyed customers with a prepay tariff and 64% of surveyed customers with a bill pay tariff have unlimited amounts of minutes included in their tariffs. See slides 37 and 53 of the 2016 Consumer MVCT Market Research.

[280] For example, see Mini Flex Max tariff advertised by Three. Tariff information retrieved from website on 26 September 2018. See: http://www.three.ie/plans/phone/bill-pay/

[281] It should be noted that a call set-up charge is not levied by all MSPs.

[282] EU roaming rules: European Commission statement. Available online at http://ec.europa.eu/ireland/node/3679_ga

[283] This practice is known as 'zero rating'. For example, as of 26 September 2018, 48 (a brand of Three) offers unlimited WhatsApp use, while Meteor offers subscribers unlimited access to YouTube, Facebook, Snapchat, Instagram, Twitter, WhatsApp and Viber without consuming their data allowance. https://www.eir.ie/mobile/prepay/

4.32 The characteristics set out above are broadly consistent with RMVC tariffs for SME consumers, which typically include specific or unlimited amounts of international and/or roaming minutes.

4.33 RMVC pricing structures for calls to fixed line phones exhibit the following characteristics:

(a) MSPs do not differentiate prices of mobile-to-fixed calls based on the fixed voice network called i.e. prices for all local/national calls to fixed line phones are the same;

(b) Allocations of 'any-network' minutes are typically included within both prepay and bill pay tariff plans, and can be used to make calls to local or national fixed lines, or mobile phones;

(c) MSPs typically charge the same price for off-net mobile-to-mobile and mobile-to fixed calls; and

(d) Prices for calling fixed lines are typically higher than the analogous call types on fixed networks.[284]

4.34 The effect of mobile tariff plans, as well as the limited consumer awareness of the difference between prices charged for on-net calls, off-net mobile calls and calls to fixed lines, as well as calls made during peak and off-peak periods, is likely to directly influence retail subscribers' behaviour. This applies, for instance, where the consumer is unaware of the price distinction between on-net and off-net calls, or peak and off-peak calls, due to those calls being included within their 'inclusive minutes' in their plan. This suggests that low awareness levels may arise due to a lack of price differentiation between call categories in MSPs' price plans. If there is no difference in the prices charged for these categories of calls, then it is not likely to be a key factor in driving the usage of off-net calls to subscribers of one particular MSP over another, or at particular times of day.

[284] For example, as of 26 September 2018, Eircom's base rates for out-of-package local & national daytime calls was 9c per minute, compared to 34.56c per minute for Three. See https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf and http://www.three.ie/pdf/current-priceguide.pdf. Similarly, Vodafone charges 4.5c for out of bundle local and national calls made from a fixed line phone and 35c for out of bundle mobile-to-fixed line calls on prepay tariff plans. (See https://www.vodafone.ie/home/broadband/charges and http://www.vodafone.ie/pay-as-you-go-plans/charges/).

4.35 The higher cost of calling mobiles from fixed line phones may potentially impact the degree of price sensitivity of fixed line calling parties when making such calls.[285] Similarly, price sensitive consumers with both mobile and fixed line phones that are aware of the costs of calling mobiles may be in a position to segment their calling behaviour to maximise the perceived value of their price plans i.e. a consumer may use their mobile phone to call another mobile phone and use their fixed line phone to call other fixed line phones.[286]

4.36 The cost of calling a mobile from a fixed line remains higher than calling fixed-to-fixed or mobile-to-mobile, however, many FSPs offer various types of bundles,[287] which typically include mobile call minutes, and unlimited calls to any network (fixed or mobile).

Subscribers' Network Awareness

Calling Party Network Awareness

4.37 For the calling party to be in a position to react to retail price increases stemming from an increase in termination rates, they would need to be aware of the identity of the Service Provider of the person they are calling, where the call is off-net.[288] Consumers are more likely to recognise whether they are calling a fixed line or a mobile phone by reference to the numbering prefix, as all mobile number ranges in the State commence with a '08X' prefix. Prior to the inception of mobile number portability ('**MNP**')[289] in 2003, the 'X' in the mobile number range corresponded to a particular MSP (for example, Vodafone numbers commenced with 087 etc.), thus making the identification of the called party's MSP relatively easy. However, MNP has diminished the ability to rely on the leading digits of a mobile phone number to ascertain the called party's MSP.

[285] However, the increased prevalence of tariffs including unlimited minutes to mobile networks could potentially decrease the price sensitivity of fixed line calling parties where they do not incur the cost of calls purchased outside of any allocation of minutes.

[286] As noted in Figure 5 above, voice call traffic volumes indicate that fixed line phones are more often used within a household to make calls to other landlines, while mobiles are more often used to make calls to other mobiles.

[287] https://www.eir.ie/phone/

[288] Tariff plans have evolved in such a manner in recent years that there is no longer a significant distinction between on-net and off-net minutes. Reductions in the levels of termination rates may have been a contributory factor to networks no longer differentiating call prices based on the network called.

[289] A MNP facility allows customers to retain their mobile number when switching MSP.

Calling Party FSP Network Awareness

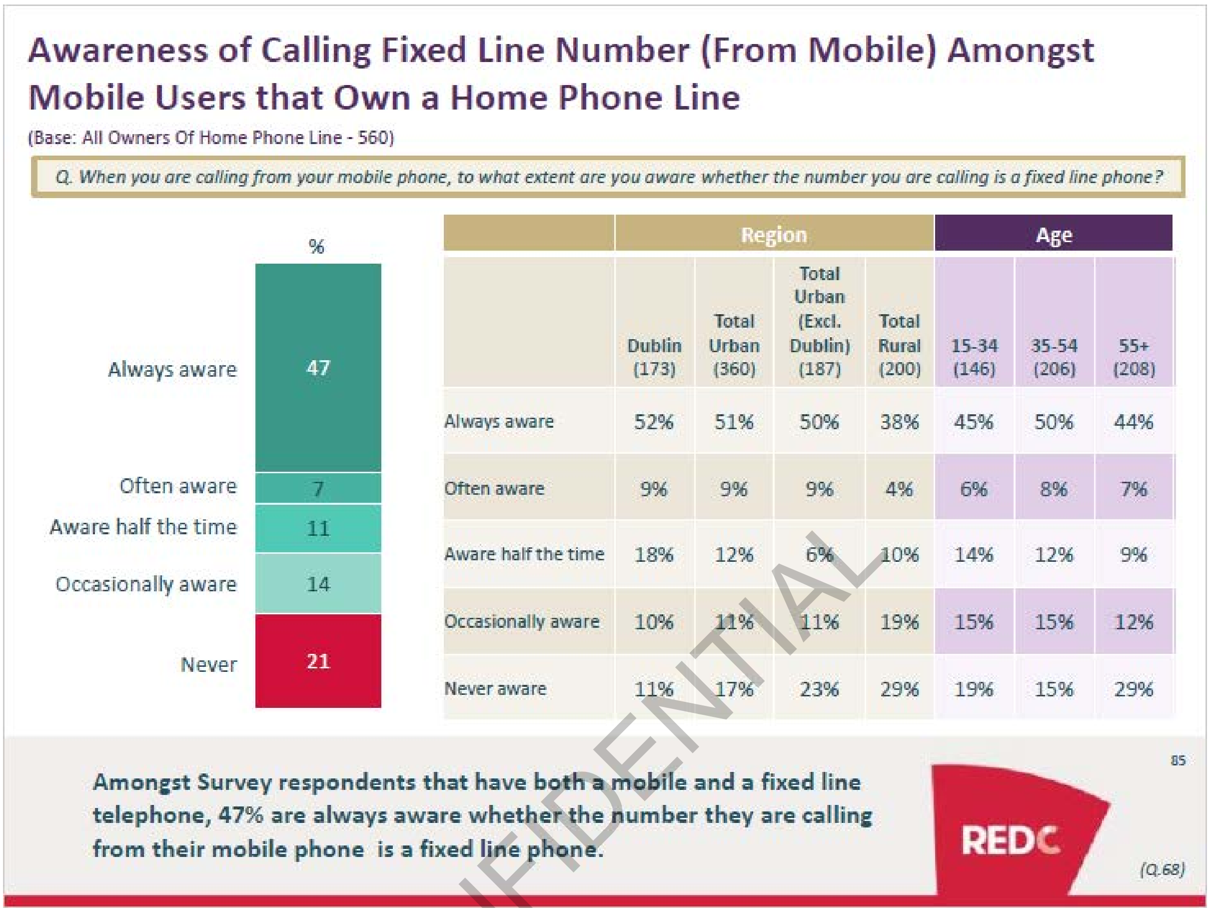
4.38 Unlike mobile numbers, Geographic Numbers[290] (and certain other numbers as discussed later in Section 5) associated with RFVC do not give users the ability to distinguish between the fixed line networks being called. As part of the 2016 Market Research, ComReg asked residential and SME RMVC subscribers to indicate the extent to which they are aware whether they are making calls to a fixed line phone from their mobile phone. Figure 35 shows that 47% of responding consumer RMVC subscribers who also own a fixed line are always aware that they are making a call to a fixed line phone from their mobile phone, while 21% are never aware.[291] It is important to note, however, that stated called network awareness relates to fixed line networks in general, rather than awareness of specific FSP networks. In ComReg's view, awareness of the specific fixed voice network being called is likely to be lower.[292]

[290] Geographic Numbers are broadly defined in the Numbering Conditions of Use. The current definition of a Geographic Number in the Numbering Conditions of Use is a number from the National Numbering Scheme where part of its digit structure contains geographic significance used for routing calls to the physical location of the network termination point (NTP).

[291] See slide 84 of the 2016 MVCT Market Consumer Research.

[292] ComReg notes that 46% of responding residential RFVC subscribers indicated that they are never aware of the calling party's FSP identity when receiving calls on their fixed line phone. Thus, it is likely that these respondents are also unaware of the FSP's identity when making calls to fixed line phones.

Figure 35: Residential RMVC subscriber awareness of making calls to fixed line phone

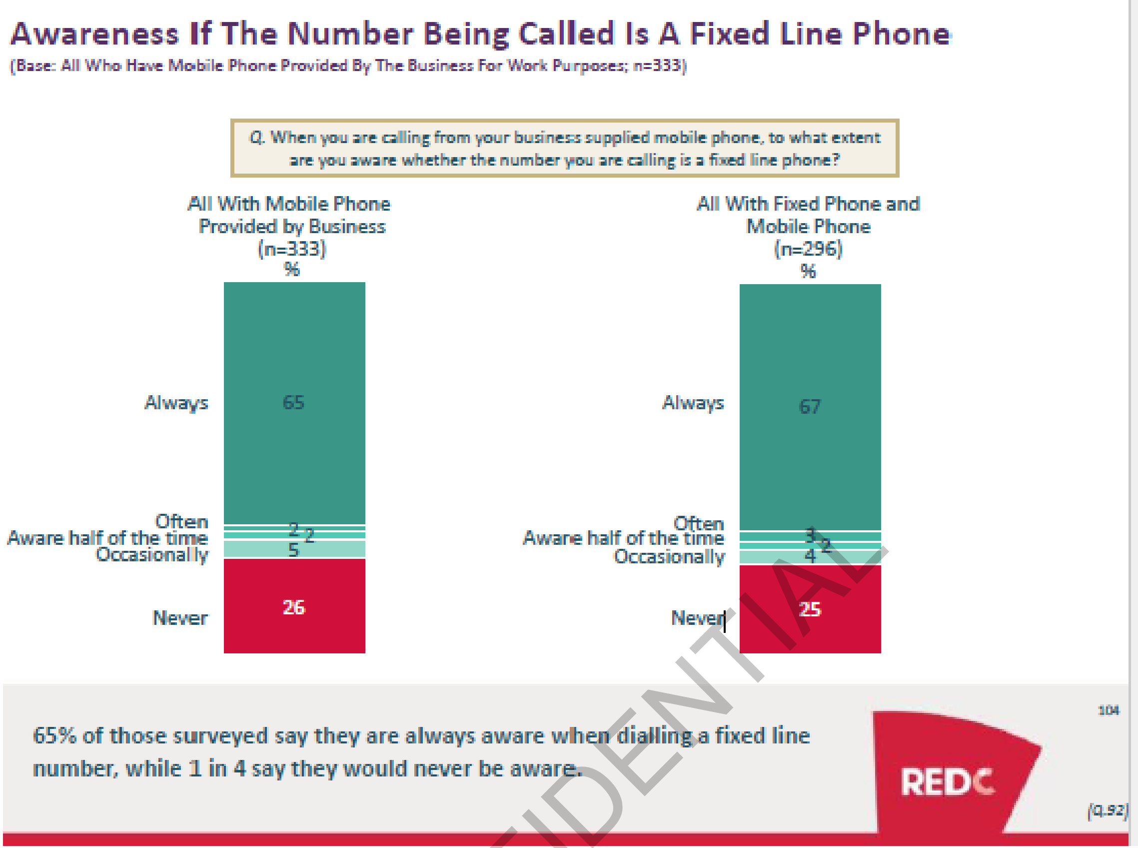


	Region				Age		
	Dublin (173)	Total Urban (360)	Total Urban (Excl. Dublin) (187)	Total Rural (200)	15-34 (146)	35-54 (206)	55+ (208)
Always aware	52%	51%	50%	38%	45%	50%	44%
Often aware	9%	9%	9%	4%	6%	8%	7%
Aware half the time	18%	12%	6%	10%	14%	12%	9%
Occasionally aware	10%	11%	11%	19%	15%	15%	12%
Never aware	11%	17%	23%	29%	19%	15%	29%

4.39 Responding SMEs purchasing RMVC were asked a similar question. Figure 36 illustrates that 25% of respondents are never aware whether they are calling a fixed line or a mobile network when making calls from their mobile phone.[293]

[293] 2016 SME MVCT Market Research, slide 104.

Figure 36: SME RMVC subscribers' awareness of making calls to a fixed line phone



4.40 ComReg has also reviewed market research provided by Service Providers in response to SIRs[294] for information relating to calling parties' levels of network awareness. Apart from general awareness of whether the network being called is fixed or mobile, little additional evidence was provided in these responses to indicate that calling parties are generally aware of the specific FSP network being called.

[294] In July 2016, pursuant to its powers under section 13D(1) of the Communications Regulation Act 2002 (as amended), ComReg issued a series of information requests to FSPs and MSPs. ComReg received all responses to those SIRs by September 2016

Calling Party MSP Network Awareness

4.41 On average, just over 400,000[295] mobile numbers have been ported annually since the 2012 MVCT Decision. Thus, the called party's mobile number in itself is no longer likely to be a reliable means of identifying the called party's MSP. Moreover, aside from MNP, all three MVNOS (TMI, Virgin Media and Lycamobile[296]) have been assigned numbers using the 089 prefix. The allocation of numbers within a single prefix to multiple operators again reduces the likelihood of a calling party being able to identify the network of the called party.[297]

4.42 Notwithstanding the volume of MNP, it is possible that a consumer has remained with (or returned to) their original MSP and, therefore, in a number of cases, the use of their mobile number could allow the calling party correctly to identify the called party's underlying MSP. In this regard, ComReg notes that the 2016 Market Research indicated a low incidence of switching with 73% of responding consumers[298] and 54% of responding SMEs[299] noting that they have never switched their MSP. Moreover, the 2017 Ireland Communicates Survey indicates a low incidence of switching with 63% of responding consumers[300] noting that they have never switched their MSP while just 42% of responding SMEs[301] noted that they have ever switched MSP.

4.43 As part of the 2016 Market Research, ComReg asked residential and SME RMVC subscribers to indicate the extent to which they are aware of which mobile network[302] they are calling.

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[295] The number of mobile numbers ported over the five year period 2013 to 2017 has ranged from 371,954 (in 2015) to 434,237(in 2013), with an average of 400,074 numbers ported each year.

See ComReg Data Portal, available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 1 March 2019]

[296] Note that since the Consultation iD Mobile has exited the market.

[297] The assigned 089 number ranges are 2000000 to 2799999 and 4000000 and 4999999 in the case of TMI, 6000000 to 6299999 in the case of Virgin Media, 9400000 to 9899999 in the case of Lycamobile, and 7000000 to 7199999 in the case of iD Mobile.

[298] 2016 MVCT Consumer Market Research, slide 100.

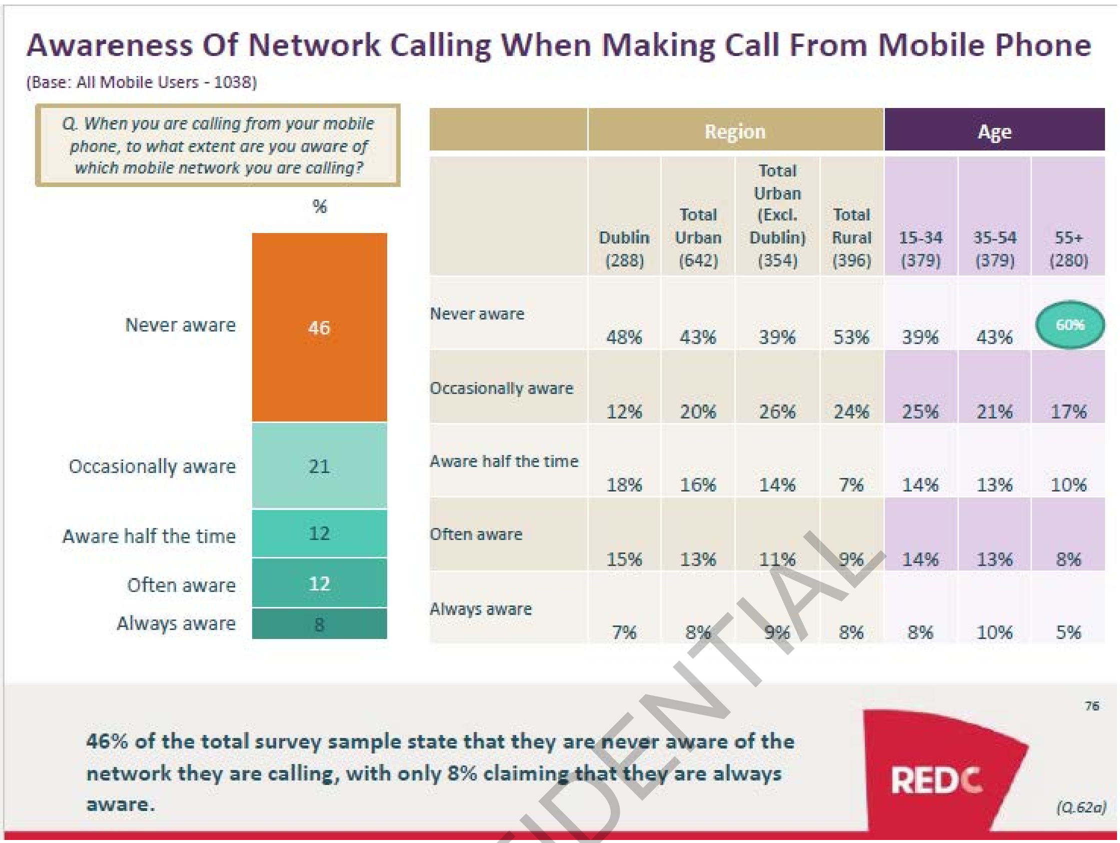
[299] 2016 MVCT SME Market Research, slide 7.

[300] Ireland Communicates Survey 2017 – Consumer, slide 46.

[301] Ireland Communicates Survey 2017 – SME, slide 41.

[302] The term 'mobile network' which was employed in the 2016 Market Research is equivalent to the term 'MSP' used in this Decision.

Figure 37: Mobile Consumers – awareness of called mobile network



	Region				Age		
	Dublin (288)	Total Urban (642)	Total Urban (Excl. Dublin) (354)	Total Rural (396)	15-34 (379)	35-54 (379)	55+ (280)
Never aware	48%	43%	39%	53%	39%	43%	60%
Occasionally aware	12%	20%	26%	24%	25%	21%	17%
Aware half the time	18%	16%	14%	7%	14%	13%	10%
Often aware	15%	13%	11%	9%	14%	13%	8%
Always aware	7%	8%	9%	8%	8%	10%	5%

4.44 Figure 37 illustrates that in relation to <u>all calls</u> made by surveyed RMVC consumers, 33% of respondents indicated that they were aware of the mobile network being called half the time or occasionally, with 46% of respondents indicating that they were never aware of the mobile network being called.[303]

4.45 RMVC consumers were also asked about their awareness of the mobile network called for <u>frequently dialled numbers</u>, with 34% of respondents noting they are aware of the mobile network called half the time or less, and 38% indicating that they were never aware of the mobile network being called.[304]

4.46 Consumers were also asked to identify the main reasons for not always being aware of the network of the called mobile. 36% of respondents stated they do not have visibility of the called number network, as calls are made from the mobile phone's address book, while 29% of respondents noted that they do not think about the network that the called party is on.[305]

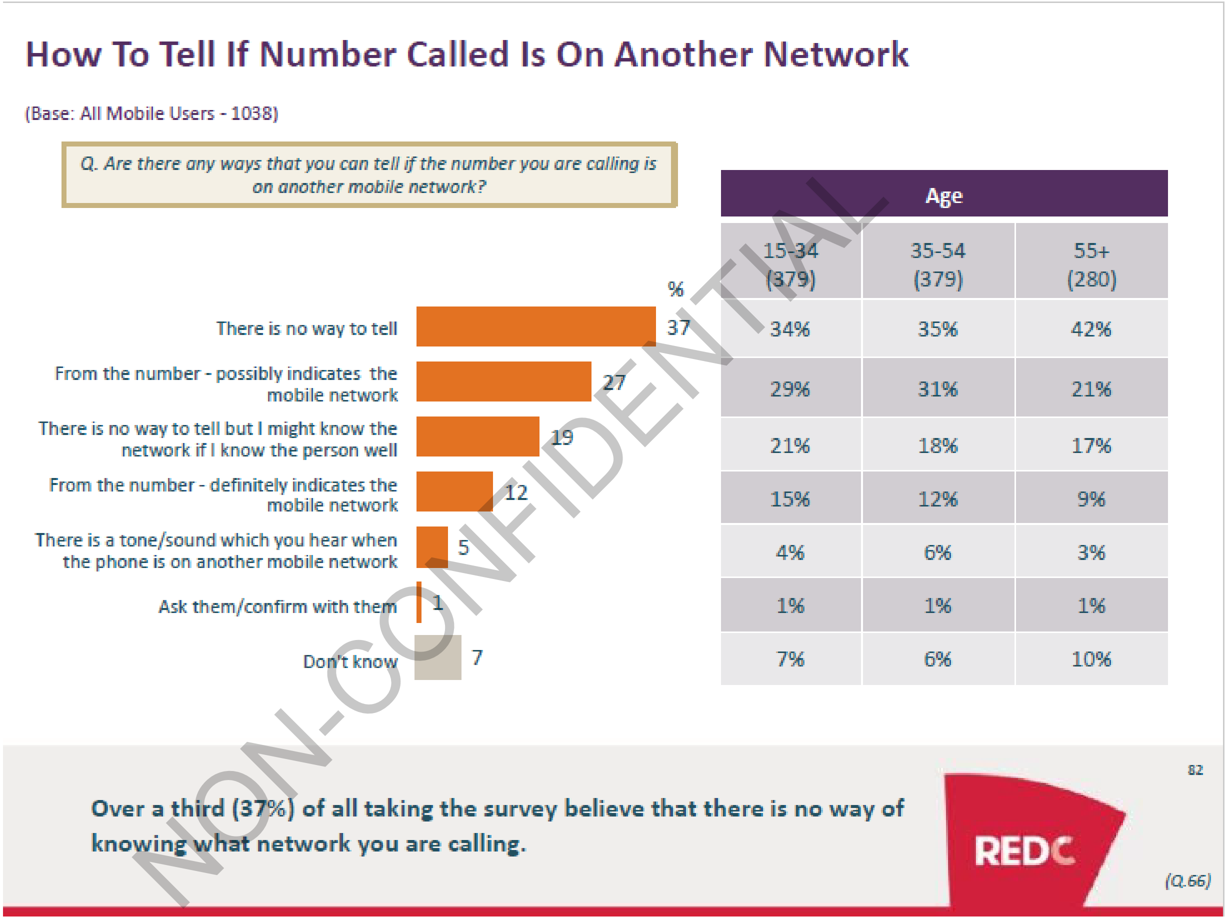
[303] 2016 Consumer MVCT Market Research, slide 76.

[304] 2016 Consumer MVCT Market Research, slide 77.

[305] 2016 Consumer MVCT Market Research, slide 78.

4.47 RMVC consumers were also asked[306] if they could identify whether the mobile number they were calling was on another network (i.e. off-net mobile calls). As illustrated in Figure 38, 37% of respondents indicated that it is not possible to differentiate between on-net and off-net calls. 27% of responding consumers indicated that the mobile number may possibly identify the mobile network called. Just 5% of respondents correctly indicated the existence of the network alert tone[307] played to the caller prior to an off-net call being connected.

Figure 38: Possible means of called network identification – Consumer respondents' views

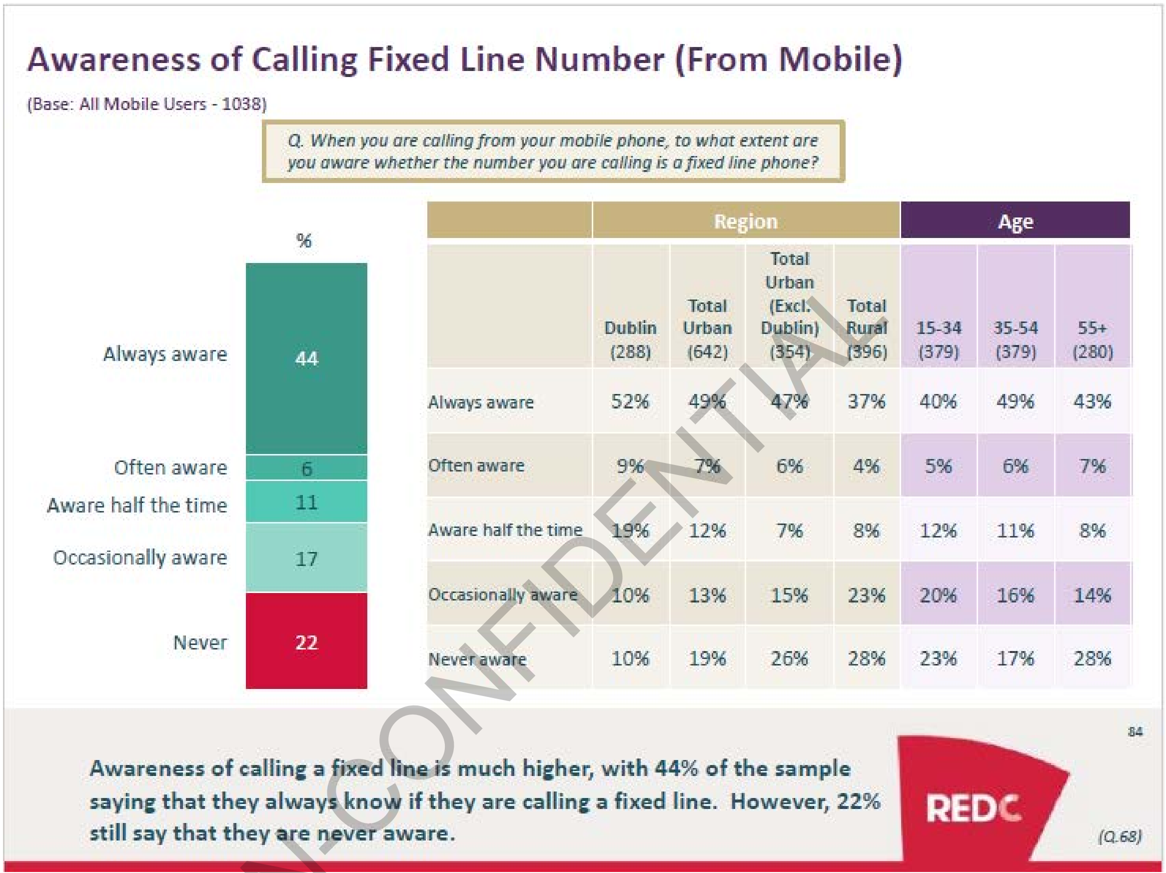


[306] 2016 Consumer MVCT Market Research, slide 82.

[307] This is a 'pip' tone implemented at a network level which sounds while the call is being connected, but before it is answered. It definitively tells the caller that they are making an off-net call.

4.48 Figure 39 illustrates the level of awareness among RMVC consumers when calling a landline number. 44% of responding consumers are always aware that they are calling a landline number, while 22% are never aware.[308] It is important to note, however, that stated awareness relates to fixed line networks in general, rather than awareness of specific FSPs called.

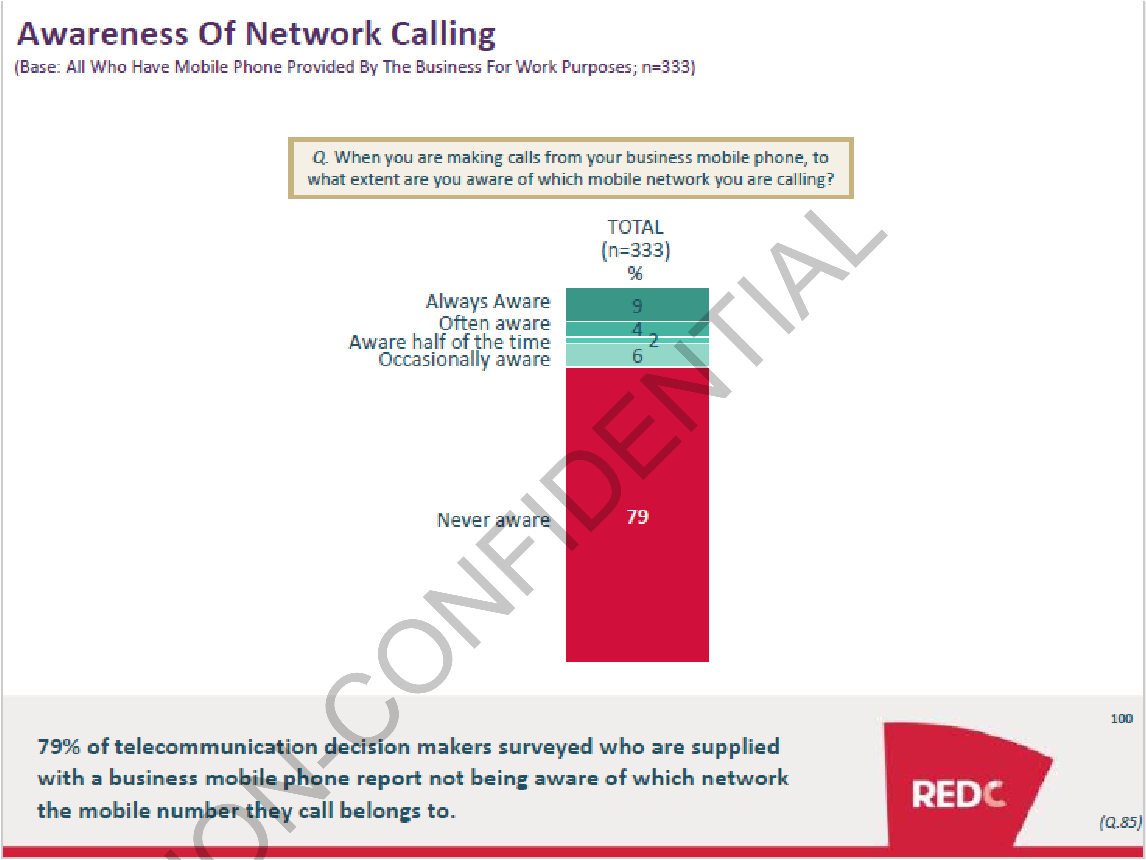
Figure 39: Consumer respondents' awareness of calling a landline number



[308] A general lack of concern about the awareness of whether a called number is a fixed line number was the most commonly cited reason. See slide 86 of the 2016 MVCT Market Consumer Research.

4.49 SME RMVC respondents were asked similar questions relating to their awareness of the networks being called.[309] In respect of calls to mobiles, the majority of SME decision makers indicated that they were never aware (79%) or occasionally aware (6%) of the mobile network being called (see Figure 40 below).[310] 26% of SME respondents indicated that, when using their mobile phone, they were not aware whether the number they were calling is a fixed line phone.[311]

Figure 40: SME respondents' awareness of identity of called mobile network



4.50 In considering ways[312] in which SME respondents could tell if they were making an off-net call to a mobile network (see Figure 41), 68% of respondents stated that there is no way to tell, with just 10% indicating awareness of the network alert tone played to the caller prior to an off-net mobile call being connected.

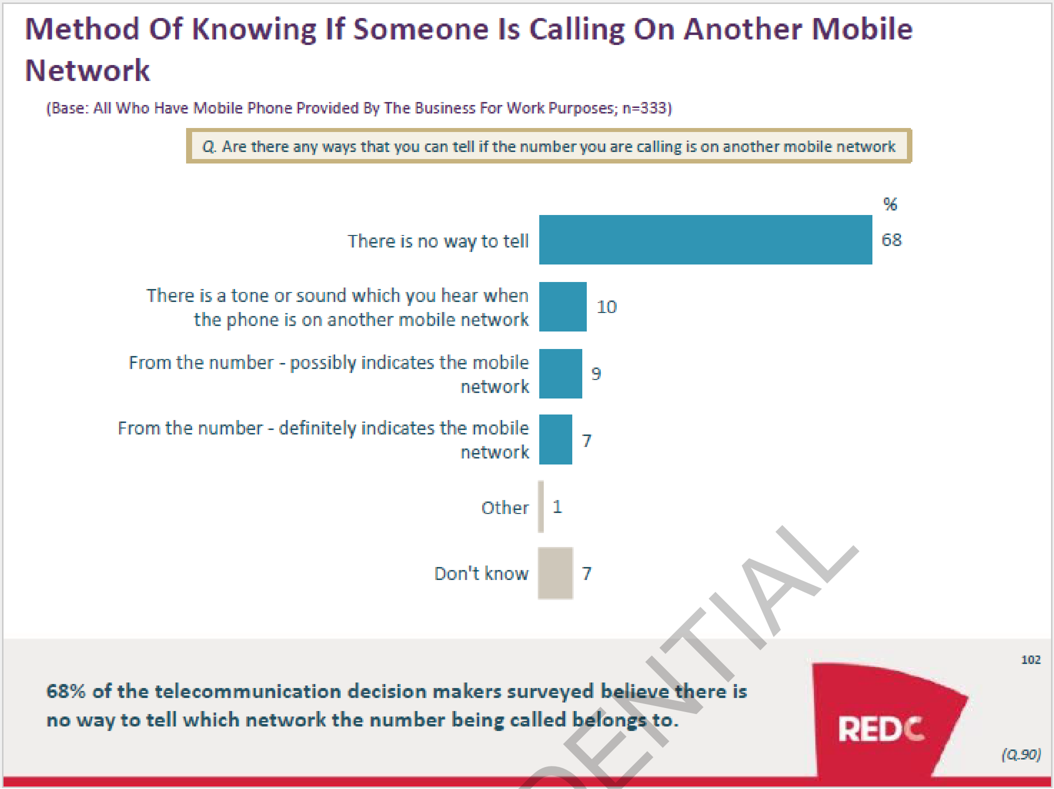
[309] It should be noted that the 2016 SME Market Research was targeted at those individuals within a company responsible for choosing their current MSP ('**Decision makers**'). Network awareness and pricing survey questions were only targeted at SME Decision Makers who had been provided with a company mobile phone (with the decision maker's views being taken as broadly representative of individual employee use.)

[310] 2016 SME MVCT Market Research, slide 100.

[311] 2016 SME MVCT Market Research, slide 104.

[312] 2016 SME MVCT Market Research, slide 102.

Figure 41: Possible means of identifying called network – SME respondents' views



4.51 ComReg has also reviewed market research provided by Service Providers in response to Statutory Information Requests for information relating to calling parties' levels of network awareness. Little additional evidence was provided as part of the responses which would indicate that called parties are generally aware of the specific MSP network originating the call. Accordingly, this aspect does not materially inform the analysis above.

Conclusion on Calling Party MSP and FSP Network Awareness

4.52 Having regard to the analysis in paragraphs 4.37 to 4.51 above, ComReg notes that both residential and SME RMVC and RFVC subscribers have relatively low levels of awareness of the identity of the called party's Service Provider. Consequently, ComReg is of the view that this lack of awareness is likely to constrain the ability and incentive of calling parties to react to changes in the retail price of calls to subscribers of specific Service Providers.

Called Party Network Awareness

4.53 If the called party is concerned about the costs faced by callers to them, it may be in a position to exert a constraint on the termination rate-setting behaviour of its own Service Provider. To do so, the called party would need to be:

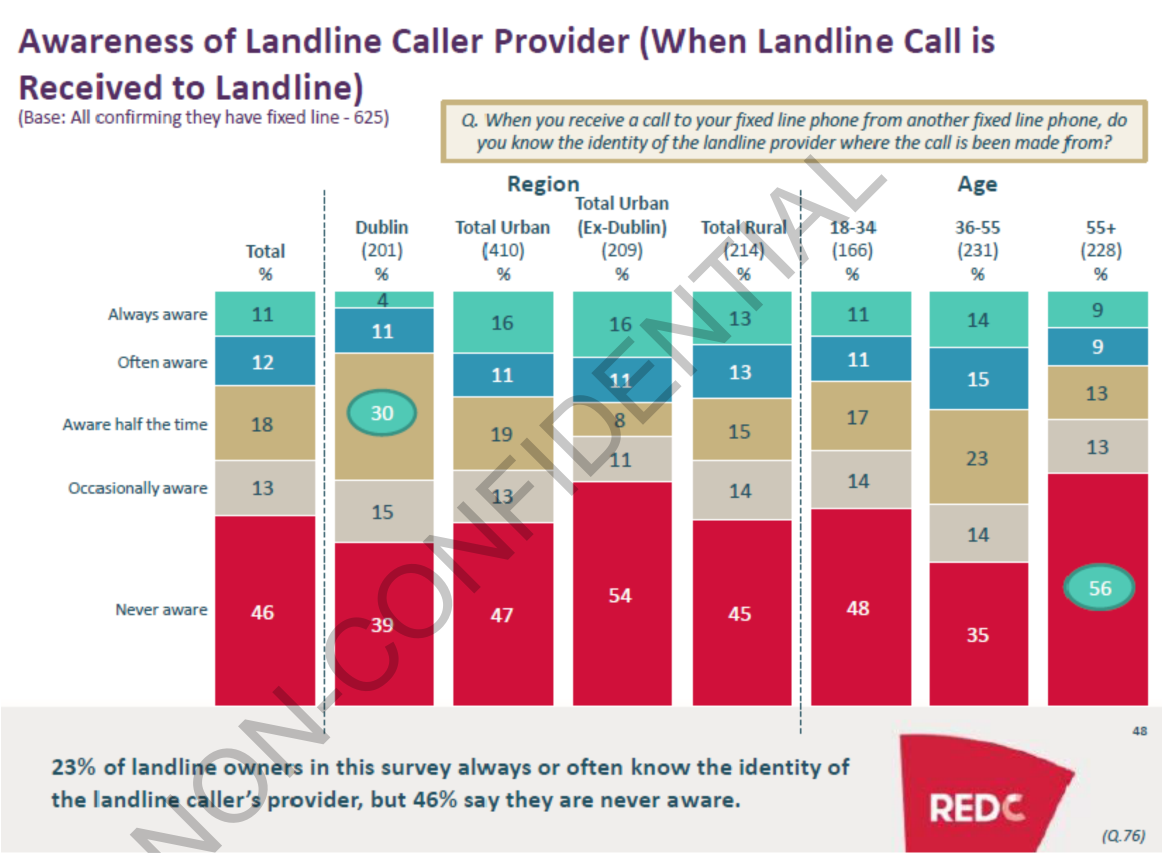
(a) Concerned about the cost faced by the calling party; and

(b) Aware of the identity of the calling party's Service Provider.

FSP Network Awareness by Called Party

4.54 As part of the 2016 Market Research, ComReg sought to ascertain residential consumers' awareness of the calling party's network identity when in receipt of calls. As illustrated in Figure 42 below, 46% of residential RFVC subscribers were never aware of the identity of the calling party's FSP.[313] Similarly, 50% of responding residential RFVC subscribers are never aware of the calling party's MSP identity.[314]

Figure 42: Residential RFVC subscriber awareness of calling party fixed voice network when receiving calls



4.55 ComReg notes that Consumer FVCT Market Research data indicate that, when called, RFVC subscribers have low levels of awareness of the identity of the calling party's Service Provider. While some called parties will be aware of the calling party's Service Provider (for example, where a caller is well-known to them through family or social circumstances), the overall level of expressed awareness may be somewhat overstated, given that fixed line phone numbers in themselves cannot identify the calling party's FSP.

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[313] 2016 Consumer FVCT Market Research, slide 48.

[314] 2016 Consumer FVCT Market Research, slide 50.

MSP Network Awareness by Called Party

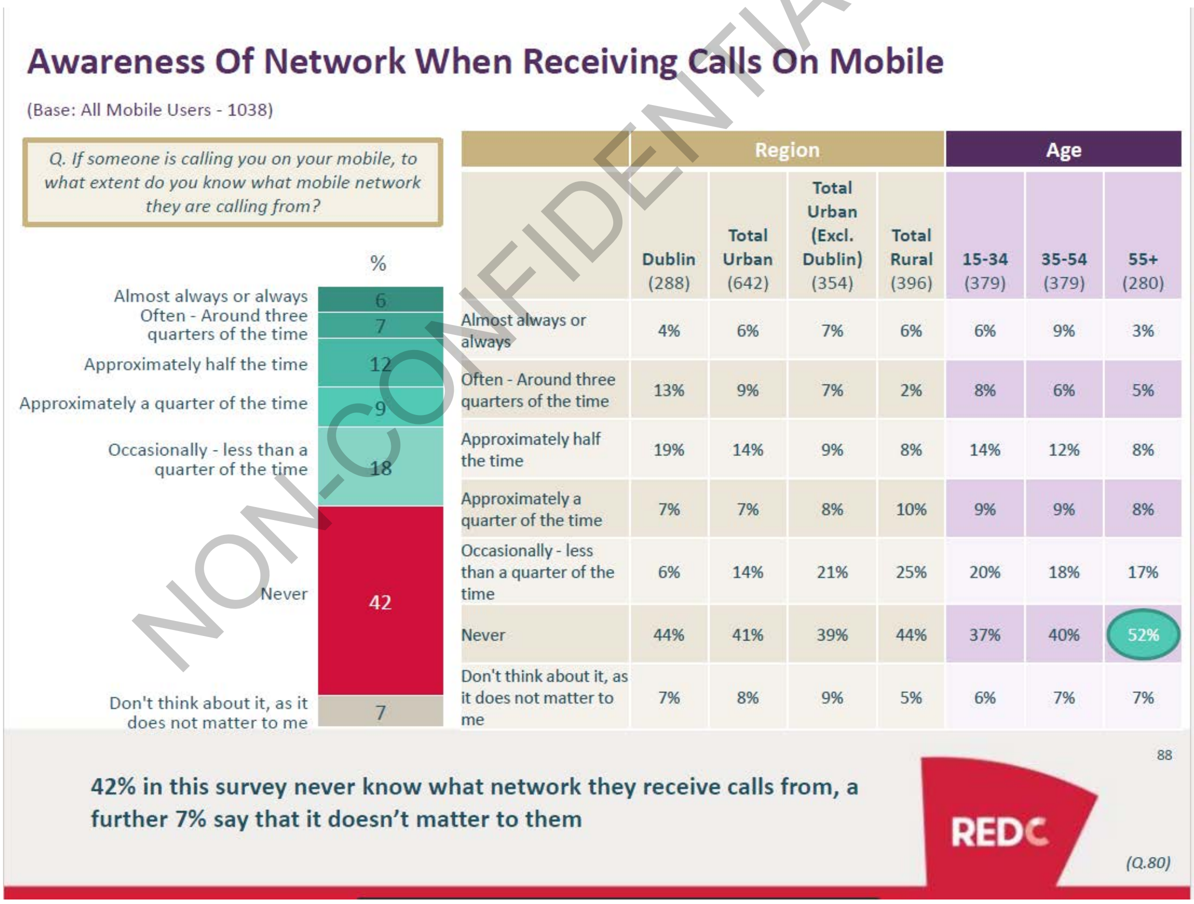
4.56 If the called party is concerned about the costs faced by callers to them, it may be in a position to exert a constraint on the MTR price-setting behaviour of its own MSP. In order to be able to do this, the called party would need to be:

(a) Concerned about the cost faced by the calling party; and

(b) Aware of the identity of the calling party's Service Provider.

4.57 MNP impacts the called party's ability to identify the calling party's MSP. As part of the 2016 Market Research, ComReg sought to ascertain residential and SME consumer awareness of the calling party's network identity when in receipt of calls. As illustrated in Figure 43, 42% of residential RMVC consumers were never aware of the identity of the calling party's MSP with an additional 7% stating that the identity of the calling party's MSP did not matter to them.[315]

Figure 43: Consumer awareness of calling party's mobile network when receiving calls



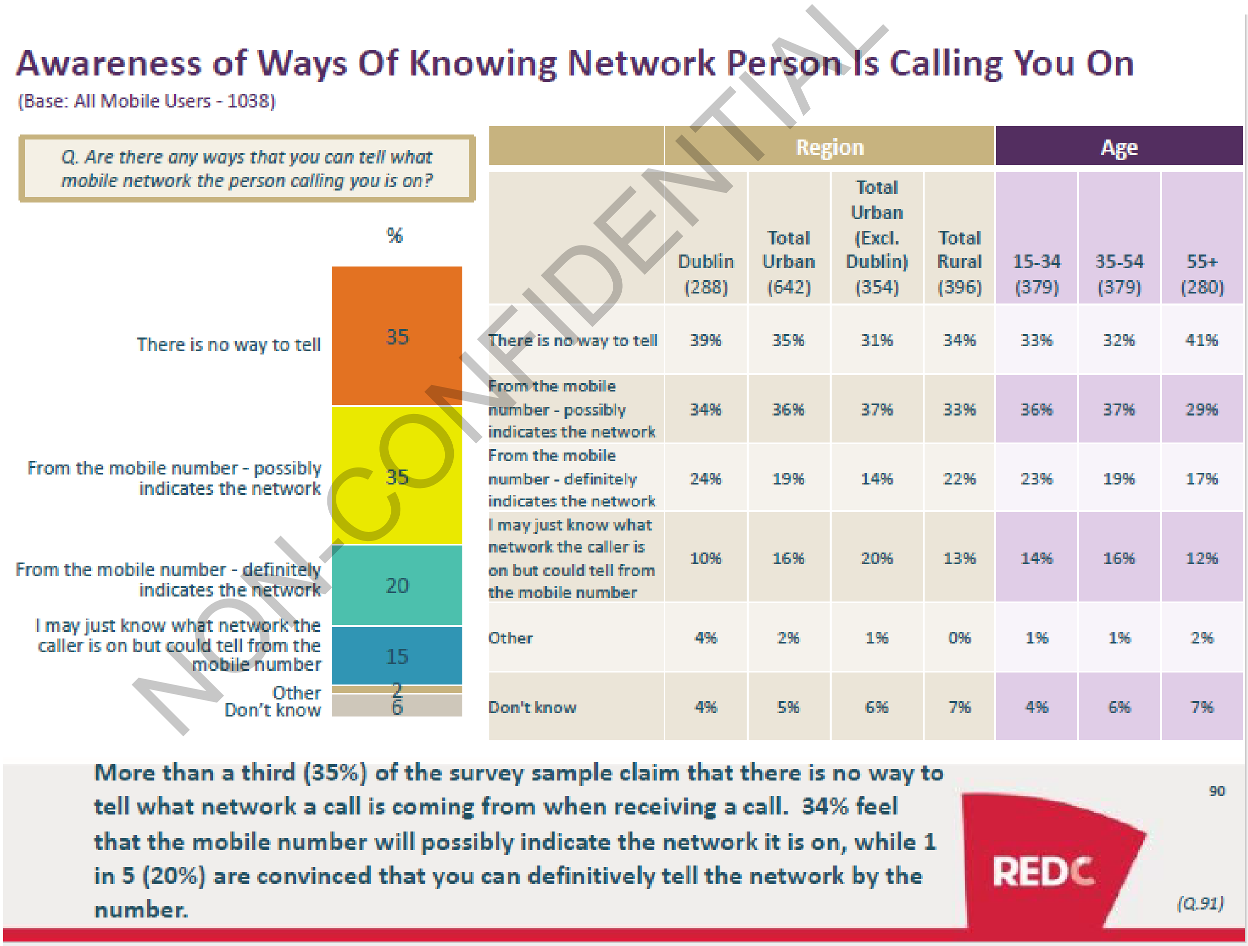
	Region				Age		
	Dublin (288)	Total Urban (642)	Total Urban (Excl. Dublin) (354)	Total Rural (396)	15-34 (379)	35-54 (379)	55+ (280)
Almost always or always	4%	6%	7%	6%	6%	9%	3%
Often - Around three quarters of the time	13%	9%	7%	2%	8%	6%	5%
Approximately half the time	19%	14%	9%	8%	14%	12%	8%
Approximately a quarter of the time	7%	7%	8%	10%	9%	9%	8%
Occasionally - less than a quarter of the time	6%	14%	21%	25%	20%	18%	17%
Never	44%	41%	39%	44%	37%	40%	52%
Don't think about it, as it does not matter to me	7%	8%	9%	5%	6%	7%	7%

[315] 2016 Consumer MVCT Market Research, slide 88.

4.58 Consumers were also asked if they could identify whether incoming calls originated on a fixed or mobile network. In response, 19% stated that they were never aware of whether the call originated on a fixed or mobile network with a further 7% noting that it did not matter to them. The remaining 74% stated varying degrees of awareness.[316]

4.59 Respondents were asked[317] if there are ways in which they could tell if the calls which they receive come from a mobile network other than their own (i.e. off-net mobile calls). Figure 44 demonstrates that 35% of consumer respondents reported that there is no way to identify a calling party's MSP, while 20% indicated that they could definitely rely on the mobile number to identify the calling mobile network.

Figure 44: Possible ways of calling network identification – Consumer respondents' views



	Region				Age		
	Dublin (288)	Total Urban (642)	Total Urban (Excl. Dublin) (354)	Total Rural (396)	15-34 (379)	35-54 (379)	55+ (280)
There is no way to tell	39%	35%	31%	34%	33%	32%	41%
From the mobile number - possibly indicates the network	34%	36%	37%	33%	36%	37%	29%
From the mobile number - definitely indicates the network	24%	19%	14%	22%	23%	19%	17%
I may just know what network the caller is on but could tell from the mobile number	10%	16%	20%	13%	14%	16%	12%
Other	4%	2%	1%	0%	1%	1%	2%
Don't know	4%	5%	6%	7%	4%	6%	7%

[316] 2016 Consumer MVCT Market Research, slide 89.

[317] 2016 Consumer MVCT Market Research, slide 90.

4.60 Responding SMEs were asked similar questions regarding their level of awareness with respect to incoming mobile calls.[318] 53% of respondents stated that they are never aware of the identity of the calling party's mobile network, 35% stated it did not matter to them and the remaining 12% had varying degrees of awareness. 72% of responding SMEs noted that there is no way to identify the calling party's MSP, while 14% indicated that they could definitely rely on the mobile number to identify the mobile network called.[319]

4.61 Having regard to the discussion above, ComReg notes that called RMVC subscribers tend to have low levels of awareness of the identity of the calling party's Service Provider. While some called parties will be aware of the calling party's Service Provider (for example, where a caller is well-known to them through family or social circumstances), the overall level of expressed awareness may be somewhat overstated, given that mobile numbers themselves are no longer a reliable means for identifying a calling party's MSP, due to MNP.

4.62 ComReg has also reviewed market research provided by Service Providers in response to SIRs for information relating to called parties' levels of network awareness. Little additional evidence was provided as part of the responses which would indicate that called parties are generally aware of the specific MSP network originating the call. Consequently, this aspect does not materially inform the analysis above.

Conclusion on Called Party MSP and FSP Network Awareness

4.63 ComReg maintains its view that the relatively low level of calling parties' network awareness among called parties is likely to constrain their ability and incentive to react to price changes. ComReg has not seen or been presented with any meaningful evidence that would indicate that end-user attitudes have changed to a sufficiently significant extent such that it may materially affect ComReg's overall analysis and conclusions set out in this Decision.

Subscribers' awareness of call costs

4.64 In order for the calling party to be in a position to react to changes in the retail price of calls to subscribers on specific voice networks, or to react to those retail price increases stemming from an increase in termination rates, they would also need to be aware of retail call costs, including the costs associated with calling particular Service Providers.

[318] 2016 SME MVCT Market Research, slide 107.

[319] 2016 SME MVCT Market Research, slide 109.

RFVC subscribers' awareness of call costs

4.65 As part of the 2016 Market Research, ComReg asked[320] residential RFVC subscribers to indicate the extent to which they were aware of the costs of making calls from their fixed line phones. Table 9 shows that 80% of responding residential RFVC subscribers either do not know, or are unsure of, the costs of making (both local and national) fixed-to-fixed calls.

Table 9: Residential RFVC subscribers' stated knowledge of call costs

	Do not know or not sure	Know the approximate cost	Know the exact cost	Other
Local calls	80%	16%	4%	1%
National calls	80%	16%	4%	0%

4.66 Table 10 shows that responding SME RFVC subscribers expressed even lower levels of cost awareness with 93% of responding SMEs stating that they do not know, or are unsure of, the costs of making (both local and national) fixed-to-fixed calls.[321]

Table 10: SME RFVC subscribers' stated knowledge of call costs

	Do not know or not sure	Know the approximate cost	Know the exact cost
Local calls	93%	3%	4%
National calls	93%	4%	3%

4.67 Given the relatively low awareness of call costs when making calls, ComReg remains of the view that called parties are similarly likely to have low awareness of call costs incurred by those calling them.

4.68 In paragraph 4.70 below ComReg analyses whether call costs are important to residential and SME RFVC subscribers when selecting their FSP, due to the possibility that cost awareness may be higher at the time of purchasing RFVC or switching FSP.

4.69 ComReg is accordingly of the view that residential and SME RFVC subscribers have low overall levels of awareness regarding the specific costs associated with making calls to fixed line phones.

[320] 2016 Consumer FVCT Market Research, slides 65 and 68.

[321] 2016 SME FVCT Market Research, slides 48 and 51.

RMVC subscribers' awareness of call costs

4.70 As part of the 2016 Market Research, ComReg asked[322] RMVC subscribers to indicate the extent to which they were aware of the costs of making calls from their mobile phones. Table 11 shows that responding residential consumers indicated that 87% of prepay and 91% of bill pay users either do not know, or are unsure of, the costs of doing so.

Table 11: Consumer respondents' stated knowledge of the call costs

	Do not know or not sure of the cost of calls	Know the approximate cost of calls	Know the exact cost of calls
Prepay respondents	87%	9%	4%
Billpay respondents	91%	6%	2%

4.71 Responding consumers that stated approximate or exact knowledge of calls costs were then asked to provide cost estimates,[323] and to give their impressions of call costing, which are summarised in Table 12 below.

Table 12: Consumer respondents' perceptions on cost of calls from mobile phones

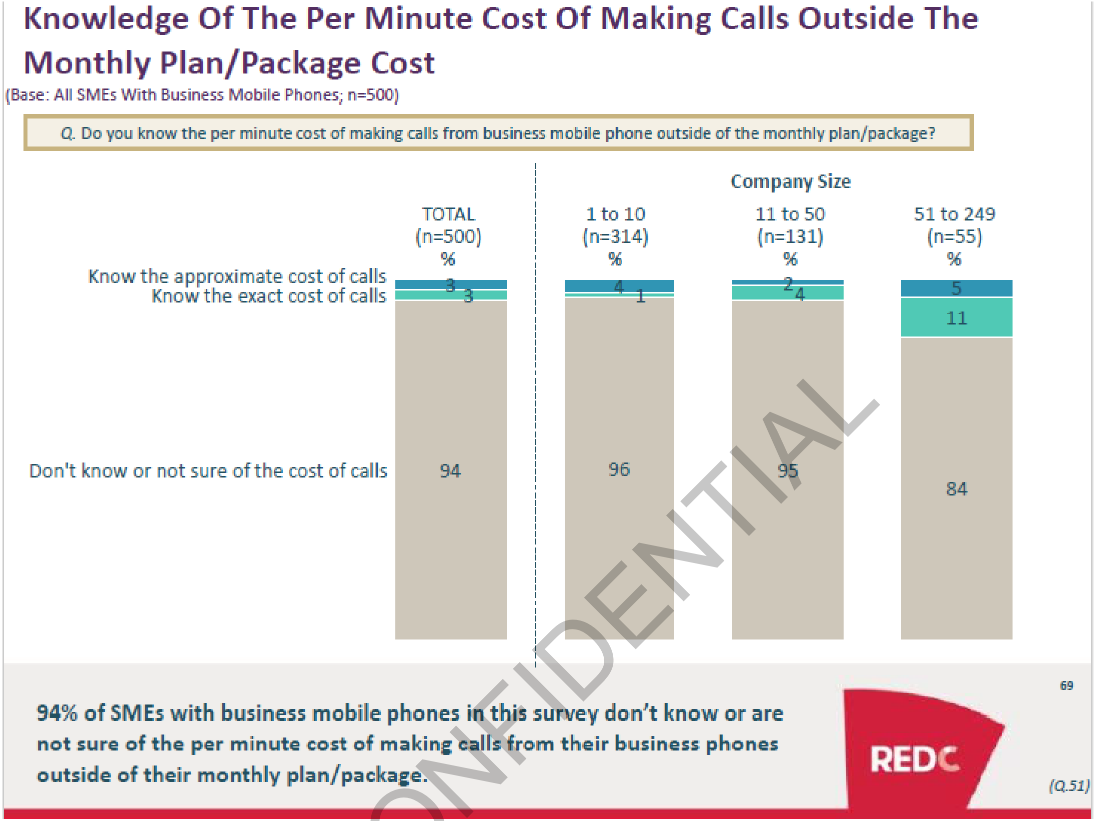
Prepay respondents	Billpay respondents
- On-net calls to mobiles are perceived as the cheapest calls. - No perceived difference between the cost of calling off-net mobiles and landlines. - 56% of respondents thought that call costs vary depending on the time or day when a call is made.	- On-net calls to mobiles are perceived as the cheapest calls. - Off-net calls to mobiles are perceived to be slightly more expensive than calls to landlines. - 47% of respondents thought that call costs vary depending on the time or day when a call is made.

[322] See slides 71 and 73 of the 2016 MVCT Market Consumer Research. ComReg notes that consumer knowledge of costs has decreased since the last market review where it was noted that 71% of prepay and 69% of bill pay consumers stated that they did not know or were unsure of the costs of making calls and sending text messages. See also page 50 of the 2012 MVCT Consultation.

[323] 2016 Consumer MVCT Market Research, slides 72 and 74.

4.72 As set out in Figure 45 below, SME respondents expressed[324] similar levels of cost awareness as residential consumers with 94% of responding SMEs stating that they did not know, or were unsure of, the cost of calls.

Figure 45: SME respondents' stated knowledge of call costs



4.73 Given the relatively low awareness of call costs when making calls, ComReg is of the view that called parties are similarly likely to have relatively low awareness of call costs incurred by those calling them.

4.74 Having regard to the issues set out above, ComReg's position is that residential and SME RMVC subscribers have low overall levels of awareness regarding the specific costs associated with making calls.

<u>Conclusion on awareness of call costs</u>

4.75 Having regard to the above, ComReg's position is that residential and SME RMVC and RFVC subscribers have low overall levels of awareness regarding the specific costs associated with making calls. ComReg is cognisant, however, that residential retail consumers appear to have a moderate level of awareness of the differences in the cost of making on-net and off-net calls from their mobiles, in addition to the difference in cost when making calls from mobile to (i) other mobiles and (ii) landlines.

324 2016 SME MVCT Market Research, slide 69.

4.76 These low levels of cost awareness, rather than indicating that call costs are not important to RMVC subscribers, may be attributed to RMVC pricing structures[325] as, in circumstances where prices for on-net and off-net calls tend not to differ (or are free), it may lessen the importance that consumers attach to call cost awareness. Given the relatively low awareness of call costs when making calls, ComReg is of the view that called parties are similarly likely to have low awareness of call costs incurred by those calling them.

Subscribers' sensitivities to call costs

4.77 RFVC and RMVC subscriber sensitivities to call costs may differ based on individual preferences, calling patterns and costs arising under particular tariff plans. Subscriber sensitivities to call costs may also vary over time. For example, cost awareness may be front-loaded at the decision-making stage when consumers are switching Service Provider, implying that less weight is attached to the costs of calls once subscribers have chosen a Service Provider, or when changing tariff plans with an existing Service Provider – particularly where customers are still operating within a minimum term contract, where tariffs allow unlimited calls to be made, or where prices for all call types are homogeneous. Furthermore, it may take some time for consumers to react to price increases where, for example, the impact of a change in price may not be realised until a bill is received.

4.78 However, as noted above, in order for either the called party or the calling party to react to retail price increases generally, or retail price increases stemming from the pass through of a wholesale SSNIP in WVCT by a particular Service Provider to subscribers, end users would need to be sufficiently concerned about costs such that it warrants some change in their behaviour.

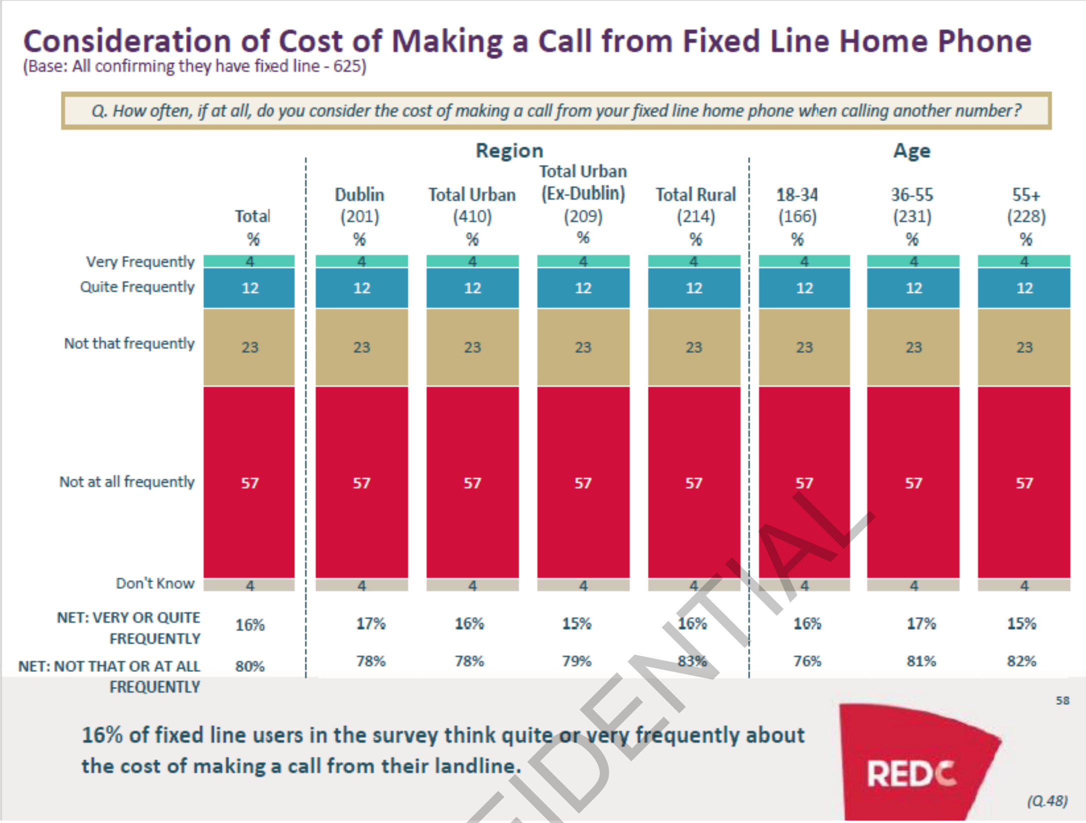
RFVC subscriber sensitivity

4.79 In order to estimate end users' sensitivity to call costs, the 2016 Market Research asked residential RFVC subscribers whether they consider the cost of calls when making calls from fixed line phones. Figure 46 indicates that approximately 16% of residential respondents consider the cost of calls made from fixed line phones very or quite frequently.[326] However 80% of respondents stated that they do not consider the cost of such calls 'frequently' or 'at all'.

[325] See paragraphs 4.31 to 4.36 above.

[326] 2016 Consumer FVCT Market Research, slide 58.

Figure 46: Residential RFVC subscribers' cost consideration when making calls from fixed line phone

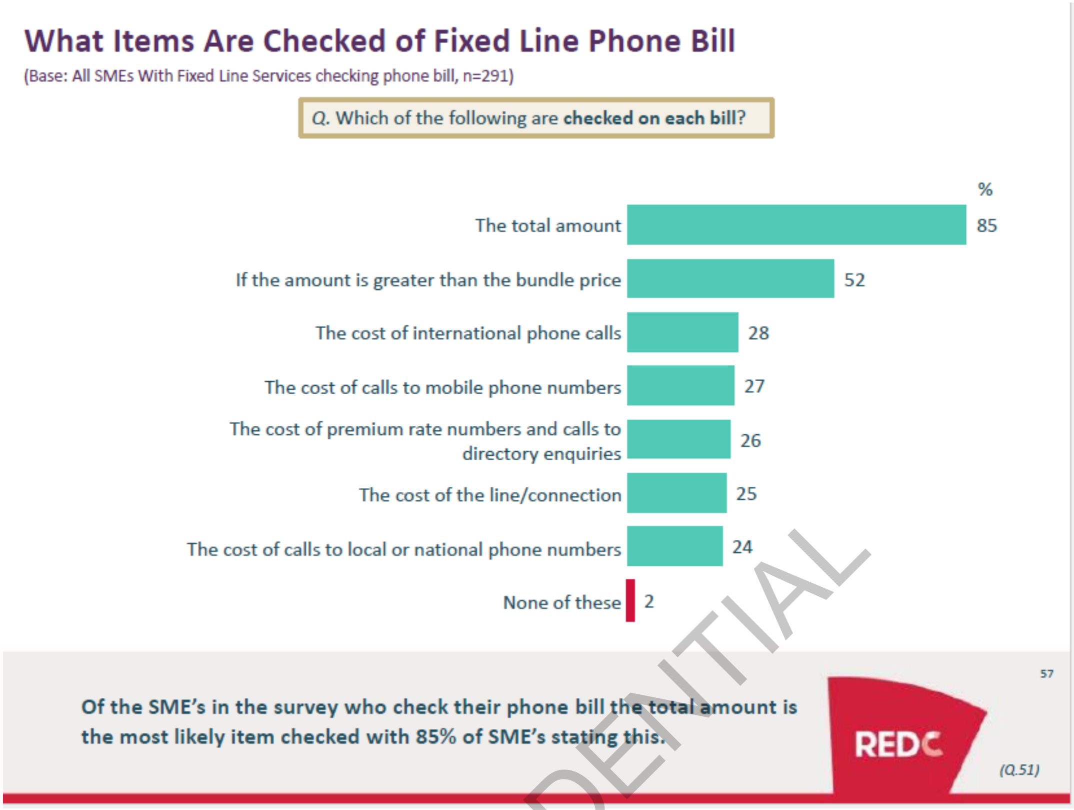


4.80 SME respondents were asked whether they checked any particular types of phone calls when reviewing their fixed phone bills. Figure 47 illustrates that SME respondents that carry out a detailed check of their RFVC bills[327] are mostly interested in the aggregate cost of the bill (85% check the total cost of the bill), while 24% claim to check the cost of local/national fixed calls.[328]

[327] 65% (n=291) of all responding SMEs purchasing RFVC.

[328] 2016 SME FVCT Market Research, slide 57.

Figure 47: Types of costs examined by SME RFVC subscribers in their bills



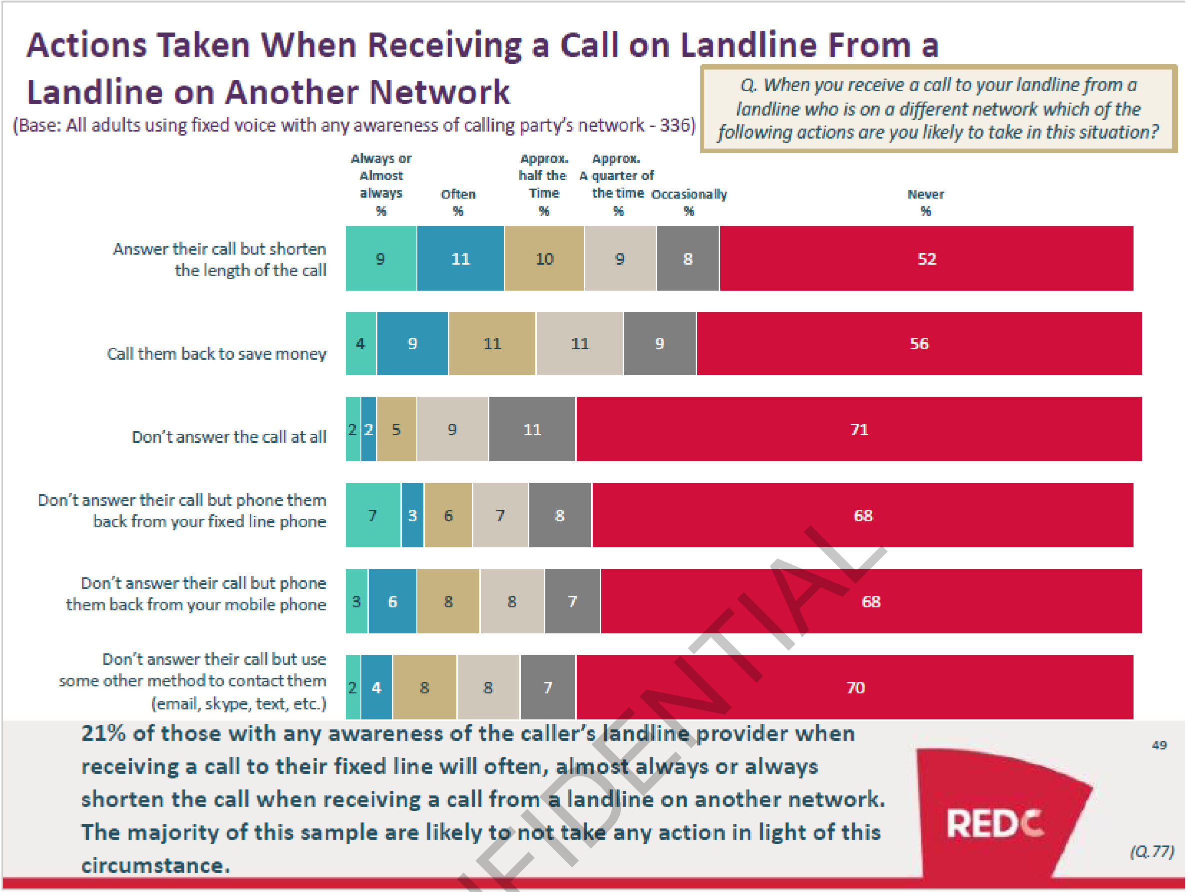
4.81 The 2016 Market Research also explored residential and SME respondents' sensitivities to the costs faced by those calling them. In particular, responding residential RFVC subscribers that indicated they were aware of the calling party's FSP identity[329] were asked to identify what specific behavioural change they would consider making when receiving fixed-to-fixed calls, and how often they would do it. Figure 48 shows a relatively low incidence of likely actions being taken to reduce the cost of a call for a calling party. For example, 7% of respondents indicated that they would always or almost always not answer the call and phone the calling party back instead.[330] Similarly, a low incidence of actions being taken to reduce the cost of a call from a mobile phone for a calling party was also observed.[331]

[329] 54% (n=336) of all respondents.

[330] 2016 Consumer FVCT Market Research, slide 49.

[331] 2016 Consumer FVCT Market Research, slide 51.

Figure 48: Incidence of called party's change in behaviour when receiving calls



4.82 SME respondents purchasing RFVC were asked whether they provided a lo-call number[332] for use by their customers and/or employees. The majority (91%) of respondents indicated that no lo-call number was provided by their business.[333]

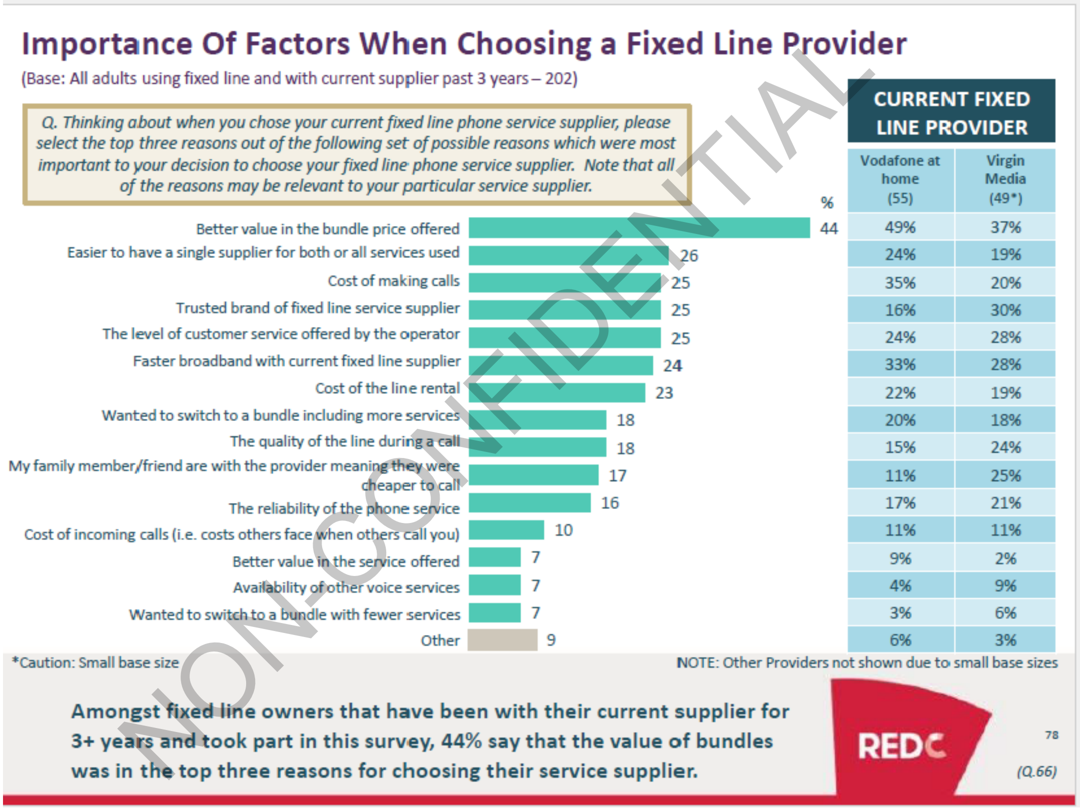
4.83 The evidence therefore suggests that, in general, both residential and SME RFVC subscribers tend to have low levels of concern for the cost faced by the calling party. It is ComReg's view that the level of any consequential behavioural change in the treatment of received calls is therefore not likely to be significant.

[332] Provision of lo-call numbers can be indicative of SMEs' sensitivities to call costs faced by the calling party. For example, a calling party faces no costs when dialling a Freephone (1800) number from either a fixed line or mobile phone.

[333] 2016 SME FVCT Market Research, slide 35.

4.84 In paragraph 4.77 ComReg noted that subscriber cost awareness and sensitivity to costs may differ over time. As part of the 2016 Market Research, ComReg asked residential RFVC subscribers who have stayed with their FSP for the last three years or less[334] to state the top three reasons for the selection of their current FSP. Figure 49 sets out that better value in the price of bundled services (44%), ease of dealing with single supplier for multiple services (26%) and costs of making calls (25%) were the reasons most commonly cited by responding residential RFVC subscribers when switching their FSP.[335] The cost of incoming calls was cited as one of the top three reasons for selecting a FSP by 10% of responding residential RFVC subscribers.

Figure 49: Residential RFVC subscribers' top three reasons for the selection of their current FSP



4.85 A similar question was posed to SME RFVC subscribers that have stayed with their FSP for the last three years or less.[336] Figure 50 demonstrates that the cost of making calls was cited by 23% of respondents, while just 3% of respondents indicated that costs faced by the calling party (including customers) was one of the top three reasons for selecting their current FSP.[337]

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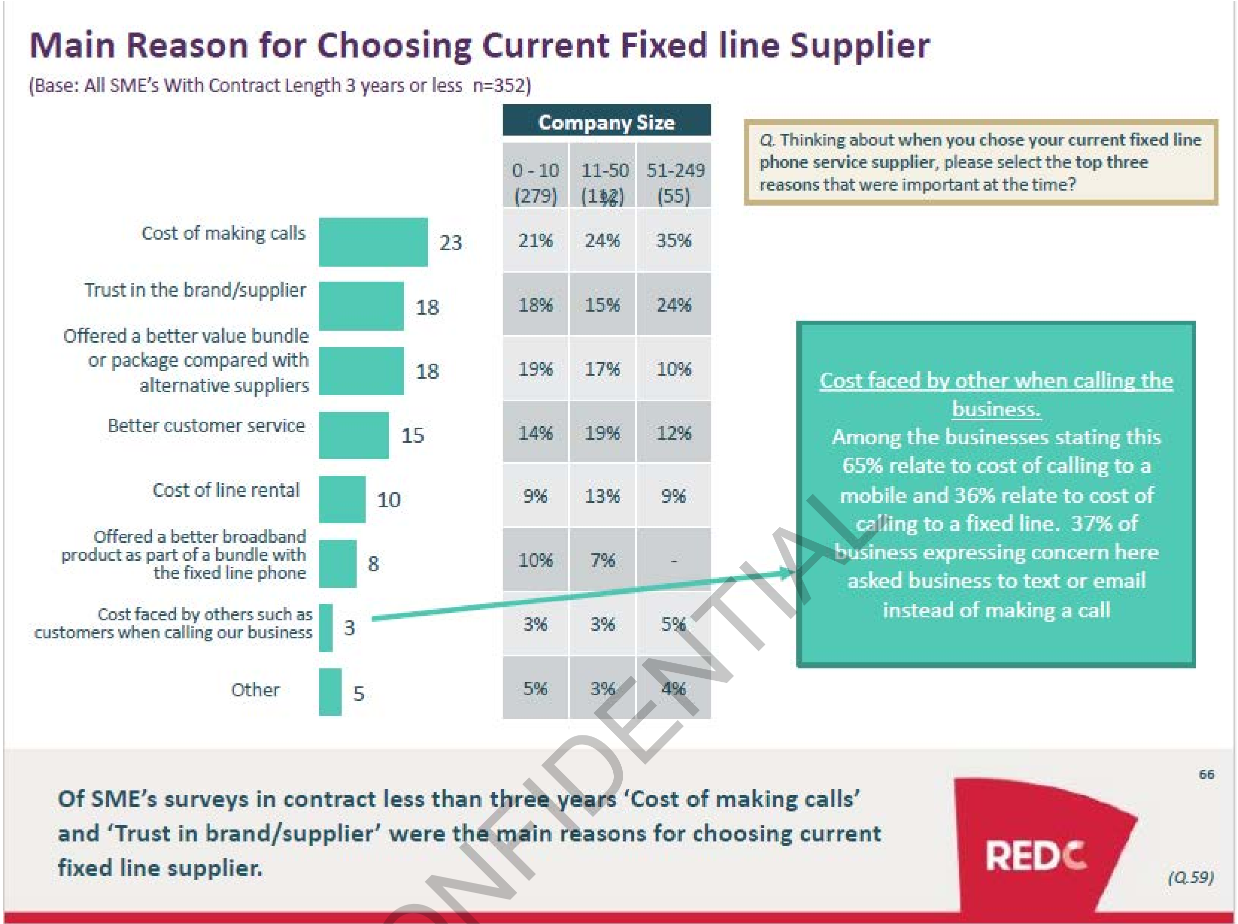
[334] Approximately 32% (n=202) of all responding residential RFVC subscribers.

[335] 2016 Consumer FVCT Market Research, slide 78.

[336] Approximately 80% (n=352) of all responding SME RFVC subscribers.

[337] 2016 SME FVCT Market Research, slide 66.

Figure 50: SME RFVC subscribers' top three reasons for the selection of their current FSP



4.86 Where FSPs provided end user market research to ComReg in response to SIRs relating to switching and churn, it generally tended to support the views expressed above, in particular, that call costs and better value were key drivers cited by consumers and SMEs for switching FSPs.

4.87 ComReg is accordingly of the view that:

(a) Overall tariff cost and the cost of making calls are likely to be important factors for consumers when selecting a FSP, primarily driven by the desire to minimise expenditure and obtain the best value for the services purchased. However, once consumers have chosen a FSP, the majority of consumers appear to be less concerned about the cost of making on-net/off-net local and/or national calls to fixed line phones, as demonstrated by generally low awareness of the individual cost of calls to local and national fixed line phones expressed by respondents to the 2016 Market Research. Furthermore, taking account of the general absence of any significant on-net/off-net retail price differentiation for calls to local/national fixed line phones, and the prevalence of unlimited or set amount of minutes for local/national calls included in RFVC tariff plans, the cost of making calls to particular FSP networks cannot be readily ascertained from retail pricing structures. Hence, the individual cost of calling specific FSPs would, therefore, not appear to influence consumer decisions when choosing their FSP.

(b) Residential RFVC subscribers tend to have low levels of concern for costs faced by the calling party, as evidenced by a low incidence of reported behavioural change when receiving calls from fixed lines and/or mobile phones.

(c) SME RFVC subscribers do not tend to consider the cost of making calls when using their fixed line phone. The majority of responding SME RFVC subscribers indicated a general concern with the overall cost of the telecommunications bill rather than any specific concern with the cost of individual call types. This lower level of sensitivity for off-net calls is likely to be influenced by the prevalence of RFVC tariff plans offering a specific or unlimited amount of minutes to any network.

(d) SME RFVC subscribers are not likely to be concerned about the cost faced by calling parties, which implies that SMEs are not prone to changes in their treatment of incoming calls[338]. In summary, sensitivities to the costs faced by calling parties appear not to be significant.

[338] For example, by providing a low call non-Geographic Number such as 1800 for customer contacts instead of a geographic or nomadic (076) number.

RMVC subscriber sensitivity

4.88 In order to estimate end users' sensitivity to call costs, the 2016 Market Research asked RMVC subscribers whether they consider the cost of mobile-to-mobile calls when making calls from mobile phones.[339] Table 13 indicates that 65% of residential consumers and 80% of SME consumers do not consider the cost of mobile-to-mobile calls when making these calls.

Table 13: Consumer and SME cost consideration when Mobile-to-Mobile calls

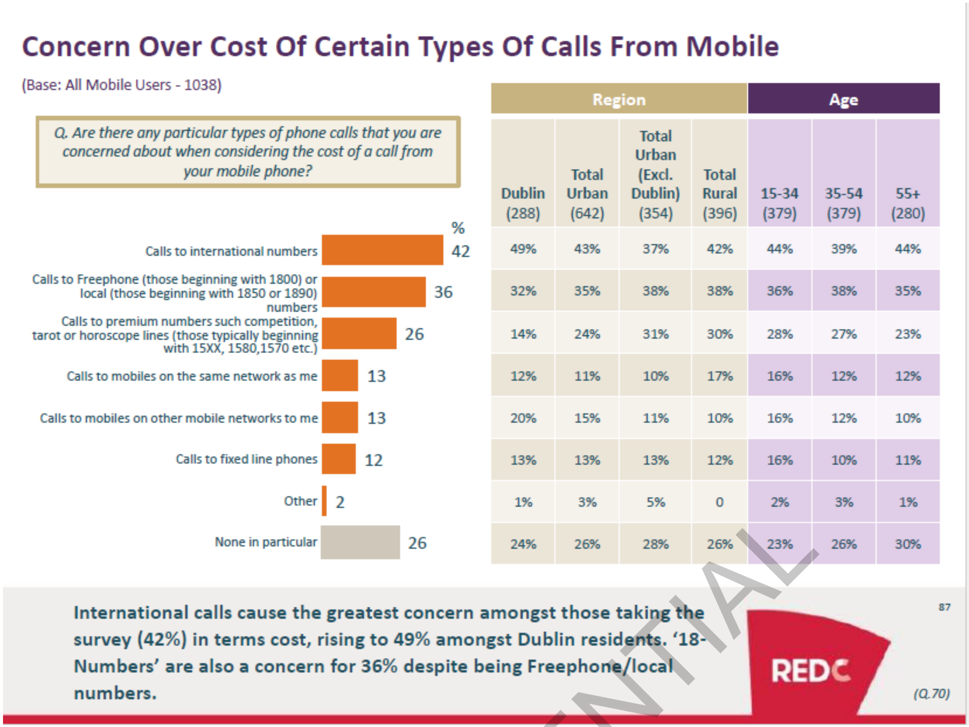
	Never	Less than 25% of the time	25% of the time	50% of the time	75% of the time or more often
Residential Respondents	65%	16%	7%	6%	6%
SME Respondents	80%	10%	1%	9%	

4.89 As set out in Figure 51 below, residential and SME retail consumers were also asked if there are any types of phone calls that they were especially concerned about when considering the cost of making a call from a mobile phone.[340] In this regard, 42% of residential consumers indicated that they are concerned about the cost of calls to international numbers, with the cost of off-net calls to other mobile networks and fixed line numbers causing broadly similar levels of concern to each other, accounting for 13% and 12% of respondents, respectively. 26% of consumer respondents were not concerned about the cost of any particular call types.

[339] See slide 83 of the 2016 MVCT Market Consumer Research and slide 103 of the 2016 MVCT Market SME Research. Low levels of awareness of the identity of the called party's MSP and the calling party's MSP have already been highlighted at paragraphs 4.41 to 4.52, and 4.56 to 4.62.

[340] 2016 Consumer MVCT Market Research, slide 87 and slide 106 of the 2016 MVCT Market SME Research.

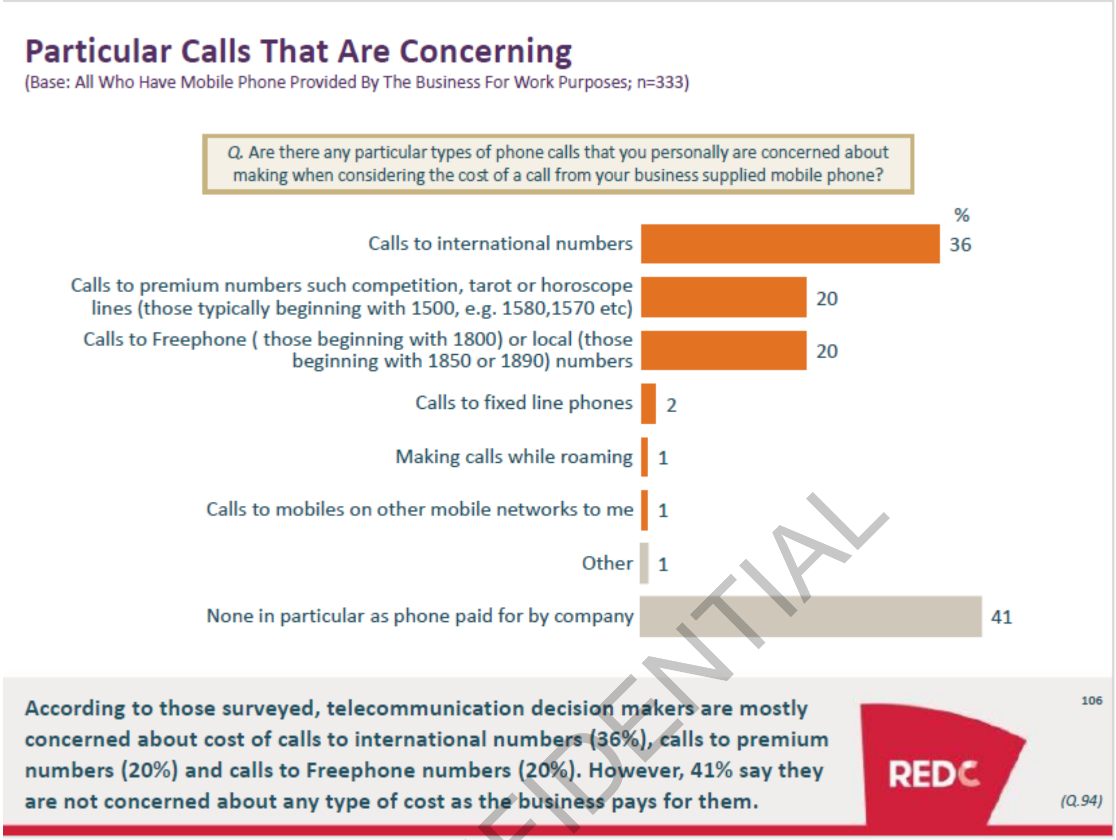
Figure 51: Consumer concern about cost of certain call types from mobiles



	Region				Age		
	Dublin (288)	Total Urban (642)	Total Urban (Excl. Dublin) (354)	Total Rural (396)	15-34 (379)	35-54 (379)	55+ (280)
Calls to international numbers	49%	43%	37%	42%	44%	39%	44%
Calls to Freephone/local numbers	32%	35%	38%	38%	36%	38%	35%
Calls to premium numbers	14%	24%	31%	30%	28%	27%	23%
Calls to mobiles on the same network as me	12%	11%	10%	17%	16%	12%	12%
Calls to mobiles on other mobile networks to me	20%	15%	11%	10%	16%	12%	10%
Calls to fixed line phones	13%	13%	13%	12%	16%	10%	11%
Other	1%	3%	5%	0	2%	3%	1%
None in particular	24%	26%	28%	26%	23%	26%	30%

4.90 Among SME respondents, 36% were concerned about the cost of making calls to international numbers, with 20% concerned about the cost of making calls to both premium rate numbers and non-Geographic Numbers, as illustrated by Figure 52. 41% of SME respondents were not concerned about the cost of any particular calls.

Figure 52: SME respondents' concerns about the cost of making certain call types from mobile phones

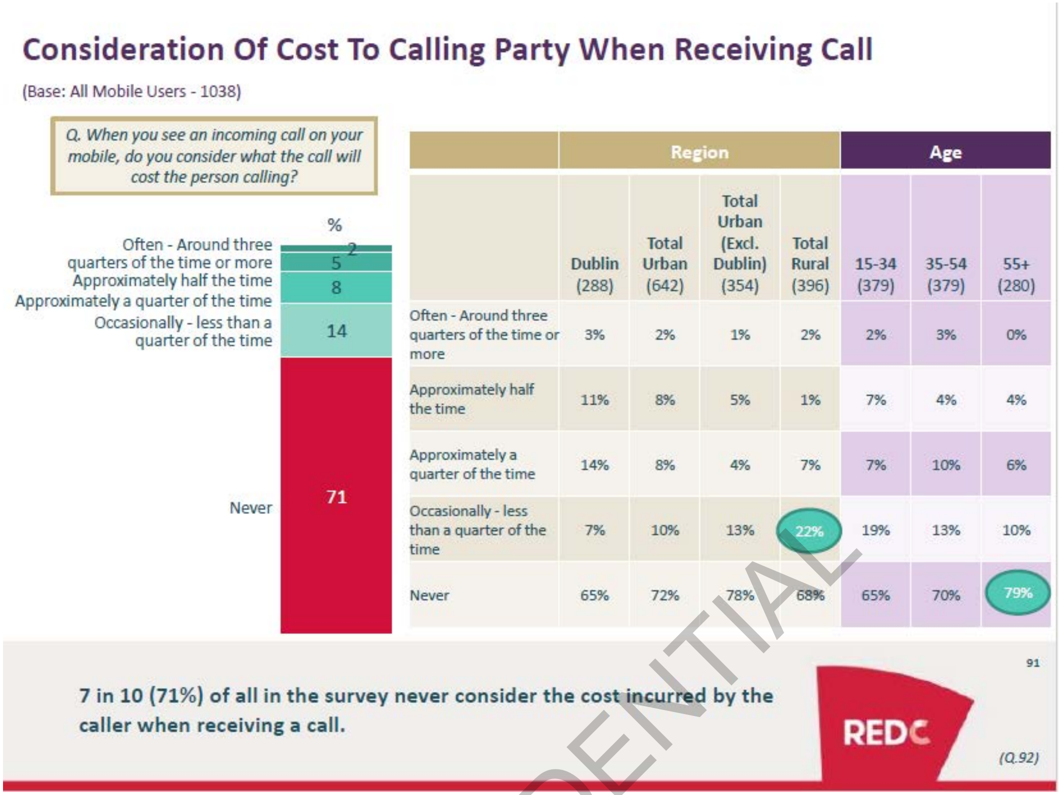


4.91 The 2016 Market Research also explored residential and SME respondents' sensitivities to the costs faced by those calling them. It considered the frequency and nature of any behavioural response where such concerns were articulated. In other words, respondents concerned about the costs faced by the calling party were asked what they would do in response to this concern and how often would they do it.

4.92 Figure 53 illustrates that 71% of residential consumer respondents indicated that they were never concerned with costs faced by the calling party, with the remaining 29% expressing varying degrees of concern.[341]

[341] 2016 Consumer MVCT Market Research, slide 91.

Figure 53: Called party's concern about costs faced by calling party

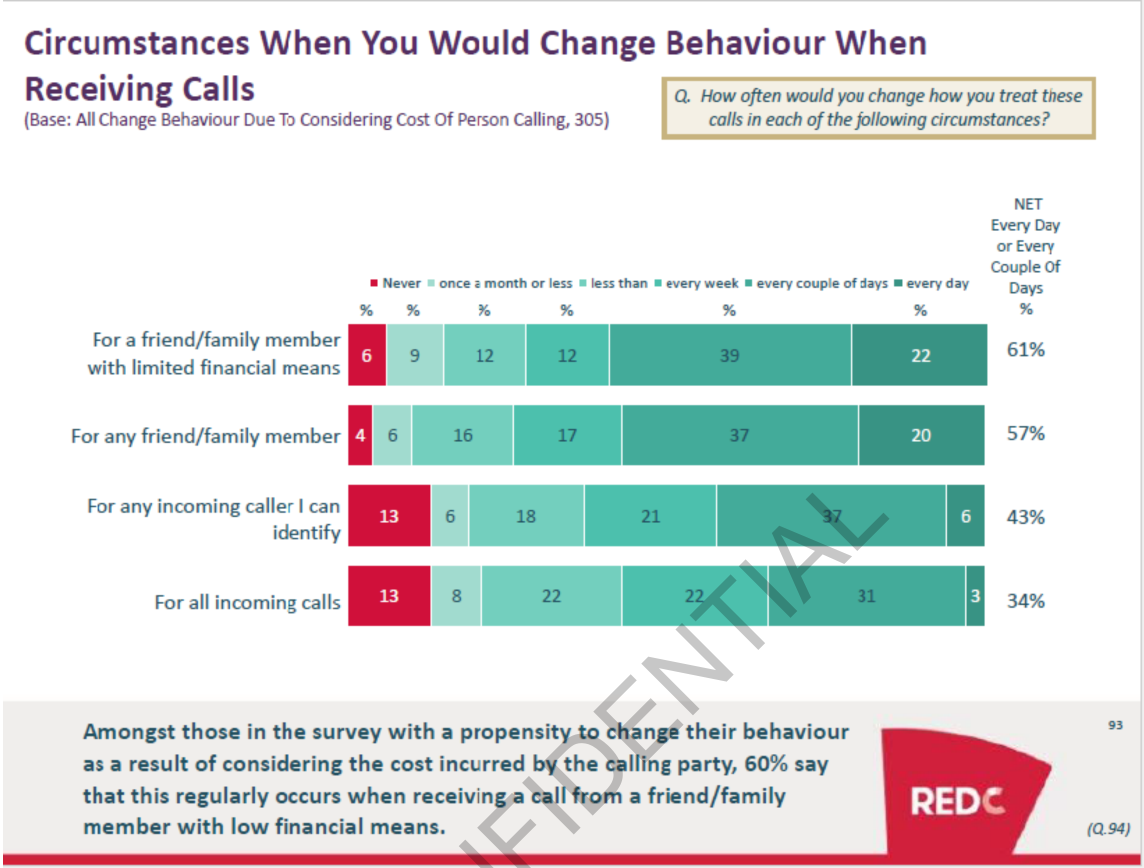


	Region				Age		
	Dublin (288)	Total Urban (642)	Total Urban (Excl. Dublin) (354)	Total Rural (396)	15-34 (379)	35-54 (379)	55+ (280)
Often - Around three quarters of the time or more	3%	2%	1%	2%	2%	3%	0%
Approximately half the time	11%	8%	5%	1%	7%	4%	4%
Approximately a quarter of the time	14%	8%	4%	7%	7%	10%	6%
Occasionally - less than a quarter of the time	7%	10%	13%	22%	19%	13%	10%
Never	65%	72%	78%	68%	65%	70%	79%

4.93 Those residential consumers that expressed any level of concern about the cost faced by the calling party (29% of all respondents) were then asked whether such concerns would impact upon how they treat incoming calls. 65% of these residential consumers noted that their behaviour with respect to the treatment of incoming calls would change half the time or less (see Figure 54). The 2016 Market Research also indicated that the frequency of behavioural change is broadly similar regardless of the called party's identity,[342] with the likelihood of changed behaviour being slightly higher when a calling party is a friend or a family member of limited means.

[342] 2016 Consumer MVCT Market Research, slide 93.

Figure 54: Incidence of called party change in behaviour due to concern about costs faced by calling party

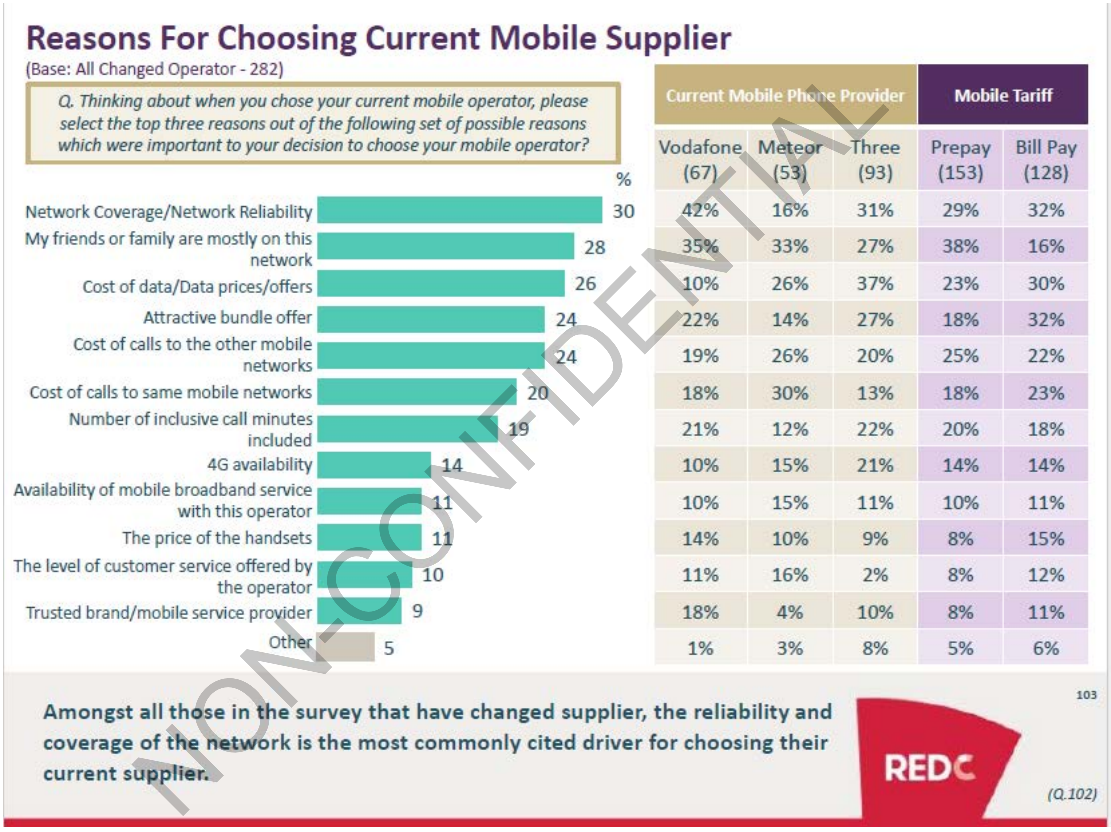


4.94 94% of responding SMEs indicated[343] that they were never concerned about the costs faced by the calling party. The evidence therefore suggests that in general, both residential and SME RMVC subscribers tend to have low levels of concern for the cost faced by the calling party and that the level of any consequential behavioural change in the treatment of received calls is not likely to be significant.

[343] 2016 SME MVCT Market Research, slide 110.

4.95 ComReg notes that the cost awareness of end users and their sensitivities to cost may differ over time. As part of the 2016 Market Research, ComReg asked residential[344] and SME[345] RMVC subscribers that had previously switched their MSP to state the top three reasons for the selection of their current MSP. Figure 55 sets out that network coverage/reliability (30%), friends or family members being on the same network (28%) and cost of data (26%) were the most commonly cited reasons that were important to consumer respondents when switching their MSP. The cost of calls to other mobile networks (off-net calls) and to the same mobile networks (on-net) calls were cited as one of the top 3 reasons for selecting a MSP by 24% and 20% of respondents respectively.

Figure 55: Consumer respondents' top 3 reasons for selection of their current MSP



	Current Mobile Phone Provider			Mobile Tariff	
	Vodafone (67)	Meteor (53)	Three (93)	Prepay (153)	Bill Pay (128)
Network Coverage/Network Reliability	42%	16%	31%	29%	32%
My friends or family are mostly on this network	35%	33%	27%	38%	16%
Cost of data/Data prices/offers	10%	26%	37%	23%	30%
Attractive bundle offer	22%	14%	27%	18%	32%
Cost of calls to the other mobile networks	19%	26%	20%	25%	22%
Cost of calls to same mobile networks	18%	30%	13%	18%	23%
Number of inclusive call minutes included	21%	12%	22%	20%	18%
4G availability	10%	15%	21%	14%	14%
Availability of mobile broadband service with this operator	10%	15%	11%	10%	11%
The price of the handsets	14%	10%	9%	8%	15%
The level of customer service offered by the operator	11%	16%	2%	8%	12%
Trusted brand/mobile service provider	18%	4%	10%	8%	11%
Other	1%	3%	8%	5%	6%

4.96 Figure 55 also illustrates that prepay and bill pay respondents have stated somewhat similar reasons for selecting their MSPs, with the main exceptions being that prepay customers placed far greater emphasis on whether their friends and family were on the relevant network than bill pay customers (38% v. 16%), this could be due to free on-net calling being included as part of the plan. Bill pay customers placed far greater emphasis than prepay customers on the attractiveness of the bundle offer (32% v. 18%).

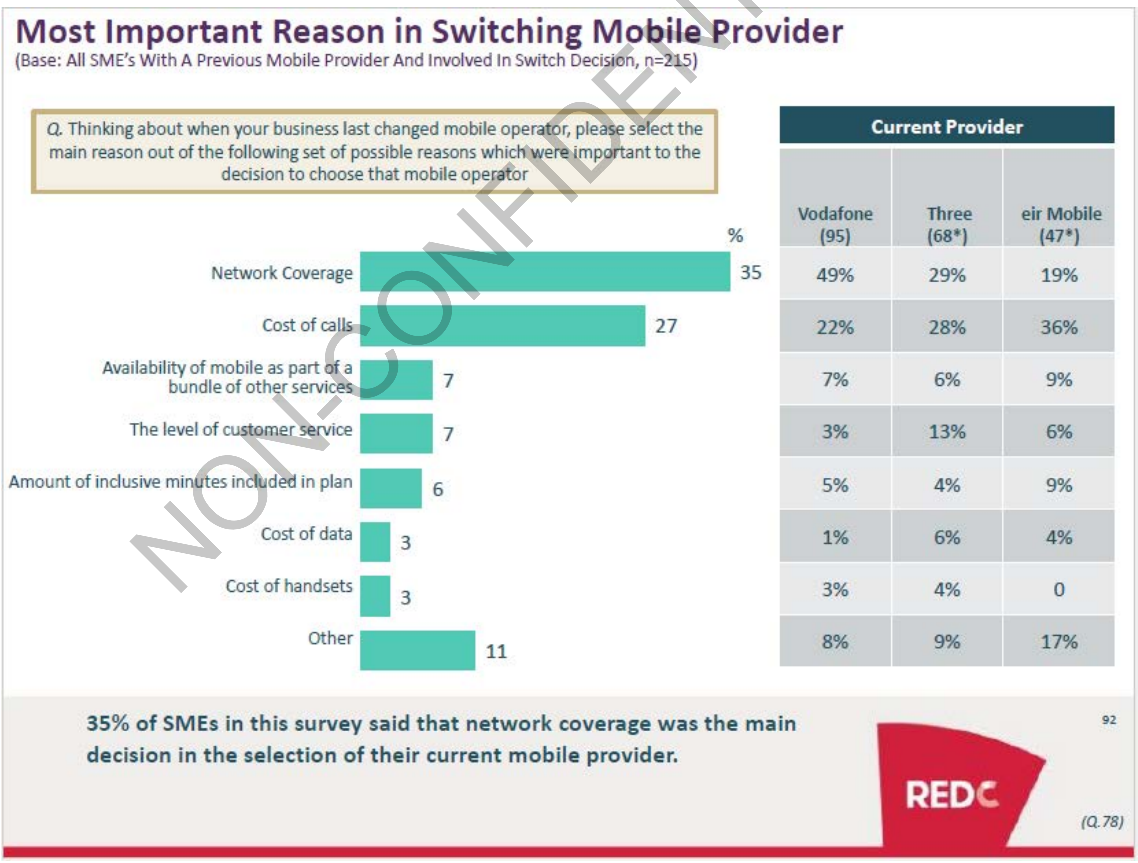
[344] 2016 Consumer MVCT Market Research, slide 103.

[345] 2016 SME MVCT Market Research slide, 92.

4.97 Figure 55 shows some differences amongst prepay and bill pay residential consumers regarding their most important reasons for selecting their current MSP. However, there is no specific reason common across these subgroups that would outweigh all other reasons chosen. This contrasts with evidence presented in the 2012 MVCT Consultation where it was noted that, for consumers, the most significant factor in the MSP selection decision was friends or family being on the same network for the purpose of reducing the cost of calls made and received.[346]

4.98 The most frequently cited reasons among SME respondents that switched their MSP are presented in Figure 56. Network coverage (35%), cost of calls (27%), and the availability of mobile as part of a bundle of other services (7%) were the most common reasons that were important to SME respondents when switching their MSP. When asked to select the main reason for choosing their MSP, the majority of SME respondents (35%) noted that it was network coverage,[347] followed by the cost of calls (27%).

Figure 56: SME respondents' main reasons for selection of their current MSP



[346] See paragraph 4.83 of the 2012 MVCT Consultation. The reduced importance of having friends and family on the same mobile network is also supported by an increasing number of originated off-net minutes highlighted in Figure 24 above.

[347] 2016 SME MVCT Market Research, slide 92.

4.99 Where MSPs provided end user market research relating to switching and churn, it generally tended to support the views expressed above, in particular, that network coverage/network reliability, better value, and data allowance were key drivers cited by consumers and SMEs for switching MSPs.

4.100 ComReg's position is accordingly that:

(a) Overall tariff cost and the cost of making calls are likely to be important factors for consumers when selecting a MSP, primarily driven by the desire to minimise expenditure and obtain the best value for the services purchased. However, once consumers have chosen a MSP, the majority of consumers appear to be less concerned about the cost of making on-net and off-net calls and more concerned about making calls to international, non-geographic or premium rate numbers. This lower level of concern for mobile-to-mobile call costs may be due, at least in part, to the prevalence of tariffs offering unlimited or a set amount of free mobile-to-mobile calls to all networks or for on-net calls, in the retail market – and as such, the cost of such calls may be of less importance once consumers have availed of the tariff (i.e. the importance of this factor seems to decline once the selection of the MSP is made).[348]

(b) 29% of consumer respondents appear to have some (varying) level of concern about costs faced by people calling them on their mobile phones. Therefore, any behavioural change as a result of called parties' concerns regarding the cost faced by calling parties is likely to be relatively low. Consumer sensitivities to the cost faced by calling parties are also likely to be relatively low, although where present, sensitivities appear to be higher for callers known to them (i.e. family members and friends).

(c) SME RMVC subscribers do not tend to consider the cost of making calls when using their mobiles. This is likely to be largely due to the fact that the cost is borne by the SME and not the employee. However, where concerns are expressed about the cost of certain calls these tend to relate to the cost of international calls, with less concern expressed about the cost of making off-net mobile-to-mobile calls. This lower level of sensitivity for off-net calls is likely to be influenced by the prevalence of RMVC tariff plans offering a specific or unlimited amount of any network minutes.

(d) SME RMVC subscribers are not likely to be concerned about costs faced by calling parties, which implies that SMEs are not prone to significant changes in their treatment of incoming calls. In summary, sensitivities to the costs faced by calling parties do not appear to be significant.

[348] See the overview of RMVC retail pricing structures at Annex: 8.

Conclusion on RFVC and RMVC subscriber sensitivity to costs

4.101 Having regard to the analysis in paragraphs 4.77 and 4.100, the evidence therefore suggests that, in general, both residential and SME RFVC and RMVC subscribers tend to have low levels of concern for the cost faced by the calling party and that the level of any consequential behavioural change in the treatment of received calls is not likely to be significant.

Summary of overall conclusions on factors affecting the responsiveness of end users to changes in RFVC and RMVC prices

4.102 The preceding paragraphs[349] have set out ComReg's views on a range of issues relating to pricing structures and subscribers' behaviour in the RFVC and RMVC markets. Such behavioural characteristics are also relevant to the market definition and competition assessment of the Relevant FVCT and MVCT Markets discussed in Sections 5 and 6 respectively. Of particular relevance is the degree to which subscribers' behaviour (either the calling party or the called party) and market characteristics may affect the termination rate-setting behaviour of a HM supplier of WVCT.

4.103 Given the CPP principle, the called party does not pay for incoming calls to mobile, geographic or nomadic (076) numbers. Within this CPP environment and having regard to overall RFVC and RMVC pricing structures and characteristics in the Irish market, ComReg has considered both calling party and called party behaviours in relation to network awareness, cost awareness, sensitivity to cost and frequency of any associated behavioural change.

4.104 ComReg has not seen or been presented with any meaningful evidence that would indicate that end-user attitudes have changed to a sufficiently significant extent such that it may materially affect ComReg's overall analysis and conclusions set out in this Decision. Accordingly, ComReg's maintains its view that the called party is likely to have:

(a) Low levels of awareness of the calling party's Service Provider identity;

(b) Low levels of awareness of the retail costs faced by the calling party; and

(c) Low sensitivity to/concern for the costs faced by the calling party.

4.105 These factors are likely to affect the degree to which the called party would have an incentive to change how it treats incoming calls in response to concerns regarding the costs faced by the calling party.

4.106 Similarly, ComReg's maintains its view is that the calling party is likely to have:

[349] See paragraphs 4.8 to 4.101.

(a) low levels of awareness of the called party's Service Provider identity;

(b) low levels of awareness of the retail costs of making calls; and

(c) relatively low levels of concern about the costs of making off-net calls from both mobile and fixed lines to both mobile and fixed lines, with subscribers more likely to be sensitive to overall tariff costs and the cost of making calls when selecting their Service Provider.[350] This behaviour can likely be partly explained by the prevalence of tariff plans offering unlimited (or limited, but large, amounts of) any network, any time minutes.

4.107 These factors are likely to affect the degree to which the calling party may change its calling behaviour in response to the costs faced when calling a subscriber of a particular Service Provider.

Assessing the impact of retail consumer behaviour on the Relevant FVCT and MVCT Markets

Overview

4.108 The European Commission's 2014 Recommendation has identified two voice call termination markets as follows:

(a) Wholesale call termination on individual public telephone networks provided at a fixed location, and

(b) Wholesale voice call termination on individual mobile networks, as relevant wholesale markets that are susceptible to *ex ante* regulation.

4.109 ComReg is not obliged *per se* to conclude on a precise definition of the relevant retail markets for the purposes of its present WVCT assessments. Nevertheless, ComReg has analysed the retail markets to inform its subsequent definition of the Relevant Termination Markets and, in particular, to inform its assessment of whether, through substitutability at the retail level, other forms of communication potentially exercise an effective indirect constraint on the Service Provider supplying WVCT.

[350] In this regard, ComReg notes the relatively low level of switching as demonstrated in Figure 25 above.

4.110 In line with the methodology set out by the European Commission,[351] ComReg begins its analysis by considering the narrowest set of candidate products (the '**Candidate Product**') at the wholesale level (WVCT to a particular RFVC or RMVC subscriber) and the correspondingly narrow downstream retail service involving the ability to make a call to a specific subscriber. ComReg examines whether the Candidate Product should be broadened to include other products or services, taking account of demand-side and supply-side substitutability considerations at the retail level.

4.111 If either the calling party or the called party had a strong awareness of the costs of making calls to particular networks and a sufficient likelihood of employing alternative modes of communication so as to avoid the costs associated with calling a particular recipient Service Provider with sufficient frequency, this could potentially constrain the wholesale price-setting behaviour of the called party's Service Provider in respect of terminating incoming calls. Note that this would only arise following any pass through into retail prices of an increase (above the competitive level) in termination rates, i.e. an increase in retail prices for calling subscribers on particular networks arising from an increase in termination rates. It is therefore necessary to start with an assessment of any potential retail substitution effects to determine their capacity to constrain wholesale market behaviour (which, indirectly, could potentially imply a broader wholesale market), absent regulation.

4.112 ComReg accordingly considers whether, from the consumer demand-side perspective, any products may act as an effective substitute for making an off-net call to a subscriber of a Service Provider. This is examined from two perspectives:

(a) Whether the characteristics, prices and intended use of potential substitute products are sufficiently interchangeable with those attributes associated with making calls to a subscriber of a different Service Provider (i.e. an off-net call); and

(b) The likelihood that a sufficient number of consumers would switch to using these potential substitutes in circumstances where the cost of making calls to an off-net phone increased as a result of an increase in wholesale termination rates.

[351] See paragraph 30 of the 2018 SMP Guidelines and paragraph 16 of the European Commission's *Notice on Market Definition*.

4.113 The Hypothetical Monopolist Test ('**HMT**') is an economic analytical tool which is used to assist in defining relevant product markets by assessing the demand-side substitution behaviour of consumers. The HMT assesses whether, in response to a small, but significant non-transitory increase in price (a '**SSNIP**') above the competitive level - taken to be in the range of 5 to 10% - of a candidate product supplied by a Hypothetical Monopolist (**HM**), a sufficient number of consumers would switch to an alternative substitute product, such that the price increase would be unprofitable.[352] If a sufficient number of consumers switch to alternative products, thus making the price increase unprofitable, then the alternative product is included in the relevant product market. The HMT is carried out for any given number of alternative products which, by their characteristics, prices and intended use, may constitute effective substitutes to the candidate product. If switching to these alternative products is sufficient to render the SSNIP of the candidate product unprofitable, then these are also included in the definition of the relevant product market.

4.114 According to the European Commission, in the case of FVCT,

> *"According to competition law principles, if indirect constraints coming from the downstream (retail market) are strong enough to make the termination rate increase unprofitable for a terminating operator, it might be concluded that this operator does not have SMP on its respective termination market. This could be the case if the calls to a fixed network can be substituted by other means of communication at the retail level. In other words, if the calling party, in order to avoid a pass-through of the wholesale termination charge, instead of calling the fixed number, selects an alternative, such as calling the mobile number belonging to the same person or using an OTT provider, this may result in a constraint exercised by another termination service."*[353]

4.115 While the above statement is in the context of FVCT, it could equally apply to MVCT.

4.116 In line with European Commission guidance on the assessment of indirect retail substitution effects through a SSNIP by a HM at wholesale level, the following factors are considered relevant:

(a) Whether, and to what extent, wholesale customers purchasing WVCT would be forced to pass a hypothetical wholesale price increase onto their customers at the retail level;

[352] In other words, whether the revenue foregone due to lost custom from consumers who switch to substitute products is greater than the increased revenue associated with charging a higher price for the product consumer who do not switch.

[353] Explanatory Note accompanying the 2014 Recommendation, at page 32.

(b) Whether there would be sufficient demand substitution at the retail level in response to the pass-through of the SSNIP in termination rates into retail prices such as to render the termination rate price increase unprofitable i.e. what retail-level demand response would be required to make a SSNIP unprofitable; and

(c) Whether the retail customers of Service Providers purchasing WVCT would, to a significant extent, switch to the retail arm of the integrated HM, particularly if the HM does not raise its own retail prices when it raises its termination rates.

4.117 After considering demand-side substitution in paragraphs 4.118 to 4.270 below, ComReg then considers supply-side substitution in paragraphs 4.271 to 4.273 below. In doing so, ComReg considers whether any suppliers not currently providing RFVC or RMVC would, in the short term, enter the market without incurring significant additional costs or risks in response to a SSNIP of WVCT.

Retail Demand-Side Substitution

4.118 The starting point of a retail demand-side substitution analysis for an off-net call to a subscriber of a particular Service Provider is to examine whether, instead of making such a call, consumers[354] are likely to consider alternative effective forms of communication as potential substitutes.

4.119 These potential substitutes are considered across the range of relevant substitutability criteria set out in the European Commission's Notice on Market Definition, according to which a relevant product market:

> *"….. comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use".*[355]

[354] Unless otherwise stated, for the purposes of this section, 'consumers' refers to both private consumers and SME consumers.

[355] See paragraph 7 of the European Commission's Notice on Market Definition.

4.120 ComReg's retail assessment, therefore, assesses technical characteristics (functionality), price, and any available data regarding consumer usage trends/behaviour.[356] It also considers whether a sufficient number of RFVC or RMVC subscribers are likely to switch to the forms of communication identified in paragraph 4.123 of this Decision in response to an increase in the retail price of making an off-net call to a Service Provider, with this retail price increase driven by the pass-through of a 5% to 10% increase in the terminating Service Provider's wholesale termination rates.[357]

4.121 In this regard, as part of the 2016 Market research residential and SME RFVC and RMVC subscribers were asked whether they would change their call-making behaviour in response to a 1 cent increase in the price of a RFVC or RMVC (and separately a 3 cent increase in the case of RMVC). The summary of responses is presented in Annex: 6 and Annex: 7 of this Decision.

4.122 The call-making behaviours identified in and on the profitability of both the terminating and the originating Service Provider:

(a) Potential impact on the terminating Service Provider's revenue arising from a combination of:

(i) increased termination revenue from those consumers that continue to make calls to subscribers of the terminating Service Provider, notwithstanding the pass-through of the increased termination rate into retail prices of the calling party's Service Provider,

(ii) a decrease in termination revenue arising from those consumers that reduce the number or length of calls (or substitute to other forms of outbound communication) in response to the pass-through of the increased termination rate into retail prices of the calling party's Service Providers, and

[356] See Annex: 6 and Annex: 7 for price sensitivity and switching analysis in the RFVC and RMVC markets.

[357] As noted in Annex: 7 of this Decision, the hypothetical price increases of RMVC tested in the 2016 Market Research (1 cent and 3 cent) were significantly higher than RMVC price increases that would be likely to occur from the full pass-through of a 5% to 10% increase in "competitive" MTRs (taking the data set out in the STRPL, a 10% increase in the most expensive cent per minute MTR would amount to 0.33 cent per minute, while a 10% increase in the most expensive cent per call MTR would amount to 0.128 cent per call). It should be noted that the transparency of any such increase could be occluded by folding the increase into overall plan price increases, rather than per call rate increases. The same hypothetical price increase would apply to FTRs,

(iii) an increase in retail revenue where calling parties, in response to termination rate-induced retail price increases, switch from their existing Service Provider to the Service Provider that increased the termination rate.[358]

(b) Potential impact on the retail revenue of the calling party's (originating) Service Provider as a result of fewer or shorter calls being made. There is also the possibility that some retail subscribers could switch their Service Provider as a result of the pass-through of the termination rate increase, again leading to a decrease in retail revenues, as discussed in paragraphs 4.10 to 4.107.

RFVC Demand-Side Substitution

4.123 The starting point of an RFVC demand-side substitution analysis for an off-net call to a subscriber of a particular FSP is to examine whether, in response to a SSNIP of FTRs, instead of making such a call, consumers are likely to consider the following as effective substitute forms of communication[359]:

(a) Making a call from a fixed line to a mobile phone (fixed-to-mobile call) (discussed in paragraphs 4.124 to 4.128 below);

(b) Making an on-net mobile-to-mobile call (discussed in paragraphs 4.129 to 4.138 below);

(c) Making an on-net a fixed line to a fixed line (fixed-to-fixed) call (discussed in paragraphs 4.139 to 4.146 below);

(a) Making an unmanaged Voice over Internet Protocol ('**VoIP**') call (discussed in paragraphs 4.147 to 4.167 below);

(b) Sending an SMS or an instant message using OTT applications (discussed in paragraphs 4.168 to 4.177 below);

(c) Sending an email (discussed in paragraphs 4.178 to 4.183 below);

(d) Shortening an off-net call and/or requesting a call back (discussed in paragraphs 4.184 to 4.191 below); and

(e) Delaying making the off-net call to a time when it is cheaper to make that call (discussed in paragraphs 4.192 to 4.194 below).

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[358] Assuming the terminating Service Provider was acting rationally in seeking to maximise profits, ComReg assumes that it would likely increase its termination rates for all calls terminating with it, irrespective of the identity of the calling party's Service Provider i.e. the termination rate increase would be passed on to all originating Service Providers.

[359] Items (d) and (e) while not strictly substitutes nonetheless impact on the profitability of a SSNIP of FTRs.

Make a fixed-to-mobile call instead of an off-net fixed-to-fixed call

4.124 An increase in FTRs by a HM might be unprofitable if, in response, a sufficient number of consumers switched to making a fixed-to-mobile call instead of an off-net fixed-to-fixed call. The motivation for this behaviour would be to avoid the higher cost of off-net fixed-to-fixed calls and, presumably, to take advantage of the potentially lower cost of fixed-to-mobile calls (if this were to be the case).

4.125 Both bundled and standalone RFVC tariff plans typically include a set or unlimited amount of local/national minutes which can be used for calls to subscribers of any FSP.[360] Minutes for calls to mobiles are typically included only in the more expensive RFVC tariff plans.

4.126 If this pricing approach for calls persisted absent regulation, this would likely reduce a consumer's incentive to switch to a fixed-to-mobile call, as the number of bundled minutes is generally far greater for fixed-to-fixed calls than for fixed-to-mobile calls. Moreover, out-of-bundle minutes for fixed-to-fixed voice calls are frequently cheaper than out-of-bundle minutes for fixed-to-mobile calls.[361]

4.127 In this regard, the 2016 Consumer FVCT Market Research suggests that most RFVC subscribers prefer to make fixed-to-fixed and mobile-to-mobile calls as indicated in Figure 57 below. For example, over 70% of residential respondents use their RFVC to make calls to local/national fixed line phones compared to less than 20% for calls to mobile phones.[362] Observed fixed voice traffic patterns[363] indicate that RFVC subscribers predominantly use their fixed line phones for calls to other fixed line phones rather than for calls to mobile phones.

[360] ComReg QKDR data indicate that, in Q3 2018, 49% of fixed voice subscriptions across business and residential customers were for standalone fixed voice, with the remaining 51% of subscriptions forming part of a bundle with other services, such as TV, broadband or mobile. See ComReg QKDR, Q3 2018, ComReg Document, 18/113, page 19.

[361] For example, pursuant to website checks in September 2018 , Eircom's base rates for Out-of-package local & national daytime calls are 9c per minute compared to 29c for out-of-package calls to mobile networks (except for calls to Meteor. See https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf. Similarly, Virgin Media charges 4.5c for local and national calls and 26c for calls to mobile networks for calls from fixed lines. (See https://www.virginmedia.ie/pdf/standard_call_rates_may_2016.pdf)

[362] See slide 43 of the 2016 FVCT Market Consumer Research. Similar patterns are observed from SME RFVC, per slide 32 of the 2016 FVCT Market SME Research.

[363] See Figure 5.

Figure 57: Residential RFVC subscribers' preferences - device use by call type

Access Mode Used for Range of Call Types

(Base: All confirming they have fixed line - 625)

Q. Thinking about the categories of calls you make from your home, please select what you would primarily use for each of the following types of calls. If there are several options which you would primarily use, please select multiple options

Call Types	From Fixed Line Phone In Your Home	From Mobile Phone	From Viber	From Skype	From Whatsapp	From Facetime	From Other App Service For Voice/ Video Calls	Use Any Access Type - No Preference
Calls to local fixed line phones	79%	26%	2%	1%	2%	*	1%	3%
Calls to national fixed line phones	74%	27%	2%	1%	2%	*	1%	5%
Calls to international numbers	51%	25%	10%	15%	11%	6%	2%	13%
Calls to directory enquires	35%	19%	2%	*	4%	*	1%	44%
Calls to 1800 numbers	35%	18%	1%	*	4%	0	*	45%
Calls to (callsave) 1850 or (lo-call) 1890 numbers	35%	18%	1%	*	4%	*	*	44%
Calls to premium rate numbers such as competition lines, quiz shows, horoscope, etc.	32%	18%	2%	*	4%	0	*	48%
Calls to mobile phones on a different network to your mobile phone	19%	79%	5%	3%	7%	2%	1%	5%
Calls to mobile phones on the same network as your mobile phone	17%	86%	3%	1%	5%	2%	1%	3%

Amongst the survey sample of fixed line owners, the most common calls made from a fixed line are to other fixed lines, both local (79%) and national (74%). In terms of calls from mobile, in this survey, calls to other mobiles, same network(86%) and different networks (79%) are made most often.

REDC

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(Q.71)

Conclusion on making a fixed-to-mobile call instead of an off-net fixed-to-fixed call

4.128 Having regard to the analysis set out above, ComReg considers that, in response to an increase in FTRs, insufficient numbers of RFVC subscribers are likely to switch to making a fixed-to-mobile call instead of an off-net fixed-to-fixed call such that it would make the FTR increase unprofitable. ComReg is, therefore, of the view that a fixed-to-mobile call is not likely to pose an effective indirect competitive constraint on FTRs.

Make a mobile-to-mobile call instead of an off-net call to a fixed line

4.129 An increase in FTRs by a HM might be unprofitable if, in response, a sufficient number of consumers substituted making an off-net fixed-to-fixed call or mobile-to-fixed call with a mobile-to-mobile call. The motivation for this behaviour would be to avoid the higher cost of mobile-to-fixed or off-net fixed-to-fixed calls and, presumably, to take advantage of the lower cost of mobile-to-mobile calls.

4.130 The overview of RFVC and RMVC[364] tariff plans indicates that unlimited or set amounts of minutes for calls to any fixed or mobile network are typically included within advertised RFVC/RMVC tariff plans. Furthermore, as noted above, out-of-bundle minutes for fixed-to-fixed voice calls are frequently cheaper than out-of-bundle minutes for mobile-to-mobile calls.[365] If this pricing approach were to continue absent regulation, this would likely reduce a consumer's incentive for switching to a mobile-to-mobile call since the call costs are the same (or higher in case of out-of-bundle calls). Furthermore, as noted earlier,[366] the limited cost and network awareness of end users would also dampen the incentives for making mobile-to-mobile calls instead of either off-net fixed-to-fixed or mobile-to-fixed calls.

[364] See Annex: 8.

[365] For example, in September 2018, Eircom's base rates for out-of-package local & national daytime calls were 9c per minute compared to Virgin Media's rates of 25c for out-of-package calls to mobile networks. See https://www.eir.ie/opencms/export/sites/default/.content/pdf/pricing/Part2.1.pdf and https://www.virginmedia.ie/pdf/Mobile/june/Mobile-Standard-Rates-Online-01062017.pdf. Similarly, Vodafone charges 4.5c for out of bundle local and national calls made from fixed line phones and 35c for out of bundle mobile-to-mobile calls on prepay tariff plans. (See https://www.vodafone.ie/home/broadband/charges and http://www.vodafone.ie/pay-as-you-go-plans/charges/).

[366] See paragraphs 4.37 to 4.63 Consumer/SME network awareness-and paragraphs 4.64 to 4.76 - Consumer/SME awareness of retail voice call cost.

4.131 While ComReg notes the observed trends in originated call traffic and, in particular, declining fixed-to-fixed and increasing mobile-to-mobile traffic,[367] it should also be noted that, in some instances, the called party can only be contacted on a fixed number. For example, where the called party is a business or an administrative body, contacting the called party on their mobile phone may not be a viable alternative to contacting the called party's fixed number. In this regard, ComReg notes that the 2017 Organisation NGN Numbering Research[368] indicated that 76% of organisations using non-Geographic Numbers also provide Geographic Numbers to access the same service compared to 33% who provide mobile numbers, as shown in Figure 58 below.[369] If a respondent had to use an alternative contact method to its main non-Geographic Number, 44% of organisations said they would use a Geographic Number, while only 11% said they would use a mobile number.[370] Similarly, in 2017 Consumer NGN Numbering Research, when consumers were asked what their preferred method of calling organisations would be, 36% of consumers said they would use a Geographic Number, while only 18% said they would prefer to use a mobile number.[371]

[367] See Figure 5 above.

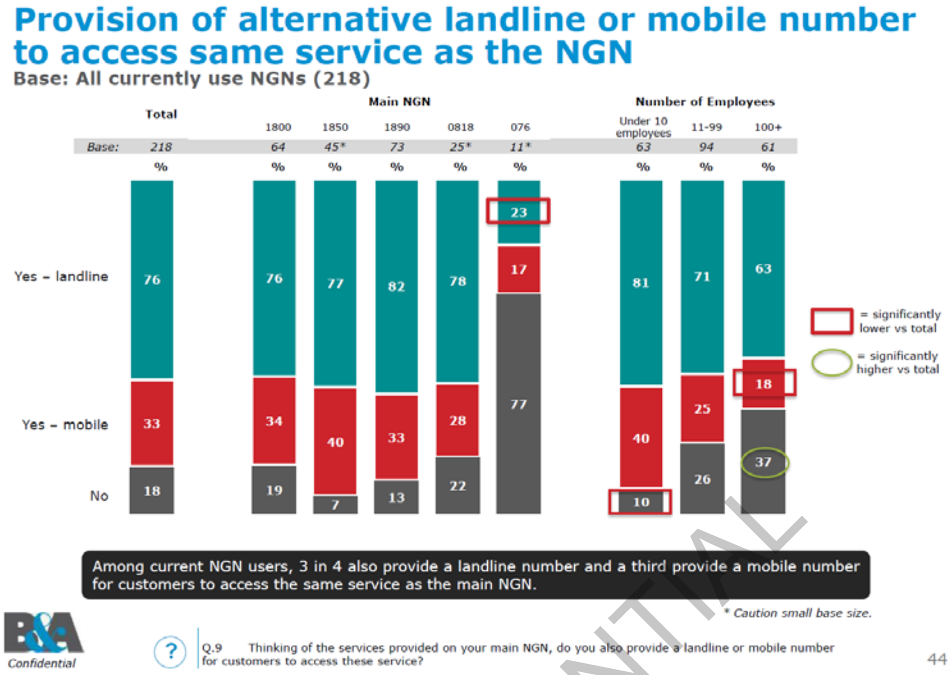
[368] ComReg commissioned a Consumer ('2017 Consumer NGN Numbering Research') and Business ('2017 Organisation NGN Numbering Research') non-Geographic Number Survey in 2017, together the ('2017 NGN Numbering Research') available at: https://www.comreg.ie/publication/ba-consumer-study-non-geographic-numbering/ and https://www.comreg.ie/publication/ba-organisation-study-non-geographic-numbering/

[369] 2017 Organisation NGN Numbering Research, slide 44.

[370] 2017 Organisation NGN Numbering Research, slide 46.

[371] 2017 Consumer NGN Numbering Research, slide 82.

Figure 58: Incidence of businesses providing non-geographic and alternative contact numbers to access the same service



4.132 Furthermore, in areas of poor mobile phone coverage, contacting a called party via mobile might be a less viable alternative. In this regard, ComReg notes that 23% of responding residential RFVC subscribers and 36% of responding SME RFVC subscribers in the 2016 Market Research indicated that poor mobile coverage in their premises was a likely reason for keeping an RFVC subscription.[372]

4.133 As part of the 2016 Market Research, residential and SME RFVC subscribers were asked whether, in response to a 1 cent increase in the cost of calling a subscriber of another FSP, they would consider making more calls from their mobile phones. Of the 30% of residential standalone RFVC subscribers that were likely to change their behaviour and make fewer calls/cancel their RFVC subscription, eleven respondents[373] indicated that making more calls from their mobile phones was one of the actions likely to be considered.

[372] Slide 80 of the 2016 Consumer FVCT Market Research and slide 70 of the 2016 SME FVCT Market Research.

[373] 2016 Consumer FVCT Market Research, slide 89 and Annex: 6 of this Decision. Note, when percentages are represented as a percentage of all surveyed residential standalone RFVC subscribers it equates to 8%. It should be noted that responses related to all calls made from mobile (including mobile-to-fixed calls) and thus, stated responses, may somewhat overestimate the substitution level between fixed-to-fixed and mobile-to-mobile calls.

4.134 Similarly, of the 25% of RFVC subscribers on bundled price plans that were likely to change their behaviour[374] and cancel their bundle of services, five noted that they would make more calls on their mobile.[375]

4.135 SME RFVC subscribers (outside of a bundle) also indicated a low incidence of switching as a result of a 1 cent per minute price increase on off-net fixed-to-fixed calls. 69% of SMEs said they would do nothing and 18% said they would definitely change their behaviour.[376]

4.136 Similarly outside of a bundle, if the cost of a phone call from a fixed line to a mobile phone increased by 1 cent per minute 19%[377] of businesses surveyed said they would definitely change their behaviour if the price of fixed-to-mobile calls increased by 1 cent per minute.

4.137 Similar questions were asked of SMEs with services in a bundle, "If the cost of a phone call from your fixed line to other fixed lines on a different network/different landline provider to you increased by 1 cent per minute?". 17% of business surveyed with a bundle said they would change behaviour if the price of fixed-to-fixed calls increased by 1 cent per minute and 71%[378] said they would not change their behaviour.

Conclusion on making a mobile-to-mobile call instead of an off-net call to a fixed line

4.138 Having regard to the above analysis, ComReg considers that, in response to an increase in FTRs, insufficient numbers of consumers are likely to switch to making a mobile-to-mobile call instead of an off-net fixed-to-fixed call or mobile-to-fixed call such that it would make the FTR increase unprofitable. ComReg is, therefore, of the view that mobile-to-mobile calls are unlikely to pose an effective indirect competitive constraint on FTRs.

[374] n=121.

[375] Note, when percentages are represented as a percentage of all surveyed residential bundled RFVC subscribers, it equates to approximately 1%. It should be noted that responses related to all calls made from mobile (including mobile-to-fixed calls) and thus, stated responses may somewhat overestimate the substitution level between fixed-to-fixed and mobile-to-mobile calls.

[376] 2016 SME FVCT Market Research, slides 78-82.

[377] 2016 SME FVCT Market Research, slides 83-88.

[378] 2016 SME FVCT Market Research, slides 89-94.

Make an on-net fixed-to-fixed call instead of making an off-net call from a fixed line or mobile-to-fixed call

4.139 An increase in FTRs by a HM might be unprofitable if, in response, a sufficient number of consumers switched to making an on-net fixed-to-fixed call[379] instead of an off-net fixed-to-fixed call or mobile-to-fixed call. The motivation for this behaviour might be to avoid the higher cost of calling the fixed line phone from a mobile/off-net fixed line phone and, presumably, to take advantage of the lower cost of an on-net fixed-to-fixed call.

4.140 In order for on-net fixed-to-fixed calls to be a viable substitute, it would be necessary for either the calling party or the called party to have multiple RFVC subscriptions, one of which must be with the same FSP for both parties. Given the costs involved in maintaining two or more RFVC subscriptions, ComReg considers that this is unlikely to be a viable alternative for residential RFVC subscribers.[380]

4.141 Alternatively, subscribers could switch RFVC provider to be on the same network as their call recipients – thereby allowing the calling party to avail of cheaper on-net call charges.[381] ComReg recognises that this may be a viable option for some subscribers, in particular, those that are price sensitive and make a sufficiently large number of calls to subscribers of the same FSP (although there may be switching costs, such as those involved in breaking a minimum term contract). For example, in the case of personal users making frequent calls to the same friends/family circles or, in the case of SMEs, employee to employee calls. Such customer switching in response to increases in FTRs would impact the calling party's Service Provider as well as the terminating FSP.

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[379] On-net fixed-to-fixed calls do not involve an explicit termination payment as the calling party's FSP is the same as that of the called party.

[380] SME RFVC subscribers are more likely to purchase multiple fixed line phone connections to deal with high call volumes, fulfil different requirements (e.g. separate connection for alarm) and provide fixed line phone connections to multiple premises *rather than* for the purpose of making more on-net fixed-to-fixed calls. See slide 14 and 15 of the 2016 SME FVCT Market Research.

[381] In case of consumers purchasing RMVC services only, such consumers would have to purchase RFVC from the called party's FSP in order to make on-net fixed-to-fixed calls.

4.142 As discussed in the analysis of RFVC pricing structures, FSPs generally do not differentiate charges for out-of-bundle on-net and off-net calls to fixed line phones, with many RFVC tariff plans offering specific or unlimited amounts of free minutes to any RFVC.[382] If the pricing approach for these calls continued absent regulation, this would likely reduce a consumer's incentive for switching to an on-net fixed-to-fixed call since the costs are the same regardless of the identity of the called party's FSP. Furthermore, as noted earlier, the limited cost and network awareness of end users would also dampen incentives for switching FSP providers.

4.143 As part of the 2016 Market Research, residential and SME RFVC subscribers were asked whether, in response to a 1 cent increase in the cost of calling a subscriber of another FSP, they would consider cancelling their current RFVC subscription. Of the 30% of 132 residential standalone RFVC subscribers that were likely to change their behaviour,[383] 29% (11 respondents) indicated that they would cancel their subscription.[384] Similarly, of the 25% of 485 bundled RFVC subscribers that were likely to change their behaviour 21% of these (24 respondents) indicated that they would cancel their bundle of services.[385]

4.144 SME RFVC subscribers also indicated a low incidence of cancelling their subscription in response to a 1 cent increase in the price of calling a subscriber of another FSP.[386] Of the 31% of 201 SME standalone RFVC subscribers that were likely to change their behaviour, 15% (9 respondents) indicated that they would cancel their subscription.

4.145 Similarly, of the 29% of 243 bundled SME RFVC subscribers that were likely to change their behaviour, 12%[387] (8 respondents) indicated that they would cancel their bundle of services.

[382] As described above at paragraphs 4.26 to 4.30.

[383] 30% (n=39) of surveyed residential standalone RFVC subscribers.

[384] 2016 Consumer FVCT Market Research, slide 89. Note, when percentages are represented as a percentage of all surveyed residential standalone RFVC subscribers it equates to 8%.

[385] 2016 Consumer FVCT Market Research, slide 101. Note, when percentages are represented as a percentage of all surveyed residential bundled RFVC subscribers it equates to 5%.

[386] 2016 SME FVCT Market Research, slides 79 and 80.

[387] 2016 SME FVCT Market Research, slide 90.

Conclusion on making an on-net fixed-to-fixed call instead of making an off-net call from a fixed line or mobile-to-fixed call

4.146 Having regard to the analysis set out above, ComReg considers that insufficient numbers of consumers are likely to switch to making an on-net fixed-to-fixed call instead of an off-net fixed-to-fixed or mobile-to-fixed call, in response to an increase in FTRs, such that it would make the FTR increase unprofitable. ComReg is, therefore, of the view that an on-net fixed-to-fixed call is not likely to pose an effective indirect competitive constraint on FTRs.

Make an unmanaged VoIP call instead of making an off-net call to a fixed line

4.147 A HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making an unmanaged VoIP-to-VoIP call instead of a traditional call to a RFVC subscriber such that it would make the FTR increase unprofitable. The rationale for doing so would be to avoid the retail costs associated with making an off-net fixed-to-fixed or by bypassing the FTR charged for supplying FVCT services.

4.148 Calls via unmanaged VoIP services are typically free when calling other unmanaged VoIP users, but incur a cost when calling a retail telephony service subscriber (both RFVC and RMVC subscribers).[388] Unmanaged VoIP services are frequently used by end users via devices connected to the Internet (such as PCs, laptops, smartphones, tablets etc.) in order to communicate with other users on these devices.

[388] For example, see Skype call rates at https://secure.skype.com/en/calling-rates?wt.mc_id=revamp&expo365=empty.

4.149 For an unmanaged VoIP-to-VoIP call to act as a potential effective substitute for a traditional call to a fixed line phone, both the calling and the called party would need to have a data/broadband subscription,[389] a device connected to the Internet and the same unmanaged VoIP Service Provider.[390] While unmanaged VoIP-to-VoIP calls are typically free and do not incur an FTR, both the calling and called party may incur costs associated with data usage. Hence, unlike the CPP principle, the called party may face some costs (particularly when RMVC/broadband plans include limited amounts of inclusive free data). This could impact their behaviour when receiving unmanaged VoIP calls, for instance, if a call is transmitted over a mobile network, rather than over WiFi.

4.150 In this regard, ComReg notes that, according to Eurostat, 70% of individuals access[391] the Internet every day or almost every day in the State as at 2017,[392] thus indicating that, for 30% of end users, the receipt of an unmanaged VoIP call is not likely to be a viable solution.

4.151 In addition, it is questionable whether the quality of an unmanaged VoIP call would be sufficiently similar to a traditional voice call such that consumers would use them interchangeably.[393] Quality of service issues may arise when using VoIP services on an unmanaged data network as bit rate error and latency issues can degrade call quality on VoIP services. Were this to occur often, in ComReg's view such functional differences between unmanaged VoIP and traditional voice call would likely undermine consumer usage of unmanaged VoIP calls as a substitute for traditional calling methods.

[389] It is possible to make a call originating on VoIP technology directly to a fixed number without the called party having a data/broadband subscription; however, this would not bypass the terminating network's FTR. The use of such VoIP calls is not, therefore, likely to place a sufficient constraint on the FTR price-setting behaviour of a HM.

[390] Currently, it is not possible to make calls between users of different unmanaged VoIP OTT applications.

[391] Defined as accessing Internet every day or almost every day on average within the last three months before the survey.

[392] See http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tin00092&plugin=1.

[393] The International Telecommunications Union (ITU) has, in Recommendation P.862.1, set out methods for objective and subjective assessment of voice call quality: https://www.itu.int/rec/dologin_pub.asp?lang=e&id=T-REC-P.862.1-200311-I!!PDF-E&type=items

4.152 As part of the 2016 Market Research, residential and SME retail end users were asked whether they use OTT applications for voice or video calls. 39% of residential respondents[394] and 80% of SME respondents noted that they do not use unmanaged VoIP services for making/receiving calls.[395] The most frequently cited reasons for not doing so by residential respondents were preferences for making calls from mobile or fixed line phones.[396] The relatively low level of usage of unmanaged VoIP services implies that it is unlikely to be perceived as an effective substitute by calling parties for a sufficient volume of calls, such that it would make an FTR increase unprofitable.

4.153 In this regard, residential and SME RFVC subscribers were asked whether, in response to a 1 cent increase in the cost of calling a subscriber of another FSP, they would consider making more voice or video calls using OTT applications instead. Of the 30% of 132 residential standalone RFVC subscribers that were likely to change their behaviour, 5 respondents[397] indicated that making more voice/video calls via OTT applications was one of the actions likely to be considered. Similarly, of bundled RFVC subscribers that were likely to change their behaviour and cancel or downgrade their bundle of services, 11 respondents indicated that making more voice/video calls via OTT applications was one of the actions likely to be considered.[398]

4.154 SME RFVC subscribers also indicated a low incidence of switching to making more voice/video calls via OTT applications in response to a 1 cent increase in the price of calling a subscriber of another FSP.[399] Of the 31% of 201 SME standalone RFVC subscribers that were likely to change their behaviour, 6 respondents indicated that they would make unmanaged VoIP-to-VoIP calls instead. Similarly, of the 29% of 243 bundled SME RFVC subscribers that were likely to change their behaviour, 12 respondents indicated that they would make unmanaged VoIP-to-VoIP calls instead.

[394] 2016 Consumer FVCT Market Research, slide 32.

[395] 2016 SME FVCT Market Research, slide 34.

[396] 59% and 32% of residential respondents not using OTT applications respectively selected these reasons as likely reasons for not communicating via OTT applications. See slide 36 of the 2016 Consumer FVCT Market Research.

[397] 2016 Consumer FVCT Market Research, slide 91 and Annex: 6 of this Decision. Note, when percentages are represented as a percentage of all surveyed residential standalone RFVC subscribers it equates to 4%.

[398] 2016 Consumer FVCT Market Research, slide 103 and Annex: 6 of this Decision. Note, when percentages are represented as a percentage of all surveyed residential bundled RFVC subscribers, it equates to 2.2%.

[399] 2016 SME FVCT Market Research, slides 80 and 81.

4.155 According to the Ireland Communicates Consumer Survey 2017, of those surveyed (n=1,468) who make unmanaged VoIP-to-VoIP calls (n=677), 12% now make fewer traditional fixed voice calls while 4% have ceased making traditional fixed line calls. For 43% of those who make unmanaged VoIP-to-VoIP calls, the number of traditional calls which they make has not been impacted.[400]

4.156 Thus, the overall percentage of survey respondents who have reduced the number of traditional fixed line calls they make arising from VoIP use is as follows. 5.5% of the total survey sample make fewer traditional fixed line calls and 1.8% of the total survey sample have ceased making traditional fixed line calls, due to the impact of unmanaged VoIP-to-VoIP calls.

ComReg's Consideration of Respondents' Views

4.157 In its Submission, Eircom stated that ComReg did not adequately consider whether potential switching actions such as making calls to a mobile or through an OTT application would be effective demand side substitutes for calls from a landline to a landline on another network[401]. In this regard Eircom referred to paragraph 1.7 of Annex 1 of Consultation[402] which was based on slide 88 of the 2016 Consumer FVCT Research, which stated that:

> *"70% of users of a non-bundled fixed line service that were surveyed say that they would not change their behaviour due to a 1 cent per minute price increase on calls from landline to landlines on another network, 14% say they might and 16% say they definitely would change behaviour".*

4.158 Further, Eircom referred to slide 100 of the 2016 Consumer FVCT Market Research which found that 8% of those who purchase fixed line telephone services in a bundle said that they would definitely change their behaviour due to a 1 cent per minute price increase in calls from their landline to landlines on another network, while 17% said that they might change their behaviour.

4.159 Eircom submitted that in the case of landline services purchased, both on a non-bundled and bundled basis, the proportion of consumers that would or might consider switching is not insignificant, with the suggestion being that this would make a SSNIP by a HM unprofitable. On this basis Eircom maintained that the conclusions that ComReg have reached are inconsistent with the results of the 2016 Market Research.

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[400] Ireland Communicates Survey 2017 – Consumer, slide 39.

[401] Eircom Submission paragraph 15, 16, and 17 page 10 and 11

[402] Paragraph A6.8 of Annex: 6 of this Decision notes that in response to a 1 cent increase in the price of a RFVC 16% of consumer respondents purchasing standalone RFVC stated that they would **definitely** change their behaviour, with a further 14% noting that they **might** change their behaviour".

4.160 ComReg does not agree that its conclusions are inconsistent with the 2016 Consumer FVCT Research. The potential switching actions of responding residential RFVC subscribers (i.e., users making a landline to landline calls) are summarised in Table 1.1 (paragraph A6.11) of Annex: 6[403]. The total number of residential respondents with a fixed line phone who provided responses regarding switching behaviour was 617. Of this total, 132 users had purchased fixed line services on an non-bundled basis (referred to as standalone RFVC subscribers Annex: 6) while 485 of the 617 had purchased fixed line services on a bundled basis (referred to as bundled RFCV subscribers in Annex: 6).

4.161 With regard to standalone RFVC subscribers, 39 of these (30%) said they definitely would or might change behaviour as a result of a 1 cent per minute increase in the price of a landline to landline call. 11 users out of these 39 indicated that they would cancel their subscription[404]. Of the 11 users who said they would cancel their subscriptions[405]:

(a) 52% of these (i.e., 6 users) indicated that would use a mobile phone instead;

(b) 38% of these (i.e., 4 users) would switch to a supplier offering an OTT Internet service; and

(c) 10% (i.e., 1 user) would instead use a mobile phone for calls and mobile broadband/a data card for Internet.

4.162 With regard to landline to landline calls made by those who purchased a fixed line service as part of a bundle (i.e., bundled RFCV subscribers), 75% of the 485 users surveyed said they would not change their behaviour if landline calls to landlines on other networks were to increase by 1 cent per minute. This leaves 25% (or a sample size of 121) who might or definitely would change their behaviour. Of these 121 users only 21% (24 users) said they would actually cancel the service while 43% said they would keep their current supplier but downgrade to a cheaper bundle. Of the 24 users who said they would cancel their subscription:

(a) 42% of these (i.e. 10 users) said that they would use their mobile phone instead;

(b) 35% of these (i.e. 9 of the users) said they would switch to a supplier offering an OTT Internet service; and

[403] See paragraph A6.11

[404] A further 19 of 39 said they would keep their subscription, but reduce the number of calls made or downgrade to a cheaper bundle, while 7 would do nothing and 2 would do something else.

[405] See 2016 Consumer MVCT Market Research, slide 89

(c) 16% (i.e. 4 of the users) said they would use their mobile for calls and mobile broadband/a data card for Internet

4.163 ComReg notes that it is also important to consider the total number of users of fixed line services including those making landline to landline calls on a stand-alone or non-bundled basis and those making landline to landline calls as part of a bundled service. With reference to the 2016 Consumer FVCT Market Research, ComReg notes that of a total sample of 617 users making landline to landline calls on a non-bundled and bundled basis 74% would not change their behaviour if landline calls to landlines on other networks were to increase by 1 cent per minute, while 26% of all users might or definitely would change their behaviour,

4.164 Of the total 617 Residential standalone and bundled RFVC subscribers who responded to questions about switching behaviour:

(a) Only 3% said they would cancel their subscription and use their mobile phone instead in response to a 1 cent per minute increase in the price of a landline to landline call;

(b) Only 2% said they would cancel their subscription and switch to a supplier offering an OTT Internet service in response to a 1 cent per minute increase in the price of a landline to landline call; and

(c) Only 1% said they would cancel their subscription and use mobile for calls and mobile broadband/a data card for Internet in response to a 1 cent per minute increase in the price of a landline to landline call.

4.165 ComReg maintains that Eircom can therefore not reasonably assert, without further evidence, that the results of the 2016 FVCT Market Research are sufficiently indicative that substitution to unmanaged VoIP or making calls from a mobile instead would pose an effective competitive constraint on the FTR setting behaviour of a HM supplier of FVCT. Eircom have not provided any such further evidence.

4.166 ComReg has noted that the 2016 Market Research is not sufficient in itself to draw definitive conclusions regarding consumer preferences. ComReg also notes that stated consumer behaviour may diverge from actual consumer behaviour in practice. Therefore, such results are considered alongside other evidence, where available, in this Decision. When considering all available evidence ComReg maintains its position that substitution to alternative forms of communication such as unmanaged VoIP, instant messaging using an OTT application or making calls from mobiles instead, either individually or collectively, is unlikely to pose a sufficiently effective competitive indirect constraint on the FTR setting behaviour of a HM supplier of FVCT (see paragraphs A11.28 to A11.34).

Conclusion on making an unmanaged VoIP call instead of an off-net call to a fixed line

4.167 The 2016 Market Research asked respondents whether, in the context of a SSNIP, they would switch to making an unmanaged VoIP-to-VoIP call. Having regard to the analysis set out above, ComReg considers that, in response to an increase in FTRs, insufficient numbers of consumers are likely to switch to making an unmanaged VoIP-to-VoIP call instead of an off-net call to a fixed line, such that it would make the FTR increase unprofitable. ComReg has not seen or been presented with any meaningful evidence that would indicate that end-user attitudes have changed to a sufficiently significant extent such that it may materially affect ComReg's overall analysis and conclusions set out in this Decision. ComReg's position is, therefore, that an unmanaged VoIP-to-VoIP call is not likely to pose an effective indirect competitive constraint on a HM supplier of FVCT (and FTRs).

Send an off-net SMS or instant message using an OTT application instead of making an off-net call to a fixed line

4.168 A HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers were to switch to sending an SMS[406] or instant message using an OTT application, instead of making a call to a RFVC subscriber. The rationale for doing so would be to avoid the retail cost associated with making an off-net fixed-to-fixed call or mobile-to-fixed call.

4.169 ComReg's position is that there are sufficient functional differences between making an off-net fixed-to-fixed or mobile-to-fixed call and sending an off-net SMS or instant message using an OTT application.

4.170 There is typically a restriction on how much detail a person can communicate in a SMS as a maximum of 160 characters can be sent in an individual SMS. This means that a consumer may not be able to transfer in one message all of the information that could be imparted through a call. However, this could be overcome by sending multiple SMS messages - although a charge could potentially be incurred for each SMS.[407]

[406] The level of fixed line originated SMS is virtually non-existent and this is not likely to change within the short to medium term. Therefore, ComReg does not consider fixed SMS in this analysis, given that its impact is likely to be extremely low.

[407] The analysis of retail pricing structures for RMVC in paragraphs 4.31 to 4.36 indicates that the majority of RMVC tariffs offer unlimited or a set amount of free text messages.

4.171 Moreover, SMS messages are sent on a 'store and forward' basis meaning that there may be a delay in the recipient receiving a text (i.e. it is not a real-time communication). In contrast, a voice conversation is immediate and occurs at the point in time when the call recipient answers the incoming call. These functional differences suggest that an SMS is not likely to be considered by a sufficient number of people to be a close substitute to an off-net call to a fixed line phone (although it is recognised by ComReg that some people may consider them to be, particularly for short calls or where real-time communication is not important).

4.172 The observed change in SMS volumes also indicates that this form of communication is in decline, with the number of sent SMSs decreasing by 21.1% in the period Q3 2016 to Q3 2018. SMS volumes have declined significantly since the 2012 FVCT Consultation, falling by 64.3% since Q3 2012. Fixed-to-fixed call volumes since Q3 2012 have fallen by 59%, while mobile-to-fixed call volumes have increased by 24.2% over the same time period.

4.173 Conversely, sending instant messages using OTT applications is becoming more popular with 58% of residential consumers indicating that they use this form of communication every day or every couple of days.[408] Instant messages typically have a much higher character limit than text messages. However, the conditions required for making instant messages are similar to the conditions for making unmanaged VoIP to VoIP calls. For example, in order for the calling and called (or sending and receiving) parties to communicate via instant messaging, both parties would require a device connected to the Internet (e.g. smartphone or tablet), a data allowance on a purchased RMVC tariff plan or broadband subscription and the same OTT application for sending and receiving instant messages. Moreover, instant messages are similar to SMS in that there may be a delay in the recipient response to a received instant message i.e. it is not a real-time form of communication.[409]

[408] 2016 Consumer FVCT Market Research, slide 34.

Similarly, the Ireland Communicates Survey 2017 – Consumer, slide 32 indicated that 60% of consumer respondents used instant messaging.

[409] This might occur when the recipient is not online when the originating party sends an instant message.

4.174 As part of the 2016 Market Research, residential and SME RFVC subscribers were asked whether, in response to a 1 cent increase in the cost of calling a subscriber of another FSP, they would consider sending an SMS or OTT instant message instead. Of the 30% of 132 residential standalone RFVC subscribers that were likely to change their behaviour and make fewer calls/cancel their RFVC subscription, 25% (7 respondents) indicated that sending more SMS messages was one of the actions likely to be considered.[410] Similarly, of the 25% of 485 bundled RFVC subscribers that were likely to change their behaviour and cancel their bundle of services, 9% (11 respondents) indicated that they would send more texts instead.[411]

4.175 SME RFVC subscribers also indicated a low incidence of sending text messages in response to a 1 cent increase in the price of calling a subscriber of another FSP.[412] Of the 31% of 201 SME standalone RFVC subscribers that were likely to change their behaviour, 9 respondents indicated that they would send more text messages instead. Similarly, of the 29% of 243 bundled SME RFVC subscribers that were likely to change their behaviour, 16 respondents indicated that they would send more text messages instead.

4.176 According to the Ireland Communicates Consumer Survey 2017, 72% of those who send instant messages noted that they expect to send the same or less instant messages over 3G/4G (as distinct from over WiFi) in the coming 12 months while 23% expect the number of instant messages sent to increase somewhat or significantly.[413,414]

[410] 2016 Consumer FVCT Market Research, slide 91. Note, when percentages are represented as a percentage of all surveyed residential standalone RFVC subscribers it equates to 5%.

[411] 2016 Consumer FVCT Market Research, slide 104. Note, when percentages are represented as a percentage of all surveyed residential bundled RFVC subscribers, it equates to 0.6% and 0.2% respectively.

[412] 2016 SME FVCT Market Research, slides 80 and 81.

[413] Ireland Communicates Survey 2017 – Consumer, slide 37.

[414] 40% of the total sample size expect to send the same or less instant messages over 3G/4G (as distinct from WiFi) in the coming 12 months while 13% expect the number of instant messages sent to increase somewhat or significantly.

Conclusion on sending an off-net SMS or instant message using an OTT application instead of making an off-net call to a fixed line

4.177 Having regard to the analysis set out above, ComReg considers that, in response to an increase in FTRs, insufficient numbers of consumers are likely to switch to sending an SMS or instant message using OTT applications[415] instead of a call to a fixed-line phone such that it would make the FTR increase unprofitable. ComReg has not seen or been presented with any meaningful evidence that would indicate that end-user attitudes have changed to a sufficiently significant extent such that it may materially affect ComReg's overall analysis and conclusions set out in this Decision. ComReg's position is, therefore, that an SMS/Instant Message via OTT applications is not likely to pose an effective indirect competitive constraint on FTRs.

Send an email instead of making an off-net call to a fixed line

4.178 A HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers were to switch to sending an email instead of making an off-net call to a RFVC subscriber. The rationale for sending an email would be to avoid the retail cost associated with making an off-net fixed-to-fixed call or mobile-to-fixed call.

4.179 Email has similar functional characteristics to a text message in that it is not a real-time application. There are, however, some differences. First, for a called party to receive an email it would need to have access to a PC, laptop, smartphone or tablet to communicate with other users. Second, there is no limit on the number of characters that can be sent in an email.

4.180 As part of the 2016 Market Research, residential and SME RFVC subscribers were asked whether, in response to a 1 cent increase in the cost of calling a subscriber of another FSP, they would consider sending an email/using the Internet for social media instead. Of the 30% of 132 residential standalone RFVC subscribers that were likely to change their behaviour[416] and make fewer calls/cancel RFVC subscription, five respondents indicated that sending an email/using the Internet for social media or instant messaging was one of the actions likely to be considered.[417]

[415] ComReg considers that, similar to an instant message, use of social media is unlikely to make an FTR increase unprofitable.

[416] 30% (n=39) of surveyed residential standalone RFVC subscribers.

[417] 2016 Consumer FVCT Market Research, slide 91. Note, when percentages are represented as a percentage of all surveyed residential standalone RFVC subscribers it equates to 4%.

4.181 SME RFVC subscribers also indicated a low incidence of switching to sending emails or using the Internet in response to a 1 cent increase in the price of calling a subscriber of another FSP.[418] Of the 31% of 201 SME standalone RFVC subscribers that were likely to change their behaviour, 13 respondents indicated that they would send emails or use the Internet instead. Similarly, of the 29% of 243 bundled SME RFVC subscribers that were likely to change their behaviour, 17 respondents indicated that they would send emails or use the Internet instead.

4.182 While some consumers may consider email[419] to be a potential substitute to calling a fixed line phone, particularly for short calls or where immediacy of contact is not a priority, ComReg's view is that this is not likely to be the case for a sufficient number of consumers. Limited consumer cost and network awareness is also likely to impact the degree to which consumers would be incentivised to use email as a potential substitute for a call to a fixed line phone.

Conclusion on sending an email instead of making an off-net call to a fixed line

4.183 Having regard to the analysis set out above, ComReg considers that, in response to an increase in FTRs, an insufficient numbers of end users are likely to switch to sending an email instead of an off-net call to a fixed line phone, such that it would make the FTR increase unprofitable. ComReg's position is therefore that email is not likely to pose an effective indirect competitive constraint on FTRs.

Shorten calls or request a call back instead of making an off-net call to a fixed line

4.184 A HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers made shorter calls or requested a call back (i.e. by leaving a voicemail). The intention in using either of these alternatives would be to reduce the length of communication and, consequently, lower costs.

4.185 An individual could keep calls deliberately short resulting in a lower overall retail charge for the call, given the reduced call duration. A person could also phone directly through to a called party's voice mailbox with the express intention of shortening the call and having the voicemail recipient call them back.

[418] 2016 SME FVCT Market Research, slides 80 and 81.

[419] Similarly, an email could be sent from a laptop/PC or other device. However, ComReg considers that such forms of communication also lack the immediacy of contact that is facilitated by a call.

4.186 ComReg notes that the practices of shortening a call or leaving a voicemail still involve the payment of a FTR by the originating Service Provider to the call/voicemail recipient's FSP, although termination revenues would be lower, having regard to the duration of a call. The question is whether, in response to the pass-through of an FTR increase into off-net fixed voice call charges, a sufficient number of callers would engage in this practice such that it would make the FTR increase unprofitable (when also considered in light of the extra FTR revenue accruing from those callers whose calling patterns remained unchanged).

4.187 In order for a call back to be successful, (either in response to a voicemail or through a specific service offered by Service Providers), the calling party and the called party must agree that a return-call will be made. The success of call back requires that the call recipient is willing to become the caller and pay the cost of making the call, including the termination charges. The CPP principle means that the called party pays no contribution towards the cost of the call.

4.188 The 2016 Market Research did not ask residential and SME RFVC subscribers whether, in response to a 1 cent increase in the cost of calling a subscriber of another FSP, they would consider reducing the length of the call/make fewer calls. It did ask, however, whether subscribers would make less calls on their landline, or send more emails and call-me texts. Of the 30% of 132 residential standalone RFVC subscribers that were likely to change their behaviour,[420] five respondents indicated that making fewer calls from fixed line phones was one of the actions likely to be considered, while another two indicated that they would send more emails or call-me texts.[421] Similarly, of the 25% of 485 bundled RFVC subscribers that were likely to change their behaviour and cancel/downgrade their bundle of services, 11 respondents indicated that they would keep their bundle, but reduce their out of bundle spending on calls.

4.189 SME RFVC subscribers also reported a low incidence of reducing the number of calls from their fixed line phone in response to a 1 cent price increase for calling a subscriber of another FSP.[422]

4.190 Cost/network awareness issues discussed in paragraphs 4.37 to 4.76 above, are also likely to impact the degree to which consumers would shorten the length of calls or request a call back.

[420] 30% (n=39) of surveyed residential standalone RFVC subscribers.

[421] 2016 Consumer FVCT Market Research, slide 89 and Annex: 6 of this Decision. Note, when percentages are represented as a percentage of all surveyed residential standalone RFVC subscribers it equates to 14%. It should be noted, however, that is not possible to quantify the extent to which respondents would reduce the number of calls they make.

[422] 2016 SME FVCT Market Research, slide 70.

Conclusion on shortening calls or requesting call back instead of making an off-net call to a fixed line

4.191 Having regard to the analysis set out above, ComReg considers that, in response to an increase in FTRs, insufficient numbers of consumers are likely to shorten call lengths and/or request a call back such that it would make the FTR increase unprofitable. ComReg's position is therefore that shortening call lengths and/or requesting call backs are not likely to pose an effective indirect competitive constraint on FTRs.

Delay making the off-net fixed line call to a time of day/week when the cost is cheaper

4.192 A HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making calls at a time of day when the cost of a call may be cheaper.

4.193 Delaying making an off-net call to a RFVC subscriber to a time of day when it is cheaper may be a viable alternative for some consumers, particularly where immediacy of contact is not a priority. As noted in the discussion of retail pricing structures above, in some entry-level RFVC tariff plans inclusive minutes apply only for calls made during off-peak times. However, these packages tend to offer unlimited or large amounts of inclusive local/national call minutes to fixed numbers. Thus, while calling parties might defer some of their voice calls to cheaper times of the day/week, the availability of unlimited or large amounts of inclusive minutes for such periods could result in a reduction in, rather than an elimination of, FVCT revenue,[423] as at the wholesale level an off-peak/weekend FTR is still levied by various operators, including Eircom, as set out in the RIO and STRPL.[424] Limited consumer cost and network awareness, as discussed above, is also likely to impact the degree to which consumers would be incentivised to delay making a call to an RFVC subscriber.

[423] The reduction in FVCT revenue for the call would be calculated having regard to the difference between the peak FTR and off-peak/weekend FTR multiplied by the call duration.

[424] The RIO is the Reference Interconnect Offer, which sets out the interconnection services which an FSP or MSP offers to other Service Providers wishing to interconnect with it, and the prices which it charges for these services. The STRPL (Switched Transit Routing and Price List) is a document published by openeir, Eircom's wholesale business. According to page 7 thereof, it *"contains details of the services terminating on the networks of Authorised Operators who have requested openeir to open number ranges that have been granted to them by the National regulator in the Numbering Plan."*

Conclusion on delaying making the off-net fixed line call to a time of day/week when the cost is cheaper

4.194 Having regard to the analysis set out above, ComReg considers that, in response to an increase in FTRs, insufficient numbers of consumers are likely to switch to making a mobile-to-fixed or an off-net fixed-to-fixed call at a time when call costs are lower such that it would make an FTR increase unprofitable. ComReg's position is therefore that delaying calls is not likely to pose an effective competitive constraint on FTRs.

Conclusion on fixed retail demand-side substitution

4.195 Having regard to the factors likely to impact retail consumer behaviour on the Relevant FVCT Markets, ComReg has considered in paragraphs 4.124 to 4.194 whether the following are likely to be effective retail demand-side substitutes for an off-net fixed-to-fixed call or a mobile-to-fixed call and whether they would act as an effective indirect constraint on a SSNIP by a HM:

(a) Making a fixed-to-mobile call instead;

(b) Making a mobile-to-mobile call instead;

(c) Making an on-net fixed-to-fixed call instead;

(d) Making an unmanaged VoIP-to-VoIP call instead;

(e) Sending an off-net SMS or Instant Message using OTT application;

(f) Sending an email;

(g) Shortening calls or requesting a call back; and

(h) Delaying a call to a time of day when the cost of making calls to fixed line phones is lower.

4.196 ComReg considers that substitution to the alternative forms of communication listed above, either individually or collectively, is unlikely to pose a sufficiently effective competitive indirect constraint on the FTR setting behaviour of a HM supplier of FVCT (or on the profitability of a SSNIP).

4.197 Having regard to the information available, it is also ComReg's view that this position is not likely to change sufficiently in the immediate to medium term, such that it would give rise to a different view over the lifetime of this market review (typically a three-year time horizon).

RMVC Demand-Side Substitution

4.198 The starting point of an RMVC demand-side substitution analysis for an off-net call to a mobile subscriber of a particular Service Provider is to examine whether, in response to a SSNIP of MTRs, instead of making such a call consumers are likely to consider the following as effective substitute forms of communication:

(a) Make a mobile-to-fixed instead of an off-net mobile-to-mobile call (discussed in paragraphs 4.199 to 4.207 below);

(b) Make a fixed-to-fixed call instead of an off-net mobile call (discussed in paragraphs 4.208 to 4.212 below);

(c) Make an on-net mobile-to-mobile call instead of an off-net mobile call (discussed in paragraphs 4.213 to 4.223 below);

(d) Make an unmanaged VoIP call instead of an off-net mobile call (discussed in paragraphs 4.224 to 4.243 below);

(e) Send an off-net SMS or instant message using an OTT application instead of making an off-net mobile call (discussed in paragraphs 4.244 to 4.250 below);

(f) Send an email instead of making an off-net mobile call (discussed in paragraphs 4.251 to 4.256 below);

(g) Shorten calls or request a call back instead of making an off-net mobile call (discussed in paragraphs 4.257 to 4.263 below); and

(h) Delay making the off-net mobile call to a time of day/week when the cost is cheaper (discussed in paragraphs 4.264 to 4.267 below).

Make a mobile-to-fixed instead of an off-net mobile-to-mobile call

4.199 An increase in MTRs by a HM might be unprofitable if, in response, a sufficient number of consumers switched to making a mobile-to-fixed instead of an off-net mobile-to-mobile call. The motivation for this behaviour would be to avoid the higher cost of the off-net mobile call and, presumably, to take advantage of the lower cost of a mobile call to a fixed line.

4.200 RMVC tariff plans are such that the costs of making an off-net call to a mobile and landline are largely the same across both prepay and bill pay price plans. In addition, bill pay customers' basic tariffs (and prepay customers to a lesser extent) include varying amounts of bundled minutes which can be used for calls to subscribers of any Service Provider. If this off-network pricing approach were to persist absent regulation, this would likely reduce a consumer's incentive to switch to a mobile-to-fixed call since the costs are the same irrespective of the identity of the called party's Service Provider (see Annex: 8 below).

4.201 ComReg also considers that an insufficient number of RMVC subscribers are likely to consider a mobile-to-fixed call as a viable alternative to an off-net mobile-to-mobile call. ComReg's position is that this is because the characteristics of RFTS and RMTS are different for the reasons set out below.

4.202 Fixed line phones are typically associated with static locations such as households and businesses, whereas mobile phones are associated with individuals who may be on the move.[425] This means that RMVC subscribers are contactable and can make and receive calls, irrespective of location. Thus, it is more likely that an individual can have immediate contact with a called party when contacting them on their mobile, than is the case for calls to fixed lines.

4.203 Given that RMVC subscribers are, in ComReg's view, likely to consider immediacy of contact to be a priority when making a call,[426] this suggests that, in the case of mobile-to-fixed calls, there is a sufficient possibility that contact would not be made at all or in a timely fashion, for example, because the called individual is not present at the fixed line location.[427]

4.204 Landline ownership also impacts the degree to which RMVC subscribers can substitute off-net mobile-to-mobile calls with mobile-to-fixed calls. As noted in paragraph 3.31 above, the number of fixed voice subscriptions has been decreasing in recent quarters (since Q1 2015). The 2016 Market Research indicated that 54%[428] of residential consumers[429] and 89%[430] of SME consumers with mobile phones indicated that they had a fixed line at their premises.[431] This suggests that, even if RMVC subscribers were to make a mobile-to-fixed call instead of an off-net mobile-to-mobile call, it is only likely to be potentially viable for a subset of called parties (assuming that the called party immediately answers the call).

[425] Converged services allow customers that wish to be contactable on a Geographic Number, also to be able to receive calls to that Geographic Number on their mobile phone if the call is not answered via landline.

[426] Given that other forms of communications such as a text message (SMS or instant message using OTT application) and/or email typically involve a less immediate response.

[427] In this regard, ComReg notes that only 17% of consumer respondents indicated that they avail of converged services. See slide 46 of the 2016 Consumer FVCT Market Research.

[428] 2016 Consumer MVCT Market Research, Slide 60.

[429] Among respondents aged 34 and under, the level of landline ownership is even lower, at 39%.

[430] 2016 SME MVCT Market Research, Slide 80.

[431] 2016 Consumer MVCT Market Research, slide 60 and slide 80 of the 2016 SME MVCT Market Research.

4.205 Observed mobile voice traffic patterns indicate that the majority of calls made by RMVC subscribers are (on- and off-net) mobile-to-mobile calls. In Q3 2018 34% of all mobile originated calls were off-net mobile-to-mobile calls compared to 12% for mobile-to-fixed calls.[432] Mobile-to-fixed traffic has reduced by 1% in the period Q1 2016 to Q3 2018 contrasting with 7% growth in off-net mobile-to-mobile traffic over the same period, suggesting limited substitutability between these two types of calls.

4.206 Furthermore, ComReg notes that, as part of the 2016 Market Research, residential consumer and SME consumer respondents were asked whether a 1 cent and (in the case of consumer respondents only) separately a 3 cent increase in the price of an off-net mobile-to-mobile call would affect their behaviour when making such calls. In response, consumer and SME respondents that would change their behaviour at 1 cent (16% and 16% respectively) were most likely to reduce either the number or length of off-net mobile-to-mobile calls. Similar reactions were observed in the case of consumer respondents only if the price were to increase by 3 cent.

Conclusion on making a mobile-to-fixed instead of an off-net mobile-to-mobile call

4.207 Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of RMVC subscribers are likely to switch to making a mobile-to-fixed call instead of an off-net mobile-to-mobile call such that it would make the MTR increase unprofitable. ComReg's position therefore, is that a mobile-to-fixed call is not likely to pose an effective indirect competitive constraint on MTRs.

Make a fixed-to-fixed call instead of an off-net mobile call

4.208 An increase in MTRs by a HM might be unprofitable if, in response, a sufficient number of consumers substituted making an off-net mobile-to-mobile call with a fixed-to-fixed call instead. The motivation for this behaviour would be to avoid the higher cost of the off-net mobile call and, presumably, to take advantage of the lower cost of a fixed-to-fixed call.

4.209 In this regard, it should be noted that only 54% of consumers[433] indicated that they have purchased both RFVC and RMVC, thus preventing RMVC subscribers who do not also have an RFVC subscription from substituting to a fixed-to-fixed call.

[432] See ComReg Data Portal, available at: https://www.comreg.ie/industry/electronic-communications/data-portal/tabular-information/ [Accessed 14 December 2018]

[433] 2016 Consumer MVCT Market Research, slide 60.

4.210 However, RMVC subscribers who also have a RFVC subscription and are price sensitive, particularly where their RFVC tariff includes unlimited free minutes for fixed-to-fixed calls, may utilise this option when the called party is at a fixed location. A further motivation for the RMVC subscriber making a fixed-to-fixed call could be to avoid using any limited number of inclusive free minutes available in their RMVC tariff - thereby keeping such minutes for mobile-to-mobile calls.

4.211 Observed mobile voice traffic patterns indicate that fixed-to-fixed traffic has been gradually declining since the previous market review with a 28.7% decline in the period Q3 2016 to Q3 2018 and an overall 62.7% decline since Q1 2012. As noted in paragraph 4.205, over the period Q1 2016 to Q3 2018 off-net mobile-to-mobile traffic increased by 7% and increased by 70% overall since Q1 2012, thus suggesting limited substitutability between these types of calls from an RMVC subscriber perspective.

Conclusion on making a fixed-to-fixed call instead of an off-net mobile to mobile call

4.212 Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of consumers are likely to switch to making a fixed-to-fixed call instead of an off-net mobile-to-mobile call such that it would make the MTR increase unprofitable. ComReg is, therefore, of the view that a fixed-to-fixed call is not likely to pose an effective indirect competitive constraint on MTRs.

Make an on-net mobile-to-mobile call instead of an off-net mobile call

4.213 An increase in MTRs by a HM might be unprofitable if, in response, a sufficient number of consumers switched to making an on-net mobile-to-mobile call instead of an off-net call to as mobile number. The motivation for this behaviour would be to avoid the higher cost of calling the mobile from a landline/off-net mobile, and to take advantage of the lower cost of an on-net mobile call.[434]

4.214 In order for on-net mobile calls to be a viable substitute it would be necessary for either the calling party or the called party to have multiple RMVC subscriptions, one of which must be with the same MSP for both parties. This could take the form of either party having two mobile phones, each with their own network specific SIM card, or else having one mobile phone, but multiple SIM cards. In these scenarios, consumers would effectively turn the call into an on-net call, either by switching phone or switching the SIM card.

[434] ComReg notes that on-net mobile-to-mobile calls do not involve an explicit termination payment as the calling party's MSP is the same as that of the called party.

4.215 MSPs typically do not differentiate their pricing for off-net calls, be it to either mobiles or fixed lines.[435] Similarly, the majority of bill pay tariffs do not differentiate charges for out of bundle on-net and off-net calls, with some bill pay tariffs offering specific or unlimited amounts of free minutes to any network. In terms of prepay tariffs, although a distinction between on-net and off-net calls is made in some of the advertised tariffs (with only on-net calls being included as part of the free minute allowance), MSPs have been less likely to charge their subscribers different prices for on-net and off-net calls in recent years.

4.216 Given the cost of maintaining multiple bill pay subscriptions, ComReg considers that this option is unlikely to be a viable alternative for a sufficient number of consumers – particularly as mobile users are distributed across a range of MSPs. Notwithstanding this, a secondary prepaid subscription (phone or SIM card) could be an attractive option for some consumers.

4.217 ComReg also considers that the use of multiple SIM cards (with the same mobile phone), while possible, is likely to be highly inconvenient for consumers, given that it requires powering down the mobile handset to insert the appropriate same-network SIM card, unless the consumer, foreseeing this likelihood, purchases a handset which allows for two SIM cards to be inserted simultaneously. It also would require the consumer, on a call by call basis, to accurately identify the MSP of the party being called and potentially to have a SIM card for every MSP – particularly given mobile users are distributed across a range of MSPs. As noted in paragraph 4.59 and 4.60 above, both consumers and SMEs tend to have low levels of awareness of the called party's MSP identity. These factors are likely to undermine the effective use of on-net substitution.

4.218 It is also worth noting that a bill pay RMVC subscriber may face difficulties in using a second SIM card on the same phone. It is particularly common for retail MSPs to 'SIM Lock' handsets (during minimum contract periods), thereby blocking the use of other network SIM cards in such handsets.

[435] See, for instance, http://www.three.ie/pdf/current-priceguide.pdf

4.219 Nevertheless, as part of the 2016 Market Research, ComReg asked residential and SME consumers to indicate whether they have multiple mobile subscriptions/SIM cards. Only 1% of responding residential consumers indicated[436] they have more than one mobile phone number.[437] Similarly, 7% of responding SMEs indicated[438] that they use more than one MSP for all of the mobile phone numbers provided by the SME to employees, with 16% of these respondents expressing cost as the main reason for doing so.[439]

4.220 Alternatively, subscribers could switch their provider of RMVC in order to be on the same network as those they are calling – thereby availing of cheaper on-net call charges. ComReg recognises that this may be a viable option for some subscribers, in particular those that are price sensitive and make a sufficiently large number of calls to subscribers of the same MSP (although there may be switching costs such as those involved in breaking a minimum term bill pay contract). Such customer switching in response to increases in MTRs would impact the calling party's Service Provider as well as the terminating MSP.

4.221 As part of the 2016 Market Research, residential and SME RMVC subscribers were asked whether, in response to a 1 cent and 3 cent increase in the cost of calling a subscriber of another MSP, they would consider switching their MSP provider.[440] In each scenario, of those consumer respondents that were likely to change their behaviour,[441] 4% in the case of a 1 cent increase (7 respondents) and 3% in the case of 3 cent increase (11 respondents) of respondents indicated[442] that using a different SIM card, which was the same as that of the called party's network was one of the actions likely to be considered.

[436] 2016 Consumer MVCT Market Research, slide 17.

[437] Given a mobile number is tied to each subscription/SIM card consumers were asked whether they had more than one phone number.

[438] 2016 SME MVCT Market Research, slide 23.

[439] 2016 SME MVCT Market Research, slide 26.

[440] It should be noted that these responses relate to a general switching of MSP provider and do not necessarily indicate the likelihood of switching to the MSP of the called party.

[441] Between 16% (n=166) and 37% (n=384) of all surveyed consumers.

[442] See slides 108 and 109 of the 2016 Consumer MVCT Market Research. Note, when percentages are represented as a percentage of all surveyed consumers it equates to between 2% and 10% of consumer respondents.

4.222 Similarly, of those responding SMEs that were likely to change their behaviour in response to a 1 cent increase in the cost of making an off-net mobile-to-mobile calls,[443] 10% (8 respondents) indicated[444] that using a different SIM card, which was the same as that of the called party's network was one of the actions likely to be considered.

Conclusion on making an on-net mobile-to-mobile call instead of an off-net mobile call

4.223 Having regard to the analysis set out above, ComReg considers that insufficient numbers of consumers are likely to switch to making an on-net mobile-to-mobile call in response to an increase in MTRs, such that it would make the MTR increase unprofitable. ComReg's position is therefore that an on-net mobile-to-mobile call is not likely to pose an effective indirect competitive constraint on MTRs.

Make an unmanaged VoIP call instead of an off-net mobile call

4.224 A HM might be constrained in setting its MTR above the competitive level if, in response to the MTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making an unmanaged VoIP-to-VoIP call to a mobile instead of a fixed or off-net call to a mobile. The rationale for doing so would be to avoid the retail costs associated with making a mobile-to-mobile or a fixed-to-mobile call by bypassing the MTR charged by the MSP supplying MVCT services.

4.225 Calls via unmanaged VoIP services are typically free when calling other unmanaged VoIP users, but incur a cost when calling a RFVC or RMVC subscriber.[445] Unmanaged VoIP services are frequently used by end users via devices connected to the Internet (such as PCs, laptops, smartphones, tablets etc.) in order to communicate with other users on these devices.

[443] 16% (n=82) of all surveyed SMEs.

[444] 2016 SME MVCT Market Research, slide 116.

[445] For example, see call rates advertised by Skype at https://secure.skype.com/en/calling-rates?wt.mc_id=revamp&expo365=empty.

ComReg's Consideration of Respondents' Views

4.226 In its response to the Consultation, Vodafone[446] pointed to the increased usage of OTT services identified by ComReg in the Consultation[447]. According to Vodafone, the increased level of usage of OTT voice services will constrain the retail prices that operators charge for all calls, as well as termination rates and, further, that if they do not limit such prices themselves, this would lead to significant erosion of the voice market. Vodafone therefore argued that no regulatory controls are required to provide incentives to limit MVCT charges. In further support of this, Vodafone pointed to parallels with the SMS market citing the significant fall in SMS usage as being illustrative of how the rapid change in consumer behaviour can lead to OTT offerings replacing traditional services[448].

4.227 ComReg notes the developments in OTT usage but does not agree with Vodafone that these developments are suggestive that a sufficient competitive constraint exists to mitigate the competition concerns raised in the Consultation and in this Decision. ComReg's assessment in this regard is set out in paragraphs 4.228 to 4.243 below.

[446] Vodafone's submissions in this regard are summarised in paragraphs A11.50 to A11.54 in Annex 11.

[447] Vodafone Submission, page 3, 4, and 5 paragraphs 5 to 11 in which Vodafone refer to slides 26 and 29 of 2016 Consumer MVCT Market Research set out in the Consultation

Vodafone reference to slide 26: "Amongst smartphone users in the survey, 48% say that they use OTT apps for voice/video calls every day or every couple of days, rising to 66% amongst Dublin residents and 58% amongst those aged 15-34"

Vodafone reference to slide 29: "67% of all surveyed use an Internet messaging app at least every couple of days, rising to 77% among 15-34 year olds and 70% in Dublin and Total Urban regions"

[448] 2016 Consumer MVCT Market Research, slide 29.

ComReg notes that despite the fall in usage of SMS, SMS termination rates have remained stable in recent years. See footnote 475.

4.228 For an unmanaged VoIP-to-VoIP call to act as a potential alternative to a traditional call to a mobile number, both the calling party and the called party would need to have a data/broadband subscription,[449] a device connected to the Internet and the same unmanaged VoIP Service Provider.[450] While unmanaged VoIP-to-VoIP calls are typically free (and do not incur an MTR), both the calling party and called party may incur costs associated with data usage. Hence, unlike the CPP principle, the called party may face some costs (particularly when RFVC/broadband plans include limited amounts of inclusive free data) and this could impact their behaviour when receiving unmanaged VoIP calls, for instance, if a call is transmitted over 4G, rather than over WiFi.

4.229 Both parties, apart from having a data subscription, would also need to have a VoIP Service Provider in order to avoid a wholesale voice termination rate. This implies that the called party and calling party would need to have a smartphone or other device capable of operating on a data network and supporting the VoIP client. In this regard, ComReg notes that 74% of consumers[451] indicated that they own a smartphone while 82%[452] of SME respondents indicated that at least some of their employees are supplied with a smartphone. While the prevalence of smartphone ownership has increased since the last market review,[453] nevertheless, users will likely remain who do not have a smartphone over the period of this market review. The receipt of a VoIP call on a mobile phone is not feasible for this subset of RMVC subscribers, which was at 26% of consumer users and 18% of SME users, and which will likely decline over the lifetime of the market review.

[449] It is possible to make a call originating on VoIP technology directly to a fixed number without the called party having a data/broadband subscription; however, this would not bypass the terminating network's termination charge. The use of such VoIP calls is not, therefore, likely to place a sufficient constraint on the FTR price-setting behaviour of a HM.

[450] It is not currently possible to make calls between different OTT applications (e.g. Skype and Facetime).

[451] 2016 Consumer MVCT Market Research, slide 24.

[452] 2016 SME MVCT Market Research, slide 8.

[453] See paragraph 4.164 of the 2012 MVCT Consultation where it was noted that almost 50% of RMVC subscribers had a smartphone.

4.230 As set out at paragraph 4.150, according to Eurostat, 70% of individuals access the Internet every day or almost every day[454] of 2017,[455] indicating that for 30% of end users the receipt of an unmanaged VoIP call is less likely to be a viable solution, given either their lack of access to the internet, or their habitual unwillingness to use the internet, where access is available.

4.231 In addition, it is questionable whether the quality of a VoIP call would be sufficiently similar to a traditional voice call such that consumers would use them interchangeably, particularly for business customers. Quality of service issues may arise when using VoIP services on an unmanaged data network as bit rate error and latency issues can degrade call quality on VoIP services. Were this to occur often, in ComReg's view such functional differences between unmanaged VoIP and traditional voice call would likely undermine consumer usage of unmanaged VoIP calls as a substitute for traditional calling methods.

4.232 Based on analysis of the results of the 2017 Ireland Communicates, it appears that unmanaged VoIP-to-VoIP calls are being used in conjunction with traditional mobile calls rather than replacing them.[456]

4.233 As part of the 2016 Market Research, residential and SME retail consumers were asked whether they use VoIP services, and how often they use these services. 33% of consumer respondents with smartphones noted that they have never used OTT services for receiving calls[457] and the remainder making/receiving VoIP calls with varying frequencies. Overall, 40% of consumer respondents noted that they make/receive VoIP calls every day or every couple of days.

4.234 In the Ireland Communicates Consumer Survey 2017, 40% of respondents had received a VoIP voice only call in the last 12 months, this number rose to 60% for those aged 18-34.[458] At the same time, 40% made/received video calls every day or every couple of days using 3G/4G, and 44% do so using WiFi.[459]

[454] Defined as accessing the Internet every, or almost every, day on average within the last three months.

[455] See http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tin00092&plugin=1.

[456] See paragraphs 3.135 to 3.143.

[457] 2016 Consumer MVCT Market Research, slides 15 and 25.

[458] Ireland Communicates Survey 2017 – Consumer, slide 40. n=1,468

[459] Ireland Communicates Survey 2017 – Consumer, slide 35. n=1,029

4.235 This compares to 98% of consumers who use their mobile phone to make traditional domestic mobile calls in the 2017 Ireland Communicates Consumer Survey[460] and 92% of consumer respondents in the 2016 MVCT Consumer Market Research using traditional mobile-to-mobile calls every day or every couple of days as illustrated by Figure 59. Amongst SME respondents in the 2016 MVCT Market Research, 49% noted that they have never made/received VoIP calls.[461] Amongst respondents in the 2017 Ireland Communicates SME Survey, 409 of the total SME sample (n=508) use business mobile phones. 22% of these 409 respondents use their business mobile phone to make VoIP calls, this is down from 25% in the 2015 SME Survey.[462] Considering the size of the overall SME sample, 18% of SMEs in the sample make VoIP calls on business mobile phones.

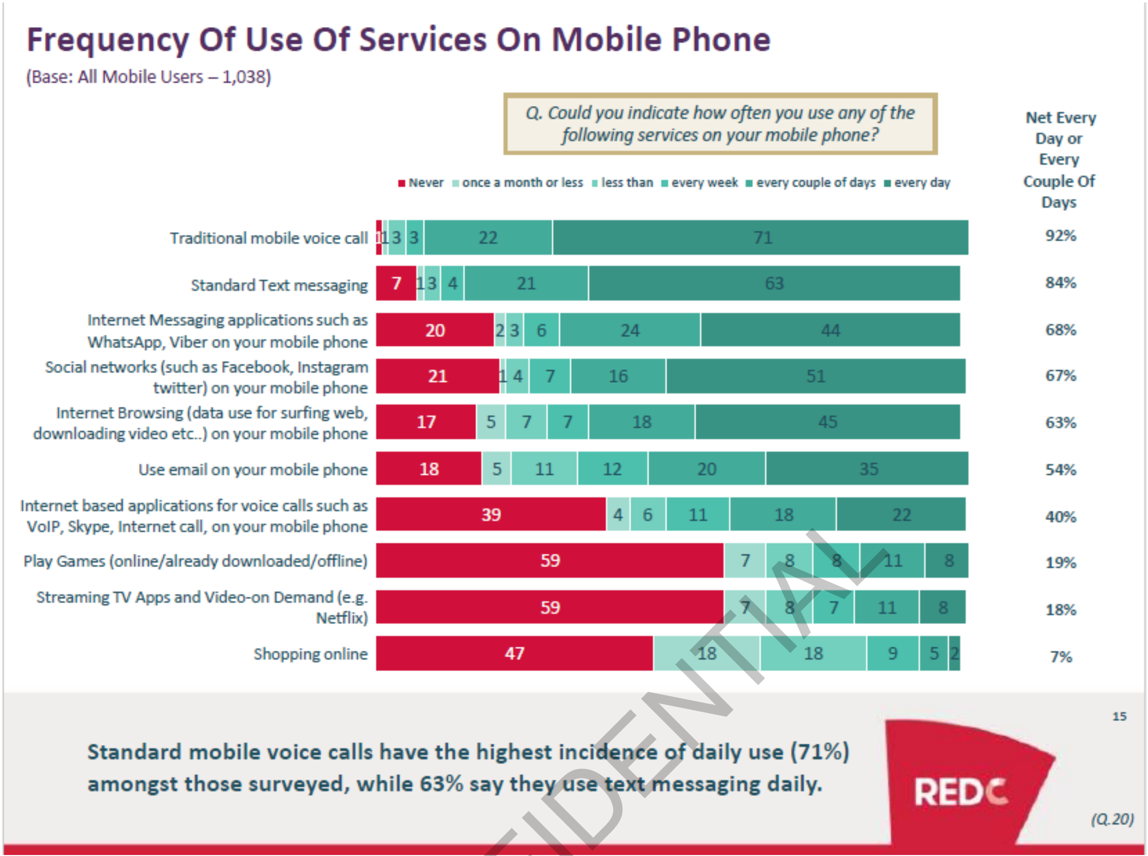
4.236 An unmanaged VoIP call essentially involves the use of a data/broadband network to make a call on an OTT platform (examples include Skype, Viber, WhatsApp etc.), potentially allowing a caller to bypass the terminating MSP, thereby avoiding the retail costs (and the termination charge) of making a traditional circuit-switched call.

[460] Ireland Communicates Survey 2017 – Consumer, slide 32.

[461] 2016 SME MVCT Market Research, slide 31.

[462] Ireland Communicates Survey 2017 – SME, slide 37.

Figure 59: Use of services on mobile phone cited by consumer respondents



4.237 Furthermore, observed mobile voice traffic patterns indicate that mobile traffic (including off-net mobile-to-mobile traffic) has gradually increased since Q1 2012 by 12.5% – and increasing 0.5% between Q3 2017 and Q3 2018. Therefore, in ComReg's view, unmanaged VoIP-to-VoIP calls have thus far not likely had a limited impact on the volumes of RMVCs.

4.238 Moreover, according to the Ireland Communicates Consumer Survey 2017[463], 69%[464] of 886 respondents (42% of those with a mobile phone in the overall sample) expect their use of unmanaged VoIP-to-VoIP video calls in the next 12 months over 3G/4G (as distinct from WiFi) to remain the same, while 24% (14% of those with a mobile phone in the overall sample) expect their usage to increase somewhat or significantly. 32%[465] of 18-34 year olds expect their usage of video calls over 3G/4G to increase in the next 12 months.

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[463] Ireland Communicates Survey 2017 - Consumer, Slide 36 and 37.

[464] Ireland Communicates Survey 2017 - Consumer, Slide 36.

[465] Ireland Communicates Survey 2017 - Consumer, Slide 37. n=886

4.239 Unmanaged VoIP-to-VoIP calls appear to have had little impact on the MTRs charged by FSPs. While MTRs have reduced over time, data suggests that the driver of this reduction has primarily been regulation, rather the competitive constraint posed by unmanaged VoIP. In particular, MSP changes to MTRs tend to follow the levels and at the implementation dates set out in ComReg decisions (most recently, the 2016 MTR Decision), whereby all 2012 SMP MSPs reduced their MTRs on the same day, and at the permissible level. ComReg has not, uncovered evidence that MSPs have reduced their MTRs due to the competitive constraint presented by unmanaged VoIP-to-VoIP calls.

4.240 As part of the 2016 Market Research, residential consumers were asked whether, in response to a 1 cent and 3 cent increase respectively in the cost of calling a subscriber of another MSP, they would consider making a VoIP or video call instead. In each scenario, of those consumer respondents that were likely to change their behaviour,[466] 13% (21 respondents) and 12% (46 respondents) of respondents respectively indicated[467] that making a VoIP or a video call was one of the actions likely to be considered.

4.241 Similarly, of the 16% (n=82) of SME respondents that were likely to change their behaviour, 44% (36 respondents) of such respondents indicated[468] that encouraging use of VoIP or video calls was one of the actions very likely to be considered.

[466] Between 16% (n=166) and 37% (n=384) of all surveyed consumers.

[467] 2016 Consumer MVCT Market Research, slides 108 and 110. Note, when percentages are represented as a percentage of all surveyed consumers it equates to between 2% and 4% of consumer respondents.

[468] 2016 SME MVCT Market Research, slide 116 and Annex: 7 of this Decision.

4.242 Based on analysis of the 2017 Ireland Communicates Survey results, unmanaged VoIP-to-VoIP calls can be viewed as supplementing traditional mobile calls, rather than replacing them.[469] Moreover, the stable levels of mobile call minutes reflected in ComReg's QKDR in recent years is further suggestive of this.[470] In addition, other studies have yielded similar results, highlighting how differences in functionality and quality of service make OTT services a complementary service, as opposed to a substitute for traditional voice services.[471]

Conclusion on making an unmanaged VoIP call instead of an off-net mobile call

4.243 Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of consumers are likely to switch to making an unmanaged VoIP-to-VoIP call to a mobile such that it would make the MTR increase unprofitable. ComReg's position therefore is that an unmanaged VoIP-to-VoIP call (using a mobile device and other internet enabled devices)[472] is not likely to pose an effective indirect competitive constraint on MTRs.

Send an off-net SMS or instant message using an OTT application instead of making an off-net mobile call

4.244 A HM might be constrained in setting its MTR above the competitive level if, in response to the MTR increase being passed through to the retail price, a sufficient number of consumers were to switch to sending an SMS or instant message using an OTT application instead of making an off-net mobile call.[473] The rationale for doing so would be to avoid the retail cost associated with making an off-net mobile-to-mobile call.

[469] See paragraphs 3.135 to 3.143.

[470] Total Mobile minutes has remained stable in recent years, rising in five of the last ten quarters, and falling in the remaining five quarters. Total mobile minutes in Q3 2018 increased 0.5% when compared with Q3 2017, and decreased by 0.1% relative to Q3 2016. See ComReg Data Portal. Available at: https://www.comreg.ie/industry/electronic-communications/data-portal/ [Accessed 14 December 2018]

[471] See Arnold, R., Schneider, A. and Hildebrandt, C., 2016, All Communications Services Are Not Created Equal – Substitution of OTT Communications Services for ECS from a Consumer Perspective. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2756395

[472] ComReg notes that these calls can be made on laptops and other such devices with internet capability.

[473] The level of fixed line originated SMS is virtually non-existent and this is unlikely to change in the short to medium term. ComReg does not accordingly consider fixed SMS in this analysis.

4.245 ComReg's view is that there are sufficient functional differences between making an off-net mobile or fixed-to-mobile call and sending an off-net SMS or instant message using an OTT application, as described in detail at paragraphs 4.168 to 4.177 above.

4.246 It should be noted that the MSP terminating the mobile voice call will also be the same MSP that would terminate an SMS. Given that SMS termination is not currently subject to regulation, terminating MSPs are entirely free to determine their SMS termination rates and these theoretically could be set at a rate above actual cost such that any competitive impact on voice calls (i.e. via termination rates) is minimised.[474] As set out above at 4.172, the volume of SMS traffic has decreased by 21.1% in the period Q3 2016 to Q3 2018.[475]

4.247 According to the 2017 Ireland Communicates Consumer Survey, 60% of consumers use instant messaging over their mobile phone, rising to 81% for those aged 18-34 years old.[476] 70% of consumers use instant messaging over their mobile phone via WiFi at least every couple of days, while 64% do so over 3G/4G networks.[477]

[474] SMS termination rates, at 3.174 cent, are currently set by all MSPs at a level significantly above the regulated MTRs.

[475] ComReg notes that such reductions do not appear to have had any material impact on wholesale SMS termination rates. According to BEREC's termination rates at a European Level snapshot (published twice a year), SMS termination rates set by Irish Service Providers have remained stable from July 2012 to July 2017. See BEREC's "Termination Rates Benchmark Snapshot (as of July 2012)" (p.4) (https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/972-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-sms-termination-rates) and BEREC's "Termination Rates at European Level July 2017" (Figure 3, p.6) (https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/7524-termination-rates-at-european-level-july-2017)

[476] Ireland Communicates Survey 2017 – Consumer, slide 32. n= 1,468

[477] Ireland Communicates Survey 2017 – Consumer, slide 35. n= 1,029

4.248 As part of the 2016 Market Research, residential and SME RMVC subscribers were asked whether, in response to a 1 cent and a 3 cent increase respectively in the cost of calling a subscriber of another MSP, they would consider sending an SMS or instant message instead. In each scenario, of those residential consumers that were likely to change their behaviour,[478] 22% (36 respondents) and 26% (100 respondents) of respondents indicated[479] respectively that sending an SMS was one of the actions likely to be considered. Sending an instant message on an OTT application was considered by between 13% (21 respondents) and 20% (77 respondents) of respondents respectively.

4.249 Similarly, of the 16% of SME respondents that were likely to change their behaviour 63% (n=51) of such respondents indicated[480] that encouraging employees to send an SMS was one of the actions very likely to be considered.

Conclusion on sending an off-net SMS or instant message using an OTT application instead of making an off-net mobile call

4.250 Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of consumers are likely to switch to sending an off-net SMS or instant message using an OTT application[481] such that it would make an MTR increase unprofitable. ComReg is, therefore, of the view that an SMS/Instant Message via OTT is not likely to pose an effective indirect competitive constraint on MTRs.

Send an email instead of making an off-net mobile call

4.251 A HM might be constrained in setting its MTR above the competitive level if, in response to the MTR increase being passed through to the retail price, a sufficient number of consumers were to switch to sending an email instead of making an off-net mobile call to a RMVC subscriber. The rationale for doing so would be to avoid the retail cost associated with making an off-net mobile-to-mobile or a fixed-to-mobile call.

4.252 Email has similar functional characteristics to a text message in that it is not a real-time application. There are, however, a number of differences. First, for a called party to receive an email on their mobile phone they would need to have both a smart phone and a data plan. Secondly, there is no limit on the number of characters that can be sent in an email.

[478] Between 16% (n=166) and 37% (n=384) of all surveyed consumers.

[479] 2016 Consumer MVCT Market Research, slides 108 and 110. Note, when percentages are represented as a percentage of all surveyed consumers it equates to between 4% and 10% of consumer respondents.

[480] 2016 SME MVCT Market Research, slide 116 and Annex: 7 of this Decision.

[481] ComReg considers that similar to an instant message, use of social media is unlikely to make an MTR increase unprofitable. Use of social media is also examined in the 2016 Market Research.

4.253 As part of the 2016 Market Research, respondents were asked whether they use email on their mobile phone and if so, how often.[482] Amongst consumer respondents 18% indicated that they never use email with 54% indicating that they use this form of communication on their mobile phone either every day or every couple of days. 67% of consumers use their mobile phone for email according to the 2017 Ireland Communicates Consumer Survey,[483] with 38% of 1,029 (27% of the overall mobile sample) using email over their mobile phone daily over a 3G/4G network (as distinct from WiFi) and 43% of 1,029 (30% of the overall mobile sample) using their email daily over WiFi. This number rises to 49% for those aged 18-34.[484]

4.254 In the 2017 Ireland Communicates Consumer Survey, 73% of 886 consumers (45% of the overall mobile sample) noted that they expect their usage of emails over 3G/4G to remain the same over the coming 12 months, while 20% of 886 consumers (12% of the overall mobile sample) expect their usage to increase somewhat or significantly.[485]

4.255 While some consumers may find email[486] to be a close substitute to making a call to a mobile phone, particularly for short calls or where immediacy of contact is not a priority, ComReg's view is that it is not likely to be the case for a sufficient number of consumers to switch in response to a SSNIP to render it unprofitable. Limited consumer cost and network awareness is also likely to impact the degree to which consumers would be incentivised to utilise an email as a substitute for a call to a mobile.

[482] Slide 15 of the 2016 Consumer MVCT Market Research and slide 95 of the 2016 MVCT Market SME Research.

[483] Ireland Communicates Survey 2017 – Consumer, slide 32.

[484] Ireland Communicates Survey 2017 – Consumer, Slide 33 and 34.

[485] Ireland Communicates Survey 2017 – Consumer, Slide 37.

[486] Similarly, an email could be sent from a laptop/PC or other device. However, ComReg considers that such forms of communication also lack the immediacy of contact that is facilitated by a call.

Conclusion on sending an email instead of making an off-net mobile call

4.256 The 2016 Market Research did not specifically ask respondents whether, in the context of a SSNIP, they would switch to sending an email. However, 500 SME respondents were asked how they would respond if mobile operators ceased offering preferential rates between company mobiles. 24%, or 120, indicated that they would make greater use of email to communicate between employees. Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of consumers are likely to switch to sending an email instead of a call to a mobile phone, such that it would make the MTR increase unprofitable. ComReg's position therefore is that email is not likely to pose an effective indirect competitive constraint on MTRs.

Shorten calls or request a call back instead of making an off-net mobile call

4.257 A HM might be constrained in setting its MTR above the competitive level if, in response to the MTR increase being passed through to the retail price, a sufficient number of consumers were to make shorter calls or request a call back (say by leaving a voicemail, sending a text message or sending an instant message via an OTT application). The intention in using either of these alternatives would be to reduce the length of communication and, consequently, lower costs.

4.258 The success of call back requires that the call recipient is willing to become the caller and pay the cost of making the call, including the termination charges. The CPP principle means that the called party pays no contribution towards the cost of the call. Nevertheless, some consumers, as an alternative to calling a mobile may opt to send a 'call-me' text message, with a view to getting the called party to phone them back. Alternatively, the called party might not answer the call, but text or call back the calling party instead.

4.259 As part of the 2016 Market Research, residential RMVC subscribers were asked whether, in response to a 1 cent and a 3 cent increase in the cost of calling a subscriber of another MSP, they would consider reducing the length of the call. In each scenario, of those residential respondents that were likely to change their behaviour,[487] 37% (61 respondents) and 37% (142 respondents) respectively of such respondents indicated[488] that reducing the length of made calls was one of the likely actions to be considered.

[487] Between 16% (n=166) and 37% (n=384) of all surveyed consumers.

[488] 2016 Consumer MVCT Market Research, slides 108 and 110 and Annex: 7 of this Decision. Note, when percentages are represented as a percentage of all surveyed consumers it equates to between 6% and 14% of consumer respondents.

4.260 Residential RMVC subscribers were also asked whether, in response to a 1 cent and a 3 cent increase in the cost of calling a subscriber of another MSP, they would consider requesting a call back by means of text message. In each scenario, of those residential respondents that were likely to change their behaviour,[489] 7% (12 respondents) and 7% (27 respondents) respectively of such respondents indicated[490] that requesting a call back by means of text message was one of the actions likely to be considered.

4.261 Similarly, of those SME respondents that were likely to change their behaviour,[491] 67% (55 respondents) of such respondents indicated[492] that encouraging employees to reduce the length of calls they make was one of the actions very likely to be considered.

4.262 The cost and network awareness issues discussed above are also likely to impact the degree to which consumers would shorten the length of calls or request a call back.

Conclusion on shortening calls or requesting a call back instead of making an off-net mobile call

4.263 Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of consumers are likely to shorten call lengths and/or request a call back such that it would make an MTR increase unprofitable. ComReg's position therefore is that shortening call lengths and/or requesting call backs are not likely to pose an effective indirect competitive constraint on MTRs.

Delay making the off-net mobile call to a time of day/week when the cost is cheaper

4.264 A HM might be constrained in setting its MTR above the competitive level if, in response to the MTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making calls at a time of day when the cost of a call may be cheaper.

[489] Between 16% (n=166) and 37% (n=384) of all surveyed consumers.

[490] 2016 Consumer MVCT Market Research, slides 108 and 110. Note, when percentages are represented as a percentage of all surveyed consumers it equates to between 6% and 14% of consumer respondents.

[491] 16% (n=82) of all surveyed SMEs.

[492] 2016 SME MVCT Market Research, slide 116 and Annex: 7 of this Decision. When percentages are represented as a percentage of all surveyed consumers it equates to 11% of SME respondents.

4.265 Delaying the making of an off-net call to a RMVC subscriber to a time of day when it is cheaper may be a viable alternative for some consumers, particularly where immediacy of contact is not a priority.

4.266 However, the majority of retail mobile price plans do not differentiate their call charges by time of day, i.e. a flat rate charge applies throughout the day. Therefore, it may not be possible to make a call at a cheaper 'off-peak' time. Even if such an option were available and utilised, it would result in a reduction in, rather than an elimination of, MTR revenue,[493] as at the wholesale level an off-peak/weekend MTR would still be levied.[494]

Conclusion on delaying making the off-net mobile call to a time of day/week when the cost is cheaper

4.267 The 2016 Market Research asked respondents whether, in the context of a SSNIP, they would delay making the call until a time when call charges are cheaper (i.e. switch from peak to off-peak calling). Of a total of 1,038 consumer respondents, 16%, or 166 indicated that they would change their behaviour in response to a 1 cent SSNIP, while 37% or 384 indicated that they would change their behaviour in response to a 3 cent SSNIP. Of these, 15%, or 24 respondents, and 12%, or 46 respondents indicated that they would delay making a call until a time when call costs were lower. Having regard to the analysis set out above, ComReg considers that, in response to an increase in MTRs, insufficient numbers of consumers are likely to switch to making a fixed-to-mobile or an off-net call to a mobile at a time when call costs are lower, such that it would make an MTR increase unprofitable. ComReg's position therefore is that delaying calls is not likely to pose an effective competitive constraint on MTRs.

Conclusion on mobile retail demand-side substitution

4.268 Having regard to the factors likely to impact retail consumer behaviour on the Relevant MVCT Markets, ComReg has considered in paragraphs 4.199 to 4.267) whether the following are likely to be effective retail demand-side substitutes for a fixed-to-mobile or an off-net mobile-to-mobile call to a subscriber on a mobile network:

(a) Making a mobile-to-fixed call;

(b) Making a fixed-to-fixed call;

(c) Making an on-net mobile-to-mobile call;

[493] The reduction in MVCT revenue for the call would be calculated having regard to the difference between the peak MTR and off-peak/weekend MTR multiplied by the call duration.

[494] Based on responses received to ComReg's Statutory Information Request, MTRs are not currently differentiated by time of day or day of the week.

(d) Making an unmanaged VoIP call;

(e) Sending an off-net SMS or Instant Message using an OTT application;

(f) Sending an email;

(g) Shortening calls or requesting a call back; and

(h) Delaying a call to a time of day when the cost of making calls to mobiles is lower.

4.269 ComReg's position is that substitution to the alternative forms of communication listed above, either individually or collectively, is unlikely to pose an effective competitive constraint on MTRs.

4.270 Having regard to the information available, it is also ComReg's view that this position is not likely to change sufficiently in the immediate to medium term, such that it would give rise to a different view over the lifetime of this market review (typically a three year time horizon).

Retail Supply-Side Substitution

4.271 ComReg now moves to consider the instance of retail supply-side substitution. A HM might be constrained in setting its termination rate above the competitive level if, in response to the termination rate increase, a Service Provider that does not currently offer off-net retail calls to fixed line or mobile phones switched to doing so (for instance, as a new entrant or by switching existing production) and started supplying retail calls to off-net fixed line or mobile phones. Such supply-side substitution[495] would only pose an effective indirect constraint were it to make the HM's termination rate increase (above the competitive level) unprofitable.

4.272 In order to do this, the Service Provider would have to have the ability to provide a voice call service to a number which was not reliant on the provision of WVCT by the called party's Service Provider (and to do so in a timely manner, without incurring significant costs). Currently, it is the terminating Service Provider which controls the final routing and termination of calls to RFVC or RMVC subscribers' numbers and, as a consequence, retail supply-side substitution is neither technically nor contractually feasible.[496]

[495] As noted in paragraph 5.125 in order for supply-side substitution to effectively constrain a termination rate price above the competitive level, its effects would need to be likely to be equivalent to those of demand substitution in terms of effectiveness and immediacy.

[496] The special case of OTT bypass is discussed in the context of wholesale supply-side substitution at paragraphs 5.241 to 5.246 below.

Conclusion on retail supply-side substitution

4.273 ComReg's view is that retail supply-side substitution is not likely to pose an effective constraint on the termination rate-setting behaviour of a HM supplier of WVCT services. However, ComReg returns to this issue in the context of its discussion of supply-side substitution at the wholesale level in paragraphs 5.122 to 5.144 below.

Overall Conclusions on the RFVC and RMVC Assessment

4.274 Having regard to the analysis set out above, it is ComReg's position that there are unlikely to be effective retail demand-side or retail supply-side substitutes which would, within the timeframe of this market review, indirectly constrain a SSNIP in FTRs or MTRs by a Service Provider supplying FVCT or MVCT (or such that it would constrain the profitability of a SSNIP in termination rates).

5 Wholesale Relevant FVCT and MVCT Markets Definitions

Introduction

5.1 In Section 5 of the Consultation ComReg set out its preliminary views on the appropriate Relevant Termination Market definitions from both a product market and a geographic market perspective.

5.2 Of the 11 Submissions received BT, Three, Eircom, Three, TMI, Virgin Media and Vodafone raised specific comments in response to Section 5 of the Consultation. An overview of these Respondents' Submissions, along with ComReg's response to the issues raised, is provided in Annex: 11, paragraphs A11.78 to A11.124. Where appropriate, specific issues raised in the Respondents' Submissions on the definition of the Relevant Termination Markets will be addressed directly in this Section in the main body of the Decision.

5.3 In this Section ComReg sets out its final position on the Relevant Termination Market definitions from both a product market and a geographic market perspective. This position is informed by ComReg's evaluation of the Submissions received in response to the Consultation, the 2016 Market Research, information provided by Service Providers in response to SIRs, information provided by Service Providers to ComReg for its QKDRs and other cited available data.

5.4 Before considering the detailed definition of the Relevant Termination Markets, some preliminary issues which could have a bearing on its approach to market definition, in particular, the starting candidate product market against which a substitutability analysis is carried out. ComReg also addresses these issues in this Decision. As noted in the Consultation, while some of these issues may appear rudimentary in nature, they are discussed here for completeness, given their potential to impact on the definition of the Relevant Termination Markets[497].

5.5 As set out in paragraph 1.28 of this Decision ComReg makes use of the Modified Greenfield Approach in carrying out its assessment.

[497] See paragraph 5.2 of the Consultation.

5.6 As was the case in the Consultation, in order to assist readers, ComReg first defines the relevant FVCT product and geographic markets, and then moves to define the relevant MVCT product and geographic markets. In order to avoid unnecessary duplication, text in the MVCT market analysis will, where appropriate, refer back to any relevant explanatory text in the FVCT analysis.

5.7 Below ComReg sets out its position, having considered Respondents' views, on the appropriate Relevant Termination Market definitions from both a product market and geographic market perspective:

(a) Defining the Relevant FVCT Market(s) (discussed in paragraphs 5.8 to 5.170 below);

(b) Overall conclusion on the Relevant FVCT Markets (discussed in paragraphs 5.171 to 5.174 below);

(c) Defining the Relevant MVCT Market(s) (discussed in paragraphs 5.175 to 5.262 below); and

(d) Overall conclusion on Relevant MVCT Markets (discussed in paragraphs 5.263 to 5.267)

Defining the Relevant FVCT Market(s)

5.8 The European Commission has established that the wholesale FVCT market is susceptible to ex ante regulation, defining a market for:

> *"Call termination on individual public telephone networks provided at a fixed location."*

5.9 As is clear from the 2014 Recommendation, the European regulatory framework aims at identifying potential bottlenecks that may lead to competition problems in one or more related markets. FVCT services form part of a set of complementary wholesale inputs (collectively referred to as 'interconnection services'), also including wholesale fixed voice call origination ('**FVCO**') and wholesale fixed call transit ('**Transit**') services, used to support end-to-end provision of retail voice calls to end users at a fixed location.[498]

[498] In addition to the SMP designations for FVCT rendered in the 2007 market review, ComReg designated Eircom with SMP in the markets for Fixed Voice Call Origination ('**FVCO**') and Transit services in 2007. In 2015, ComReg concluded that Eircom continues to hold SMP on the FVCO market, and that regulation of the Transit Market is no longer warranted (See 2015 *Wholesale Fixed Voice Call Origination and Transit Markets Response to Consultation and Decision* (Decision D05/15), (the '**2015 FACO and Transit Decision**')). Eircom is currently required by regulation to provide access to FVCO.

A technical and functional description of FVCT

5.10 FVCT represents the final step in the active process involved in switching and routing a voice call to a device connected to an assigned Geographic Number (or a Geographic Number whose Rights of Use have been transferred).[499] In the 2007 FVCT Consultation, the Relevant FVCT Markets were defined to include the following services:[500]

> *"Termination services provide primary switching/routing functionality at the terminating end of a call. The primary switching/routing stage is the final point in the network where call routing is done on a call-by-call basis. It incorporates carriage from the end of the previous stage in the call routing (either CO or Transit), through the primary switching/routing stage (including, where appropriate, traffic concentration and/or non-call-by-call routing subsequent to the primary switching/routing stage), to the end user's local loop, including the subscriber's line card or equivalent, in its entirety."*

5.11 A number of FSPs in the State operate different interconnected networks and have been assigned specific Geographic Number ranges by ComReg, which can then be effectively allocated to RFVC subscribers. In some cases, retail subscribers make telephone calls to numbers that are connected to the same network as themselves. These are called 'on-net' calls. The completion of on-net calls involves the 'self-supply' of FVCT by the originating FSP.

5.12 In other cases, calls are made to numbers that are assigned to subscribers connected to other networks. These are called 'off-net' calls. In order to complete an off-net call on behalf of one of its subscribers, the originating FSP must deliver this call to the network associated with the called party's Geographic Number. Where there is no direct interconnection between the two Service Providers, the call must be delivered via a Transit Service Provider for onward delivery of the call to the Geographic Number of the terminating FSP.

[499] Numbers for use at a fixed location (**Geographic Numbers**) are broadly defined in the *Numbering Conditions of Use* (see footnote 162). The current definition of a Geographic Number in the Numbering Conditions of Use is a number from the National Numbering Scheme where part of its digit structure contains geographic significance used for routing calls to the physical location of the network termination point ('**NTP**'). A Non-Geographic Number is defined as meaning a number from the National Numbering Scheme that is not a Geographic Number in that its geographic network NTP is not identifiable from its digit structure.

[500] See ComReg Document 07/03, Market Analysis - Interconnection Markets Wholesale Call Termination Services, Consultation, 19 January 2007, p. 11 (the **'2007 FVCT Consultation'**). The 2007 FVCT Decision, which substantially relied on the 2007 FVCT Consultation, did not define the characteristics of the Relevant FVCT Markets.

5.13 Most FSPs operate networks with a flat structure. However, larger FSPs can operate hierarchical networks. Calls can be terminated, for example, on Eircom's network at any of three levels:

(a) primary exchange level (typically the local exchange to which the calling party's telephone line is connected);

(b) tandem/secondary exchange level (a regional exchange higher up in the network which would be connected to a number of primary exchanges); or

(c) double-tandem/tertiary exchange level (national telephone exchange at the highest level in the network which would be connected to a number of primary exchanges).

5.14 The 2007 FVCT Consultation market definition refers to the primary switching level (or equivalent) as the suitable point of hand-over and implicitly reflected the boundary between the FVCT and Transit markets. The primary switching level is effectively the last point in the network at which calls can be handed over by another Service Provider. In the case of a PSTN network, the service involves the switching of the call at the primary exchange through to the line card at the end user side of the exchange (or concentrator unit).

5.15 Since the 2012 FVCT Consultation, the transit market has been deregulated by means of the 2015 FACO and Transit Decision. Accordingly, no FSP now faces regulatory obligations in respect of the provision of Transit services to other Service Providers. Although Service Providers may bundle the provision of both (deregulated) Transit services and (regulated) FVCT services, this Decision focusses solely on FVCT.

5.16 Retail FSPs have varying degrees of network coverage and different network architectures. Some FSPs are interconnected to many other Service Providers and most Service Providers' (in particular, Eircom's) primary, tandem, and double-tandem exchanges, while others may have only a single interconnect at an Eircom double-tandem exchange. This variation in network coverage and level of reliance on specific Service Providers results in demand for different combinations of interconnection services. For this reason, Service Providers offer various bundles and permutations containing FVCT services that cater for the varying needs of access seekers, in particular, by bundling various levels of Transit with FVCT and, in some cases, FVCO.

5.17 The provision of pure FVCT services with no Transit component occurs at the primary exchange level. Beyond this exchange level, various degrees of Transit provision are offered by Service Providers, depending on the points on the network at which the Service Providers interconnect. In this regard, FVCT is consistent in that it is always provided at the primary exchange level (or equivalent) and routed to the end-user's network termination point ('**NTP**'), but the Transit element of interconnection may vary, as it can be offered along various stages of the network architecture.

5.18 The purchase of 'Pure' FVCT (i.e. with no Transit component) involves a Service Provider handing over call traffic for call termination at the local exchange (or equivalent) and therefore is priced lower than double-tandem FVCT (which has a Transit component).

5.19 A retail FSP's choice of interconnection service depends on the depth at which it is interconnected with other Service Providers. On the one hand, interconnecting with other Service Providers extensively (i.e. at the primary exchange level) can involve upfront capital expenditure. On the other hand, FSPs typically prefer to use their own infrastructure to carry calls as far as possible, in order to reduce the ongoing bills that they receive from other FSPs for FVCO, Transit and FVCT. A deeply interconnected Service Provider (interconnected at all levels of another Service Provider's network) would hand over calls for termination at the local exchange (or equivalent) connected to the called party's premises, where possible. An FSP with only a single interconnect will rely on a third-party Transit provider to route their call over a larger part of the network between their point-of-presence and the called party's primary switch (or equivalent).

5.20 While larger FSPs such as Eircom are likely to be able to offer both standalone FVCT and bundled FVCT and Transit products, smaller FSPs usually have a flat network structure and offer fewer interconnect points for FVCT purchasing purposes. FSPs typically charge a uniform price for call termination provided at any point of interconnection. FVCT provided by other FSPs may differ from a technological and geographic standpoint from the service provided by Eircom. This is because different networks deploy alternative technologies to perform the function of switching calls, and have different geographic footprints.

5.21 In particular, FSPs may have a flatter network hierarchy relative to larger FSPs such as Eircom, and may only have one or two switching points in their networks connecting their end users. These switching points are also the only points that another Service Provider can interconnect to in order to handover calls, either directly or via Transit to purchase FVCT. However, the FVCT service provided by other FSPs is functionally the same, in that the service enables the access seeker to deliver a call to a Geographic Number connected to the FSP's network.

5.22 On a forward-looking basis, the provision of wholesale and retail fixed voice telephony services is likely to make greater use of IP telephony solutions. Accordingly, the provision of FVCT is likely to involve the use of IP technologies which do not make use of traditional circuit switched technology, as described in greater detail in the following Section.

ComReg's FVCT service description

5.23 For the purposes of this review, ComReg considers that a technologically neutral description is appropriate for FVCT. However, ComReg acknowledges that it is useful to provide guidance as to the scope of the service as it applies across relevant technologies.

5.24 In general, ComReg's view is that FVCT should include the switching and conveyance of all signals (including relevant control signals) required to terminate calls on an end user's network termination point ('**NTP**') from the last point in the network where interconnection can be technically and economically availed of by another Service Provider. In practice, the NTP will differ depending on the structure and facilities available on different networks. Determining the relevant scope of the FVCT service involves taking account of the following considerations:

(a) The boundary between non-replicable network inputs and those network inputs where actual replication and service provisioning over alternative networks is feasible over the market review timeframe;

(b) The precise scope of the service – from the perspectives of both the Service Provider seeking access to the network (for example, at what location does the Service Provider typically require access from a practical, technical and commercial perspective), and the Service Provider offering access; and

(c) Need to take network architecture of different FVCT suppliers into account and to ensure that the market definition is forward-looking, considering the potential demand for IP interconnection over the period of this market review.

5.25 In relation to the second consideration, ComReg has previously observed that a significant proportion of calls terminated on Eircom's PSTN network are handed over at the last potential point of interconnection (i.e. the primary exchange or equivalent).

5.26 For calls terminating on an IP network with a flatter network topology and fewer switches, the closest hand-over point to the end user may be a central IP interconnect or equivalent. In this case, ComReg considers it appropriate to define the scope of the FVCT service from the last available point on the network at which the call can be physically handed over by the originating Service Provider, or its third-party Transit provider, to the FVCT supplier for completion to the relevant called party. This implies that the appropriate handover point for FVCT reflects the final point on the network at which the originating Service Provider can interconnect with the terminating FSP, and beyond which only the terminating FSP can complete the call to the called party's Geographic Number.

5.27 ComReg therefore identifies one characteristic of FVCT such that it is defined as being from the nearest point (to the end user) or equivalent level on the terminating network at which calls can be handed over by a Service Provider for termination (i.e. on a traditional PSTN network this would be at the primary exchange, whereas on an IP network this may be at a different point) of the Geographic Number for which the call is destined.

What is a Fixed Voice Call Termination (FVCT) Supplier?

5.28 To identify an FVCT candidate product, it is necessary to consider what constitutes an FVCT supplier:

(a) *Firstly*, given current practice, an FVCT supplier is an FSP that must be capable of providing FVCT for the purpose of completing calls to subscribers at fixed locations. Calls to users at a fixed location are currently routed to Geographic Numbers with final routing/switching of the call effectively determined based on individual subscribers' Geographic Numbers. In doing so, the terminating FSP will need to ascertain the location of the fixed user through the digit structure of the Geographic Number (and associated routing codes) and route the call to the end user terminal. FSPs, in providing call termination, will therefore control access to called parties, either through assignment of Geographic Numbers to them by ComReg, or through the transfer from one FSP to another of the Rights of Use to such a number. One respondent submitted that by identifying products with reference to numbers ComReg's final decision will be static and not allow for adaptability as the use of numbers changes[501]. ComReg recognises that innovation may serve, in the short to medium term, to weaken the connection between numbering and call termination, as call transmission may take place by means of new technologies. ComReg's position is that the assignment of Geographic Numbers remains a key feature of FVCT, given current practice and technologies, but may, as market circumstances warrant, and, should the need arise, revisit the issue in any future market review.

(b) *Secondly*, in order to provide call termination services an FVCT supplier must be interconnected with at least one other network. Absent this, all calls would effectively be on-net and no wholesale FVCT service would be provided. Given that FVCT forms part of a suite of wholesale interconnect services, it also follows that, to be considered a FVCT service, the supplier of FVCT should have the ability to set/control the associated FTRs for the relevant service. FSPs can be assigned to one of three categorisations, depending on the extent of their reliance on third-party network access, as set out below:

  (i) <u>Independent FSPs</u> provide voice call services to fixed subscribers using their own network infrastructure, and are generally not reliant on other operators. They generally have the ability to set the FTR for terminating calls to their subscribers.

[501] See paragraph A11.82 regarding Three's Submission in response to the Consultation and paragraph A11.98 for ComReg's assessment and response to this.

(ii) Partially-independent FSPs operate a physical telephone/data switch and potentially other infrastructure, but also rely (to varying degrees) on third-party network access. They may be defined as FVCT suppliers for the purpose of this market review, depending on their ability to set terms and conditions of access (including the FTR) for terminating calls to their subscribers.

(iii) FSPs with resale activities frequently do not use their own physical network for provision of voice services to end users at a fixed location (where own-network inputs are used they may be considered as partially independent FSPs described above). Instead, they purchase wholesale end-to-end voice call services from a third-party Service Provider. As those FSPs involved in resale activities do not generally control the level of the FTR in respect of such activities, they are generally not considered FVCT suppliers for the purposes of this review. FSPs providing FVCT services for calls incoming to Geographic Numbers offered by such resellers are considered relevant FVCT suppliers for the purposes of this market review.

(c) *Thirdly*, a technologically neutral approach to defining a FVCT supplier is considered, which is elaborated further below.

5.29 ComReg's position is that the starting point for the FVCT product market definition is such that FVCT has the following characteristics:

(a) it involves the provision of call completion services in respect of end users who receive calls at a fixed location, which implies control of the subscriber's Geographic Number that has been assigned (or transferred) to an individual FSP;

(b) the supplier of FVCT should have the ability to set/control the associated charges (FTRs) for the relevant wholesale service;

(c) it involves interconnection between networks; and

(d) it is technologically neutral (elaborated further below).

5.30 There has been a notable increase (since the 2007 FVCT Decision and, to a lesser extent, the 2012 FVCT Consultation) in the number of FSPs which are currently considered to meet the above criteria for offering FVCT services (such FSPs may be classified as **Group A**[502] (see Annex: 5) for the purposes of this Decision). ComReg is of the view that the FVCT services provided by these Group A FSPs fall for consideration within the Relevant FVCT Market(s) as discussed further below. ComReg has also identified two further groups of FSPs which are prospectively active in the supply of FVCT.

5.31 In the Consultation, a single **Group B** FSP, IP Telecom, was identified as having Geographic Number assignments and was in the process of negotiating interconnection with Eircom (and others), including their applicable FTRs. It furthermore had plans for commencing wholesale activity within the period of this market review. IP Telecom now directly provides/charges for wholesale termination services for calls incoming to its assigned Geographic Numbers and therefore falls within the Relevant FVCT Market[503] and has been moved into Group A. Accordingly, there are no FSPs in Group B at the date of this Decision[504].

[502] Eircom, BT Communications Ireland, Vodafone Ireland, Verizon Ireland, Virgin Media Ireland, PlanNet 21 Communications, Airspeed Communications, Colt Technology Services, Imagine Communications Ireland, Magnet Networks, Telcom, In2com, Finarea SA, Viatel Ireland, Blue Face (trading as Blueface), Modeva Networks, Equant Network Systems Ltd, Dialoga Servicios Interactivos SA, Intellicom Ireland, Magrathea Telecommunications, and Voxbone SA and IP Telecom.

[503] See case PL/2011/1260 where the Polish regulator, UKE, justified its decision not to carry out a market analysis or SMP designation for a new mobile entrant (AERO2) on the basis that AERO2 did not yet provide such services. However, in its serious doubts on the case, the European Commission criticised UKE's proposal indicating that this does not ensure regulatory predictability for market players. In BEREC's opinion on case PL/2011/1260, BEREC also noted that *ex ante* regulation differed from *ex post* competition law in the need to take a prospective approach. BEREC noted further that NRAs could consider an operator as active in the market (for the purposes of *ex ante* market analysis) when there is clear evidence that it will enter the market in the time horizon of analysis. The request of numbering resources or the initiation of interconnection agreements can be taken as indicators of such evidence. In this case, and from a forward-looking perspective, the market definition and SMP designation could be possible even in the absence of activity at the retail level.

[504] As noted earlier, two Additional FSPs have been identified since the publication of the Consultation.

5.32 The FSPs in **Group C** (see Annex: 5) have Geographic Number assignments and have indicated an intention to start supplying and charging for FVCT for calls to those Geographic Numbers within the next three years but do not yet have formal plans for commencing prospective wholesale and/or retail activity. ComReg is of the view that as the FSPs in Group C do not yet have formalised plans (including timing) regarding FVCT provision to third-party Service Providers, their entry is not yet sufficiently credible for explicit consideration as providing a service which falls within the Relevant FVCT Market(s) at this time. However, were such plans to materialise, then ComReg considers that there is a strong case to be made that such Group C FSPs would fall within the definition of the Relevant FVCT Market over the period of this market review.

5.33 In a dynamic sector it is recognised that the FSPs that supply FVCT may vary further over the lifetime of the market review. ComReg proposes to monitor any such developments and to consider those changes on a case-by-case basis where they arise. In doing so, ComReg intends to rely substantively on the current detailed assessment to identify whether any new-entrant FVCT suppliers meet the criteria, as set out in this Decision, including in paragraphs 5.28 and 5.29, for consideration as falling within the Relevant FVCT Market(s), and thus whether a competition assessment should accordingly be carried out.

5.34 In each case, the listed FSP is deemed to include any undertaking which it owns or controls and any undertaking which owns or controls it. The listed party also includes its successors, affiliates and assigns. This means that consolidation of companies by acquisition, creation of a subsidiary or any other changes of control should not affect the list. Where market entry or exit occurs, the list of FSPs will, however, require consideration.

Should FVCT be defined at the network or individual subscriber level?

5.35 ComReg could, in principle, conclude that each individual Geographic Number on a FSP network constitutes a separate product market. However, given the homogeneous conditions of competition and the presence of a common pricing constraint[505] for call termination to all subscribers of a particular FSP, ComReg's position is that the starting point for the definition of the Relevant FVCT Markets should include the provision of FVCT to all subscribers of an individual FSP, where such incoming calls are to a Geographic Number and received at a fixed location.[506]

5.36 This is consistent with the 2007 FVCT Decision and the 2012 FVCT Consultation, which define Relevant FVCT Markets corresponding to each network operator. This was based on issues including that undertakings that supply wholesale FVCT to other undertakings wishing to terminate calls did not price discriminate between termination charges to different subscribers or locations on their network.

Is FVCT part of a wider fixed services market?

5.37 ComReg considers it appropriate to take as its starting point the putative existence of separate markets for FVCT on individual FSP Geographic Number ranges, which are distinct from other wholesale or retail services provided by such FSPs. However, it may be argued that consumers purchase the ability to both make outgoing (originating) calls and receive incoming (terminating) calls as part of a single service/package, and that retail subscription decisions are therefore based on the cost of that overall package (i.e. that termination could form part of a cluster market incorporating wholesale and retail fixed voice services where FSPs compete on the overall price of the bundle). If this were to be the case, an FSP would be unable to raise the price of wholesale termination without reducing the price of other services in the bundle (e.g. outgoing retail (originating) calls).

[505] FSPs supplying FVCT do not currently differentiate (nor are they likely to) their FTRs on the basis of the particular Geographic Number/subscriber called. The FTR is the same irrespective of the Geographic Number/subscriber called and to alter this position would likely involve substantial investment in billing systems and potential technical difficulties. The situation in respect of incoming calls to value-added service providers ('**VASPs**') is different and is considered further below.

[506] Note that this does not mean that the supply of FVCT for one subscriber/Geographic Number is a substitute for the supply of FVCT to another subscriber/Geographic Number as neither will constrain each other's FTRs.

5.38 However, due in large part to the CPP principle, there is no evidence of significant consumer awareness or sensitivity to the cost of incoming calls at the retail level, or to the level of the wholesale FTRs applied by a particular FSP. Consumers do not appear to take these factors into account when making their retail subscription decisions. The 2016 Market Research cited extensively in Section 4 indicates that the cost of making outgoing calls is one of the top three most important factors for both SME and residential respondents when selecting a FSP.[507] Very few survey respondents indicated the cost of incoming calls as a key driver for their choice of FSP. Furthermore, respondents indicated a generally low awareness of the cost of calling specific FSPs, due to retail pricing structures not generally differentiating retail prices according to the network called. In addition, there is little, if any, dissemination of information at retail level that would make end users materially aware of FVCT charges and how these impact retail charges.

5.39 As a result, ComReg's position is that FVCO and FVCT at a fixed location do not form part of a broader cluster market.[508] Therefore, the provision of FVCT services for terminating calls to Geographic Numbers is analysed by ComReg in this market review.

What range of numbers should be included in the Relevant FVCT Market(s) for calls to end users at a fixed location?

5.40 In considering the scope of the FVCT product market, ComReg has considered the range of Geographic Numbers associated with the provision of FVCT. Calls to Geographic Numbers typically involve calls to end users and are terminated by the FSP controlling the termination point with which the called Geographic Number is associated. Call termination to Geographic Numbers is currently priced on a Calling Party Network Pays ('**CPNP**') basis. According to the CPNP principle, the FTR is levied by the terminating FSP on the originating Service Provider (whose subscriber initiated the call to the Geographic Number in question). A CPNP wholesale charging arrangement typically gives rise to a CPP retail charging arrangement. The operation of the CPP principle, in the case of calls to Geographic Numbers, contributes to a disconnect between the choice of making/paying for a retail call (including the associated FTR) which is determined by the calling party, and the choice of the FVCT supplier which is determined by the called party. This removes an important source of pricing constraint on the FVCT supplier in question.

[507] As set out in Figure 49 and Figure 50 above.

[508] In its 2015 FACO and Transit Decision, ComReg defined a wholesale Fixed Access and Call Origination ('**FACO**') product market consisting of separate Fixed Access ('**FA**') and Fixed Voice Call Origination ('**FVCO**') components.

5.41 For example, when an Irish mobile subscriber phones an Irish fixed-line subscriber, the called party's FSP levies an FTR on the calling party's MSP. The calling party does not see the FTR, as it is a wholesale rather than a retail charge. For this reason, the calling party does not separately take into account the magnitude of the FTR when deciding whether to initiate the call. Accordingly, the pricing behaviour of Service Providers levying termination rates is not likely to be disciplined by the behaviour of calling parties, who do not bear the direct and immediate cost of these rates. Moreover, Service Providers do not have clear incentives to levy comparatively low termination rates for the same reason.

5.42 Since the 2014 Recommendation defines the Relevant FVCT Market as "*wholesale call termination on individual public telephone networks provided at a fixed location*", ComReg takes the number range most frequently involved in supplying call termination services to end users at a fixed location (i.e. Geographic Numbers) as its candidate product for the definition of the Relevant FVCT Market(s), and assesses whether calls to other number ranges should form part of this relevant wholesale market.

Is FVCT to VASP numbers part of the Relevant FVCT Market(s)?

5.43 In its 2007 FVCT Decision, the 2012 FVCT Consultation and the Consultation, ComReg proposed that the wholesale termination of calls to value-added service providers ('**VASPs**')[509] was not in the same Relevant FVCT Market(s) as termination of calls to end users. This subsection identified that this distinction is still relevant for the purposes of the present market review.

[509] For the purposes of this Decision, the definition of '**VASPs**' in the above context is distinct to the definition of 'Service Provider' referred to in footnote 505 above. The term 'VASPs' is intended to refer to the fact that the ultimate recipient of the incoming voice call is not an end user but is rather a commercial or public entity such as a business, financial institution, helpline or government agency which uses the numbers to provide information/content/interactive services to enable customers/citizens to receive information and/or to make payments for services. By contrast the term 'Service Provider' is intended as a more generic term referring to all FSPs and MSPs which may be actively providing voice calls services to end users and/or commercial entities.

5.44 Calls to non-Geographic Numbers[510] typically involve calls to VASPs, rather than end users (although some involve calls to end users (i.e. 076 numbers) which will be discussed further below), and are terminated by the FSP routing the call to the termination point associated with the relevant non-Geographic Number. Across the EU, in view of the different substitution possibilities, calls to VASPs are generally excluded from the Relevant FVCT Market(s). Call termination to certain non-Geographic Numbers (frequently used for emergency or public interest services) has, however, been included in the Relevant FVCT Market definition in some cases where they are subject to similar supply and demand conditions as call termination to standard Geographic Numbers.[511]

[510] As defined in footnote 499 above.

[511] Examples can be found in cases LT/2015/1784, EE/2014/1664, DE/2012/1359, and RO/2008/0774. For example, the Romanian regulator included call termination to national short numbers for services of general public interest services such as citizen safety services (e.g., police), medical assistance services, public utilities' faults complaint services, citizen assistance (consumer protection) services, assistance for subscribers of electronic communications services (customer relations, service guides, etc.).

5.45 A range of non-Geographic Numbers are used for voice/data traffic, including Freephone,[512] Shared Cost,[513] Universal Access,[514] Premium Rate,[515] Internet Access,[516] Nomadic[517] and Emergency[518] numbers[519]. Depending on the type of call, different charging mechanisms apply. Retail charging mechanisms for various (non-exhaustive) categories of non-Geographic Numbers are further described below as follows and are subject to various requirements, including under the Numbering Conditions of use:[520]

(a) Freephone (1800) numbers allow the called party to be reached at no charge to the calling party. The costs of a call to a freephone number are borne entirely by the called party - the Receiving Party Pays ('**RPP**'), rather than the CPP, principle applies;

(b) Shared Cost (1850 and 1890) numbers allow the calling party to be charged for only part of the cost of the call, with the called party being charged for the remainder (i.e. they are subject to both the CPP and the RPP principles);

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512 As defined in the Numbering Conditions of Use, a non-Geographic Number where the charge for the call is paid by the called party and not the caller.

513 As defined in the Numbering Conditions of Use, a non-Geographic Number which is used for shared cost services which allow the caller to be charged for only part of the cost of the call, with the called party being charged for the remainder.

514 As defined in the Numbering Conditions of Use, a non-Geographic Number that allows the called party to receive calls at a single or several different locations.

515 As defined in the Numbering Conditions of Use, a non-Geographic Number that is used to provide Premium Rate Services.

516 As defined in the Numbering Conditions of Use, a non-Geographic Number that is used by internet service providers to route traffic from the PSTN, ISDN or mobile network to the point-of-presence (PoP) of the internet service provider.

517 As defined in the Numbering Conditions of Use, a non-Geographic Number that is used for services where the termination point is not always associated with a particular physical address but where an E.164 Number is required for call termination or to reach a gateway between the PSTN/ISDN/mobile network and other networks.

518 As described in the Numbering Conditions of Use, a call made to the Emergency Services using the 112 or 999 emergency services numbers.

519 As noted in paragraph 5.62 below ComReg has recently published its 2018 Non-Geographic Numbering Decision which sets out ComReg's final position in respect of the five categories of non-geographic numbers identified therein (076, 0818, 1800, 1850 and 1890)

520 The description of the retail charging arrangements for non-Geographic Numbers is in line with that set out in the Numbering Conditions of Use. Calls to short code numbers (such as to 19XX customer support short codes and to telecommunications directory enquiry access codes (118XX)) are also considered calls to a non-Geographic Number. Call termination to emergency numbers is, however, analysed separately at paragraph 5.72 to 5.78 below.

(c) Universal Access (e.g. 0818) numbers allow calls to be made to a central (typically corporate) number for re-routing to the appropriate response point, and are subject to the CPP principle. The costs of calls to universal access numbers shall not exceed the originating undertaking's standard rate for a call of the same duration to a Geographic Number. Where the rate for calling Geographic Numbers is distance dependent, the rate shall not exceed the originating undertaking's standard rate for a national call.

(d) Premium Rate (15XX) numbers - the calling party pays a premium charged by his or her Service Provider for access to premium rate (information or other added value content) services (i.e. CPP principle). A shared revenue model then applies whereby this premium is shared by commercial agreement between the various providers in the value chain;

(e) Internet Access (189X, other than 1890) numbers - the costs of calls to such numbers can be based on different models: separate charges for call (charged at or below the standard local call rate) and service subscription (1891); a (Pay As You Go) call charge only and no service subscription charge (1892); or partial or full flat rate whereby a fixed charge is applied to cover both the call and the internet service (1893). Internet access numbers were used for the purpose of providing dial-up internet services and are therefore of declining significance; and

(f) Nomadic (076) numbers are assigned to VoIP providers. The characteristics of calls to 076 numbers (e.g. the application of the CPP principle) are broadly in line with those of Geographic Numbers. According to the Numbering Conditions of Use,[521] the cost of calling such nomadic numbers from within the State shall not exceed the originating undertaking's standard rate for a call of the same duration to a Geographic Number.

5.46 As discussed above, the RPP principle applies to some types of calls to VASPs. Under the RPP principle the called party's FSP bills the called party for all or part of the cost of terminating the call. Hence, the RPP approach internalises the call externality as the called party would be more likely to take FTRs into consideration when choosing between different FSP services. For example, the RPP principle applies to Freephone (1800) calls where the VASP buys the call from the terminating operator on a wholesale basis.

[521] "Numbering Conditions of Use and Application Process", ComReg Document 15/136R1, as may be amended from time to time. Available online at https://www.comreg.ie/publication/numbering-conditions-of-use-and-application-process/

5.47 In contrast, in the case of calls to Geographic Numbers, the CPP contributes to a disconnect between the choice of making/paying for a call (including the associated FTR), which is determined by the calling party and the choice of the FVCT supplier, which is determined by the called party.

5.48 However, in the case of calls to certain types of non-Geographic Numbers, the operation of the CPP or RPP principle at retail level can have a less influential role in terms of relevant wholesale pricing constraints on the FVCT supplier. For example, even in instances where the CPP principle applies, VASPs using some of the above non-Geographic Number categories as a means for customers/clients to contact them may have an incentive to switch to an alternative terminating FSP for hosting the service platform if the termination fee were raised. VASPs attract revenues from customers through telephone calls to their services and therefore have an incentive to take into account the cost of FVCT when selecting the platform operator, since the cost of termination affects the revenue accruing to the VASP.[522] This is distinct from the situation with wholesale termination of calls to Geographic Numbers where the end users do not face the same competitive constraints and revenue incentives as VASPs, and are thus less sensitive to FTRs set by their own FSP.

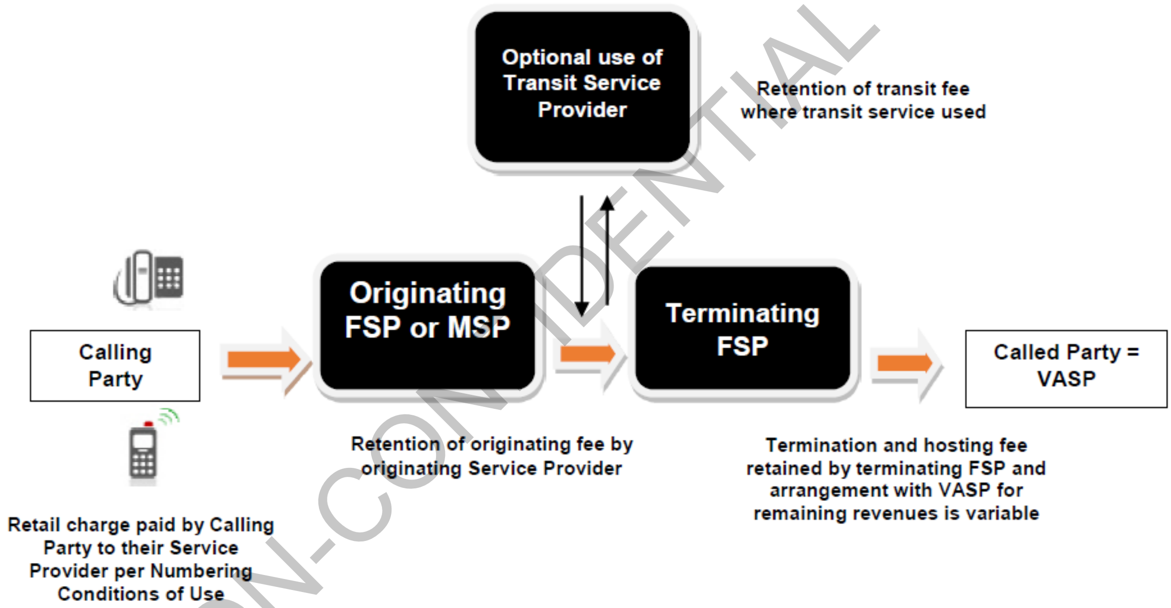
5.49 Premium Rate Service ('**PRS**') numbers have specific revenue-sharing features which make them attractive to certain categories of VASPs. A distinguishing feature of calls to PRS numbers is that part of the revenue stream accrues to the hosting (i.e. terminating) operator from the VASP (i.e. the Premium Rate Service operator). In this case, the business model for the hosting FSP is that it receives payment from the VASP for hosting the service, or shares retail revenues with it in some way, or a combination of both. This is unlike both normal geographic calls and other forms of non-geographic calls where the only revenue received by the terminating FSP is that from the termination charge itself.

5.50 Examples of the flow of revenues between parties involved in the origination, transit and termination of calls to non-Geographic Numbers are illustrated in Figure 60 and Figure 61 below. For illustrative purposes, Figure 60 depicts a situation where the calling party pays for the non-geographic call and Figure 61 depicts a situation where the called party pays for the non-geographic call.

[522] This revenue accrues **directly** in the case of 15XX Premium Rate Service numbers, which are a specific instance of VASPs which allow for revenue sharing between the FSP and the VASP in question, i.e. the premium retail tariff revenue itself may be divided between the FSP and the VASP. In the case of other VASPs, the revenue accrues **indirectly**, as the telephone contact affords the VASP a sales opportunity for the products or services which it sells, or allows consumers to pay the VASP for services rendered (for example, paying a motorway toll over the phone).

5.51 Figure 60 below shows how, in the case of a CPP arrangement, a proportion of the retail charge paid by the calling party is retained by each party in the value chain with the originating (and where appropriate Transit) Service Provider taking an agreed share of the remaining revenue. The form of revenue arrangement between the terminating FSP and the VASP varies from case to case (e.g. in the case of 15XX Premium Rate Service numbers, the terminating FSP may pay the VASP as part of a revenue share agreement, whilst the VASP may pay the terminating FSP for services such as hosting).[523] In the case of PRS calls, revenue flows between the terminating FSP and the VASP change the incentives to the hosting (terminating) FSP, in that revenues for both the terminating FSP and the VASP increase as the number of calls made increases.

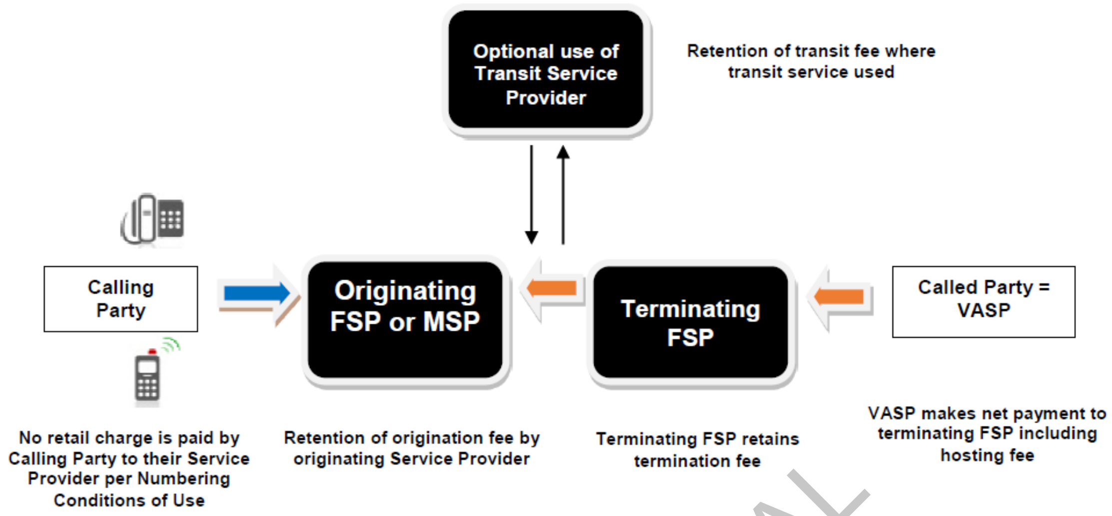
Figure 60: Revenue arrangements for calls to non-Geographic Numbers where <u>Calling Party Pays</u>



5.52 Figure 61 (stylised) shows how, in the case of a RPP arrangement (i.e. a Freephone 1800 number), a proportion of the VASP payment is retained by each party in the value chain with the terminating FSP typically passing revenue onwards to a Transit or originating Service Provider after retaining a share.

[523] This scenario may describe, for instance, the charging mechanisms set out in the case of Shared Cost or Premium Rate Service Numbers, as set out in Section 4 of the Numbering Conditions of Use.

Figure 61: Revenue arrangements for calls to non-Geographic Numbers where <u>Receiving Party Pays</u>



5.53 The revenue flows between the terminating FSP and the VASP change the incentives to the hosting (terminating) FSP, in that (direct) revenues for the terminating FSP and (indirect) revenues for the VASP such as, e.g., bill payments over the phone increase as the number of calls made increases. In an RPP scenario, a VASP's costs may increase if its FSP increases its FTRs. In contrast, in a CPP scenario, the called party's costs do not increase if its FSP increases its FTRs. Where the called party is sensitive to increases in FTRs, this may increase the incentive for the called party to switch to a FSP which charges lower FTRs, to switch to other communications methods which are free to the caller (e.g. email or webchat), or to switch to a CPP number.

5.54 Furthermore, originating Service Providers have a greater degree of control in this RPP context since the practice in the State is that the originating Service Provider collects the retail call revenue and remits the agreed revenue (less any retained origination fee, as set out in Figure 60 and Figure 61 above) to the terminating FSP. In such scenarios, market power may lie with the originating Service Provider, which charges the terminating Service Provider an origination fee. It may not make sense for the hosting (terminating) FSP to refuse or compromise completion of the call since in doing so it would deny itself and its VASP their share of retail call revenues. It is therefore less likely that a hosting (terminating) FSP would be able to act entirely independently of competitive constraints. For these reasons, ComReg is of the view that calls to non-Geographic Numbers for the purposes of availing of value-added services (VASP numbers) are not in the Relevant FVCT Market, and may well constitute a separate market, although ComReg does not conclude on this.

Is FVCT to Universal Access (0818) numbers part of the Relevant FVCT Market(s)?

5.55 As set out above, Universal Access (e.g. 0818) numbers allow calls to be made to a central (typically corporate) number for re-routing to the appropriate response point, and are subject to the CPP principle. 0818 numbers are therefore typically assigned to corporate bodies, and not to individuals. As with 076 calls, the cost of calls to 0818 numbers shall not exceed the originating undertaking's standard rate for a call of the same duration to a Geographic Number. Where the rate for calling Geographic Numbers is distance dependent, the rate shall not exceed the originating undertaking's standard rate applicable for a national call.

5.56 This creates a similarity between 0818 and Geographic Numbers. However, similarities in retail usage and prices for geographic and 0818 numbers respectively are not the solely decisive criteria. Rather, ComReg's view is that, unlike Geographic Numbers and 076 numbers,[524] Geographic Numbers and 0818 numbers have different competitive characteristics at the wholesale level. These characteristics include differences in end user awareness (including the receiving party) and incentives in respect of the level of the FTRs applied, as well as differences in the revenue opportunities which accrue to terminating FSPs in respect of calls incoming to such 0818 numbers.

[524] As discussed in greater detail at paragraphs 5.66 to 5.71 below.

ComReg's Consideration of Respondents' Views

5.57 In its Submission, Three indicated that it did not agree with ComReg that 0818 numbers display different competitive characteristics at the wholesale level[525] (and by implication, that calls to such numbers should be included within the definition of the Relevant FVCT Market). In particular, Three argued that due to the fact that feed-through of the FTR to the caller is "diluted" and given that the originating operator must connect the call, it follows that the 0818 service provider (who might terminate the call directly) would not have any concern for the level of the FTR, nor would the 0818 service provider's customer (the called party). Further this Respondent submitted that it would not be practical for the originating operator to pass on FVCT price increases from individual terminating service providers as the originating operator would have to charge multiple retail prices for calls to different 0818 numbers. Consequently, Three was of the view that ComReg's proposed exclusion of 0818 numbers from the definition of the Relevant FVCT Market is inconsistent with ComReg's treatment of the other products that have the same functional and economic characteristics and ComReg should, therefore, include calls to 0818 numbers in the Relevant FVCT Market.

[525] Three Submission pages 4 to 8. See also Annex: 11 paragraph A11.84 of this Decision.

5.58 ComReg does not agree with this assessment[526] although it recognises that some of the issues raised by Three can impact on calling and called parties' sensitivities to the cost of calling 0818 numbers. Universal Access Numbers (using the 0818 number range) are mainly used for the purposes of providing business and information services to consumers – for example, telephone banking, customer care helplines etc. In most cases, Universal Access (0818) numbers are used for calls to VASPs. The use of such numbers allow for value added features such as Non Geographic Number (NGN) translation services which are delivered using a serving operators Intelligent Network[527] platform. Depending on the specific operator platforms capabilities, value added features such as Time Origin-Dependent Routing, Time-Dependent Routing, Percentage Routing, Re-route on Busy, Re-Route on No Reply and flexible combinations of these features can then be applied to the 0818 numbers[528]. Such features are not normally available for 076 and Geographic Number applications. Contrary to Three's view, as set out in the Consultation, ComReg's view is that VASPs using 0818 numbers are currently more likely to be sensitive to the termination charges applied by their terminating FSP, as a VASP is using such 0818 phone numbers as a sales or payment or other customer contact opportunity from calling parties (e.g. bank customers wishing to pay a bill, or consumers wishing to buy a ticket to a concert). As noted above, retail charges for calls to 0818 numbers are currently set such that the cost of calls to 0818 numbers shall not exceed the originating undertaking's standard rate for a call of the same duration to a Geographic Number. However, such calls are typically excluded from bundled minutes[529] offered by SPs, such that the calling party pays for these calls on a per call basis. Given the above, called party VASPs are therefore likely to be more sensitive to the FTRs charged by their host SP (relative to other geographic numbers), given that they feed into the cost faced by calling parties (who are seeking to engage with them). This differs from the markets for FVCT to Geographic Numbers, where the FTRs set by FSPs are not influenced by the behaviour of their own customers (calling parties do not choose their FSP based on its FTR given that the CPP principle means that the calling party does not incur that charge).

[526] See also Annex: 11 Paragraph A11.99.

[527] PRINCIPLES OF INTELLIGENT NETWORK ARCHITECTURE: ITU Recommendation I.312 / Q.1201

[528] Origin-Dependent Routing: For Example calls to a NGN originating in the Cork area (021) delivered to an 021 answering location and calls to the same NGN originating in the Dublin area (01) sent to an 01 answering location etc.

5.59 Accordingly, compared to typical Geographic Number called parties, called parties on 0818 numbers are likely to be more incentivised to have greater awareness of the FTRs charged by their FSP, as 0818 numbers provide such called parties with indirect revenue-generating opportunities. In particular, VASPs are more likely to choose SPs or switch away from SPs seeking to impose an increase in FTRs for calls from 0818 numbers as such an increase (on the basis such costs factored into calling parties retail call prices) would impact negatively on the VASPs revenue generating or customer management potential.

Time dependent Routing: For example calls to a NGN originating weekdays 9-5 sent to an office answering location and calls to the same NGN delivered to an alternative location at weekends and evenings

Percentage Routing: For example calls to a NGN 60% delivered to one location and 40% delivered to another location

Re-route on Busy, Re-Route on No Reply: : For example calls delivered to a NGN at one location but if that location is busy or if there is no reply the call re-routes to and alternative location.

See https://business.eir.ie/product/national-telemarketing-services/#tab-2

[529] However, as discussed below, a 2018 Non-Geographic Numbering Decision has introduced certain changes which may impact this in the future.

5.60 Taking the example of an approach adopted by another EU NRA, in its December 2016 Narrowband market review consultation,[530] and subsequent decision[531], the UK Office of Communications, ('**Ofcom**'), indicated that it considered that the equivalent numbering range in the UK (03 numbers) should be excluded from the Relevant Wholesale Call Termination Market, on the grounds including that wholesale call termination to 03 numbers and to Geographic Numbers does not exhibit sufficiently homogeneous competitive conditions. Unlike Geographic Numbers, Ofcom noted that FSPs terminating 03 calls offer hosting services such as call management, conditional call routing and recorded announcements in addition to FVCT, which are valued by VASPs and are likely to influence their purchasing decisions. Additionally, Ofcom noted that service providers are sensitive to the termination charges levied by terminating CPs, either due to revenue sharing agreements, or to the extent that these termination charges are passed through to the originating CP's retail prices, with this differing from FVCT for termination to geographic numbers, where the FTRs set by terminating FSPs are not influenced by the behaviour of their own subscribers (callers typically do not choose their service provider based on its termination rate as the CPP principle means that the caller does not incur that charge).

5.61 On these bases, it is ComReg's position that FVCT to 0818 numbers is subject to sufficiently different competitive characteristics to FVCT to Geographic Numbers more generally, and should therefore be excluded from the Relevant FVCT Markets(s).

[530] Ofcom, "Narrowband Market Review Consultation on the proposed markets, market power determinations and remedies for wholesale call termination, wholesale call origination and wholesale narrowband access markets", at paragraphs 11.48 onwards. Available online at https://www.ofcom.org.uk/__data/assets/pdf_file/0016/95011/Narrowband-Market-Review.pdf.

[531] Ofcom, "Narrowband Market Review Statement on Markets, market power determinations and remedies for wholesale call termination, wholesale call origination and wholesale narrowband access markets", November 2017 https://www.ofcom.org.uk/__data/assets/pdf_file/0020/108353/final-statement-narrowband-market-review.pdf

5.62 ComReg has recently published its 2018 Non-Geographic Numbering Decision[532] which sets out ComReg's final position in respect of the five categories of non-geographic numbers identified therein (076, 0818, 1800, 1850 and 1890). In the Decision, ComReg outlines that over a three year transition period it will cease issuing numbers in the 076[533], 1850 and 1890 number ranges, and will streamline non-geographic numbers to the Freephone 1800 range, and the Non-Freephone 0818 range, which it will designate as being 'geo-linked', thus requiring, as is currently the case, that retail charges for calls made to 0818 numbers be no greater than the charges for equivalent calls to geographic numbers.

5.63 In the 2018 Non-Geographic Numbering Decision ComReg has set down 1 December 2019 as the implementation date for 'geo-linking'. The geo-linking condition will require SPs not to exceed the retail tariff that would be charged for a national call made to a geographic number at the same time. It follows from the geo-linking condition that for any originating SP that includes geographic number calls in-bundle, such originating SPs will also be required to include its customers' 0818 calls in-bundle. Therefore, from 1 December 2019 originating SPs will no longer charge out of bundle rates for 0818 numbers. This may have implications on called parties who will no longer be faced with an identifiable charge for making 0818 calls, where they have bundled minutes within their price plan. Consequently, callers may be relatively less sensitive to the impact of changes in the termination rates (to the extent passed through) on the cost to them of making 0818 calls where these are now part of bundled offerings, compared to the current scenario where callers are faced with an identifiable out of bundle rate. This, in turn, may reduce the called party sensitivity to the cost faced by calling parties.

[532] Review of Non-Geographic Numbers, Response to Consultation 18/65 and Decision, ComReg Document Number 18/106, Decision D15/18, 3 December 2018 ('**2018 Non-Geographic Numbering Decision**'), available online at https://www.comreg.ie/publication/review-of-non-geographic-numbers-response-to-consultation-18-65-and-decision/.

[533] With the exception of 076 numbers used for emergency services and exceptional circumstances as identified by ComReg

5.64 At the wholesale level, ComReg has indicated that it may carry out an assessment of wholesale charges levied by originating SPs on terminating SPs for calls to non-geographic numbers.[534] In the case of calls to 0818 numbers, there are currently settlement arrangements between originating and terminating SPs in which originating SPs can pass on a portion of the revenue earned from 0818 calls to the terminating SPs. ComReg notes that the context of the current settlement regime[535] has been one in which neither the originating SPs nor the terminating SPs have been subject to any price control at the wholesale level in respect of the level of charges. This may have an impact on the ability of the originating and terminating SPs to constrain each other in negotiating a mutually beneficial settlement arrangement. ComReg is mindful that any changes to the wholesale regulation of non-geographic numbers (including 0818 numbers) could change the nature of negotiations between originating and terminating SPs and, consequently, the level of charges they seek to impose on each other.

5.65 ComReg recognises that the introduction of changes arising from the implementation of the 2018 Non-Geographic Numbering Decision could lead to changes in how 0818 numbers are used by VASPs, as well as the competitive characteristics at the wholesale and retail level. ComReg intends to further consider question as to whether 0818 numbers fall within the definition of the Relevant FVCT Markets and, if appropriate, will further consult on this matter.

[534] See paragraphs 111, 239 and 240 in the 2018 Non-Geographic Numbering Decision.

[535] In the current settlement regime the originating SP retains a portion of the retail tariff that the 0818 caller pays to the originating SP and pays a portion (i.e., a settlement rate) to the terminating SP. See paragraph 225 of 2018 Non-Geographic Numbering Decision.

Is FVCT to Nomadic (076) numbers part of the Relevant FVCT Market(s)?

5.66 A distinct category of non-Geographic Numbers shares, in terms of its underlying wholesale arrangements, similar competitive characteristics to the provision of FVCT to Geographic Numbers. Nomadic numbers and services[536] (using the 076 number range) are mainly used for the purposes of VoIP services but are also available for use by other suitable IP-based services and services with nomadic characteristics.[537] Unlike geographic ranges, these numbers may be assigned to individuals as well as to termination points and, unlike most non-Geographic Numbers, number translation may not necessarily be required[538] with the 076 range. However, the 2017 Consumer NGN Numbering Research commissioned by ComReg indicates that consumers have limited understanding of the role of certain non-Geographic Numbers including 076 numbers.[539]

5.67 As noted above, ComReg has recently published its 2018 Non-Geographic Numbering Decision wherein ComReg outlines that over a three year transition period it will cease issuing numbers in the 076, 1850 and 1890 number ranges, and will streamline non-geographic numbers to the Freephone 1800 range, and the Non-Freephone 0818 range. However, given the need for transitional arrangements, calls will nonetheless continue to terminate on this number range for the next number of years.

[536] Nomadic numbers are designated for use where the termination point is not always associated with a particular physical address but where an E.164 Number is required for call termination or to reach a gateway between the PSTN / ISDN/ mobile network and other networks (e.g. for VoIP services).

[537] The other number range that is most associated with VoIP is the geographic range which is used for the provision of wholesale termination services of calls to end users at a fixed location.

[538] Number translation is required when non-Geographic Numbers have no physical destination of their own but can reach real destinations and/or services once converted into geographic/mobile numbers.

[539] For example, just 16% of consumer respondents were aware of the '076' NGN prefix, see slide 27. Just 32% of respondents correctly identified that '1850' calls are charged on a per call basis, see slide 44. Just 21% of respondents identified that calls to '076' numbers are charged on a per minute basis, see slide 45, and 59% of respondents believe that the caller pays some or all of the cost of a call to a '1800' number, see slide 10.

The 2017 Consumer NGN Numbering Research is available at: https://www.comreg.ie/publication/ba-consumer-study-non-geographic-numbering/

5.68 Furthermore, the Numbering Conditions of Use state that the retail tariffs of calls to 076 numbers should not exceed the retail tariff for a call of the same duration to Irish Geographic Numbers, thus further increasing the similarity between 076 and Geographic Numbers. However, similarities in retail usage and prices for geographic and 076 numbers respectively are not the solely decisive criteria. Rather, ComReg's view that both call types share sufficiently similar competitive characteristics at the wholesale level is based on similarities in end user awareness/incentives in respect of the level of the FTRs applied, as well as similarities in the revenue opportunities which accrue to terminating FSPs in respect of calls incoming to such numbers.

5.69 In most cases nomadic (076) numbers are used for calls to end users at a fixed location rather than for calls to VASPs. Therefore, the revenue flows and resulting competitive conditions in the wholesale termination of calls to 076 numbers are more likely to resemble the revenue flows and competitive conditions in the supply of FVCT for calls to Geographic Numbers. It is unlikely that an end user of 076 numbers would be as sensitive to the termination charges applied as a VASP which is using its phone numbers as a sales or payment generation opportunity from its calling parties (i.e. customers) and thus looking for the platform operator which charges the lowest FTRs. As for geographic calls, the terminating leg of calls to 076 numbers generally presents fewer revenue opportunities for the terminating FSP than in the case of calls to numbers used by VASPs, for which hosting revenues may also accrue. This removes a further source of possible pricing constraint on the FSP terminating calls to 076 numbers.

<u>ComReg's Consideration of Respondents' Views</u>

5.70 One Respondent (Eircom) suggested that 076 numbers should be removed from the definition of fixed numbers and thus from the Relevant FVCT Market[540]. However, ComReg's analysis has not yielded material evidence that there are any demand or supply-side substitutes for call termination to 076 numbers, or that technical alternatives exist by which a call to a 076 number could be successfully terminated without the co-operation of the terminating FSP. This is reinforced by the fact that the CPP principle applies for calls to 076 numbers and the called parties (who choose the terminating FSP) thus have fewer incentives to react to the level of the FTR. Similarly, as noted in Section 4, calling parties are also unlikely to effectively indirectly constrain a HM supplier of FVCT to 076 numbers. While the *Numbering Conditions of Use* limit the retail cost of a call to 076 numbers, they do not extend to the wholesale FTRs charged by the terminating FSP.

[540] See paragraphs A11.85 of Annex: 11 for further details on the Respondent's Submission on this and A11.100 and A11.101 for ComReg's assessment of the Respondent's views.

5.71 On this basis, it is ComReg's position that FVCT to 076 numbers is subject to sufficiently similar competitive characteristics as FVCT to Geographic Numbers and is therefore to be included in the same Relevant FVCT Market(s) as call termination to Geographic Numbers.

Is FVCT to emergency (112 & 999) numbers part of Relevant FVCT Market(s)?

5.72 Some National Regulatory Authorities ('**NRAs**') include FVCT to certain categories of non-Geographic Numbers (such as for emergency services) in their Relevant FVCT Market definition, because it is similarly characterised by Significant Market Power and, therefore, a lack of competition. ComReg accordingly considers whether the provision of FVCT to emergency 112 and 999 numbers should form part of the Relevant FVCT Market(s) in Ireland.

5.73 ComReg is of the view that FVCT to emergency numbers shares sufficiently similar competitive conditions to FVCT to Geographic Numbers, since there are currently no effective demand-side or supply-side substitutes for FVCT to emergency numbers, for the reasons set out at Section 4 above in respect of FVCT. This suggests that FVCT to emergency numbers should be included in the same relevant market as FVCT to Geographic Numbers. However, before reaching a conclusion on this matter, ComReg assesses whether FVCT to emergency numbers has any distinctive competitive conditions which might cause it to be excluded from the relevant market.

5.74 The Emergency Call Answering Service ('**ECAS**') for calls to 112 and 999 numbers is provided by BT Communications (Ireland) Limited, which was appointed by the then-Department of Communications, Marine and Natural Resources as the provider of the ECAS in 2009.[541] All emergency 112 and 999 calls are free of charge to the caller, as required by EU legislation. In order to recover the costs of providing the ECAS, BT charges a Call Handling Fee ('**CHF**') to Service Providers for calls which originate on their networks, as set out in Section 58C of the Communications Regulation Act 2002 (as amended). For the period February 2018 to February 2019, the maximum CHF that the ECAS may charge to Service Providers who forward 112/999 calls to it is €3.07[542].

[541] See https://www.dccae.gov.ie/en-ie/news-and-media/press-releases/Pages/Minister-Naughten-appoints-BT-Ireland-as-the-operator-of-the-Emergency-Call-Answering-Service-(ECAS)-in-Ireland.aspx.

[542] See https://www.comreg.ie/publication/emergency-call-answering-service-call-handling-fee-review-4/.

5.75 A 2014 Report drafted by TERA Consultants on behalf of ComReg noted that the costs incurred by BT in the provision of the ECAS included termination charges.[543] An earlier edition of this Report, dating from 2011, indicated that BT paid FTRs associated with terminating calls to the various emergency services:

> *"About interconnect costs, BT pays for the fixed termination charges to emergency services (An Garda Siochana, Ambulance etc.) for connected calls".*[544]

5.76 When a member of the public dials 112 or 999, that call is routed to one of three ECAS Public Safety Answering Points ('**PSAPs**') operated by BT Communications in Navan, Ballyshannon and Dublin, with BT routing the call to the relevant emergency service. BT Communications pays FTRs to each emergency service's terminating FSP for connected calls from BT's PSAPs. The cost to BT Communications of paying these FTRs is included in the calculation of the CHF.

5.77 Under Section 58D(1) of the Communications Regulation Act 2002 (as amended), each year, ComReg is required to review the maximum CHF that may be charged. ComReg may confirm the existing maximum CHF or, following consultation with the ECAS provider, raise or lower the existing maximum CHF. Accordingly, the ECAS CHF framework is already subject to a pre-existing regulatory framework – including price regulation - pursuant to the Communications Regulation Act 2002 (as amended), and ComReg is statutorily obliged to implement and oversee the CHF regulatory framework. This suggests, *a priori*, that the provision of the ECAS and the associated CHF charging mechanism requires regulatory intervention, due to the absence of normal competitive pressures.

[543] TERA Consultants, 2014. "Recommendations for a reasonable Call Handling Fee (CHF) associated with the Emergency Call Answering Services (ECAS) - Final report", at p.46. Available online at https://www.comreg.ie/publication-download/recommendations-for-a-reasonable-call-handling-fee-associated-with-the-emergency-call-answering-services

[544] TERA Consultants, 2011. "Recommendations for a reasonable Call Handling Fee (CHF) associated with the Emergency Call Answering Services (ECAS) - Final report", at p.59. Available online at https://www.comreg.ie//media/dlm_uploads/2015/12/ComReg1181a.pdf

5.78 One such ‘normal competitive pressure’ is the possibility of demand-side substitution, whereby a Service Provider constrains its behaviour on a market, (for instance, the prices it charges) lest its customers deem these prices to be excessive, and switch to an alternative Service Provider. Emergency services (such as An Garda Síochána, or the HSE National Ambulance Service) do not appear to have the incentive (or indeed the ability) to constrain the level of the prices (i.e. FTRs) charged by their terminating FSPs to BT Communications. Emergency services do not bear the costs of the FTRs levied by their own FSPs, and are therefore likely to be generally indifferent to the level of FTRs charged. For that reason, emergency services do not have sufficient incentives to switch terminating FSP in the case of a SSNIP in FTRs by their own FSP.

ComReg’s Consideration of Respondents' Views

5.79 One Respondent (Eircom) questioned whether emergency numbers should be removed from the definition of fixed numbers and the Relevant FVCT Markets, as it considered that calls to such numbers are already subject to a separate CHF [545]. ComReg maintains its view that FVCT for emergency numbers does not exhibit sufficiently different competitive conditions to those associated with the supply of FVCT for Geographic Numbers (including 076 numbers). In particular, as noted above, BT Communications pays FTRs to each emergency service’s terminating FSP for connected calls from BT’s PSAPs. Furthermore, ComReg considers that such terminating FSPs are not likely to be indirectly constrained by the behaviour of the emergency services (the called party). ComReg has also noted above that the FTR associated with calls to emergency numbers is simply included within the CHF and paid by BT to each emergency service’s terminating FSP for connected calls from BT’s PSAPs. However, the level of the FTR is not set by BT, but by the terminating SP. It is thus ComReg’s position that FVCT for calls to emergency numbers is in the same Relevant FVCT Market(s) as call termination services to end users using Geographic Numbers and 076 numbers.

Conclusion on Number Ranges included in Relevant FVCT Market(s)

5.80 On the basis of this analysis, ComReg’s position is that the Relevant FVCT Market includes the provision of FVCT services to all Geographic Numbers, to 076 numbers, and to emergency 112/999 numbers. Currently there are 33 authorised undertakings with assigned Geographic Number ranges and 50 undertakings with assigned nomadic 076 numbers in the State. 22 undertakings have been assigned both geographic and nomadic numbers.

[545] See paragraphs A11.85 of Annex: 11 for further details on this Respondent’s submission in this regard.

5.81 For the purposes of this Decision the term 'Fixed Numbers' is hereinafter used to collectively refer to all Geographic Numbers, nomadic 076, and 112/999 numbers, as have been, or may be, assigned to FSPs from time to time.

Is the Relevant FVCT Market technology neutral?

5.82 Across the EU, the FVCT market has frequently been defined independently of the underlying technology over which the service is delivered. Thus, termination of calls at fixed locations using VoIP has been included in the Relevant FVCT Market by a number of Member States.[546]

5.83 ComReg adopts a technology neutral approach to defining the Relevant FVCT Market[547] and will include in the relevant market all FVCT services which share similar economic and functional characteristics regardless of the underlying technology on which such call termination is based.

Is FVCT delivered over Voice over Internet Protocol ('VoIP') technology in the same Relevant FVCT Market as FVCT using traditional narrowband[548] voice technology?

5.84 A key development since the last market review has been the growth in VoIP telephony. For the purposes of this Decision, ComReg considers VoIP services according to three broad categories: Managed VoIP, Partially-Managed VoIP and Unmanaged VoIP services.

(i) Managed and Partially-Managed VoIP Services

5.85 Managed VoIP means that the Service Provider provides RFTS and an IP access path to its customer, either directly on its own network, or indirectly by renting the IP access path from a third-party (e.g. using Wholesale Local Access or Wholesale Central Access inputs).

5.86 A Managed VoIP Service Provider will typically have its own switching platform, Interconnection Path(s) and numbering allocations. It can also manage its network so that it prioritises data traffic or can manage the quality of VoIP traffic on the IP access path in order to ensure that minimum quality of service requirements for the provision of RFVC are met.

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[546] See, for example, cases DE/2008/0843, LV/2009/0889 and IT/2008/0777.

[547] In accordance with Regulation 16(1)(a) of the Framework Regulations.

[548] Narrowband voice technology includes voice calls carried by means of both Public Switched Telephone Network ('**PSTN**') and Integrated Services Digital Network ('**ISDN**') technology. This approach is consistent with that adopted by ComReg in classifying fixed voice access paths in its QKDR.

5.87 Partially-Managed VoIP means that the RFVC Service Provider does not provide the access path to its customers. Instead, the customer uses its own broadband service (procured from another Service Provider) to access the VoIP-based RFVC service. The partially-managed VoIP Service Provider operates a switch and Interconnection Path(s) and, therefore, its own switching platform and numbering allocations.

5.88 Having regard to the increasing uptake of VoIP services and the fact that a number of (Managed and Partially-Managed) VoIP-based FSPs have, to date, been assigned Geographic Numbers, ComReg considers whether FVCT to Geographic Numbers using VoIP technology forms part of the Relevant FVCT Market(s). In this subsection ComReg assesses whether the competitive characteristics of the wholesale supply of FVCT to Geographic Numbers over both Managed and Partially-Managed VoIP, and Narrowband technologies respectively justify their inclusion in the same Relevant FVCT market(s).

5.89 On the **demand side**, given the nature of FVCT, an originating Service Provider does not currently have any viable and effective alternatives for terminating a voice call to a subscriber of an individual FSP with Geographic Numbers (and Fixed Numbers), irrespective of the underlying technology used. It is not possible for an originating (or transiting) Service Provider to terminate a call to a specific Geographic Number (and Fixed Number) (where a VoIP service is used) by purchasing termination on another FSP's network. The CPP principle applies in respect of FVCT to Geographic Numbers (and Fixed Numbers) irrespective of the underlying technology (i.e. VoIP, PSTN, ISDN or other technology). The same low awareness / sensitivity of the called party would thus apply in respect of FVCT services offered for calls to such Geographic Numbers independently of the underlying technology used.

5.90 Looking ahead to the medium term, based on the evidence available to ComReg there do not appear to be any technological or other changes that would lead to the emergence of effective alternatives which would allow Service Providers to bypass FVCT offered by an FSP to which Fixed Numbers have been assigned, even where the underlying technology is based on Managed/Partially-Managed VoIP technology. This is discussed in detail below.

5.91 On the **supply side**, potential supply-side substitutes for FVCT to a Fixed Number would require a parallel access path to the subscriber. This requirement applies irrespective of whether that Fixed Number is assigned to an FSP that operates based on narrowband (PSTN or ISDN) or VoIP technology. The subscriber would also have to be willing and able to receive calls on this parallel access path. In practice this would likely require the customer to hold two active subscriptions. Given the limited awareness and sensitivity of end users to the costs faced by others calling them, it is unlikely that a called party would have sufficient incentive to seek the parallel access path from an alternative FSP in the case of a SSNIP of FTRs. It should, moreover, be noted that the parallel access path could be subject to the same competitive bottleneck as the 'original' access path.

5.92 This low sensitivity to called party costs was confirmed by the 2016 Market Research, as set out in detail in Section 4.[549] Furthermore, a very low number of residential and business respondents who had switched providers in the past three years cited costs faced by others when calling them as a top three reason for choosing their FSP, and no respondent cited it as their main reason for switching FSP.

5.93 On the basis of the above analysis, ComReg's position is that the competitive conditions underlying the provision of FVCT using Managed or Partially-Managed VoIP technologies are sufficiently similar to those underlying the provision of FVCT services using traditional narrowband voice technology. It is therefore proposed that FVCT provided over Managed and Partially-Managed VoIP technology be included in the Relevant FVCT Markets.

(ii) Unmanaged VoIP Services

5.94 Unmanaged VoIP means that the Service Provider itself does not provide the access paths to its customers and does not have a switching platform and interconnection path(s). Its customers must access the Unmanaged VoIP service via the public internet or over other applications using their broadband connection provided by another supplier.

5.95 Unmanaged VoIP Service Providers can be distinguished from the other narrowband and Managed and Partially-Managed VoIP Service Providers discussed above on the basis of the following characteristics:

(a) Unmanaged VoIP Service Providers typically have no control over the quality of voice services provided. This is because they rely entirely on third-party Service Providers to supply the supporting broadband connection and access path to the end user;

[549] See paragraph 4.91 to 4.94 and 4.104 above.

(b) As Unmanaged VoIP calls are predominantly transmitted over the internet, low-cost retail pricing structures have evolved in respect of such services, particularly in respect of VoIP-to-VoIP calls;

(c) Unmanaged on-net VoIP communications require both parties to use the same client or application, and cross-application voice calls (e.g. from a WhatsApp user to a Skype user) are not currently possible;

(d) As noted in paragraphs 4.149, the 2016 Market Research indicated different trends in end user preferences and usage of Unmanaged VoIP services compared to traditional fixed voice telephony methods;

(e) No Unmanaged VoIP Service Provider is currently authorised by ComReg, nor has any such provider been assigned a numbering range by ComReg. Accordingly, no such provider is currently entitled to directly provide termination services, or levy termination fees;

(f) Unmanaged VoIP communications have traditionally not involved the widespread use of Geographic Numbers. However, this distinction is becoming less relevant where Unmanaged VoIP operators, such as Skype, can obtain rights of use to Fixed Numbers, either directly from ComReg, or from third-party FSPs and terminate incoming calls to subscribers using those numbers either itself, or using a third-party FVCT provider. In such instances, it is provisionally considered that FVCT services to such Fixed Numbers would share similar characteristics to FVCT services employing narrowband or Managed/Partially-Managed VoIP technology (i.e. due to industry-wide application of the CPP principle for calls to such Fixed Numbers).

5.96 Having regard to the above, it is ComReg's position that on-net Unmanaged VoIP calls - calls both originated and terminated on an OTT Unmanaged VoIP Service Provider - are excluded from the Relevant FVCT market, as they do not require the use of a Fixed Number. For example, a Skype-to-Skype call can be completed by means of caller identifiers other than a Fixed Number. Since Fixed Numbers are not used, no FVCT service is required, and no FTR is levied.

5.97 In respect of off-net calls (e.g. calls made from an OTT service such as Viber or Skype to a Fixed Number), a FVCT service is required in order to terminate the call to the Fixed Number, leading to a FTR being levied on the originating Service Provider.[550] Although originated as OTT VoIP, these calls are terminated as a narrowband or managed VoIP call. No Unmanaged VoIP Service Provider has received a numbering assignment from ComReg.

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[550] The special case of OTT bypass, which potentially permits a call to be completed without the provision of an FVCT service, is discussed at paragraphs 5.138 to 5.139.

5.98 However, OTT Unmanaged VoIP Service Providers are entitled under the *Numbering Conditions of Use* to use Fixed Numbers. An OTT Unmanaged VoIP Service Provider may itself apply for and receive an assignment of Fixed Numbers from ComReg. Alternatively, another Service Provider assigned Fixed Numbers by ComReg may transfer the rights of use associated with those numbers to the OTT Unmanaged VoIP Service Provider. In both cases, and where the OTT Unmanaged VoIP Service Provider charges (or has the ability to charge) an FTR in respect of calls incoming to such Fixed Numbers, then such services would fall within the definition of the Relevant FVCT Market(s).

5.99 Where such FVCT services to Fixed Numbers are carried out on behalf of the Unmanaged VoIP Service Provider by a third-party FVCT supplier then it is the services of the third-party FVCT supplier which would fall within the Relevant FVCT market(s).

5.100 A further consideration in respect of OTT Unmanaged VoIP is the possibility of OTT bypass, whereby a call intended to be completed by means of FVCT by an FSP is, instead, completed on the OTT's platform. OTT bypass of FVCT is not generally technically feasible, as the fixed handsets to which RFVC are generally terminated do not support OTT applications (e.g. Viber and Skype), thus preventing OTT bypass from occurring. However, in the context of future moves towards fixed-mobile convergence, ComReg may revisit this conclusion, if fixed-mobile convergence leads to convergence in respect of handsets (or other hardware) capable of facilitating both FVCT and MVCT.

ComReg's Consideration of Respondents' Views

5.101 In its Submission BT raised some technical aspects in relation to OTT that it considered needed further refinement. ComReg has evaluated BTs submission and considers the refinements raised by BT as being satisfactorily addressed in the Consultation and in this Decision. ComReg has addressed the issues raised by BT in Annex: 11[551].

Conclusion on VoIP technology

5.102 ComReg's position is that:

(a) FVCT in respect of calls to Fixed Numbers using *Managed* or *Partially-Managed* VoIP technology shares sufficient competitive characteristics with FVCT services provided with respect to calls to Fixed Numbers using narrowband (PSTN or ISDN) technology and should be considered as falling within the Relevant FVCT Markets;

[551] See Annex: 11 paragraph A11.89 for further details on the relevant points raised in BT's Submission, and ComReg's assessment of these in paragraph A11.104.

(b) On-net calls made between subscribers on an Unmanaged VoIP platform fall outside the Relevant FVCT Market where no FVCT service is required, and no FTR levied; and

(c) To the extent that FVCT services are provided in respect of calls to Fixed Numbers using *Unmanaged* VoIP technologies, such FVCT services (where either the Unmanaged VoIP Service Provider or a host Service Provider has the ability to set the level of the FTR) are considered to share sufficiently similar characteristics to FVCT services employing narrowband technology. It is thus ComReg's position that, under such circumstances, FVCT services to Fixed Numbers using Unmanaged VoIP technology would form part of the Relevant FVCT Market(s).

<u>Is FVCT using mobile technology in the same relevant market as FVCT using narrowband technology?</u>

5.103 Another key development since ComReg's previous market review in 2007 has been the appearance of voice services delivered at a fixed location using mobile network inputs, as part of a broader trend towards fixed-mobile convergence. Call termination services delivered via mobile technology in respect of calls to end users at a fixed location have been increasingly identified by NRAs in other Member States as part of their Relevant FVCT Market(s). The rationale for their inclusion in the Relevant FVCT Market(s) has been that these services share similar functionality characteristics (limited mobility) and similar pricing structures as (retail and wholesale) voice call services delivered via narrowband technology to end users at a fixed location.[552]

5.104 WVCT services to integrated fixed-mobile offers which involve the termination of calls to end users using Fixed Numbers are sufficiently similar to WVCT services provided to Fixed Numbers delivered over narrowband technology. This is because use of the Fixed Numbers in question implies that the end user in question is receiving voice calls to such numbers at a fixed location and that service mobility is consequently limited.

[552] See, for example, cases RO 2008/0774, PL 2008/0762 and IT/2008/0777. In the latter case the European Commission commented on the fact that although AGCOM included WVCT services to integrated fixed/mobile offers in the Relevant FVCT Market (and regardless of the use of different technology, these convergent services seemed to have economic and functional characteristics similar to traditional fixed telephony services) AGCOM had proposed to defer the definition of obligations for these services until its assessment of the market for WVCT (MVCT) on individual mobile networks. In view of its inclusion in the Relevant FVCT Market, however, the European Commission called on AGCOM to impose FVCT remedies accordingly.

5.105 Furthermore, as identified in other NRAs' decisions (referred to in footnote 552 below), the fact that call services to Geographic Numbers are delivered using mobile network inputs does not alter the fact that the CPP principle would still apply in respect of FVCT to such Fixed Numbers. In such instances, it is considered that FVCT services to Fixed Numbers using mobile technology would share sufficiently similar characteristics to FVCT services employing narrowband technology. It is thus ComReg's position that Service Providers in such circumstances (i.e. where they supply FVCT to Fixed Numbers and have the ability to set the associated FTRs), even when using mobile technology, should be considered as FSPs falling within the Relevant FVCT Market(s) for the purposes of the present market review.

<u>Conclusion on mobile technology</u>

5.106 Accordingly, it is ComReg's position that FVCT services for calls to Fixed Numbers delivered via mobile technology are in the same Relevant FVCT Market as FVCT for calls to Fixed Numbers delivered over narrowband voice technology (e.g. PSTN or ISDN). On a forward-looking basis this applies irrespective of whether the FVCT services are provided and charged directly by the FSP which has the relationship with the end user of the Fixed Numbers, or by a host FSP.

Overall Conclusions on Candidate FVCT Product Market

5.107 Having regard to the above, ComReg's position is that the candidate FVCT product market, being the starting point from which the question of the existence of any effective wholesale substitutes is considered, is one which:

(a) involves the provision of WVCT for the purpose of completing voice calls to subscribers' Fixed Numbers that have been assigned to an individual FSP;[553]

(b) involves interconnection between networks and is provided by an FSP which has the ability to set/control the FTR for calls to Fixed Numbers; and

(c) is technology neutral, and includes FVCT for calls to Fixed Numbers irrespective of whether the underlying technology is mobile or fixed, or, in case of VoIP telephony, whether the VoIP service is Managed, Partially-Managed or, in the case of off-net calls to Fixed Numbers, Unmanaged.

5.108 ComReg's position is that the candidate FVCT product market includes:

[553] The term 'Fixed Numbers' is used to collectively refer to all geographic, nomadic 076, and 112/999 numbers assigned to FSPs over the period of this market review.

> *"the provision by an FSP of a wholesale FVCT service to other Service Providers from the nearest point (to the End User) or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers, and in respect of which that FSP is able to set the FTR".*

5.109 ComReg considers that the product market features proposed above capture the essential characteristics of the narrowest FVCT candidate product market. Later in this Section, ComReg goes on to consider whether this definition should be expanded in light of the availability of effective wholesale demand-side and supply-side substitutes.

FVCT Demand-Side Substitution

5.110 Demand-side substitution at the wholesale level[554] measures the extent to which a purchaser of WVCT services would, in response to a SSNIP in termination rates above the competitive level, switch to purchasing available alternative substitute products such that it would render the termination rate increase unprofitable. If the level of switching to alternative products is sufficient to render the termination rate increase unprofitable (i.e. because of the resulting loss of sales) then the alternative products are included in the relevant product market.

5.111 As noted in paragraph 13 of the European Commission's *Notice on Market Definition*, demand substitution constitutes the most immediate and effective disciplining force on the suppliers of a product, and paragraph 15 thereof notes further that:

> *"…the assessment of demand substitution entails a determination of the range of products which are viewed as substitutes by the consumer."*

5.112 For two products to be effective demand-side substitutes it is necessary that a sufficient number of customers are not only capable of switching between them, but would actually do so in the short term in response to a relative price change. In this regard, the *Notice on Market Definition* states that demand-side substitution:

> *"…. means that, starting from the type of products that the undertakings involved sell and the area in which they sell them, additional products and areas will be included in, or excluded from, the market definition depending on whether competition from these other products and areas affect or restrain sufficiently the pricing of the parties' products in the short term."*[555]

5.113 Demand-side substitution may constrain the exercise of market power by Service Providers either directly, when exercised by purchasers of WVCT services at wholesale level, or indirectly, when exercised by subscribers to Service Providers at retail level.

Retail indirect demand-side substitutes

5.114 Given that the demand for WVCT is derived from demand at the retail level (from the ability to complete calls to other subscribers), ComReg has considered in Section 4 whether there are, or are likely to be, (within the timeframe of this review) any effective indirect demand-side constraints coming from the retail market that could impact upon the Relevant FVCT Markets. In Section 4 and in Annex: 11[556]. ComReg also addresses the various points raised in Respondents' Submissions regarding whether OTTs provide a sufficiently effective indirect demand-side constraint in the Relevant FVCT Markets. ComReg's position is that such constraints are unlikely to have a material impact on the definition of the Relevant FVCT Markets.

5.115 In particular, ComReg does not consider Unmanaged VoIP services (such as Skype or WhatsApp) to be effective wholesale demand-side substitutes for FVCT. From the user perspective, these applications are retail rather than wholesale services, so any impact on the Relevant FVCT Markets would be as a consequence of indirect constraints emanating from the retail market. In Section 4,[557] ComReg considered whether a VoIP-to-VoIP call was likely to pose an effective indirect competitive constraint on FTRs and maintains the view that it does not.

[555] Commission Notice on the definition of relevant market for the purposes of Community competition law (97/C 372/03), at paragraph 16.

[556] See paragraph 4.157 to 4.166 in Section 4 and A11.65 Annex: 11.

[557] See paragraph 4.147 to 4.167 above.

Wholesale demand-side substitutes

5.116 When considering wholesale fixed demand-side substitutes, it is firstly important to note that, given the nature of FVCT, ComReg's view that there are currently no existing viable demand-side substitutes at the wholesale level for the provision of FVCT. ComReg's analysis therefore focuses on potential demand-side substitutes and whether, if a SSNIP in FTRs above the competitive level occurred, a sufficient number of purchasers would switch to any potential alternative means of terminating calls.[558]

5.117 ComReg will monitor any trend towards IP interconnection over the lifetime of this market review, including whether existing interconnect charging mechanisms materially change as a result. In particular, IP telephony may facilitate interconnection between FSPs (or their customers) by means of various technologies, such as VoB, Managed VoIP including SIP Trunking,[559] or OTT VoIP.[560] For instance, Virgin Media delivers its residential fixed telephony service over its broadband network, while Vodafone offers a 'Broadband Voice' product. While there has been a manifest increase in the number of VoIP technology users over alternative platforms, calls terminated by means of IP telephony (such as calls to Virgin Media or Vodafone home phone customers) incur FTRs. Moreover, ComReg notes that, in the short term, it is likely that, for a large number of users, voice services will continue to be offered over copper-based networks, with Managed VoIP-based telephony services being increasingly available over time.[561] In the case of existing Managed VoIP-based FSPs, such as IP Telecom, current FTR charging arrangements still apply when terminating calls to Geographic Numbers (and Fixed Numbers) assigned to their subscribers. It does not appear, therefore, that even where IP-based telephony has emerged, that it has resulted in the emergence of effective demand-side substitutes for FVCT.

[558] The special case of OTT bypass, which potentially permits a call to be completed without the provision of an FVCT service, is discussed at paragraphs 5.138 to 5.139.

[559] SIP trunking is a VoIP service based on the Session Initiation Protocol ('**SIP**'), whereby a FSP delivers RFVC services to customers equipped with SIP-based private branch exchange (IP-PBX) telephony systems. In effect, SIP trunking replaces the conventional PSTN or ISDN telephone trunk.

[560] As set out at paragraph 5.100, OTT bypass of FVCT is currently not generally technically feasible, as fixed-line handsets typically do not have the OTT apps required for OTT bypass to occur installed on them.

[561] 2015 FACO and Transit Decision, pages 37 and 86.

5.118 Even in the event of a widespread industry move to IP-based interconnection of voice calls over the lifetime of this market review, the question remains as to whether such interconnection would be based on the Internet (data) model,[562] on the circuit switched TDM[563] (voice) model, or some other model.[564] Where the CPNP and CPP principles persist in an environment of IP interconnection, it is considered likely that FVCT suppliers will still have the ability and incentive to profitably apply a wholesale SSNIP in respect of FTRs for FVCT to their own Geographic Numbers (and Fixed Numbers) and that termination to an individual FSP's Geographic Number (and Fixed Number) range would thus still constitute a separate relevant market.

5.119 The pricing by FSPs of FVCT (as reflected both in FSP responses to ComReg SIRs, and in the FTRs set out in the openeir STRPL)[565] suggests that the significant majority of FTRs tend not to price at competitive level other than through regulation.[566] In particular, and as set out in Section 6 of this Decision, ComReg notes that the 2007 SMP FSPs currently set their FTRs at the maximum of the permissible regulated rate, although each FSP is free to set its FTRs below this rate, if it wishes to do so. Secondly, ComReg notes that 26 FSPs listed on the openeir STRPL are currently unregulated, and are therefore free to set their FTRs at levels other than the regulated rate. While two of these FSPs (Airspeed and Intellicom) levy FTRs at the regulated rate, the remaining 24 FSPs levy (peak) FTRs ranging from 4 times to 14 times the regulated rate, since they are not subject to the requirement to reduce FTRs to the levels required under the 2012 Pricing Decision.

[562] Generally, IP-based interconnection (data traffic) is currently implemented by a mixture of peering and Transit. With peering, two Internet Service Providers ('**ISPs**') agree to exchange traffic solely among their respective subscribers, sometimes without payment. With Transit, one ISP agrees to carry the traffic of another ISP to third-parties, typically for a fee.

[563] In traditional circuit-switched networks, multiple subscriber calls are routed via shared TDM (Time Division Multiplexed) transmission paths across and between networks for efficiency. TDM is a data transmission hierarchy which facilitates the conveyance of multiple simultaneous data streams, where each is allocated a dedicated transmission capacity or bandwidth.

[564] See Explanatory Note to European Commission 2009 Termination Rates Recommendation, page 32. As set out in ComReg 16/69: *Market Review: Wholesale High Quality Access at a Fixed Location*, while there has been a shift in retail Leased Lines towards more modern interfaces such as Ethernet and xWDM technologies, there remains a cohort of end users who remain on analogue and TDM based LLs. In 2015, 21% of retail Leased Lines were TDM.

[565] Available online at http://www.openeir.ie/WorkArea/DownloadAsset.aspx?id=4253. See also the discussion in Section 6 regarding changes in Termination Rates over time.

[566] As set out in detail at paragraphs 6.85 to 6.96 below.

5.120 The pricing responses of both the 2007 SMP FSPs and the Unregulated FSPs suggest that the levels of FTRs are primarily driven by regulation, rather than by responses to other factors, such as the constraint created by potential demand-side substitutes. In particular, the magnitude of the price difference between regulated and unregulated FTRs indicates that Unregulated FSPs do not face sufficient competitive constraints from e.g. demand-side substitutes to price FTRs at the proxy competitive level applied to the 2007 SMP FSPs.

Position on Wholesale Demand-Side Substitution

5.121 Having regard to the above, it is ComReg's position is that there are currently no effective or sufficiently immediate demand-side substitutes for FVCT, and this position is not likely to change within the timeframe of this market analysis.

FVCT Supply-Side Substitution

5.122 Supply-side substitution at the wholesale level measures the extent to which a firm not currently active in supplying WVCT services would, in response to a HM's SSNIP in termination rates (above the competitive level), switch production in the immediate to short term without incurring significant costs and start supplying a WVCT service of equivalent characteristics, thereby rendering the HM's termination rate increase unprofitable.[567] In considering wholesale supply-side substitution, ComReg assumes that current termination rates, which are, in the case of some – but not all – Service Providers, regulated, act as a proxy for the termination rate levels which would be expected to obtain in a competitive market (i.e. in a market where no Service Provider held SMP).

5.123 If the level of supply-side substitution were sufficient to render the HM's termination rate increase unprofitable (due to the resultant loss of sales through switching to the alternative suppliers' WVCT product) then these substitutes are included in the Relevant Termination Market.

5.124 As noted in paragraph 20 of the European Commission's *Notice on Market Definition*, supply-side substitution may also be taken into account in defining markets.

[567] See paragraphs 37 and 41 of the 2018 SMP Guidelines.

> *"…in those situations in which its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy. This means that suppliers are able to switch production to the relevant products and market them in the short term without incurring significant additional costs or risks in response to small and permanent changes in relative prices. When these conditions are met, the additional production that is put on the market will have a disciplinary effect on the competitive behaviour of the companies involved. Such an impact in terms of effectiveness and immediacy is equivalent to the demand substitution effect."*

5.125 It is also worth reiterating that, in order for supply-side substitutes to be taken into account when defining relevant product markets, its effects should be equivalent to those of demand-side substitution in terms of effectiveness and immediacy.

5.126 Paragraph 23 of the *Notice on Market Definition* also notes that:

> *"When supply-side substitutability would entail the need to adjust significantly existing tangible and intangible assets, additional investments, strategic decisions or time delays, it will not be considered at the stage of market definition. ……. In these cases, the effects of supply-side substitutability and other forms of potential competition would then be examined at a later stage."*

5.127 Having regard to the above, it is ComReg's position that any relevant supply-side substitution should be sufficiently imminent to be capable of constraining the profitability of a SSNIP in wholesale termination rates.[568]

5.128 ComReg examines below other potential sources of WVCT supply. In doing so, ComReg has considered Service Providers' responses to the SIRs issued, in particular, views and evidence on whether any potentially effective supply-side substitutes for WVCT exist.

5.129 ComReg has also had regard to the analysis in Section 4 regarding pricing structures and consumer/SME behaviour in the related retail markets and the conclusions on the impact of such behaviours on the Relevant Termination Markets.

5.130 In this Section, ComReg considers the possibility of FVCT supply-side substitution under the following headings:

(a) Responses to Statutory Information Requests (at paragraphs 5.131 to 5.133 below);

(b) Entry of New FSPs (at paragraphs 5.134 to 5.137 below);

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568 In this regard, supply-side substitution would likely involve additional investment in networks and associated billing systems as well as the associated time delay in doing so.

(c) Entry to FVCT through Other Technologies (at paragraphs 5.138 to 5.144 below);

(d) Service Providers other than the called party's Service Provider (at paragraphs 5.145 to 5.148 below); and

(e) Self-supply of WVCT (at paragraphs 5.149 to 5.153 below).

Responses to Statutory Information Requests

5.131 In its response to a SIR issued by ComReg,[569] one FSP [✂ [redacted]] indicated that, during 2016, it had become aware through its wholesale customers of inbound and outbound calls being re-routed, without the FSP's knowledge, to [✂ [redacted]] for termination without the FSP's knowledge. The respondent described this practice as 'Call Termination Bypass'. ComReg considers this phenomenon in greater detail below in paragraph 5.138 and 5.139.

5.132 Another respondent [✂ [redacted]] indicated that the prevalence of OTT voice services such as Skype could lead to a strategic repositioning of its voice services at the retail level as a premium service, with initiatives such as high definition voice and converged voice, but did not indicate that OTT services are effective supply-side substitutes for FVCT.

5.133 No other SIR respondent identified any effective wholesale supply-side substitutes for FVCT.

Entry of New FSPs

5.134 ComReg has considered whether supply-side substitution could also potentially arise from the entry of new FSPs into the Relevant FVCT Markets. In its 2012 FVCT Consultation, ComReg identified 18 candidate undertakings which fell within the scope of the draft Decision Instrument.[570] With reference to the latest STRPL[571], allowing for name changes and acquisitions, ComReg has identified three new FSPs which appear to have entered the market since the 2012 FVCT Consultation (Dialoga Servicios Interactivos S.A., Telcom Ltd, and Intellicom).

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569 The SIR was issued on 8 July 2016, and a response was provided on 2 September 2016.

570 Airspeed, Blue Face, BT Communications, Cable & Wireless, Colt Technology Services, Digiweb, Eircom, Equant, Finarea, Imagine Communications, In2com, Magnet Networks, Magrathea, Modeva Networks, UPC Communications, Verizon, Voxbone and 3Play Plus.

571 STRPL as of January 2018 available at: http://www.openeir.ie/workarea/downloadasset.aspx?id=5149

5.135 Although not supply side substitution, as noted in A11.136 below, one Respondent (Eircom) also identified another potential new supplier of FVCT - PhonePulse. ComReg also notes a potential other supplier, namely Goldfish. Consistent with the market definition and SMP assessment approach adopted in the Consultation and this Decision ComReg intends to conduct a further consultation within six months of the effective date of this Decision in order to determine whether PhonePulse , Goldfish and Nuacom operate within a Relevant FVCT Market and, if so, whether each should be designated with SMP and have any associated obligations imposed upon them in order to address any identified competition problems (see A11.151).

5.136 Although FSPs do not necessarily have to construct a full end-to-end telecommunications network to enter the market, they will nevertheless incur the potentially sunk costs of constructing the appropriate level of interconnected infrastructure from the subscriber premises to the primary, secondary or tertiary exchange. As set out in paragraph 5.13 above, alternative FSPs may interconnect at different points of the network, depending on their level of infrastructural investment.

5.137 Regardless of the level of new market entry by FSPs, ComReg is unaware of any deployed mechanism which would permit, for instance, a new entrant FSP to provide FVCT services in respect of calls destined for a subscriber of another FSP. In particular, no such mechanism was described in any FSP SIR response. Accordingly, ComReg's position is that supply-side substitution from entry of new FSPs is unlikely to effectively constrain the profitability and price-setting behaviour of a HM supplier of FVCT. ComReg is not at this time aware of any future developments that would lead it to alter its view.

Entry to FVCT through Other Technologies

5.138 ComReg is aware of the possibility of OTT operators bypassing call termination, as described by one FSP respondent to the SIRs (and as noted in paragraph 5.131 above). This practice is known variously as 'Call Termination Bypass', 'OTT bypass', and even 'OTT hijacking'. The central premise of this conduct is that an OTT provider terminates calls to a mobile number onto its OTT platform, without the knowledge or agreement of the originating Service Provider, or the 'intended' terminating MSP. In this way, the 'intended' terminating MSP does not charge a MTR for providing MVCT to the originating Service Provider as it is bypassed.

5.139 As set out at paragraph 5.101 above, ComReg's maintains its view that OTT bypass of FVCT is not generally technically feasible, as the fixed handsets to which RFVC are generally terminated do not currently support OTT applications, thus preventing OTT bypass from occurring. Moreover, no respondent indicated that it had altered its wholesale or retail pricing strategies in response to OTT provision. Accordingly, ComReg's position is that this development in is unlikely to effectively constrain a HM's FTR-setting behaviour in the lifetime of this market review. The development and commercialisation of such technologies in future may require ComReg to revisit these views.

5.140 In issuing SIRs to FSPs, ComReg specifically asked whether FSPs had altered their pricing strategies in response to the increasing prevalence of OTT services. Only one respondent FSP indicated that it had responded to increased usage. [✂ [redacted]] In essence, this response appears to relate to pressures exerted by OTT providers with respect specifically to calls to international numbers (where the termination would occur in the destination country), rather than with respect to FVCT in Ireland, *per se*. In responding to the SIRs no respondent indicated that it had altered its wholesale or retail pricing strategies in response to OTT provision.

<u>ComReg's Consideration of Respondents' Views</u>

5.141 Submissions made in response to the Consultation pointed to the importance of OTT in general terms and as a potential future constraint on FTR-setting behaviour. However, no material evidence was provided that developments in OTT have, within the lifetime of this review, effectively constrained FTR setting behaviour[572]. Accordingly, ComReg's view is that this development in itself is unlikely to effectively constrain FTR-setting behaviour in the lifetime of this market review. The development and commercialisation of such technologies in future may require ComReg to revisit its views in this regard.

[572] See paragraphs A11.88, A11.89 and paragraphs A11.103 to A11.106

5.142 ComReg has considered whether a move to IP interconnection (rather than traditional circuit switched interconnection) would impact on the Relevant FVCT Markets from a supply-side perspective. IP interconnection facilitating a VoIP call, where the call is handed over between FSPs (or between MSPs and FSPs) as a data stream and possibly terminated to an IP address (rather than a Geographic Number[573]), could act as a competitive constraint on the provision of FVCT. However, this would require changes to existing interconnect arrangements between Service Providers, and the associated charging regime. For example, Service Providers would require network/switching investments, and associated interconnect charging arrangements[574] would need to change to impose a competitive constraint on FTRs.

5.143 Based on the information available to ComReg, supply-side substitution from IP interconnection (and associated changes to charging arrangements) is not likely to occur within the short to medium term period following the completion of this market analysis and would not be likely to act as an effective competitive constraint on the price-setting behaviour of a HM supplier of FVCT. This position may change in future in light of the emergence of such interconnection arrangements and their impact on the Relevant FVCT Market and, should this arise, ComReg will consider its position.

Position on Supply-Side Substitution

5.144 Having regard to the above, ComReg's position is that no effective or sufficiently immediate supply-side substitutes currently exist, or are expected to exist for FVCT. This position is unlikely to change in the lifetime of this market analysis.

[573] For the avoidance of doubt, the provision of FVCT by an FSP over an IP network that still involves access to the subscriber's Geographic Number (and for which the FSP has control over the FTR which is levied according to current arrangements) would still be considered to fall within the Relevant FVCT Market, given that it exhibits the same economic bottleneck.

[574] For example, a move to IP interconnection that still involves the imposition of a termination charge may not impose a constraint, given that the economic bottleneck is similar to that which currently exists.

Service Providers other than the Called Party's Service Provider

5.145 Supply-side substitution could potentially come from an existing or new entrant Service Provider that has the necessary infrastructure, resources and expertise to supply FVCT. However, for such Service Providers to terminate calls to an FSP's subscriber, the called party's number would need to be capable of facilitating FVCT by either the called party's home network or the network of the Service Provider now supplying the FVCT alternative. To do this, the originating Service Provider would need to have the ability and incentives to control the routing of the call to either the called party's home network or the network of the alternative FSP. This would also require terminating Service Providers to provide the technical capability to do so on their networks, along with any other necessary systems developments (e.g. billing systems etc.).

5.146 In order for effective supply-side substitution to occur, the called party would also need to be sensitive to the cost faced by the calling party when calling them. This is because some agent must be capable of recognising that a SSNIP in termination rates has occurred, and responding accordingly by switching to an alternative provider of FVCT services. Given the CPP principle, it is the calling party's network which bears the cost of the SSNIP in FTRs. Accordingly, the called party must be able to observe the calling party's costs to decide whether it is economically rational to switch to a supply-side substitute. For the reasons set out in Section 4,[575] ComReg considers that this awareness is likely to be low.

5.147 ComReg maintains its view that the current inability of an originating Service Provider to switch the terminating network from the home network of the called party to another network is likely to mean that such supply-side substitution would not pose an effective constraint on the price-setting behaviour of a HM FVCT supplier. ComReg considers that it is unlikely that a Service Provider terminating calls faces sufficient incentives for it to engage in the necessary network and other technical developments and to co-operate with potential competitors in order to facilitate the development of effective supply-side substitutes with a view to bypassing its network. Furthermore, as noted in the discussion of end user awareness and sensitivity in Section 4 above, called parties are unlikely to be sufficiently aware of/sensitive to the costs others face when calling them to maintain multiple subscriptions with different Service Providers for the purpose of availing of the most cost effective FVCT arrangement.

[575] See paragraphs 4.53 to 4.55 above.

Other considerations (FVCT and MVCT)

5.148 ComReg sets out and analyses below a number of other considerations relevant to the definition of both the FVCT and MVCT product markets.

Self-Supply of WVCT

5.149 The question arises as to whether self-supply by a vertically-integrated supplier of WVCT – including FVCT - should be included in the relevant market, and whether such self-supply is likely to sufficiently constrain a HM supplier of WVCT from setting its termination rates above the competitive level.

5.150 It is ComReg's position that a Service Provider's self-supply of WVCT does not fall within the Relevant FVCT Market (or Relevant MVCT Market), given that the conditions of competition associated with self-supply differ from those associated with the supply of WVCT to other undertakings, and the technical infeasibility of one Service Provider terminating calls to subscribers of another Service Provider. As a result, self-supply is unlikely to constrain a HM Service Provider's termination rate-setting behaviour in supplying WVCT to other Service Providers.

5.151 In the discussion of wholesale supply-side substitution above,[576] ComReg has already considered whether potential sources of self-supply from existing/new-entrant Service Providers other than the HM WVCT supplier would act as an effective constraint in respect of calls to numbers for market definition purposes and has found that it would not.

5.152 The question also arises whether a HM Service Provider's termination rate-setting behaviour in supplying WVCT to other Service Providers would be constrained by its own supply of termination in providing 'on-net' calls. Such a HM Service Provider is unlikely to raise the price[577] of self-supplied 'on-net' termination given that it would likely result in an increase in its retail prices and potentially make its own services less attractive,[578] compared to those of competitor Service Providers. Because of this, the Service Provider's incentives regarding the price of 'on-net' self-supplied termination are different to those in relation to the price of off-net WVCT supplied to other Service Providers:

[576] See paragraph 5.122 above.

[577] As noted above, homogeneous conditions of competition and a common pricing constraint exist in the supply of WVCT by Service Providers. In view of this, Service Providers do not generally differentiate termination rates according to the subscriber number called. One divergence to this approach relates to termination rates for 'on-net' calls, i.e. a Service Provider's self-supply of termination for the purpose of facilitating on-net calls.

[578] To the extent that a Service Provider's subscribers would respond to increases in retail prices, the Service Provider has the ability to price discriminate through the use of differential on-net tariffs and, in the case of businesses, offer discounts for calls to particular users etc.

(a) Wholesale purchasers of WVCT services may in turn be direct competitors of the supplier of WVCT services at retail level. Hence, the supplier does not have the same commercial incentives to minimise the costs of 'off-net' WVCT (whereas for on-net WVCT it does).

(b) A Service Provider increasing termination rates associated with the supply of WVCT to other undertakings raises its competitors' costs and impacts their retail prices. ComReg considers that any consequential indirect constraints coming from the retail market are unlikely to sufficiently impact the terminating Service Provider's termination rate-setting behaviour.

5.153 In view of the above, it is ComReg's position that, having regard to the circumstances of this particular market analysis, the self-supply of WVCT should be excluded from the Relevant FVCT Market (and Relevant MVCT Market) definition from a product perspective. ComReg has considered the implications of excluding self-supply from the Relevant FVCT Market for the efficacy of the SMP obligations which it proposes to impose, and has set out its position in this regard in Section 8 in its assessment of the proposed Non-discrimination and Price Control obligations.[579]

Overall Conclusion on FVCT Product Market(s)

5.154 It is ComReg's position that there are not likely to be any effective demand-side or supply-side substitutes to FVCT supply within the timeframe of this market analysis. ComReg has also considered the strength of any indirect constraints from the retail market on FVCT and has set out its position in Section 4[580] that they are similarly likely to be insufficient to act as an effective competitive constraint.

5.155 It is ComReg's position that the wholesale FVCT product market therefore consists of:

> *"the provision by an FSP of a wholesale FVCT service to other Service Providers from the nearest point to the End User or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers,*[581] *and in respect of which that FSP is able to set the FTR."*

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[579] As set out in greater detail at paragraphs 8.57 to 8.70 and 8.110 to 8.208 below.

[580] As set out in paragraphs to 4.123 to 4.197.

[581] For the purposes of this Decision, Fixed Numbers also include Geographic Numbers as well as numbers in the 076, 112/999 number range (see paragraph 5.79).

5.156 ComReg considers that the above definition is sufficiently flexible yet clear enough to identify the Relevant FVCT Market over the timeframe of the current review.

5.157 As noted above, this definition is independent of the underlying technology and encompasses all network technologies which facilitate (existing and/or future) offers by FSPs of FVCT for incoming calls to subscribers utilising Fixed Numbers, and where they have the ability to determine FTRs in respect of such FVCT services within the lifetime of this market review.[582]

5.158 Technically speaking, FVCT is provisionally defined as the nearest point to the end user, or level on the terminating network at which calls can be handed over for termination (i.e. on a traditional PSTN network this would be at the primary exchange) of the Fixed Number for which the call is destined.

5.159 Accordingly, it is ComReg's position that that the FVCT services offered by the Group A FSPs listed below (and in Annex: 5) fall within the above description and their supplies of FVCT are consequently each considered to form a Relevant FVCT Market for the purposes of this market review.

Table 14: List of Group A, B and C FSPs

Group A		
Airspeed Communications	In2com	Telcom
BT Communications	Intellicom Ireland	Verizon Ireland
BlueFace	Imagine Communications	Virgin Media Ireland
Colt Technology Services	Magnet Networks	Viatel Ireland
Dialoga Servicios Interactivos	Magrathea Telecommunications	Vodafone Ireland
Eircom	Modeva Networks	Voxbone SA
Equant Network Systems Limited	PlanNet 21	
Finarea SA	**Group B**	**Group C**
IP Telecom[583]	None	Procom Voice Solutions Ltd, t/a Speechpath

[582] In respect of the list of existing Service Providers identified as providing FVCT for the purposes of this review this includes any of the listed Service Provider's subsidiaries and any undertaking which it owns or controls and any undertaking which owns or controls it, and its successors, affiliates and assigns.

[583] Since the Consultation, IP Telecom has moved into Group A.

5.160 Furthermore, it is recognised that the FSPs that supply FVCT may vary over the lifetime of this market review. Where any new-entrant FVCT suppliers (e.g. such as the Group C FSPs listed in Annex: 5) indicates to ComReg[584] (formal plans (including relevant timelines) to provide/charge for FVCT over the current review period, while the particulars of each case will be considered, ComReg proposes to rely on the approach market definition set out in this Decision in coming to a view on whether such new-entrant FVCT suppliers meet the criteria in this Section 5 for consideration as operation within a Relevant FVCT Market in their own right and, thus, whether a competition assessment should be carried out.

5.161 Since the Consultation, it has come to ComReg's attention that three **Additional FSPs**, namely Goldfish Phone Pulse Ltd and Nuacom may each fall within a Relevant FVCT Market, given the offer FVCT and both have published FTRs on the STRPL. As stated above ComReg intends to conduct a consultation within six months of the effective date of this Decision to determine whether both these Additional FSPs provide FVCT, whether they have SMP in a relevant FVCT market and whether each should be subject to regulation.

FVCT Geographic Market

5.162 In this subsection ComReg considers and defines the geographic scope of the Relevant FVCT Markets. The European Commission has noted that the relevant geographic market is

> *"…….. an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different."*[585]

[584] Or if ComReg is made aware by other SPs or through its own market monitoring activities.

[585] European Commission Notice on Market Definition, paragraph 8.

5.163 Having regard to the FVCT product market definition, ComReg defines separate Relevant FVCT Markets in respect of the FVCT services provided by each individual FVCT supplier. The rationale for defining the Relevant FVCT Market(s) according to the scope of each individual FSP's Fixed Numbers[586] builds on the approach taken in the 2007 FVCT Decision and the 2012 FVCT Consultation that individual markets exist corresponding to the scope of each individual FSP's termination network, while recognising that the scope of an FSP's overall physical network may not completely correspond to the precise scope of control over FVCT to the assigned number ranges. For the purposes of the present market review, "*voice call termination on individual public telephone networks at a fixed location*" is taken to encompass all FVCT services provided by each FSP in respect of Fixed Numbers utilised by their subscribers. Hence, this 'number-based' definition of FVCT also inherently reflects the geographic dimension of those services (i.e. the geographic market corresponds to the (combined) locations of all subscribers using Fixed Numbers and in respect of which the FVCT supplier has the ability to set/control the FTR for the completion of calls to Fixed Numbers).

5.164 Defining the Relevant FVCT Markets according to the scope of an FSP's provision of FVCT services to Fixed Numbers further recognises the homogeneous conditions of competition and the presence of a common pricing constraint underpinning the delivery of FVCT by each FSP in respect of calls to Fixed Numbers. In terms of calls to end users the current conditions relating to the supply of FVCT by an FSP do not differ (nor are they likely to) on the basis of the particular Fixed Number or location of the subscriber called. FSPs supplying FVCT in respect of calls to end users do not generally differentiate their FTRs on the basis of the particular Fixed (Geographic) Number/subscriber called. The FTR is the same irrespective of the Fixed Number/subscriber called and altering this position would likely involve substantial investment in billing systems and potential technical difficulties.

[586] For the purposes of this Decision, 'Fixed Numbers' include Geographic Numbers as well as numbers in the 076, 112/999 number ranges.

Supply of FVCT with respect to calls originated abroad

5.165 FSPs terminate calls originated both domestically and abroad as part of their business. Similarly, FSPs in other jurisdictions will terminate calls originated on Irish networks. In the Consultation, ComReg's preliminary view was that the provision of FVCT services by an FSP to its Fixed Numbers located in the State includes the provision of such services to originating and transiting providers, regardless of whether they are located in Ireland or abroad, given that the same FVCT service is provided to any service provider from a functional and technical perspective, regardless of their location.[587]

5.166 In responding to the Consultation, one Respondent (Virgin Media) submitted that termination provided in respect of calls originating in non-EEA countries should be considered a separate market from the supply of FVCT to Irish Service Providers.

5.167 In summary, the Respondent argued that the provision of FVCT to non-EEA Service Providers does not give rise to the same competition problem as the provision of FVCT to Irish Service Providers does. The Respondent argued that this is due to differences between the domestic and international market for fixed voice calls at both the wholesale and retail level. These views are set out in detail in paragraphs A11.90 to A11.92.

<u>ComReg's Consideration of Respondents' Views</u>

5.168 ComReg's assessment of these views is set out in detail between A11.107 and A11.119. In ComReg's view, none of the arguments raised by the Respondent provide evidence to suggest that there is a functional or technical difference between the termination of an Irish originated and non-EEA originated call.

5.169 Thus, ComReg's view from the Consultation remains unchanged. ComReg's position is that the provision of FVCT services by an FSP to Geographic Numbers includes the provision of such services to other SPs, regardless of whether they are located in Ireland or abroad, given that the same FVCT service is provided to any SP from a functional and technical perspective, regardless of their geographic location.

[587] A proportion of incoming international calls is routed by means of Transit. Depending on their sight of the originating number, terminating FSPs may not be able to determine the origin of internal calls terminated to them by means of Transit. Accordingly, data in respect of FVCT of calls originated abroad are incomplete.

Conclusion on wholesale FVCT geographic market

5.170 On the basis of the above analysis the geographic scope of each Relevant FVCT Market is thus defined by the scope of each FSP's FVCT offering in respect of calls to its Geographic Numbers. It is ComReg's position that the geographic scope of the wholesale Relevant FVCT Markets is thus consistent with each FSP's (combined) FVCT offering to Geographic Numbers utilised by subscribers at their respective fixed locations.

Overall conclusion on the Relevant FVCT Markets

5.171 Having regard to the above analysis, it is ComReg's position that the Relevant FVCT Markets consist of:

> *"the provision by a FSP of a wholesale FVCT service to other Service Providers from the nearest point to the End User or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers, and in respect of which that FSP is able to set the FTR.*
>
> *The geographic scope of the Relevant FVCT Market(s) corresponds to the geographic coverage of each individual FSP's network."*

5.172 For the avoidance of doubt:

(a) This is a technology neutral market definition and the use of the term 'FSP' in the above context is intended to refer to any Service Provider supplying the FVCT services concerned, irrespective of the underlying technology (i.e. wired or wireless); and

(b) 'Other Service Provider' includes any authorised undertaking,[588] whether located in the State or in another jurisdiction.

5.173 Having regard to the above market definition, it is ComReg's position that the following separate Relevant FVCT Markets exist for the purposes of the present FVCT market review:

(a) Wholesale FVCT supplied by Airspeed Communications Unlimited;

(b) Wholesale FVCT supplied by BT Communications Ireland Limited;

(c) Wholesale FVCT supplied by Colt Technology Services Limited;

(d) Wholesale FVCT supplied by Dialoga Servicios Interactivos, SA;

(e) Wholesale FVCT supplied by Eircom Limited;

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588 Pursuant to Regulation 4 of the Authorisation Regulations (European Communities (Electronic Communications Network and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011).

(f) Wholesale FVCT supplied by Equant Network Systems Limited;

(g) Wholesale FVCT supplied by Blueface Limited (“Blueface”) Limited;

(h) Wholesale FVCT supplied by Finarea SA;

(i) Wholesale FVCT supplied by Imagine Communications Ireland Limited;

(j) Wholesale FVCT supplied by Intellicom Ireland Limited;

(k) Wholesale FVCT supplied by Internet Protocol Telecom Limited;

(l) Wholesale FVCT supplied by In2com Limited;

(m) Wholesale FVCT supplied by Magnet Networks Limited;

(n) Wholesale FVCT supplied by Magrathea Telecommunications (Ireland) Limited;

(o) Wholesale FVCT supplied by Modeva Networks Unlimited;

(p) Wholesale FVCT supplied by PlanNet 21 Communications Limited (or, for the avoidance of doubt, its 100% owned subsidiary, 3Play Plus Limited);

(q) Wholesale FVCT supplied by Telcom Limited;

(r) Wholesale FVCT supplied by Verizon Ireland Limited;

(s) Wholesale FVCT supplied by Viatel Ireland Limited;

(t) Wholesale FVCT supplied by Virgin Media Ireland Limited;

(u) Wholesale FVCT supplied by Vodafone Ireland Limited; and

(v) Wholesale FVCT supplied by Voxbone SA.

5.174 ComReg intends to keep the Relevant FVCT Markets under review, following the adoption of this Decision, having regard to technological and other developments which may lead to the emergence of any potentially effective demand-side and/or supply-side substitutes.

Defining the Relevant MVCT Market(s)

5.175 Having assessed and defined the Relevant FVCT Markets, ComReg now assesses the definition of the candidate Relevant MVCT Markets, employing a similar methodological approach. The European Commission, in its 2014 Recommendation on relevant product and service markets within the electronic communications sector, has established that the wholesale MVCT market is susceptible to *ex ante* regulation, defining the market as:

“Wholesale voice call termination on individual mobile networks.”

5.176 In defining Relevant MVCT Markets, ComReg takes the provision of a MVCT service by an individual MSP as its starting point (i.e. calls terminated by a MSP to its subscribers’ mobile numbers).

5.177 As was the case in the retail market, ComReg begins its analysis by considering a narrow candidate wholesale service involving the provision of a MVCT service for the purpose of completing a call to a mobile subscriber. From here, ComReg examines whether this narrow product market should be broadened to include other wholesale products or services, taking account of any effective demand-side and supply-side substitutability considerations.

What is a Mobile Voice Call Termination (MVCT) Supplier?

5.178 In the context of identifying an MVCT candidate product, it is first necessary to consider what constitutes an MVCT supplier.

(a) Firstly, an MVCT supplier is an MSP that must be capable of providing MVCT for the purpose of completing incoming calls to its subscribers at non-fixed locations, i.e. while the subscriber may be in motion and irrespective of the subscriber's location. To do this, a MSP must have access to spectrum that is capable of being used to support such mobility. MSPs that do not have direct access to spectrum can conclude commercial agreements with mobile network operators ('**MNOs**') to provide wholesale mobile virtual network operator ('**MVNO**') call conveyance (origination and, depending on circumstances, also Transit and termination[589]) and other services on their network, thereby enabling mobile services to be offered in the absence of direct access to spectrum.

(b) Secondly, in order to provide call termination services an MVCT supplier must be interconnected with at least one other network. Absent this, all calls would effectively be on-net and no external MVCT service would be provided. Given that MVCT is essentially a wholesale interconnect service, it follows that to be considered a supplier of MVCT, the MSP should have the ability to set the associated MTRs for the relevant service. While traditional MNOs (i.e. those MSPs allocated with spectrum providing mobile services) have the ability to set the level of the MTR, the ability of an MVNO to do so will depend on the commercial relationship with its host MNO.[590]

[589] Full MVNOs provide their own termination services, whereas reseller MVNOs do not.

[590] For example, TMI, Lycamobile, Virgin Media (all hosted on Three's network) determine their own MTR, whereas Postmobile (hosted on Vodafone's network) does not determine its own MTR.

(c) Thirdly, calls to mobile users are routed to mobile networks according to mobile network routing codes, with final routing and switching of the call effectively occurring based on individual subscribers' mobile numbers. In doing so, the terminating MSP will need to ascertain the location[591] of the mobile user and, following any necessary authentication, hand the call over to the user's handset. MSPs providing call termination, therefore, control access to end user call recipients through their assignment of mobile numbers.

5.179 ComReg acknowledges that it may be possible to use other means to route voice calls to mobile subscribers, for example a mobile VoIP-to-VoIP call over a data network (rather than a circuit switched connection) can involve the use of identifiers such as email addresses or IP addresses. However, these services do not currently involve interconnection.

5.180 ComReg's position is that the starting point for the MVCT product market definition is that it includes the following characteristics:

(a) it involves interconnection between networks;

(b) it involves call termination for the purpose of completing voice calls to subscribers/mobile numbers assigned to an individual MSP, which implies that control of the subscriber's mobile number has been assigned (or transferred) to an individual MSP; and

(c) the supplier of MVCT must have the ability to set and control the associated charges (MTRs) for the relevant MVCT service.

[591] Typically, mobile subscriber locations are identified through the Home Location Register ('**HLR**').

Should MVCT be defined at the network or individual subscriber level?

5.181 In taking the above starting point, ComReg could seek to define a narrow product market involving the provision of MVCT by a MSP at an individual subscriber level (identified by their mobile number). However, given homogeneous conditions of competition and the presence of a common pricing constraint[592] for call termination to all subscribers of a particular MSP, ComReg's position is that the starting point for the definition of the Relevant MVCT Markets should include the provision of MVCT to all subscribers of an individual MSP.[593]

Is MVCT part of a wider mobile services market?

5.182 ComReg has also considered whether the Relevant MVCT Markets are part of a broader cluster market which incorporates a range of retail and/or wholesale mobile services, for example, where mobile subscribers purchase a bundle of retail services (such as access, calls and SMS) and mobile termination.

5.183 It is also worth noting that MVCT is a wholesale service which is purchased by other Service Providers as a standalone service, i.e. at wholesale level, it does not form part of a bundle together with other interconnection services, such as origination and termination, unless it is sold with Transit. Accordingly, MTRs increase the costs faced by FSPs and rival MSPs, rather than the terminating MSP itself.

5.184 Were such a broad bundled market to exist, the MSP would not be able to increase its MTRs above the competitive level without reducing the price of other services in the bundle to maintain the overall bundle price as, absent such reductions, sufficient subscribers would likely switch to purchasing the bundle from another MSP in response to an increase in the bundle price.

[592] MSPs supplying MVCT do not differentiate their MTRs on the basis of the mobile number/subscriber called. The MTR is the same irrespective of the mobile number/subscriber called and altering this position would likely involve substantial investment in billing systems and technical challenges. An exception arises in the case of numbers ported from one MSP to another MSP. In such instances, a higher MTR is levied to account for the extra costs involved in terminating to a number which was originally associated with another network, and subsequently ported by means of MNP.

[593] Note that this does not mean that the supply of MVCT for one subscriber/mobile number is a substitute for the supply of MVCT to another subscriber/mobile number on another network, as neither will constrain each other's MTRs.

5.185 MSPs do not compete at the retail level on the basis of the price of incoming calls (although lower on-net than off-net pricing, where it exists, may reflect some degree of differentiation). As of August 2018, billpay plans offered by eir Mobile, Virgin Media and TMI did not distinguish in any way between on-net and off-net calls, while in the case of Lycamobile, Vodafone, and Three, cheaper plans tend to offer limited off-net minutes but unlimited on-net minutes, while more expensive plans offer unlimited on-net and off-net minutes.

5.186 In view of the above, ComReg does not consider that the price of wholesale MVCT is likely to be constrained by bundled services. It is ComReg's position that the Relevant MVCT Markets are standalone product markets and do not incorporate other services.

What range of numbers Should be included in the Relevant MVCT Market(s) for calls to end users at mobile locations?

5.187 In considering the scope of the MVCT product market, ComReg has considered the range of numbers associated with the provision of MVCT. Calls to mobile numbers typically involve calls to end users and are typically terminated by the MSP controlling the switching, routing and completion of the incoming call to the subscriber's mobile number. At the wholesale level, call termination to mobile numbers is currently priced on a CPNP basis, as described above.[594] At the retail level the operation of the CPP principle in the case of calls to mobile numbers contributes to a disconnect between the choice of making/paying for a call (including the associated MTR) which is determined by the calling party, and the choice of the MVCT supplier which is determined by the called party. This removes an important pricing constraint on the MVCT supplier in question.

5.188 Since the 2014 Recommendation defines the relevant market as WVCT on individual mobile networks, ComReg takes the number range most frequently involved in supplying inbound call services to such end users (i.e. mobile numbers) as its candidate product for the definition of the Relevant MVCT Market, and assesses whether calls to other number ranges should form part of this relevant wholesale market.

5.189 The *Numbering Conditions of Use*, as may be amended from time to time, define Mobile Numbers in the following terms:

> *"Mobile Numbers shall have the digit structure "mobile network access code (08X) + 7-digit subscriber number", where X is a number from 3 to 9 incl."*[595]

[594] See paragraph 5.40 above

[595] At section 4.5 of the Numbering Conditions of Use.

5.190 Accordingly, at a minimum, the Relevant MVCT Markets include the range of mobile numbers having the mobile network access codes 083, 084, 085, 086, 087, 088 and 089, as may be amended by ComReg from time to time.

Is MVCT to numbers other than 08x numbers part of the Relevant MVCT Market(s)?

5.191 The *Numbering Conditions of Use* lists ten classes of number, as follows:[596]

(a) Geographic Numbers;

(b) Non-Geographic Numbers;

(c) Freephone numbers;

(d) Shared Cost numbers;

(e) Mobile numbers;

(f) Nomadic numbers;

(g) Premium Rate Service Numbers;

(h) Universal Access numbers;

(i) Internet Access numbers; and

(j) 'Bursty' Traffic numbers.

5.192 Class (e) has already been identified as falling with the Relevant MVCT Market, while Classes (a) and (f), as well as emergency 112/999 numbers fall within the Relevant FVCT Markets. ComReg's position is that the remaining classes of numbers fall to be excluded from the Relevant MVCT Markets, as they are not numbers associated with the provision of MVCT.

5.193 Mobile numbers, by definition, facilitate mobility in the sense that users may make and receive calls on their mobile phone from various locations, and while in transit. VASPs, on the other hand, are typically located at fixed locations. Accordingly, calls to VASP numbers (typically, Classes (c), (d) and (h) above) are unlikely to require that routing of the call be carried out by reference to mobile network or routing codes.

5.194 Even if a call to a VASP number necessitated the provision of MVCT and the levying of an MTR, such numbers would likely fall to be excluded from the relevant market due to the operation of differing competitive constraints on VASPs having regard to the revenue sharing characteristics of such calls, and as set out in greater detail in paragraphs 5.43 to 5.62 above.

[596] See Section 4 of the Numbering Conditions of Use.

Conclusion on Number Ranges in Relevant MVCT Market(s)

5.195 On the basis of this analysis, ComReg's position is that the Relevant MVCT Market includes the provision of MVCT services to all mobile numbers, as defined in the Numbering Conditions of Use, as may be amended from time to time. Currently there are 6 authorised undertakings in the State which have been assigned mobile subscriber numbers by ComReg (although one undertaking – Liffey Telecom – is a wholly-owned subsidiary of Three, whose numbering assignments are allocated to TMI).[597]

Is the Relevant MVCT Market technology neutral?

5.196 ComReg approaches market definition from a technology neutral perspective[598] and it is ComReg's position that there should be no differences in the treatment of MVCT on the basis of whether a MSP terminates a voice call employing 2G, 3G, 4G, 5G[599] or other mobile technology standards. Similarly, ComReg is of the view that WiFi calling, such as the Eir WiFi calling product launched in May 2017[600] falls within the Relevant MVCT market, so long as the WiFi call attracts an MTR when terminated. WiFi calling makes use of mobile numbers (rather than any other identifiers) for the purposes of call routing, and acts as a complement to, rather than a substitute for, traditional mobile connectivity, particularly in circumstances where mobile coverage is poor. In these respects, ComReg considers WiFi calling to be sufficiently similar to other mobile technology standards that it should fall within the Relevant MVCT Market.

5.197 Neither MSPs nor FSPs currently differentiate their retail charges for calls to mobiles on the basis of whether the called party is on a 2G, 3G, 4G or other technology employed by the terminating MSP. Even if they were to do so, it is not clear how a calling party would know what underlying technology supported the call to the called party or indeed, determine the basis of the technology to be used to terminate the call. Rather, the terminating MSP decides whether the call is terminated on its 2G, 3G or 4G network, and the same would likely hold in future in the case of 5G networks.

[597] Lycamobile, Virgin Media, Liffey Telecom, Eircom, Vodafone, Three and Meteor.

[598] In accordance with Regulation 16(1)(a) of the Framework Regulations.

[599] ComReg notes that it is unclear whether, within the lifetime of this market review, 5G based mobile services could emerge, as common 5G standards are not expected to be globally agreed before 2019. However ComReg notes that some MSPs such as Three have indicated publically that they intend to launch 5G services in 2019. On a forward looking basis, however, ComReg sees no reason to treat this technology differently and considers that MVCT supplied over 5G networks falls within the Relevant MVCT Market.

[600] https://www.eir.ie/opencms/export/.content/pdf/terms/EirWiFiCallTermsandconditions.pdf

5.198 Similarly, no MSP charging a MTR does so having regard to the underlying network technology/standard used in its supply of MVCT. Indeed, it is not immediately clear to ComReg that an MSP, in providing MVCT on its network faces an incentive to compete with itself in the supply of termination, i.e. while it may be technically feasible for the same MSP to have different MTRs for 2G, 3G and 4G calls, were an MSP for example to offer 3G mobile termination it is unlikely to act as a sufficient competitive constraint on its 4G termination rates[601] (and vice versa) given that it would, in effect, be competing with itself.

5.199 ComReg's position, therefore, is that the definition of MVCT product markets should be on a technology-neutral basis.

Is MVCT delivered over Voice over Internet Protocol ('VoIP') technology in the same Relevant MVCT Market as MVCT using traditional voice technology?

5.200 As noted above, a key development since the last review has been the growth of VoIP. ComReg considers VoIP services according to three broad categories: Managed VoIP, Partially-Managed VoIP and Unmanaged VoIP services.

(i) Managed and Partially-Managed VoIP Services

5.201 Having regard to the increasing uptake of VoIP services, ComReg considers whether MVCT to mobile numbers using VoIP technology forms part of the Relevant MVCT Market(s). ComReg assesses whether the competitive characteristics underpinning the wholesale supply of MVCT to mobile numbers over both Managed and Partially-Managed VoIP, and PSTN technology respectively justify their inclusion in the same Relevant MVCT market(s).

5.202 Managed and Partially-Managed VoIP Services may fall within the Relevant MVCT Market(s) if they satisfy the three MVCT criteria set out above in paragraph 5.178. ComReg's view is that such services do not satisfy all three of the criteria, and therefore fall to be excluded from the Relevant MVCT Market(s).

5.203 Firstly, an MVCT supplier must have direct access to spectrum as an MNO, or commercially-negotiated access as an MVNO. No Managed or Partially-Managed VoIP service provider appears to satisfy this criterion. Furthermore, while numerous such providers have been assigned geographic or 076 numbers by ComReg, no such provider has been assigned mobile numbers.

5.204 Secondly, an MVCT supplier must have the capacity to set or control MTRs. According to the openeir STRPL no VoIP service provider currently levies an MTR.

[601] The same would likely hold with respect to 5G.

5.205 Accordingly, VoIP Service Providers do not have mobile number assignments, and do not levy MTRs. On the basis of the above analysis, ComReg maintains its view that the competitive conditions underlying the provision of MVCT using Managed or Partially-Managed VoIP technologies is not comparable to the provision of MVCT services using PSTN technology. ComReg's position is therefore that MVCT provided over Managed and Partially-Managed VoIP technology must be excluded from the Relevant MVCT Markets.

(ii) Unmanaged VoIP Services

5.206 As set out in paragraph 5.102 above, ComReg's position is that calls originated and terminated on an Unmanaged VoIP service are not in the Relevant FVCT Market. Applying this analysis to the MVCT Market *mutatis mutandis*, ComReg's position is that calls originated and terminated on Unmanaged VoIP services are not in the Relevant MVCT Market.

5.207 Pursuant to the *Numbering Conditions of Use*, rights of use for mobile numbers may only be granted to MNOs or MVNOs. Accordingly, an OTT Unmanaged VoIP Service Provider may not make use of mobile numbers unless it has been first authorised as an MNO or MVNO.

5.208 A further consideration in respect of OTT Unmanaged VoIP is the possibility of OTT bypass, whereby a call intended to be completed by means of MVCT by an MSP is, instead, completed on the OTT's platform. In this way, the 'intended' terminating Service Provider does not provide the termination service and cannot charge a termination fee.

5.209 The underlying premise of OTT bypass is that it is an interference in the intended interconnection of a call between an originating Service Provider and a terminating MSP (and, where required, a transit operator) by an OTT operator which is not entitled to terminate the call. An OTT operator, in completing a call initiated on a fixed or mobile telephone does not provide a MVCT service for the following reasons, as set out in detail at paragraph 5.178 above:

(a) The OTT provider does not set and control the MTR for providing such a service – and no such OTT provider is currently authorised by ComReg to do so, or listed on the openeir STRPL as providing an MVCT service in return for an MTR charge;

(b) The OTT provider does not control the called party's mobile number. ComReg has not assigned any mobile number ranges to an OTT provider nor, to ComReg's knowledge, have the Rights of Use to any such number ranges been transferred to an OTT provider; and

(c) The OTT provider does not have direct access to spectrum for the purposes of completing incoming calls, nor has it concluded MVNO arrangements (to ComReg's knowledge) with any MNO.

Conclusion on VoIP technology

5.210 ComReg's position is that calls made on Managed, Partially-Managed or Unmanaged VoIP services fall outside the relevant market where no MVCT service is required, and no MTR is levied.

Is MVCT using fixed technology in the same relevant market as MVCT using traditional voice technology?

5.211 A development since ComReg's previous market review in 2007 has been the development of fixed-mobile convergence, whereby voice services are delivered using elements of both fixed and mobile telephony. As set out at paragraph 5.103 above, call termination delivered via mobile technology in respect of calls to end users at a fixed location has been increasingly identified by NRAs in other Member States as part of their Relevant FVCT Market(s).

5.212 However, while voice calls to a Geographic Number may be picked up on a mobile device, the converse does not necessarily follow: SPs do not offer the facility for a voice call to a mobile number to be picked up on a Geographic Number. In respect of call answering – and, therefore, of call termination – fixed-mobile convergence tends to be unidirectional.

Conclusion on fixed technology

5.213 Accordingly, it is ComReg's position that it is, at this stage, unnecessary to further consider whether MVCT using fixed technology in the same relevant market as MVCT using traditional voice technology, given that this form of fixed-mobile convergence does not appear to currently be offered by Service Providers. However, ComReg recognises that it is possible that fixed-mobile convergence may in future allow for the completion of calls to mobile numbers by means of fixed technology. In that eventuality, ComReg would ensure that it takes an approach which is consistent with its appraisal of fixed-mobile convergence as it applies to the completion of calls to Geographic Numbers, and which is described in detail in paragraph 5.103 above.

Conclusion on Candidate MVCT Product Market

5.214 Having regard to the above, ComReg's position is that the candidate MVCT product market, being the starting point from which the issue of any effective wholesale substitutes is considered, is one which:

(a) involves the provision of MVCT for the purpose of completing incoming voice calls to subscribers' mobile numbers that have been assigned to an MSP; and

(b) involves interconnection and is provided by a MSP (irrespective of whether it is a MNO or an MVNO) which has the ability to set/control the MTR; and

(c) is technology neutral and does not differ according to whether MVCT is provided over 3G, 4G, 5G, WiFi, or other underlying mobile technology.

5.215 It is ComReg's position that the candidate MVCT product market consists of:

> *"the provision by an MSP of a wholesale MVCT service to other Service Providers for the purpose of terminating incoming voice calls to mobile numbers,[602] and in respect of which that MSP is able to set the MTR"*

5.216 ComReg considers that the product market features proposed above capture the essential characteristics of the narrowest MVCT candidate product market. ComReg now goes on to consider whether this definition should be expanded in light of the availability of effective wholesale demand-side and wholesale supply-side substitutes.

MVCT Demand-Side Substitution

5.217 In carrying out an MVCT demand-side substitution analysis, ComReg follows the principles already set out at paragraphs 5.110 to 5.113 above in respect of the FVCT demand-side substitutability analysis.

Retail indirect demand-side substitutes

5.218 Given that the demand for MVCT is derived from demand at the retail level, ComReg has also considered in Section 4 whether there are, or are likely to be, (within the timeframe of this review) any indirect demand-side constraints coming from the retail market that could impact upon the Relevant MVCT Markets. ComReg's position was that such constraints were unlikely to have a material impact on the Relevant MVCT Markets.

5.219 Given the presence of the CPP principle, at the retail level, called parties are not likely to be sensitive to the costs faced by the calling party, and indirect constraints from the retail market are, therefore, unlikely to sufficiently constrain a SSNIP in MTRs. Accordingly, the cost faced by the calling party is not one of the main reasons considered by consumers when choosing a MSP.[603]

[602] As defined in the Numbering Conditions of Use as "a Non-Geographic Number that is used as part of a mobile service".

[603] According to the 2016 Consumer MVCT Market Research (slide 91) 71% of domestic mobile phone consumers indicated that they never considered the cost to the calling party of making a call to their mobile number.

5.220 In particular, ComReg does not consider Unmanaged VoIP services (such as Skype or WhatsApp) to be a sufficiently effective wholesale demand-side substitutes for MVCT, having regard to the likely weakness of any indirect constraints. In Section 4[604] and in addressing points raised in Respondents' Submissions throughout this Decision[605], ComReg considered whether a VoIP-to-VoIP call was likely to pose an effective indirect competitive constraint on MTRs and maintains the view that it does not.

Wholesale demand-side substitutes

5.221 The pricing by MSPs of MVCT (as reflected both in MSP responses to ComReg SIRs, and in the MTRs set out in the openeir STRPL) suggests that MTRs tend not to respond to pricing stimuli other than regulation. As noted in A11.54, one Respondent (Vodafone) disagreed with ComReg that a driver of the reduction in MTRs has been regulation. ComReg's assessment of these views is set out at paragraphs A11.70 and A11.71. ComReg maintains its view as set out in the Consultation. In particular, ComReg notes that all 2012 SMP MSPs have set their MTRs at the maximum of the permissible regulated rate, although each MSP has been free to set its MTRs below this rate, if it wishes to do so. Secondly, ComReg notes that Virgin Media (nor was iD Mobile) is currently unregulated, and is therefore free to set its MTRs at levels other than the regulated rate.[606] Virgin Media levies an MTR in excess of twice the regulated rate[607], since it is not subject to the requirement to reduce MTRs annually set out in the 2016 MTR Decision.

5.222 The pricing responses of both the 2012 SMP MSPs and the Unregulated MSP indicates that the levels of MTRs are driven by regulation[608], rather than by responses to other factors, such as the constraint created by potential demand-side substitutes. Notably, the Unregulated MSPs currently charge higher MTRs than the 2012 SMP MSPs. Over the time period covered by the information sought in the SIRs (2013 to 2016) and having regard to current information available, MTR prices set by the 2012 SMP MSPs remained static at 2.6c per minute, while termination volumes and revenues increased over the same time period. MTRs of the Unregulated MSP are likely to be persistently above competitive levels.

604 At paragraph 4.224 to 4.243.

605 Annex: 11 paragraphs A11.50 to A11.54

606 As set out in greater detail at paragraph 3.95 and 3.96 above.

607 See Table 19 and Table 20.

608 See discussion in Section 6 regarding changes in MTRs over time.

5.223 As noted above, some Respondents raised issues regarding OTTs providing an indirect constraint in the Relevant MVCT Market (and in the context of the SMP assessment. However, no Respondent MSP indicated the presence of direct demand-side substitutes for MVCT services[609].

Position on Wholesale Demand-Side Substitution

5.224 Having regard to the above, it is ComReg's position that there are currently no effective or sufficiently immediate demand-side substitutes for MVCT, and this position is not likely to change within the timeframe of this market analysis.

MVCT Supply-Side Substitution

5.225 In carrying out an MVCT supply-side substitution analysis, ComReg follows the principles already set out at paragraphs 5.122 to 5.130 above in respect of FVCT supply-side substitutability. In this Section, ComReg considers the possibility of supply-side substitution under the following headings:

(a) Responses to Statutory Information Requests (SIRs);

(b) Entry of New MSPs; and

(c) Entry to the MVCT market through Other Technologies.

5.226 Readers should also refer to the analysis set out above at paragraph 5.148 in respect of 'Other considerations', which are common to the supply-side substitutability assessment of both FVCT and MVCT.

5.227 No Respondent indicated the presence of actual or potential effective wholesale MVCT supply-side substitutes.

Responses to Statutory Information Requests

5.228 In response to SIRs issued by ComReg, none of the respondent MSPs indicated the presence of actual or potential effective wholesale MVCT supply-side substitutes, although Meteor referred to Eircom's response concerning the potential impact of OTT voice suppliers such as Skype. ComReg's views in this respect are set out at paragraph 5.141 to 5.143 above.

Entry of New MSPs

5.229 ComReg has considered whether supply-side substitution could also arise from the entry of new (MNO or MVNO) MSPs into the Relevant MVCT Market.

[609] See paragraph A11.86 and A11.87.

5.230 In the cases of potential new entry by an MSP (either as an MNO or an MVNO), and as with MVCT supply-side substitution from an existing MSP, the same issues regarding access to called party handset/SIM card details (and associated technical issues) and called party sensitivity to cost arise. It is ComReg's position that such matters are likely to mean that the entry of new MSPs (other than providing termination for subscribers on their network) would not facilitate the provision of an effective alternative to the provision of MVCT by an existing MSP. New entry could not overcome the termination bottleneck of completing an off-net call to a subscriber of an MSP.

5.231 Technical issues associated with the ability to hand over calls may also arise, as may technical difficulties in accessing the called party's handset/SIM card details, given that a new MSP is unable to access the subscriber of another mobile network in order to terminate a call to that subscriber. The called party's lack of sensitivity to the costs faced by the calling party is also a factor which would undermine the degree of any substitution at the retail level.[610]

5.232 Accordingly, ComReg's position is that supply-side substitution from the entry of new MSPs is unlikely to effectively constrain the price-setting behaviour of a HM supplier of MVCT. ComReg is not, at this time, aware of any future developments that would lead it to alter its view.

Entry to MVCT through Other Technologies

5.233 Supply-side substitution could also come from other wireless networks such as Wideband Digital Mobile Data Service ('**WDMDS**'), Fixed Wireless Access ('**FWA'**), WiFi or other wireless networks. Such networks could also potentially allow for the provision of MVCT services which directly compete with MSPs currently offering MVCT.

5.234 The three WDMDS licenses granted by ComReg to authorised operators are no longer 'live'[611] and, accordingly, WDMDS does not, or could not potentially, act as an effective supply-side substitute in the absence of one or more WDMDS licence holders.

5.235 WiFi network coverage tends to be localised and geographically limited, particularly in comparison to the coverage provided by MSPs. Moreover, recent moves by Eircom to introduce mobile WiFi calling suggest it is positioning WiFi calling as a complement to, rather than a substitute to, traditional mobile technology:

[610] For further information, please refer to paragraph 4.91 to 4.94 above.

[611] https://www.comreg.ie/industry/radio-spectrum/licensing/statistics/.

> *"eir WiFi Call is a service which allows you to make and receive calls and SMS over any WiFi connection. This should allow customers to make and receive calls and SMS in poor or no mobile coverage areas."*

5.236 In this way, WiFi calling is presented by Eircom as augmenting an existing mobile telephony technology, particularly in areas with poor coverage, and not as a viable supply-side substitute, particularly given that access to WiFi calling will only be available in small localised areas where WiFi access is available. In sharp contrast to traditional mobile coverage, WiFi calling does not afford ongoing coverage while a calling or called party is mobile, and coverage by means of WiFi will cease once the user exits the (relatively small) footprint of the WiFi network to which they are connected.

5.237 While coverage of FWA networks is more extensive than WiFi, they are still limited when compared to that provided by MSPs. Technical issues associated with the ability to hand over calls as mobile subscribers move between WiFi cells or FWA areas may also arise, as may technical difficulties in accessing the called party's handset/SIM card details. The called party's lack of sensitivity to the costs faced by the calling party is also a factor which would undermine the degree of any substitution at the retail level.[612]

5.238 In view of the above, potential supply-side substitution from FWA, WiFi or other wireless networks is unlikely to effectively constrain the price-setting behaviour of a HM supplier of MVCT.

[612] For further information, please refer to paragraph 4.91 to 4.94 above.

5.239 ComReg has also considered whether a move to IP interconnection (rather than traditional circuit switched interconnection) would impact on the Relevant MVCT Markets from a supply-side perspective. IP interconnection facilitating a VoIP call, where the call is handed over between MSPs (or between FSPs and MSPs) as a data stream and possibly terminated to a subscriber's IP address (rather than a Mobile Number[613]), could act as a competitive constraint on the provision of MVCT. However, this would require changes to the existing underlying interconnect arrangements between Service Providers, as well as to the associated charging regime. For example, Service Providers would require network/switching investments and the associated interconnect charging arrangements[614] would need to change and impose a competitive constraint on MVCT charges.

5.240 Based on the information available to ComReg, supply-side substitution from IP interconnection (and associated changes to charging arrangements) is not likely to occur within the short to medium term period following the completion of this market analysis and would not be likely to act as an effective competitive constraint on the price setting behaviour of a HM supplier of MVCT. This position may change in future in light of the emergence of such interconnection arrangements and their impact on the Relevant MVCT Market and, should this arise, ComReg will consider its position.[615]

OTT bypass

5.241 ComReg is aware of the possibility of OTT operators bypassing MVCT, as noted in paragraph 5.138 above. The central premise of this conduct is that an OTT provider terminates calls to a mobile number onto its OTT platform, without the knowledge or agreement of the originating Service Provider, or the 'intended' terminating MSP.

[613] However, for the avoidance of doubt, the provision of MVCT by an MSP over an IP network that still involves access to the subscriber's mobile number (and for which the MSP has control over the MTR which is levied according to current charging arrangements) would still be considered to fall within the Relevant MVCT Market, given that it exhibits the same economic bottleneck.

[614] For example, a move to IP interconnection that still involves the imposition of a termination charge may not impose a constraint, given that the economic bottleneck is similar to that which currently exists.

[615] There is no outright obligation on operators to offer IP voice interconnection in the State. See Table 1 of the BEREC 2015 *Case Studies on IP-based Interconnection for Voice Services in the European Union*, available online at http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5579-case-studies-on-ip-based-interconnection-for-voice-services-in-the-european-union

5.242 At the retail level, this means that a mobile subscriber receives an incoming call originated on a Service Provider's network, and intended to be terminated on the subscriber's MSPs' network, *via* their OTT app, rather than *via* their MSP network. At the wholesale level, the call is originated on a Service Provider's network, but is terminated onto an OTT app, rather than onto the intended terminating MSP's network. This means that MVCT is not required, and no MTR is accordingly levied by the 'intended' terminating MSP, as it is bypassed. The 'intended' terminating MSP is therefore deprived of a revenue-generating opportunity to charge an MTR.

5.243 One MSP, [✂ [redacted]], has indicated to ComReg that there are revenue impacts arising from the existence of OTT services, and that it has experienced 'call hijacking', which is the expression it uses for OTT bypass.[616]

5.244 Viber[617] has been granted a patent which was published in May 2016 in respect of technology which it describes as follows:

> *"This invention relates to a method of seamlessly connecting over-the-top and traditional telecommunication network networks including receiving by a telecommunications service provider from a calling party a dialled number of a called party; communicating by the telecommunication service provider the dialled number to an over-the-top servicer provider; checking by the over-the-top service provider whether it can terminate the call; and communicating the checking results to the telecommunication service provider, wherein the telecommunication service provider is capable of rerouting the call in case of failure in a manner that is seamless to both the calling party and the called party."*[618]

5.245 This operation appears to resemble OTT bypass but has some differences. After it is checked whether Viber can terminate the call, the originating Service Provider is informed of the outcome, so that it can reroute the call in the event that Viber fails to terminate the call.

[616] [✂ [redacted]] made this comment in a meeting with the ComReg Market Analysis team in May 2016, without providing further details. However, in its September 2016 SIR response, it made no reference to the issue of OTT bypass.

[617] www.viber.com.

[618] US Patent 9,491,284, available online at http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.htm&r=8&p=1&f=G&l=50&d=PTXT&S1=viber&OS=viber&RS=viber

5.246 ComReg's view is that this development in itself is unlikely to pose an effective supply-side constraint on termination rate-setting behaviour in the lifetime of this market review. ComReg notes that, in correspondence with MSPs, only one MSP alluded to its customers having experienced OTT bypass. ComReg has not become aware, either through its own research or through the SIR responses, of OTT bypass occurring regularly in the case of Irish RMVC subscribers. Accordingly, it appears that the presence of OTT bypass is limited. ComReg further notes that it has not encountered meaningful evidence that suggests that MSPs are altering their MTRs in response to a potential competitive threat arising from OTT bypass. For these two reasons, ComReg is of the view that OTT bypass does not, at this stage, represent a credible and effective supply-side substitute for MVCT. The development and commercialisation of such technologies in future may, however, require ComReg to revisit these views.

Conclusion on Supply-Side Substitution

5.247 Having regard to the analysis in paragraphs 5.225 to 5.246 above, ComReg's view is that no effective or sufficiently immediate supply-side substitutes currently exist, or are expected to exist for MVCT. This position is unlikely to change in the lifetime of this market analysis.

Overall Conclusion on MVCT Product Market(s)

5.248 It is ComReg's position that the wholesale MVCT product market therefore consists of:

> *"the provision by an MSP of a wholesale MVCT service to other Service Providers for the purpose of terminating incoming voice calls to mobile numbers,[619] and in respect of which that MSP is able to set the MTR."*

5.249 ComReg considers that the above definition is sufficiently flexible, yet clear, to identify the economic bottleneck in the MVCT market.

5.250 As noted in paragraphs 5.233 to 5.240 to the extent that other wireless networks (or other similar technologies) could facilitate the offer by a MSP of a wholesale service for the termination of incoming calls to its own subscribers, and having regard to whether they utilise mobile numbers and their ability to determine their own MTRs, such MSPs are likely to face similar abilities and incentives to existing MSPs when setting their actual MTRs.

[619] As defined in the Numbering Conditions of Use (as may be amended from time to time), a Mobile Number means a non-Geographic Number that is used as part of a mobile service.

5.251 As a consequence, it is ComReg's position that mobile termination offered in these circumstances would likely fall within the wholesale MVCT product definition above. The definition is, therefore, technology neutral and includes MVCT provided over technology including 2G, 3G, 4G, 5G, WiFi, and any other technologies which satisfy the market definition requirements set out above.

MVCT Geographic Market

5.252 In this subsection ComReg considers the geographic scope of the Relevant MVCT Markets. The European Commission has noted that the relevant geographic market is

> *"…….. an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different."*[620]

5.253 For similar reasons to the FVCT market, ComReg considers that, given a common pricing constraint and the homogeneity of conditions of competition, the wholesale Relevant MVCT Markets are each likely to be national markets, the boundaries of which are defined by the geographic coverage of each MSP's network. Having considered the responses to ComReg's SIRs, the reasons supporting a national geographic market are that MSPs:

(a) have national network/service coverage;[621]

(b) do not differentiate MTRs based on the location[622] of the mobile subscriber, i.e. MTRs are geographically uniform; and

(c) do not differentiate MTRs based on the underlying network standards deployed in particular geographic locations.

Termination of calls originated abroad

5.254 In its 2012 MVCT Decision, ComReg stated (at paragraph 5.91) that:

> *"ComReg's position is that each of the wholesale MVCT product markets are defined as follows:*

[620] European Commission Notice on Market Definition, paragraph 8.

[621] All retail MSPs have coverage to at least 99% of the population and to over [✂ [redacted]]of the geographic area of the State. MVCT is provided in all these areas.

[622] This includes the location of the calling party or called party.

> *"The MVCT product markets consist of the provision by a mobile service provider of a wholesale service to other undertakings for the purpose of terminating incoming voice calls to mobile numbers in respect of which that mobile service provider is able to set the MTR"*

5.255 Footnote 210 in the quote above states:

> *"For the avoidance of doubt, the MVCT Consultation noted in paragraph 5.77 that 'other undertaking' includes any undertaking, whether this be an undertaking located in the Republic of Ireland or in another jurisdiction."*

5.256 In the Consultation, ComReg's preliminary view was that the provision of MVCT services by an MSP to its mobile numbers includes the provision of such services to originating providers in Ireland or abroad, given that the same MVCT service is provided to any service provider from a functional and technical perspective, regardless of the Service Providers location.

5.257 In responding to the Consultation, one Respondent (Virgin Media) submitted that termination provided in respect of calls originating in non-EEA countries should be considered a separate market from the supply of MVCT to Irish Service Providers. ComReg assesses these views in detail between A11.107 and A11.119.

5.258 In summary, the Respondent argued that the provision of MVCT to non-EEA Service Providers does not give rise to the same competition problem as the provision of MVCT to Irish Service Providers does. The Respondent argued that this is due to differences between the domestic and international market for voice calls at both the wholesale and retail level. ComReg has summarised these views between A11.90 and A11.92.

<u>ComReg's Consideration of Respondents' Views</u>

5.259 ComReg's assessment of these views is set out in detail between A11.107 and A11.119. In ComReg's view, none of the arguments raised by the Respondent provide evidence to suggest that there is a functional or technical difference between the termination of an Irish originated and a non-EEA originated call.

5.260 Thus, ComReg's view remains unchanged. ComReg position is that the provision of MVCT services by an MSP to its mobile numbers located in the State includes the provision of such services to originating providers in Ireland or abroad, given that the same MVCT service is provided to any service provider from a functional and technical perspective, regardless of their location.

5.261 ComReg has accordingly explicitly defined the Relevant MVCT Market to include termination provided to all other undertakings, regardless of their geographic location.

Conclusion on wholesale MVCT geographic market

5.262 It is ComReg's view that the geographic scope of the Relevant MVCT Markets corresponds to the geographic coverage of each individual MSP's network, bearing in mind that each MSP may offer services on its own network as an MNO or, pursuant to contractual agreement, on an MNO's network, in the case of an MVNO. For the reasons set out above, the extent of this coverage is, in each case, national.

Overall Conclusion on the Wholesale Relevant MVCT Markets

5.263 Having regard to the above analysis, it is ComReg's position that the Relevant MVCT Markets consist of:

> *"the provision by a MSP of a wholesale MVCT service to other Service Providers for the purpose of terminating incoming voice calls to mobile numbers,[623] and in respect of which that MSP is able to set the MTR.*
>
> *The geographic scope of the Relevant MVCT Market(s) corresponds to the geographic coverage of each individual MSP's network."*

5.264 For the avoidance of doubt, 'other Service Provider' above includes any undertaking,[624] whether this be an undertaking located in the State or in another jurisdiction.

5.265 Having regard to the above market definition, it is ComReg's position that the following separate markets exist for the purposes of the present MVCT market review[625]:

(a) Wholesale MVCT supplied by Meteor Mobile Communications Limited;

(b) Wholesale MVCT supplied by Lycamobile Ireland Limited;

(c) Wholesale MVCT supplied by Tesco Mobile Ireland Limited;

623 As defined in the Numbering Conditions of Use, a Mobile Number means a non-Geographic Number that is used as part of a mobile service.

624 As defined pursuant to Regulation 2 of the Authorisation Regulations (European Communities (Electronic Communications Network and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011).

625 In the Consultation (paragraph 5.245) Wholesale MVCT supplied by iD Mobile (a business name of Carphone Warehouse Ireland Mobile Limited) was identified as a separate market. As iD Mobile has now exited the market they have not been included here for purposes of this Decision. However; if they were still present a separate market would still be considered to exist for wholesale MVCT supplied by iD Mobile.

(d) Wholesale MVCT supplied by Three Ireland (Hutchison) Limited;[626]

(e) Wholesale MVCT supplied by Virgin Media Ireland Limited; and

(f) Wholesale MVCT supplied by Vodafone Ireland Limited.

5.266 Given the definition of the Relevant MVCT Markets, Postmobile does not fall within the scope of a Relevant MVCT Market, given that they do not charge, nor do they currently have the ability to set, an MTR. However, were they to do so (or have the ability to do so), then ComReg considers that there is a strong case to be made that Postmobile would fall within the definition of the Relevant MVCT Market[627].

5.267 ComReg intends to keep the Relevant MVCT Markets under review, following the adoption of this Decision, having regard to technological and other developments which may lead to the emergence of any potentially effective demand-side and/or supply-side substitutes.

[626] ComReg considers that the provision of wholesale MVCT by Liffey Telecom Ltd is included in the provision of wholesale MVCT by Three, as both Three Ireland (Hutchison) Limited and Liffey Telecom Ltd form part of the broader CK Hutchison Holdings Limited group. ComReg notes that arrangements concerning Liffey Telecom may change following the clearance by the CCPC in July 2017 of Tesco Ireland Holding's acquisition of Three's ownership share in Tesco Mobile Ireland. ComReg also considers that 48, as a business name of Three Ireland Services (Hutchison) Limited, with no separate legal identity, falls within the definition of Three Ireland Services (Hutchison) Limited, set out in the draft Decision Instrument.

[627] In paragraph 5.246 of the Consultation it was noted that neither Postmobile nor Blueface fall within the scope of the relevant MVCT market, given that they do not charge, nor have the ability to set a MTR. However, if they were to have the ability to set MTRs then ComReg considers that they would fall within the definition of the Relevant MVCT market.

6 Competition Analysis and Assessment of Significant Market Power in Relevant FVCT Markets and Relevant MVCT Markets

Overview

6.1 In Section 6 of the Consultation ComReg set out its preliminary views on the competition analysis and assessment of Significant Market Power ('**SMP**') within each of the Relevant Termination Markets.

6.2 Of the 11 Submissions received, ALTO, Eircom, iD Mobile, TMI, Verizon, and Vodafone submitted comments in response to Section 6 of the Consultation. Eircom, ALTO and Verizon submitted comments in respect of both FVCT and MVCT. TMI, iD Mobile and Vodafone's submissions were limited to comments regarding MVCT. An overview of these submissions, along with ComReg's assessment of these views', is provided in Annex: 11 from paragraphs A11.127 to A11.154.

6.3 Below, ComReg sets out its position on the competition analysis and assessment of SMP, having considered Respondents' views. This is carried out as follows:

(a) an overview of the framework for assessing SMP (discussed in paragraphs 6.4 to 6.10 below);

(b) the approach employed in assessing SMP in the Relevant Termination Markets (discussed in paragraphs 6.11 to 6.15 below);

(c) the Assessment of SMP in the Relevant Termination Markets ((discussed in paragraphs 6.16 to 6.211 below); and

(d) SMP Designations (discussed in paragraphs 6.212 to 6.218 below).

Framework for Assessing SMP

6.4 Having defined the Relevant Termination Markets in Section 5, ComReg must determine whether each Relevant Termination Market is effectively competitive, having regard to whether or not any of the Service Providers operating on those relevant markets has SMP.

6.5 The European Regulatory Framework for electronic communications networks and services has aligned the concept of SMP with the competition law definition of dominance first advanced by the European Court of Justice in *United Brands v. Commission*:[628]

> *"The dominant position referred to [by Article 102 of the Treaty on the Functioning of the European Union] relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers."(**EMPHASIS ADDED**)*

6.6 Article 14(2) of the Framework Directive[629] effectively mirrors this definition of dominance, stating that:

> *"An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers." (**EMPHASIS ADDED**)*

6.7 Arising from this definition, ComReg assesses whether SMP exists on the Relevant Termination Markets in accordance with the framework established by the European Commission. The European Commission's 2018 SMP Guidelines, of which ComReg is required to take utmost account,[630] refer to a range of criteria that may be considered by NRAs when seeking to establish whether an undertaking has SMP on a relevant market.

6.8 The 2018 SMP Guidelines also note that very large market shares give rise to a presumption of dominance:

> *"According to established case-law, very large market share held by an undertaking for some time — in excess of 50 % — is in itself, save in exceptional circumstances, evidence of the existence of a dominant position. Experience suggests that the higher the market share and the longer the period of time over which it is held, the more likely it is that it constitutes an important preliminary indication of SMP."*[631]

[628] Case 27/76 United Brands v European Commission [1978] ECR 207, Paragraph 65.

[629] Which is transposed into Irish law by means of Regulation 25(1) of the Framework Regulations.

[630] In accordance with Regulation 25(2) of the Framework Regulations.

[631] Paragraph 55 of the 2018 SMP Guidelines.

6.9 Market shares in excess of 50% give rise to a rebuttable presumption of SMP. However, the 2018 SMP Guidelines also state[632] that the existence of a high market share alone is not sufficient to establish the existence of SMP; rather it means that the undertaking concerned might be in a dominant position and this needs to be considered alongside other potentially relevant criteria for assessing the existence of SMP[633], including:

(a) Absolute and relative size of the undertaking;

(b) Control of infrastructure not easily duplicated;

(c) Technological and commercial advantages or superiority;

(d) Absence of, or low, countervailing buyer power;

(e) Easy or privileged access to capital markets/financial resources;

(f) Product/services diversification (e.g. bundled products or services);

(g) Economies of scale;

(h) Economies of scope;

(i) Vertical integration;

(j) A highly developed distribution and sales network;

(k) Absence of potential competition; and

(l) Barriers to expansion.

(m) Barriers to Entry;[634]

(n) Direct and indirect network effects;[635]

(o) Conclusion of long-term and sustainable access agreements; and

[632] Paragraphs 56 and 57 of the 2018 SMP Guidelines.

[633] Note that the Consultation took account of the 2002 SMP Guidelines. Criteria (m) to (p) were not included in the 2002 SMP Guidelines, and as such, were not addressed explicitly in the Consultation. However, these additional criteria have been included in the 2018 SMP Guidelines which were published in the Official Journal of the EU on May 7th, 2018 (after the publication of the Consultation). This Decision takes account of the 2018 SMP Guidelines, therefore, these additional SMP assessment criteria are considered in this section and in Annex: 4, as appropriate.

[634] Although not referenced explicitly in the 2002 SMP Guidelines, the concept of barriers to entry was considered in the context of the SMP assessment in the Consultation. For example, see 6.22 to 6.27 of the Consultation.

[635] Direct network effects are present when the consumption of one good by an increased number of customers increases the use/utility of that good for one consumer. Indirect network effects occur when the value a consumer derives from a good or service increases with the number of additional customers of identical and/or complementary goods or services.

(p) Engagement in contractual relations with other market players that lead to market foreclosure;[636]

6.10 The 2018 SMP Guidelines also state that:

> *"If taken separately, the above criteria may not necessarily be determinative of a finding of SMP. Such finding must be based on a combination of factors."*[637]

Approach to Assessing SMP in the Relevant Termination Markets

6.11 ComReg's approach to assessing whether or not an undertaking has SMP in the Relevant Termination Markets is to carry out a forward-looking analysis on the basis of existing and foreseeable market conditions[638] and to consider a range of factors that are relevant to these markets. Many of the factors identified in paragraphs 6.9 above, while presented separately, may in fact be interrelated, and all available evidence is considered as a whole before a determination on SMP is made.

Relevant SMP Criteria

6.12 For the purposes of the analysis of the Relevant Termination Markets, ComReg considers that the following criteria are of most relevance to the assessment of SMP:

(a) Market shares;

(b) Control of infrastructure not easily duplicated and barriers to entry;

(c) Absence of potential competition; and

(d) Absence of, or low, countervailing buying power.

6.13 ComReg also considers that factors such as historical and likely pricing behaviour are relevant considerations.

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[636] In particular, roaming agreements, network sharing agreements as well as co-investment agreements not opened to third parties, that could, inter alia, eliminate an independent trading partner with whom the smaller operator can deal. See Case COMP/M.4035 Telefonica/O2.

[637] Paragraph 57 of the 2018 SMP Guidelines.

[638] Paragraphs 13 to 17 of the 2018 SMP Guidelines states that "*In carrying out the market analysis ….. NRAs will conduct a forward looking, structural evaluation of the relevant market over the relevant period. ……. To this aim, NRAs should take into account existing market conditions as well as expected or foreseeable market developments over the course of the next review period in the absence of regulation based on significant market power; this is known as a Modified Greenfield Approach. On the other hand, the analysis should take into account the effects of other types of (sector-specific) regulation, decisions or legislation applicable to the relevant retail and related wholesale market(s) during the relevant period.*"

6.14 Other factors identified in paragraph 6.9 above which could be used to indicate the potential market power of an undertaking have been considered but, for the reasons set out in Annex: 4, are deemed (in the context of this Decision) to be of limited relevance for the purposes of the SMP assessments.

Approach to Existing Regulation

6.15 In markets subject to *ex ante* SMP regulation an undertaking's behaviour may be restricted by way of existing SMP regulatory controls. It is accordingly necessary to consider the potential ability of the undertaking to exert market power absent *ex ante* SMP regulation[639] in the market concerned. To do otherwise might lead to a circular finding of no SMP on the basis of SMP regulatory remedies that would cease to exist following a market analysis and, in the absence of which, the undertaking may be able to exert market power. In the context of an SMP assessment of the specific Relevant Termination Market, the key hypothetical questions are:

(a) How the Service Provider in question would be likely to behave in the markets being assessed if it were free from current or potential SMP regulatory constraints; and

(b) How the Service Provider in question would be likely to behave in the market being assessed, having regard to the existence of any SMP and other obligations in related markets which could impact on the specific Relevant Termination Market.

Assessment of SMP

6.16 Each of the relevant factors identified above are considered in detail below. Given an inherent degree of overlap, ComReg combines its assessment of these factors under the following three broad headings:

(a) Existing competition in the Relevant Termination Markets - factors such as market shares, relative strength of existing competitors and pricing behaviour (discussed in paragraphs 6.19 to 6.25 below).

(b) Potential competition in the Relevant Termination Markets - factors such as control of infrastructure not easily duplicated, barriers to entry in the Relevant Termination Markets, and the overall strength of potential competitors (discussed in paragraphs 6.26 to 6.31 below).

[639] However, while discounting SMP regulation in the market concerned, following the Modified Greenfield Approach, other obligations (such as relevant SMP remedies existing in other markets, or obligations relating to general consumer protection or interconnection) are considered. See paragraph 74 of the 2018 SMP Guidelines.

(c) Strength of any countervailing buyer power ('CBP') - the constraints (if any) imposed by any strong buyers of WVCT on the competitive behaviour of WVCT suppliers (discussed in paragraphs 6.32 to 6.211 below).

6.17 Noting that there are strong similarities in the characteristics and nature of competition in the Relevant FVCT Markets and the Relevant MVCT Markets, ComReg generally assesses these potential constraints on the exercise of SMP across both sets of markets (collectively, the '**Relevant Termination Markets**'), except where it is appropriate to separately assess constraints arising only, or predominantly, on the exercise of SMP in Relevant FVCT Markets or Relevant MVCT Markets.

ComReg's Consideration of Respondents' Views

6.18 Respondents' Submissions are primarily related to the impact of OTTs on the assessment of SMP. The Respondents' Submissions and ComReg's assessment thereof is addressed in Annex: 11 at paragraphs A11.129 to A11.130 and paragraphs A11.142 to A11.145. Respondents' Submissions also raised issues regarding the designation of additional SMP SPs, with these addressed in paragraphs A11.131 to A11.136 and A11.146 to A11.151. Furthermore, iD Mobile and TMI made comments in their Submissions regarding the applicability of the SMP assessment to MVNOs, with ComReg's consideration of such comments set out in Annex: 11 in paragraphs A11.137 to A11.139 and A11.152 to A11.153. None of the above comments cause ComReg to alter its preliminary views as set out in the Consultation.

Existing Competition in the Relevant Termination Markets

6.19 In this subsection ComReg considers such factors as the relative strength of any existing competitors, market shares, and pricing.

Existing Competition

6.20 In Section 5 of this Decision, the Relevant Termination Markets[640] were defined, such that each Service Provider identified is the sole supplier of WVCT to its subscribers. This means that, by definition, Service Providers do not face existing competition on these markets and barriers to entry are high. In Section 4 of this Decision, ComReg also held that the strength of any indirect constraints from the retail markets were not likely to be to sufficient to result in the development of effective competition in the Relevant Termination Markets.[641] ComReg considers that these conditions are likely to persist over the period covered by this market review.

Market Shares

6.21 Given the relevant market definitions set out in Section 5, each of the Service Providers identified in paragraphs 5.173 and 5.265 has a 100% market share in the Relevant Termination Market within which they operate, whether measured by call termination volumes or call termination revenues. These high market shares have been maintained over time. There are currently no effective competitors to the Service Providers operating in each of the Relevant Termination Markets, and ComReg's position is that this is likely to persist over at least the medium term.

Pricing Behaviour

6.22 In the absence of any existing effective competitors in the Relevant Termination Markets (as discussed at paragraphs 6.26 to 6.31 below), ComReg sets out its analysis of FVCT and MVCT pricing behaviour in the discussion on CBP below.[642] In the absence of any existing or potentially effective demand-side competitive constraints, the purpose of this pricing analysis is to assess whether any strong buyers have been, or are likely to be, in a position to effectively constrain the termination rates set by individual Service Providers operating in their Relevant Termination Markets, absent regulation.

6.23 ComReg maintains its view that, absent regulation, Service Providers' pricing of WVCT would not be credibly restricted to the extent that it would prevent them from behaving, to an appreciable extent, independently of their competitors, customers and, ultimately, consumers.

[640] As set out at paragraphs 5.171 and 5.263 above.

[641] As set out at paragraphs 4.195 to 4.197 above.

[642] As set out at paragraphs 6.32 to 6.211 below.

Overall Conclusion on existing competition

6.24 Having regard to the market definition analysis carried out in Section 5 of this Decision and the assessment above, and taking account of Respondents Submissions[643], it is ComReg's position that, absent regulation, over the medium term:

(a) High market shares in the Relevant Termination Markets are likely to persist;

(b) Threats from existing wholesale competition or indirect retail constraints are not likely to pose an effective competitive constraint in the Relevant Termination Markets; and

(c) Service Providers supplying WVCT accordingly have, and will likely continue to have, the power to set their termination rates independently of each other and any competitive constraints.

6.25 As noted earlier, high and persistent market shares, while a strong indicator of SMP, are not, in themselves, solely determinative as to whether an undertaking has SMP. ComReg's position is that the high market shares and existing levels of competition are strongly suggestive that, individually, each Service Provider has SMP on its Relevant Termination Market. However, ComReg now considers whether other relevant factors might potentially diminish or undermine this presumption of SMP.

Potential Competition in the Relevant Termination Markets

6.26 ComReg's assessment of potential competition in the Relevant Termination Markets considers whether entry is likely over the medium term to such an extent that it would constrain a Service Provider's ability to act, to an appreciable extent, independently of its competitors, customers or consumers. The threat of market entry, where it is credible, probable and timely, may be a disciplining factor which impacts the behaviour of Service Providers in the Relevant Termination Markets.

6.27 In considering the potential for entry into the Relevant Termination Markets, ComReg has assessed the factors related to current and foreseeable market conditions set out at paragraph 6.16 above:

(a) Control of infrastructure not easily duplicated;

[643] See paragraphs A11.129 to A11.136 and paragraphs A11.142 to A11.145 in Annex: 11 which addresses the points raised in Respondents' Submissions in relation to the impact of OTT on the competition and SMP assessment in the Relevant Termination Markets.

(b) Barriers to entry in the Relevant Termination Markets; and

(c) Overall strength of potential competitors.

6.28 Entry to the Relevant Termination Markets could hypothetically come from a number of sources, including:

(a) Existing Service Providers other than the called party's Service Provider;

(b) New Service Providers; and

(c) Entry through other technologies (including, but not limited to, other technologies such as fixed wireless access, WiFi and VoIP).

6.29 The market definition assessment carried out in Section 5[644] considered the possibility of these options emerging as supply-side substitutes in a short timeframe (within a year), and at negligible cost, and concluded that such entry was unlikely to impose an effective competitive constraint in this context. Demand-side substitutes and indirect constraints from the retail market were also considered to be insufficient to impact the definition of the Relevant Termination Markets.

6.30 ComReg has revisited the above analysis, having regard to possible developments over the medium term (i.e. over at least the review period) which could materially impact the SMP assessment. ComReg remains of the view that, given the high and non-transitory barriers to entry in each of the Relevant Termination Markets arising from:

(a) The control of resources necessary for termination (such as numbering ranges, routing and subscriber access);

(b) The control of infrastructure (such as telecommunications networks) which is not easily replicable, or which requires high levels of capital expenditure prior to market entry; and

(c) The emergence of effective potential competition within this time horizon by means of current or emerging technologies being unlikely to sufficiently constrain competitive behaviour and, therefore, the exercise of SMP.

[644] As set out at paragraphs 5.122 to 5.147, and 5.225 to 5.247 above.

Overall Conclusion on potential competition in the Relevant Termination Markets

6.31 ComReg's position, taking account of the Submissions[645], is that potential competition in each of the Relevant Termination Markets is unlikely to provide a sufficiently effective competitive constraint on the Service Providers operating within these markets and, consequently, does not undermine the presumption that, individually, each of the Service Providers listed in paragraphs 5.173 and 5.265 has the power to behave, to an appreciable extent, independently of its competitors, customers and consumers.

Countervailing Buyer Power

6.32 In this Section ComReg considers whether bargaining power on the buyer side of the Relevant Termination Markets is likely to impose a sufficiently effective competitive constraint on the termination rate-setting behaviour of WVCT suppliers, such that it would credibly restrict their power to behave, to an appreciable extent, independently of their competitors, customers and consumers.

6.33 ComReg examines whether a sufficient level of CBP exists such that WVCT suppliers are unable to sustain termination rates that are above the competitive level (i.e. the effective exercise of CBP results in termination rates being constrained to levels that would be achieved in a competitive market outcome).

6.34 The effectiveness of CBP is likely to be highly dependent on the strength of the bargaining power of the purchaser in termination rate negotiations. In this regard, the Explanatory Note to the 2014 Recommendation notes[646] with respect to WVCT markets that:

[645] See paragraphs A11.129 to A11.136 and paragraphs A11.142 to A11.145 in Annex: 11 which addresses the Respondents' Submissions in relation to the impact of OTT on the competition and SMP assessment in the Relevant Termination Markets.

[646] Page 32 of Explanatory Note to the 2014 Recommendation.

"A market definition for call termination on each network would imply that currently each network operator is a single supplier on its respective termination market, which suggests that each operator has a 100% market share. While a 100% market share provides a very strong presumption of SMP, in accordance with competition law principles, a finding that there is no SMP may occur if there is sufficient countervailing buyer power, which would render any non-transitory price increase unprofitable. This has been taken into account by the Explanatory Note to the 2007 Recommendation, which stated that the fact that each operator is a monopolist on its own network does not automatically mean that it has Significant Market Power, and that the extent to which countervailing buyer power effectively constrains the ability of terminating operators to charge excessive termination charges has to be assessed on a case-by-case basis in the context of the SMP assessment. As noted in the Explanatory Note to the Termination Rates Recommendation, termination being a situation of two–way interconnection where two wholesale termination prices have to be negotiated, these could potentially be used as leverage in the negotiations. This would suggest that each terminating operator is facing a certain degree of bargaining power from its counterparts. Such reasoning could eventually lead to rates being set at a close-to-costs level among symmetrical networks. This type of agreement could however lead to excessive pricing on the termination markets, thus still allowing for anti-competitive behaviour in the form of e.g. foreclosure or collusion."

6.35 The European Commission's 2009 Enforcement Priorities[647] are also informative on CBP in competition assessments, stating (at paragraph 18) that:

[647] Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009/C 45/02) (the '2009 Enforcement Priorities'). Available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF.

> *"Competitive constraints may be exerted not only by actual or potential competitors but also by customers. Even an undertaking with a high market share may not be able to act to an appreciable extent independently of customers with sufficient bargaining strength. Such countervailing buying power may result from the customer's size or their commercial significance for the dominant undertaking, and their ability to switch quickly to competing suppliers, to promote new entry or to vertically integrate, and to credibly threaten to do so. If countervailing power is of a sufficient magnitude, it may deter or defeat an attempt by the undertaking to profitably increase prices. Buyer power may not, however, be considered a sufficiently effective constraint if it only ensures that a particular or limited segment of customers is shielded from the market power of the dominant undertaking."*

6.36 In light of the above, it is ComReg's position that effective CBP results from customers being of sufficient size or importance to the seller, and having the ability to credibly switch to alternative sources of supply, such that it deters the seller from profitably increasing its prices. It is also of note that effective CBP has a broader market impact and does not only result in a limited segment of customers benefiting from better terms and conditions.

Framework for CBP Assessment

6.37 In assessing CBP, ComReg takes account of the **regulatory context** and the **economic framework** within which a market operates, as well as any other criteria relevant to the CBP assessment. ComReg describes its CBP assessment methodology in greater detail at Annex: 10.

Regulatory Context for CBP Assessment

6.38 In carrying out an assessment of CBP it is necessary to consider the impacts of existing or potential future regulation. In this regard, ComReg assesses:

(a) Existing SMP regulation in the Relevant Termination Market under assessment;

(b) Existing SMP regulation in markets other than the Relevant Termination Market under assessment; and

(c) Other non-SMP regulation, and the role of dispute resolution.

Economic Framework for CBP assessment

6.39 Assessing the presence or absence of effective CBP involves examining whether sufficient buyer power may be exercised, such that the WVCT supplier cannot behave, to an appreciable extent, independently of its customers, and is therefore unable to sustain a termination rate above the level that would pertain in a competitive market. As noted earlier, the concept of CBP is not an absolute one, and some degree of CBP may be present in termination rate negotiations between parties. Given that termination rate negotiations are usually bilateral in nature, it is reasonable to assume that the level of any CBP exercised will vary between parties, having regard to their circumstances.

6.40 ComReg also considers other factors which are relevant to the economic framework according to which ComReg measures relevant bargaining dynamics in the demand for and supply of WVCT. Such factors include:

(a) The degree to which a purchaser of WVCT represents an important outlet for the seller;

(b) The degree to which a purchaser of WVCT has alternative supply options and is a well-informed and price sensitive buyer; and

(c) Evidence of CBP in price-setting behaviour and actual negotiations.

6.41 The above factors are described in greater detail in Annex: 10.

Assessment of Effectiveness of CBP in Practice

6.42 In the following Section, ComReg assesses whether, in respect of Relevant Termination Markets, there is any evidence that purchasers of WVCT have exercised effective CBP to prevent a Service Provider from acting, to an appreciable extent, independently of its wholesale customers. ComReg examines the possibility of the exercise of CBP having regard to the following considerations:

(a) Service Provider responses to the 2016 SIRs, in which respondents were asked whether they had experienced CBP, along with meetings with Service Providers;

(b) The size of the purchaser of WVCT, and its relative importance to the seller;

(c) Whether credible alternative sources of WVCT exist for a purchaser who wishes to exert CBP;

(d) The sensitivity of the purchaser to the price of WVCT, and to changes in that price; and

(e) Evidence of price-setting behaviour, and negotiations between Service Providers.

6.43 In general, a firm will be better able to exert its CBP, the fewer constraints it faces in attempting to do so. In this respect, ComReg notes that the 2007 SMP FSPs are subject to a range of regulatory obligations in respect of transparency, non-discrimination and price control, while Eircom is further subject to obligations in respect of access, cost accounting and accounting separation. Similarly, the 2012 SMP MSPs are subject to a range of regulatory obligations in respect of access, transparency, non-discrimination and price control.

6.44 Unregulated Service Providers are not bound by these obligations, and may be therefore, in principle, better positioned to exert CBP. This is because, in exerting CBP vis-à-vis WVCT providers, they do not face the constraints imposed by existing SMP regulation. Accordingly, an Unregulated Service Provider has greater freedom of action, should it wish to exert its CBP by means of retaliatory action against a WVCT provider (i.e. through increasing its own termination rates or denying access to WVCT or other services). However, all Service Providers, irrespective of their SMP status have a general regulatory requirement following from the Access Directive to interconnect in order to ensure end-to-end interconnectivity and interoperability of service, where economically and technically feasible. In the analysis below, ComReg assesses whether Unregulated Service Providers have a greater ability to exert CBP than SMP Service Providers.

6.45 Furthermore, the European Commission clarified in its 2005 veto decision[648] regarding the German NRA's proposal not to designate 53 alternative FSPs with SMP that, from a methodological viewpoint, it is not appropriate to exclude regulatory obligations that exist independently of an SMP finding on the market under consideration, but that can have an impact on that finding of SMP. In that case, the European Commission noted that any existing/proposed SMP regulation on the Relevant FVCT Market of the incumbent FSP, together with any other regulatory obligation imposed on a market other than the one for which the SMP assessment is being conducted, must be taken into account when carrying out the competition assessment for the alternative FSPs.

[648] For example, in its first round review of the fixed termination markets (case DE/2005/0144) the German NRA considered that 53 alternative FSPs did not have SMP for FVCT on their respective networks, despite their 100% market share. In the NRA's view, the fixed incumbent Deutsche Telekom AG had countervailing buyer power which did not allow the alternative FSPs to behave independently to an appreciable extent. The European Commission concluded, however, that the evidence provided by the German NRA did not support its finding of an absence of SMP for each alternative FSP and therefore vetoed the NRA's notified draft measures relating to the 53 alternative FSPs. In a subsequent notification (case DE/2005/0239) the German NRA designated all alternative FSPs with SMP on the market for call termination on their individual networks. This SMP finding has been confirmed again in recent notifications - in case DE/2008/0843 where the German NRA proposed to designate 58 FSPs with SMP in their Relevant FVCT Markets and case DE/2012/1359 where it again proposed to designate 57 FSPs with SMP.

Assessment of CBP in Relevant FVCT Markets

6.46 ComReg assesses whether there is evidence that any purchaser of FVCT has exercised effective CBP, having regard to the five factors set out in paragraph 6.42 above. ComReg examines whether Service Providers are in a position to exercise sufficient CBP over FSPs operating within a Relevant FVCT Market to prevent such an FSP from acting, to an appreciable extent, independently of its wholesale customers.

Responses to Statutory Information Requests and meetings

6.47 ComReg received responses to the 2016 SIRs it issued from 21 FSPs. With the exception of one FSP, no other FSP Respondent indicated that it had experienced effective CBP[649], either as a supplier or as a purchaser of FVCT. Some – though not all - Respondents suggested that, since FTRs charged by the 2007 SMP FSPs are regulated, all operators accept these FTRs, and have no opportunity to apply CBP. No respondent indicated that it had observed the exercise of CBP by Unregulated FSPs.

6.48 ComReg notes the responses of the FSPs, which appear to suggest that any CBP is ineffective in terms of its ability to constrain an FSP in setting its FTRs above the level consistent with a competitive market outcome. In the case of those SMP FSPs subject to a price control obligation of cost orientation pursuant to the 2007 FVCT Decision, as amended by the 2012 Pricing Decision, some respondents suggested that the exercise of CBP was, in effect, unnecessary, as regulation had served to restrict the capacity of the SMP FSPs to price their FTRs as they wished.

Size of the buyer and its relative importance to the seller

6.49 A buyer is likely to be better positioned to exert CBP if it is large in absolute or relative terms, and if it is a relatively large customer of the seller. ComReg assesses whether a Service Provider which is an important customer of an FVCT supplier is, in principle, capable of leveraging its importance to exercise CBP.

[649] As discussed in paragraph 6.71, [✂ [redacted]] suggested it had experienced a degree of CBP with respect to [✂ [redacted]]. ComReg's interpretation of this is that it relates more to the transit services BT offers rather than FVCT.

6.50 If a Service Provider decided to stop sending off-net calls to a FSP for termination (i.e. to exercise its CBP by ceasing to pay the FTRs demanded by that FSP for terminating the off-net call), this would reduce the consumer welfare of the subscribers of both Service Providers, as fewer calls between the subscribers would be completed. The magnitude of the reduction in consumer welfare depends on, *inter alia*, the size of each Service Provider (as measured by subscriber numbers and revenues), their relative importance to one another and the propensity for subscribers of the respective Service Providers to call each other. In respect of FVCT, and in view of the fact that large subscriber bases can lead to increased network externalities,[650] it is likely that FSPs would be reluctant to exercise their CBP in this manner, and that this reluctance would be pronounced in respect of FSPs operating larger networks (based on subscriber numbers), such as Eircom.[651]

6.51 As set out in Figure 6, 38.7% of all retail fixed line subscriptions were held with Eircom. Eircom's share of retail fixed line subscriptions since the 2012 FVCT Consultation has declined from 56% in Q3 2012 to 38.7% in Q3 2018, while the market share of Virgin Media has increased from 17% to 24%, over the same period. Accordingly, while Eircom is still the largest provider of retail fixed line subscriptions, its relative importance to purchasers of FVCT services may have declined over the past five years, as competitors have gained market share.

6.52 In determining the sizes of buyers and their relative importance to the seller, ComReg, as an illustrative example, measured purchases of FVCT from Eircom by domestic Service Providers. These data identify the largest purchasers of FVCT from the largest FSP, measured by retail fixed line subscriptions. The larger the share of FVCT a given Service Provider purchases from Eircom, the more likely it is that that Service Provider may be in a position to exert its CBP vis-à-vis Eircom. Conversely, a Service Provider which accounts for a small proportion of FVCT purchases from Eircom is unlikely to exert effective CBP.

6.53 Taking account of information provided in response to the 2016 SIRs, most Service Providers are unlikely to be of sufficient importance to Eircom to sufficiently constrain its ability to delay or impede FVCT access or to set FTRs above an efficient level absent regulation, as set out in Table 15 below:

[650] Network externalities occur when, as the number of users on a network increases, the value of that network to other user's increases.

[651] Eircom is subject to SMP regulatory obligations in respect of its provision of end-to-end connectivity by means of its Wholesale SV service, as set out in the 2011 Decision, the 2015 FACO and Transit Decision, and as proposed in this Consultation.

Table 15: % of domestic mobile and off-net fixed minutes terminated to Eircom's fixed network, H1 2016 [✄REDACTED]

Service Provider	% of calls terminated
Domestic FSPs	
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
Domestic MSPs	
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Source: Eircom 2016 SIR response

6.54 [✄ [redacted]] terminates the largest percentage of minutes on Eircom's network ([✄ [redacted]]). According to its SIR response, approximately [✄ [redacted]] of [✄ [redacted]] incoming traffic is transit traffic, which [✄ [redacted]] transits on behalf of other Service Providers who are not directly interconnected with Eircom. Despite its large share of FVCT purchases from Eircom, it is unlikely that [✄ [redacted]] is in a position to exercise CBP. This is due to the absence of effective, or sufficiently immediate, demand-side or supply-side substitutes for termination of calls to Eircom subscribers.[652] [✄ [redacted]] is therefore unlikely to be able to credibly leverage its CBP, as, in the short term, it is obliged to purchase FVCT services from Eircom when it seeks to terminate a call on Eircom's network [✄ [redacted]].

6.55 Given that [✄ [redacted]] terminates the largest percentage of minutes on Eircom's network, but is unable to credibly exercise its CBP, it follows that it is likely that other Service Providers which terminate lower percentages of traffic on Eircom's network are even less likely to be able to credibly exercise CBP. ComReg is, therefore, of the preliminary view that Eircom's market power (including its ability to delay or impede access to FVCT, or to set FTRs at an inefficiently high level) would be unlikely to be constrained to an appreciable extent by an individual buyer of its FVCT services.

[652] See discussion below at paragraphs 6.57 to 6.62.

6.56 ComReg's overall position is that, even where a Service Provider which purchases FVCT from an FSP is relatively important to the FVCT supplier, due to the amount of minutes it terminates (and therefore the amount of FVCT it must purchase), it is unlikely that such a Service Provider could leverage its size and relative importance to the seller of FVCT in seeking to credibly exercise CBP.

Credible alternative sources of FVCT supply for the buyer

6.57 ComReg has examined whether a buyer of FVCT could exercise its CBP by credibly threatening to switch to alternative sources of FVCT. This threat would be most credible where there would be no (or only minimal) disturbances to outgoing connections for the FVCT purchaser and its customers.

6.58 Multiple networks coexist, and these networks need to connect to facilitate off-net calling. This means that Service Providers cannot provide a full service to their subscribers unless they purchase FVCT from other FSPs. Service Providers would likely face pressure, in the form of an increased likelihood of switching to other, better-connected, Service Providers, from their own customers if they discovered that they were unable to make calls to FSP networks. This would be particularly true in respect of the networks of larger Service Providers.

6.59 Instead of interconnecting directly with an FSP, a Service Provider could accomplish FVCT by entering into a transit arrangement with a third-party Service Provider, which terminates the call to the called party's network. However, the originating Service Provider then incurs the cost of both termination and an additional cost of transit, as the provider of transit services charges the originating Service Provider a fee for delivering the call from the originating Service Provider's network to the terminating Service Provider's network. Absent regulation, such a course of action is only likely to be attractive where the combined costs of transit and termination are less than the costs of purchasing FVCT directly from the FVCT supplier via direct interconnection.

6.60 While indirect interconnection via third-party transit providers with established interconnects might constrain an FSP's ability to refuse or delay interconnection to such FVCT purchasers, it would not necessarily constrain the FVCT supplier's ability and incentives to set FTRs above an efficient level for those third-party transit providers absent regulation, which would in turn presumably be passed through (indirectly) to relevant FVCT purchasers.

6.61 In addition, the scope for retaliatory behaviour in the case of smaller or new-entrant Service Providers is also considered to be diminished by their commercial need to obtain access from a range of FVCT suppliers in order to build a viable retail offer with sufficient connectivity for consumers.

6.62 ComReg is therefore of the view that buyers of FVCT have no credible and effective alternative sources of FVCT. In this regard, Service Providers - regardless of their size - cannot exercise CBP by switching to, or credibly threatening to switch to, an alternative source of FVCT supply.

Price sensitivity of the buyer

6.63 Purchasers of FVCT may display sensitivity to the level of FTRs charged by suppliers of an FVCT service, which may place a competitive constraint on termination rates in the context of CBP. The degree of price sensitivity may vary in practice depending on, for example, the substitutes (if any) available to the purchaser, the absolute level of the FTR, and the number of calls terminated to a particular FVCT provider's network.

6.64 Furthermore, as their retail subscribers would have a general expectation of end-to-end connectivity with all networks, any price sensitivity on the part of the FVCT purchasers is likely to be somewhat constrained by the need to build a fully comprehensive retail offer which meets the general expectation of interoperability and accessibility to other networks.

6.65 The extent to which any FVCT price sensitivity has manifested or is likely to manifest in a concrete impact on the price-setting behaviour of the relevant FSPs is considered further below[653] from the evidence of actual price-setting behaviour to date.

6.66 In the absence of SMP regulation in a Relevant FVCT Market, Service Providers' levels of price sensitivity to the FTRs of the Unregulated FSPs may be greater, given the asymmetries between the FTRs charged by SMP FSPs and Unregulated FSPs, and between different Unregulated FSPs, on the assumption that the 2007 SMP FSPs were to continue to charge current FTR levels absent regulation (which they may not). However, in their responses to the 2016 SIRs issued by ComReg, no Service Provider respondent provided material evidence of having responded to the comparatively higher FTRs set by these Unregulated FSPs. This suggests either of two possibilities. In the first instance, Service Providers demonstrate limited price sensitivity, and, accordingly, a limited incentive to exert CBP. In the second instance, Service Providers are price sensitive, but are unable to act on this price sensitivity by means of exerting effective CBP.

[653] As set out in paragraphs 6.67 to 6.93.

Evidence of price-setting behaviour & negotiations between Service Providers

What are the actual FTRs charged by FSPs, and how have these changed over the past decade?

6.67 The objective of this subsection is to examine the FTRs charged by FSPs active on the Relevant FVCT Markets identified in Section 5 to determine whether FSPs responded to any potential CBP exerted by their wholesale customers when setting FTRs.

6.68 In the light of the Modified Greenfield Approach, ComReg maintains its view that a Service Provider which is not subject to SMP regulation is more likely to be able to exert a degree of CBP than a Service Provider which is subject to SMP regulation. This is because it allows such non-SMP regulated Service Providers the possibility of threatening to or actually increasing their own termination rates as part of negotiations. All seven of the 2007 SMP FSPs are subject to price regulation, which prevents them from increasing their FTRs above the levels stipulated in the 2012 Pricing Decision. However, in a scenario where regulation is absent, this would not be the case.

6.69 The 2007 SMP FSP's FTRs have been reduced on a number of occasions since the 2007 FVCT Decision (in the case of Eircom) and the 2012 Pricing Decision (in the case of the 2007 SMP FSPs) as a result of regulatory obligations imposed by ComReg, rather than necessarily as a result of effective CBP being exercised by Service Providers. ComReg has formed this view on the grounds that all the SMP FSPs have set their FTRs at the maximum levels permissible under regulation, as well as noting that, prior to regulation, FTRs were significantly higher than their current levels.

6.70 Accordingly, and given the Modified Greenfield Approach, examining the price-setting behaviour of a 2007 SMP FSP is not a useful means of assessing the nature of any CBP exercised by purchasers of the FVCT service offered by that SMP FSP. However, ComReg's position is that such reductions (or the level of them) would not have happened but for regulation. ComReg also analyses the credibility of the ways in which Service Providers could potentially exert CBP over SMP FSPs in the absence of *ex ante* regulation. It does so by comparing:

(a) The FTRs charged by SMP FSPs prior to and following the implementation of price regulation of FTRs; and

(b) The FTRs charged by SMP FSPs subject to price regulation, and Unregulated FSPs which are not subject to price regulation.

6.71 ComReg's 2016 SIRs asked respondent FSPs whether they had experienced CBP with respect to the setting of FTRs at any point over the past three years. Of the 21 FSP respondents, only one [✂ [redacted]] indicated that it had experienced CBP, in the context of FTRs arising for inbound international transit traffic only.[654] No other respondent indicated that it had experienced effective CBP with respect to the setting of FTRs. The absence of any such responses is indicative that FSPs do not experience the exercise of effective CBP as a disciplining force on their conduct – pricing or otherwise – on each of the Relevant FVCT Markets.

6.72 The existence of CBP over time may be observed by reference to historical pricing trends. The ability of an FVCT supplier to determine its pricing, to an appreciable extent, independently of its wholesale customers and consumers may be suggestive (but not necessarily determinative in itself) of SMP when considered alongside other factors. ComReg has therefore examined trends in the FTR pricing behaviour of FSPs since the 2007 FVCT Decision.

6.73 Figure 62 and Figure 63 below set out the movement in FTRs since 2007. Comparisons of FTRs for a representative call must be carefully constructed. This is because FSPs implement either of two FTR charging structures:

(a) A flat cent per minute FTR, which may be differentiated into Peak, Off-peak and Weekend rates; or

(b) A two-part FTR consisting of a flat cent per minute FTR component (which, in the case of the 2007 SMP FSPs, is lower than the flat cent per minute only rate), and a cent per call component.

6.74 In the case of the 2007 SMP FSPs, Eircom applies a two-part FTR, while the 2007 Alternative SMP FSPs all apply a flat-rate FTR.

[654] [✂ [redacted]].

6.75 A more complete picture of relative FTRs can be illustrated by comparing FTRs using both charging structures across a number of call durations. An OECD note,[655] which reports average call durations across a number of countries by call type for the purposes of constructing representative telecommunications price baskets, indicates that averaging across day/evening/weekend and across the countries considered would yield a general (non-weighted) range for fixed voice calls to local and national fixed numbers of 2.4 to 6.1 minutes in duration. Drawing on insights from this indicative range, ComReg compares overall wholesale FTRs applied by all relevant FSPs for fixed voice calls under two scenarios - for a 3-minute peak call and for a 6-minute peak call respectively.

6.76 In cases where an FSP's FTR has both a per-call fee and a per-minute charge,[656] this fixed per-call fee is included in addition to the per-minute fee in the calculated cost of a 3 and 6 minute peak call. It should also be noted that Eircom's FTRs charged at a primary exchange level (i.e. excluding the costs of transit) are taken for the purposes of comparing the FTRs charged by Eircom and the other FSPs respectively. The data used in Figure 62 and Figure 63 below are based on data published in Eircom's RIO and the openeir STRPL.

6.77 For ease of visual representation, three sets of OAOs, who charge identical FTRs, have been grouped together to facilitate visualisation in the graphs below. These are:

(a) OAO Group 1: Budget, Equant, Dialoga Servicios.

(b) OAO Group 2: Finarea, In2com, Talk Telecom, Swiftcall.

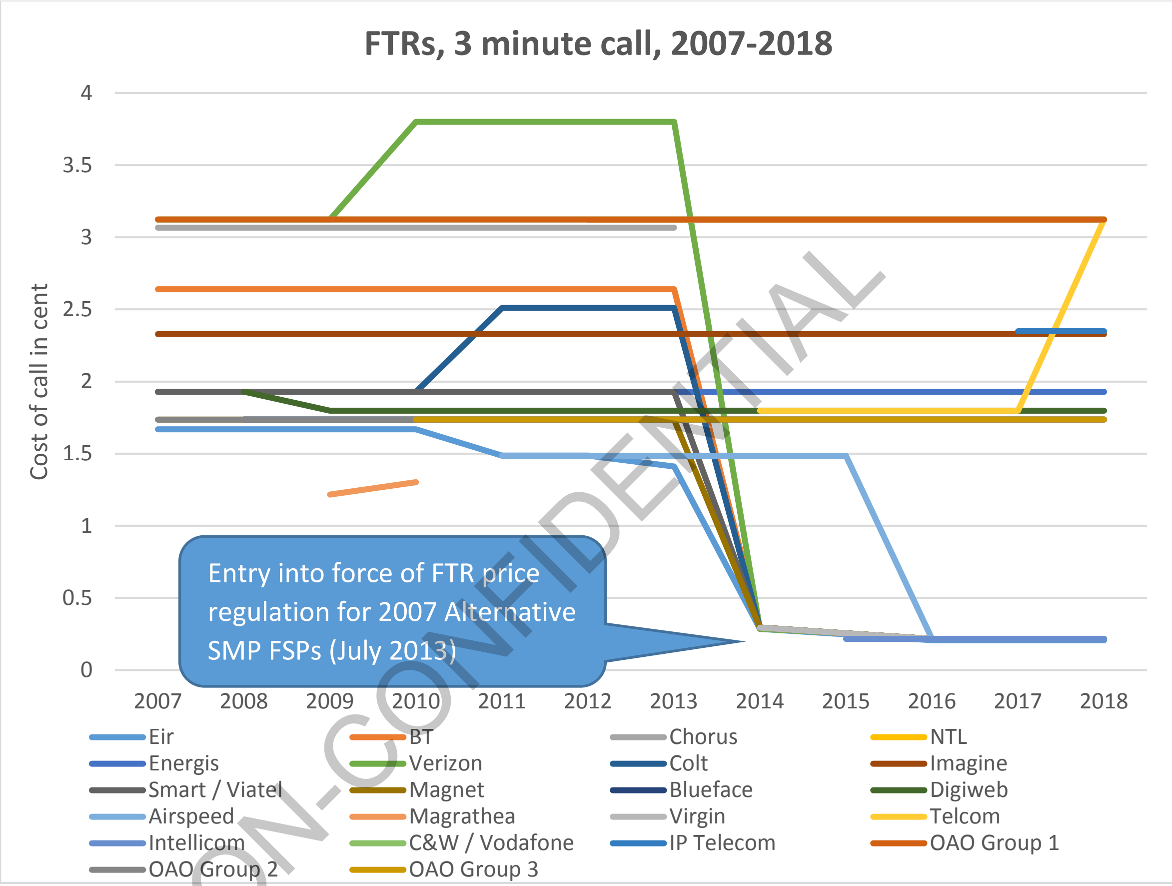
(c) OAO Group 3: 3PlayPlus, Blue Chip Telecom, Voxbone, Goldfish, Rivertower.

[655] OECD Working Party on Communication Infrastructures and Services Policy, "Revision of the Methodology for Constructing Telecommunication Price Baskets", 18 March 2010.

[656] According to the openeir STRPL, eight Unregulated FSPs charge FTRs composed of a per minute and per call component: Energis, Imagine, Talk Telecom, Swiftcall, Finarea, In2coml, Digiweb and Telcom.

6.78 Also, the FSP Ocean has been removed from the graph to facilitate scaling and visualisation, as its FTRs are in excess of 1.6c per minute, and far in excess of other FSPs on the market.[657] The graphs demonstrate that FTRs charged by the 2007 Alternative SMP FSPs[658] dropped significantly in July 2013, following the entry into force of the FTR price controls set out in the 2012 Pricing Decision.

Figure 62: FTR pricing for a 3-minute peak call, 2007-2018 (expressed in cent)

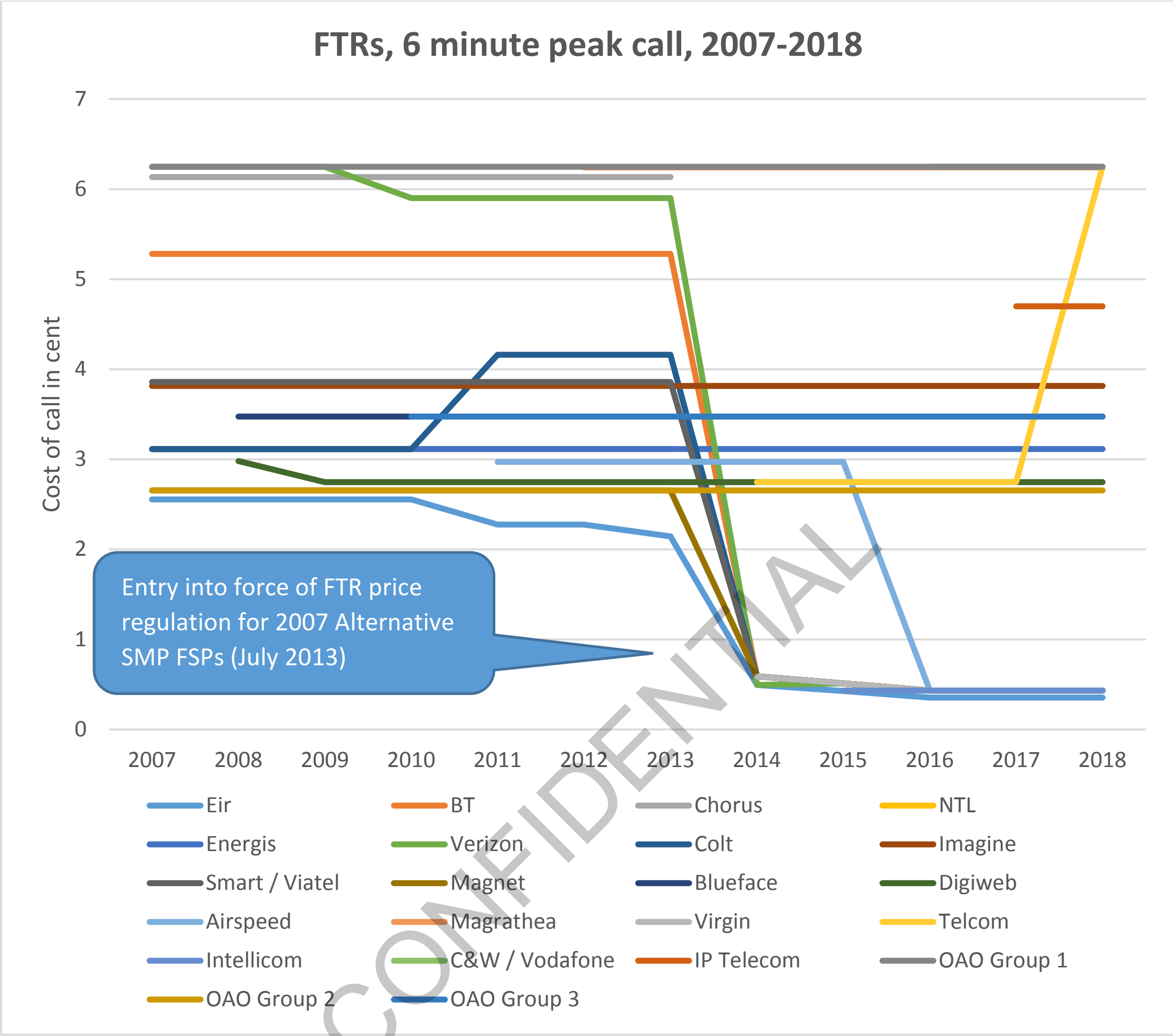


Source: Eircom RIO and openeir STRPL

[657] Ocean is one of a number of legacy entities, including Energis and Blue Chip Telecom which continue to be listed on the STRPL, but which are not actively trading, or have been wound up, according to Companies Registration Office ('**CRO**') records. Ocean originally commenced operations in June 1998 as a joint venture between BT, ESB and AIG. BT bought ESB and AIG out in January 2000 at the same time as it was acquiring Esat Telecom. Ocean has accordingly been a BT subsidiary since January 2000, and changed its name by special resolution to BT Global Communications (Ireland) Limited in April 2005. BT Global Communications (Ireland) Limited is licensed by ComReg to offer fixed voice telephony services in the State, as set out in its ERAU entry, available online at https://serviceregister.comreg.ie/Services/ProviderDetails/103

[658] See Table 1.

Figure 63: FTR pricing for a 6-minute peak call, 2007-2018 (expressed in cent)



Source: Eircom RIO and openeir STRPL

6.79 Both Figures above show ongoing disparities between FTRs charged by FSPs, but the range of disparity narrowed in 2013 in the case of the 2007 Alternative SMP FSPs, following the implementation of the price control remedies set out in the 2012 Pricing Decision. The relative values of each FSP's FTRs set out below at Table 16 below show the relative movement in each FSP's FTRs over the period since 2007 (years in parentheses show the year the FSP commenced the supply of FVCT, if this was after 2007).

Table 16: Change in FTRs, 2007-2018

FSP	% Change in FTRs (3 minute call)	% Change in FTRs (6 minute call)
2007 SMP FSPs		
Eircom	-88%	-86%
BT	-92%	-92%
Verizon	-93%	-93%
Colt	-82%	-82%
Smart / Viatel	-89%	-89%
Magnet	-88%	-84%
Virgin Media (2014)	-27%	-27%
Unregulated FSPs		
Budget	0%	0%
Ocean	0%	0%
Energis	0%	0%
Imagine	0%	0%
Talk Telecom	0%	0%
Swiftcall	0%	0%
Finarea	0%	0%
In2com	0%	0%
Digiweb	-5%	-7%
Blueface (2008)	0%	0%
3PlayPlus (2010)	0%	0%
Rivertower (2011)	0%	0%
Equant (2011)	0%	0%
Blue Chip Telecom (2011)	0%	0%
Goldfish (2013)	0%	0%
Airspeed (2011)	-85%	-85%
Voxbone (2011)	0%	0%
Magrathea (2012)	0%	0%
Telcom (2014)	74%	127%
Dialoga Servicios (2015)	0%	0%
Intellicom (2015)	0%	0%
C&W / Vodafone	0%	0%
PhonePulse (2017)	0%	0%

Source: Eircom RIO and openeir STRPL

6.80 The following points should be borne in mind when interpreting the FTR trends in respect of the 2007 SMP FSPs:[659]

(a) Eircom has been subject to a regulatory price control obligation since the 2007 FVCT Decision and the FTR changes above should be considered in this context:

(b) In the 2007 FVCT Decision, ComReg obliged Eircom to set cost oriented FTRs based on a forward-looking long run incremental cost ('FL-LRIC') pricing model.

(c) Pursuant to the price control obligations set out in ComReg's 2007 FVCT Decision, Eircom reduced its FTRs in April 2010, January 2011 and in July 2012.

(d) Following ComReg's 2012 Pricing Decision, which altered the costing methodology from FL-LRIC to Pure LRIC, Eircom reduced its FTRs in July 2012, July 2014 and July 2015.[660]

(e) The 2007 Alternative SMP FSPs were found to have SMP in the 2007 FVCT Decision. However, price control obligations were deferred for these FSPs due to ComReg's then-position (which was subsequently amended) that certain thresholds should first be met.[661]

(f) Following ComReg's 2012 Pricing Decision, the 2007 Alternative SMP FSPs reduced their FTRs in July 2012, July 2014 and July 2015. [662]

6.81 BlueFace, Ocean, Energis, Talk Telecom, Swiftcall, Modeva (Budget Telecom), Vodafone (Cable & Wireless), Finarea, Imagine and In2Com were not designated with SMP by the 2007 FVCT Decision.[663] Thus, price control obligations were not imposed on them. These FSPs have not been subject to any SMP regulation and have not changed their FTRs since 2007, and, given the level and movement of their FTRs, it suggests that they have not been subject to meaningful competitive constraints.

[659] Smart Telecom was also subject to the 2007 FVCT Decision but has been since acquired by Digiweb and is thus considered as part of the assessment of Digiweb for the purposes of this Consultation Paper.

[660] As set out in Eircom's RIO.

[661] See paragraphs 8.33 and 8.33 below. In its comments on the draft measure, the European Commission (in case IE/2007/0701) noted that *"[alternative network operators] are able to charge termination rates significantly above the rates of Eircom and that in general the level of fixed termination rates in Ireland seems to be high",* and called on ComReg to impose a price control obligation also on these alternative FSPs at the time of the 2007 FVCT Decision.

[662] As set out in Eircom's RIO.

[663] As set out at pages 18 and 19 of the 2007 FVCT Consultation.

6.82 3Play Plus, Equant Network Systems, Voxbone, Rivertower, Blue Chip Telecom, Goldfish, PhonePulse, Telcom, Dialoga Servicios, Intellicom and Magrathea Telecommunications were not providing FVCT services at the time of the 2007 FVCT Decision. Hence, these FSPs have not been designated with SMP, and are not subject to price control regulations. These FSPs have not changed their FTRs since their dates of market entry, with such entry dates varying from 2010 in the case of 3PlayPlus, to 2015 in the case of Intellicom. According to the openeir STRPL, Airspeed and Intellicom are the only Unregulated FSPs which charge FTRs equivalent to those charged by the 2007 SMP FSPs, pursuant to their regulatory obligations.

6.83 Neither Goldfish, Phone Pulse Ltd nor Nuacom were considered in the Consultation and subsequently, whether or not these Service Providers have SMP is not considered in this Decision. As noted in A11.136, Eircom noted in its Submission that Phone Pulse Ltd is also a supplier of FVCT. Consistent with the approach adopted in the Consultation and this Decision, ComReg intends to conduct a consultation in within six months of the effective date of this Decision in order to determine whether Phone Pulse Ltd Goldfish and/or Nuacom operate within a Relevant FVCT Market, whether they have SMP and, if so, whether to impose SMP obligations upon them.

6.84 Airspeed, Digiweb and Telcom did not provide FVCT services at the time of the 2007 FVCT Decision. Hence, these FSPs have not been designated with SMP, and are not subject to price control regulations. Each of these FSPs have changed their FTRs since their market entry.

(a) From its market entry in 2011 until July 2015, Airspeed retained its FTRs at the same level, well in excess of the regulated rate. In August 2015, Airspeed reduced its FTRs to the regulated rate.[664] According to the STRPL, Airspeed and Intellicom are the only Unregulated FSPs which charge FTRs equivalent to those charged by the 2007 SMP FSPs, pursuant to their regulatory obligations.

(b) Digiweb commenced charging FTRs in January 2009. It reduced its FTRs in November 2009, and has retained its FTRs at that level (which is well in excess of the regulated rate) since then.

(c) Telcom commenced charging FTRs in April 2014. It increased its FTRs in December 2017, further increasing the gap between the FTRs it charges and the regulated FTRs.

[664] In its September 2016 SIR response, Airspeed gave no reason for having reduced its FTRs to the regulated level in July 2015.

Do FTR pricing trends suggest that effective CBP has been or could be exercised, absent regulation?

6.85 In assessing whether an FSP has SMP, and noting ComReg's position in Section 5[665] that there is no effective demand-side substitution arising from actual or potential competitors in each of the Relevant FVCT Markets, ComReg considers how FVCT could be priced absent SMP regulatory controls, and whether the resultant FTRs would approximate those which would arise in response to the successful exercise of strong CBP. In the case of the 2007 SMP FSPs, this is a difficult task as their FTRs have been set in the presence of regulation. In the case of the Unregulated FSPs, it is possible that they may have perceived a potential threat of regulation in their FTR-setting behaviour. Nevertheless, in understanding the extent to which CBP could be exercised in the Relevant FVCT Markets absent regulation, ComReg has considered trends in the 2007 SMP FSPs' and Unregulated FSPs' pricing behaviour since the 2007 Consultation.

[665] As set out in paragraph 5.121 above.

6.86 Table 17 and Table 18 below compare the FTRs of the 2007 SMP FSPs and Unregulated FSPs for a 3 and 6-minute peak call respectively. Two broad FTR comparators can be identified:

(a) The first comparator is between the FTRs of Eircom and the FTRs of the 2007 Alternative SMP FSPs in the period from 2007 to 2013, when Eircom was the only SMP FSP which was subject to specific price regulation (cost orientation calculated by means of a FL-LRIC model), and from 2013 onwards, when all seven 2007 SMP FSPs were subject to a price control obligation of cost orientation, calculated by means of a Pure LRIC costing methodology.

(b) The second comparator is between the FTRs of the 2007 SMP FSPs (only Eircom until 2013, and all seven 2007 SMP FSPs from 2013) and the FTRs of the Unregulated FSPs.

Table 17: FTRs as % of regulated FTR (3 minute peak call)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Eircom	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
BT	158%	158%	158%	178%	178%	187%	100%	100%	100%	100%	100%
Verizon	187%	187%	228%	256%	256%	269%	100%	100%	100%	100%	100%
Colt	116%	116%	116%	169%	169%	178%	100%	100%	100%	100%	100%
Smart / Viatel	116%	116%	116%	130%	130%	137%	100%	100%	100%	100%	100%
Magnet	104%	104%	104%	117%	117%	123%	100%	100%	100%	100%	100%
NTL	116%	116%	116%	130%	130%	137%					
Chorus	184%	184%	184%	206%	206%	217%					
UPC / Virgin Media							100%	100%	100%	100%	100%
Ocean	290%	290%	290%	326%	326%	343%	1697%	1951%	2337%	2337%	2337%
Energis	116%	116%	116%	130%	130%	137%	677%	778%	932%	932%	932%
Airspeed				100%	100%	105%	521%	599%	104%	104%	104%
Imagine	140%	140%	140%	157%	157%	165%	817%	939%	1125%	1125%	1125%
Intellicom								87%	104%	104%	104%
Digiweb	116%	108%	108%	121%	121%	128%	631%	725%	869%	869%	869%
Blueface		104%	104%	104%	117%	117%	123%	609%	700%	839%	839%
Magrathea					210%	221%	1095%	1258%	1507%	1507%	1507%
Telcom							631%	725%	869%	869%	1509%
C&W / Vodafone	187%	187%	187%	210%	210%	222%	1096%	1259%	1509%	1509%	1509%
IP Telecom										1135%	1135%
PhonePulse										1014%	1014%
OAOs 1	187%	187%	187%	210%	210%	222%	1096%	1259%	1509%	1509%	1509%
OAOs 2	104%	104%	104%	117%	117%	123%	609%	700%	839%	839%	839%
OAOs 3			104%	117%	117%	123%	609%	700%	839%	839%	839%

Table 18: FTRs as % of regulated FTR (6 minute peak call)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Eircom	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
BT	207%	207%	207%	232%	232%	246%	100%	100%	100%	100%	100%
Verizon	245%	245%	231%	260%	260%	275%	100%	100%	100%	100%	100%
Colt	122%	122%	122%	183%	183%	194%	100%	100%	100%	100%	100%
Smart / Viatel	151%	151%	151%	170%	170%	180%	100%	100%	100%	100%	100%
Magnet	104%	104%	104%	117%	117%	124%	100%	100%	100%	100%	100%
NTL	122%	122%	122%	137%	137%	145%					
Chorus	240%	240%	240%	270%	270%	286%					
UPC / Virgin Media							100%	100%	100%	100%	100%
Ocean	379%	379%	379%	426%	426%	451%	1955%	2261%	2733%	2733%	2733%
Energis	122%	122%	122%	137%	137%	145%	629%	727%	879%	879%	879%
Airspeed				131%	131%	139%	600%	694%	122%	122%	122%
Imagine	149%	149%	149%	168%	168%	178%	771%	891%	1077%	1077%	1077%
Intellicom								101%	122%	122%	122%
Digiweb	117%	108%	108%	121%	121%	128%	555%	642%	776%	776%	776%
Blueface		136%	136%	153%	153%	162%	702%	812%	981%	981%	981%
Magrathea					274%	291%	1261%	1458%	1763%	1763%	1763%
Telcom							555%	642%	776%	776%	1765%
C&W / Vodafone	245%	245%	275%	275%	292%	1262%	1460%	245%	1765%	1765%	1765%
IP Telecom										1327%	1327%
PhonePulse										1186%	1186%
OAOs 1	245%	245%	245%	275%	275%	292%	1262%	1460%	1765%	1765%	1765%
OAOs 2	104%	104%	104%	117%	117%	124%	536%	620%	750%	750%	750%
OAOs 3			136%	153%	153%	162%	702%	812%	981%	981%	981%

Source: Eircom RIO and openeir STRPL

6.87 The data set out at Table 17 and Table 18 above show that, from 2008 to 2013 (the time period when Eircom alone was subject to a price control obligation; the 2007 Alternative SMP FSPs were subject to price control measures pursuant to the 2012 Pricing Decision, which took effect from 1 January 2013), the difference between FTRs charged by Eircom and all other FSPs widened in every case, as Eircom reduced its FTRs pursuant to its regulatory price control obligations, while all but two of the other FSPs kept their FTRs static.[666] Following the 2012 Pricing Decision, the gap between the FTRs charged by Eircom, and by the 2007 Alternative SMP FSPs fell dramatically, and now stands at 4% in the case of a three minute peak call, and 22% in the case of a six minute peak call.[667]

6.88 It is accordingly ComReg's position that, comparing the pricing behaviour of the 2007 Alternative SMP FSPs prior to, and following, the 2012 Pricing Decision, that any CBP has not been sufficiently effective in preventing those FSPs from behaving, to an appreciable extent, independently of their wholesale customers when setting their FTRs, in the absence of price control regulation.

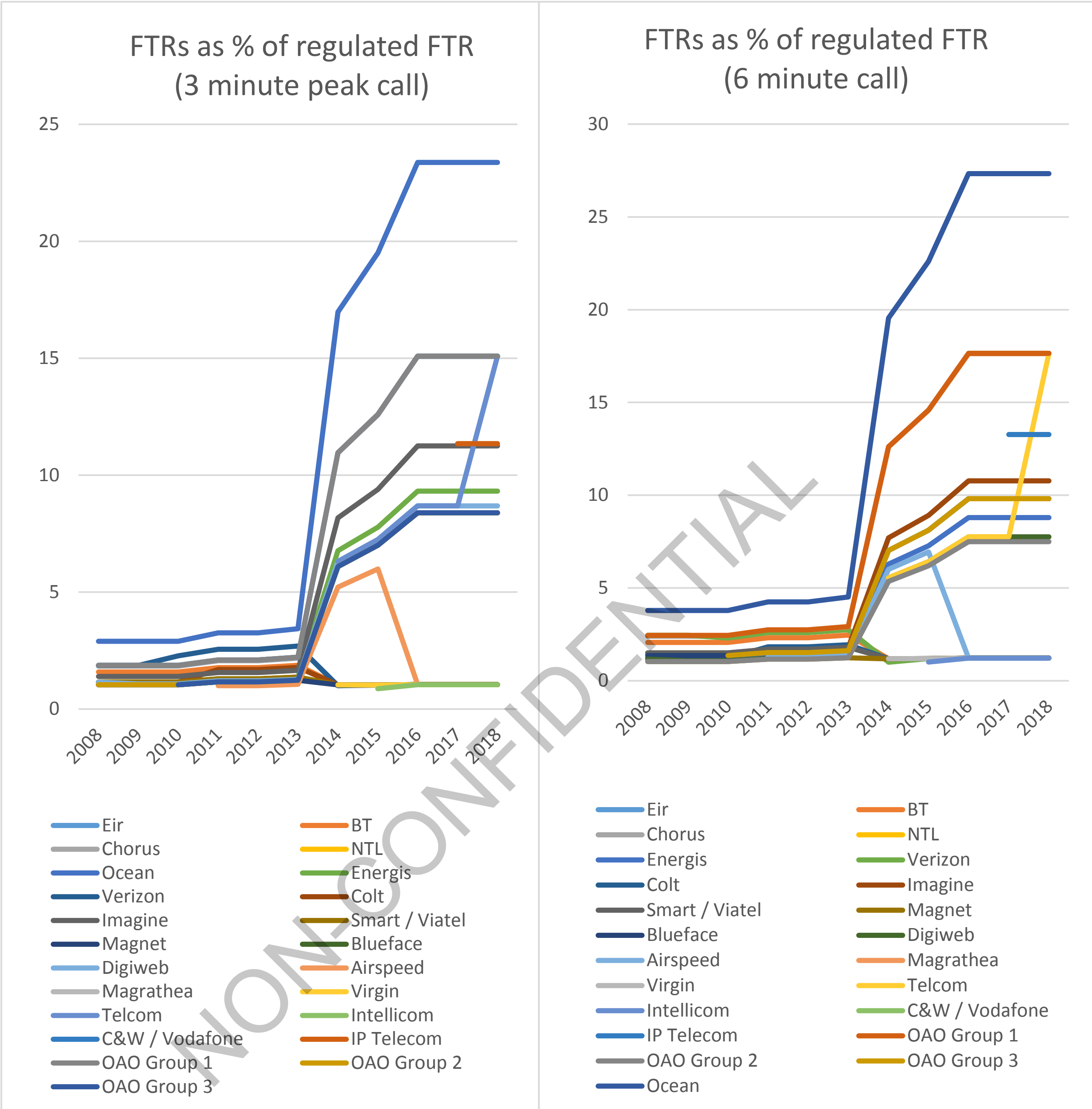
6.89 Only three Unregulated FSPs with published FTRs (Airspeed, Digiweb and Telcom) have changed their FTRs since market entry. Given that the 2007 SMP FSPs have reduced their FTRs on a number of occasions pursuant to their regulatory obligations, the gap between the FTRs charged by the 2007 SMP FSPs and the Unregulated FSPs has grown from a maximum of 379% in 2008, to 2733% in 2017 (or 1765% if Ocean is excluded).

6.90 The growth in this gap year-on-year is clearly illustrated in the chart below, where the x-axis represents the regulated rate charged by Eircom:

[666] Verizon increased its peak FTRs by 21% in 2009, while Colt increased its peak FTRs by 30% in 2010. At the time, both were SMP FSPs, but were not subject to price control obligations.

[667] This gap is explained by the fact that the 2012 Pricing Decision permits the 2007 SMP FSPs to charge an FTR based on either a flat cent per minute rate, or a two-part rate consisting of a (lower) flat cent per minute rate, but also a cent per call component. Eircom charges a two-part FTR, while the 2007 Alternative SMP FSPs all charge flat rate FTRs. This means that the two SMP FTR rates are very similar for short call durations, but diverge for longer call durations.

Figure 64: FTRs as percentages of the regulated FTR, 2007-2018



6.91 The data presented above suggest that the FTRs of Unregulated FSPs have remained above the level that would be expected to obtain in a competitive market (using regulated SMP FTRs as a proxy for the competitive level). In the case of Telcom, its FTRs increased in December 2017 as highlighted in Figure 64 and Table 18, further increasing the gap between the FTRs charged by Telcom and the 2007 SMP FSPs. Thus, the difference between FTRs charged by Unregulated FSPs, and by the 2007 SMP FSPs has increased over time, as the level of SMP-based FTRs has fallen. This suggests that CBP does not act as an effective constraint on the pricing behaviour of Unregulated FSPs.

6.92 It is ComReg's position that the FTRs set by Unregulated FSPs which are not subject to *ex ante* price controls are indicative of their capacity, from a pricing perspective, to behave, to an appreciable extent, independently of all other FSPs and their relevant wholesale customers when setting their FTRs. This suggests that the pricing behaviour of Unregulated FSPs has not been disciplined effectively by the exercise of any CBP. Accordingly, ComReg's position is that any CBP has not been, nor is likely to be, effective, absent regulation.

6.93 The analysis in paragraphs 6.67 to 6.92 above shows wide variations in the FTRs charged by the 2007 SMP FSPs and the Unregulated FSPs for FVCT since the implementation of the 2007 FVCT Decision and, subsequently, the 2012 Pricing Decision. With the exception of Airspeed and Intellicom, Unregulated FSPs have, generally, charged higher FTRs than the 2007 SMP FSPs subject to price control, with the difference generally increasing over time as the 2007 SMP FSPs have reduced their cost oriented FTRs. In light of this analysis, and having regard to the definition of the Relevant FVCT Markets (which is based on the scope of each individual FSP's FVCT services), it is ComReg's position that, absent SMP regulation, any CBP has not been, nor is likely to be, effective.

Conclusion on whether CBP is likely to constrain FSPs' FTR setting behaviour

6.94 ComReg maintains its position that Service Providers generally lack credible outside options to purchasing FVCT from specific FSPs, due to a general end user expectation of end-to-end connectivity with all available networks, and due to the inability of one FSP to terminate a call to the network of another FSP. It is therefore unlikely that a Service Provider would be capable of exercising a material constraint on the ability of FSPs to set their FTRs above efficient cost absent regulation.

6.95 Based on the analysis set out above, including the evidence of FTR pricing behaviour from 2007 to date, it is unlikely that any Service Provider would, absent regulation, be capable of exercising an effective CBP constraint on a FSP's supply of FVCT, or its ability to set its FTRs above a competitive market level.

6.96 The review of actual FTR-pricing behaviour since 2007, coupled with the economic assessment of other relevant factors influencing the respective bargaining dynamics and positions of the parties on a forward-looking basis, provides strong evidence for a preliminary finding of ineffective CBP in all of the Relevant FVCT Markets of the other FSPs for the purposes of the present market review. As noted above, this position is also in line with EU experience according to which all NRAs continue to define each individual FSP as a distinct relevant market for FVCT and have also consistently found SMP.[668]

Assessment of CBP in Relevant MVCT Markets

6.97 In the following paragraphs, ComReg assesses whether there is evidence that buyers of MVCT have exercised effective CBP, having regard to the factors and range of criteria set out in paragraphs 6.37 to 6.41 above.

6.98 It is worth noting at the outset that, in the SIRs which it issued in 2016,[669] ComReg sought the views of MSPs as to whether, in their experience, CBP was or could be exercised and whether this was, or could be, effective in mitigating any SMP and the ability of MSPs to sustain increases in MTRs above those consistent with a competitive market outcome. The views of MSPs received are summarised at the start of each assessment below and considered in the analysis of whether effective CBP has been, or is likely to be, experienced by each of the MSPs identified as operating on a Relevant MVCT Market.

6.99 Table 19 below sets out the movement in individual MSPs' MTRs over the period since H2 2007. The data are based on information published in the openeir STRPL and the rates shown are the rates in place at the start of the period in question.

[668] European Commission, Communication on market reviews under the EU Regulatory Framework (3rd report) Further steps towards the consolidation of the internal market for electronic communications ('**Communication on Market Reviews'**), COM(2010) 271 final, page 7. See also European Commission, Accompanying document to the Communication on Market Reviews, SEC(2010) 659, page 11.

[669] ComReg issued SIRs to seven MSPs (Vodafone, Three, Meteor, iD Mobile, Virgin Media, Lycamobile and TMI) in July 2016, and received responses from all seven in September 2016.

Table 19: MTRs (cent per minute), 2007 to date

Vodafone	H2'07	H2'08	H2'09	H2'10	H2'11	H2'12	H2'13	H2'14	H2'15	H2'16	H2'17	Current
Peak	12.26	11.89	12.75	9.55	5.84	4.77	2.60	2.60	2.60	0.84	0.82	0.79
Off-peak	8.15	7.78	4.83	4.83	2.95	2.41	2.60	2.60	2.60	0.84	0.82	0.79
Weekend	5.00	4.87	4.83	4.83	2.95	2.41	2.60	2.60	2.60	0.84	0.82	0.79
Meteor	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak	15.90	15.60	15.60	10.43	8.50	6.59	4.25	4.25	4.25	0.84	0.82	0.79
Off-peak	10.71	9.79	9.79	8.38	1.00	1.00	1.00	1.00	1.00	0.84	0.82	0.79
Weekend	8.32	7.60	5.21	4.46	1.00	1.00	1.00	1.00	1.00	0.84	0.82	0.79
Three	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak	17.78	17.78	17.78	17.78	13.88	11.38	2.60	2.60	2.60	0.84	0.82	0.79
Off-peak	11.43	11.43	11.43	6.90	2.00	6.00	2.60	2.60	2.60	0.84	0.82	0.79
Weekend	8.89	8.89	8.89	8.89	3.91	0.50	2.60	2.60	2.60	0.84	0.82	0.79
TMI	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak	18.04	18.04	17.80	17.12	17.12	15.01	2.60	2.60	2.60	0.84	0.82	0.79
Off-peak	12.61	12.61	12.50	12.02	12.02	10.42	2.60	2.60	2.60	0.84	0.82	0.79
Weekend	10.30	10.30	10.20	9.81	9.81	8.43	2.60	2.60	2.60	0.84	0.82	0.79
Lycamobile	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak					13.79	13.79	2.60	2.60	2.60	0.84	0.82	0.79
Off-peak					13.79	13.79	2.60	2.60	2.60	0.84	0.82	0.79
Weekend					13.79	13.79	2.60	2.60	2.60	0.84	0.82	0.79
Virgin Media	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak									2.60	2.60	2.60	2.60
Off-peak									2.60	2.60	2.60	2.60
Weekend									2.60	2.60	2.60	2.60
iD Mobile	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Until April 2018**
Peak									6.00	1.94	1.89	1.82
Off-peak									6.00	1.94	1.89	1.82
Weekend									6.00	1.94	1.89	1.82

6.100 Table 20 below shows the relative movement in each individual MSP's MTRs over the period since H2 2007.

Table 20: Percentage fall in MTRs, 2007-2018

MSP	Peak MTRs	Off-peak MTRs	Weekend MTRs	Notes
Vodafone	-94%	-90%	-84%	
Meteor	-95%	-93%	-91%	
Three	-96%	-93%	-91%	
TMI	-96%	-94%	-92%	
Lycamobile	-94%	-94%	-94%	From 2011
Virgin Media	0%	0%	0%	From 2015
iD Mobile	-70%	-70%	-70%	From 2015

6.101 Table 21 below shows each MSP's MTRs as a percentage of regulated MTRs current at each time period.

Table 21: MTRs as a % of regulated SMP MTRs, 2007 to date

Vodafone	H2'07	H2'08	H2'09	H2'10	H2'11	H2'12	H2'13	H2'14	H2'15	H2'16	H2'17	Current
Peak	95%	92%	99%	74%	45%	37%	100%	100%	100%	100%	100%	100%
Off-peak	71%	68%	42%	42%	26%	21%	100%	100%	100%	100%	100%	100%
Weekend	84%	82%	81%	81%	49%	40%	100%	100%	100%	100%	100%	100%
Meteor/eir Mobile	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak	89%	88%	88%	59%	48%	37%	100%	100%	100%	100%	100%	100%
Off-peak	94%	86%	86%	73%	9%	9%	100%	100%	100%	100%	100%	100%
Weekend	94%	86%	59%	50%	11%	11%	100%	100%	100%	100%	100%	100%
Three	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak	100%	100%	100%	100%	78%	64%	100%	100%	100%	100%	100%	100%
Off-peak	100%	100%	100%	60%	17%	52%	100%	100%	100%	100%	100%	100%
Weekend	100%	100%	100%	100%	44%	6%	100%	100%	100%	100%	100%	100%
TMI	**H2'07**	**H2'08**	**H2'09**	**H2'10**	**H2'11**	**H2'12**	**H2'13**	**H2'14**	**H2'15**	**H2'16**	**H2'17**	**Current**
Peak	694%	694%	685%	658%	658%	577%	100%	100%	100%	100%	100%	100%
Off-peak	485%	485%	481%	462%	462%	401%	100%	100%	100%	100%	100%	100%
Weekend	396%	396%	392%	377%	377%	324%	100%	100%	100%	100%	100%	100%

Lycamobile	H2'07	H2'08	H2'09	H2'10	H2'11	H2'12	H2'13	H2'14	H2'15	H2'16	H2'17	Current
Peak					530%	530%	100%	100%	100%	100%	100%	100%
Off-peak					530%	530%	100%	100%	100%	100%	100%	100%
Weekend					530%	530%	100%	100%	100%	100%	100%	100%

Virgin Media	H2'07	H2'08	H2'09	H2'10	H2'11	H2'12	H2'13	H2'14	H2'15	H2'16	H2'17	Current
Peak									100%	310%	317%	329%
Off-peak									100%	310%	317%	329%
Weekend									100%	310%	317%	329%

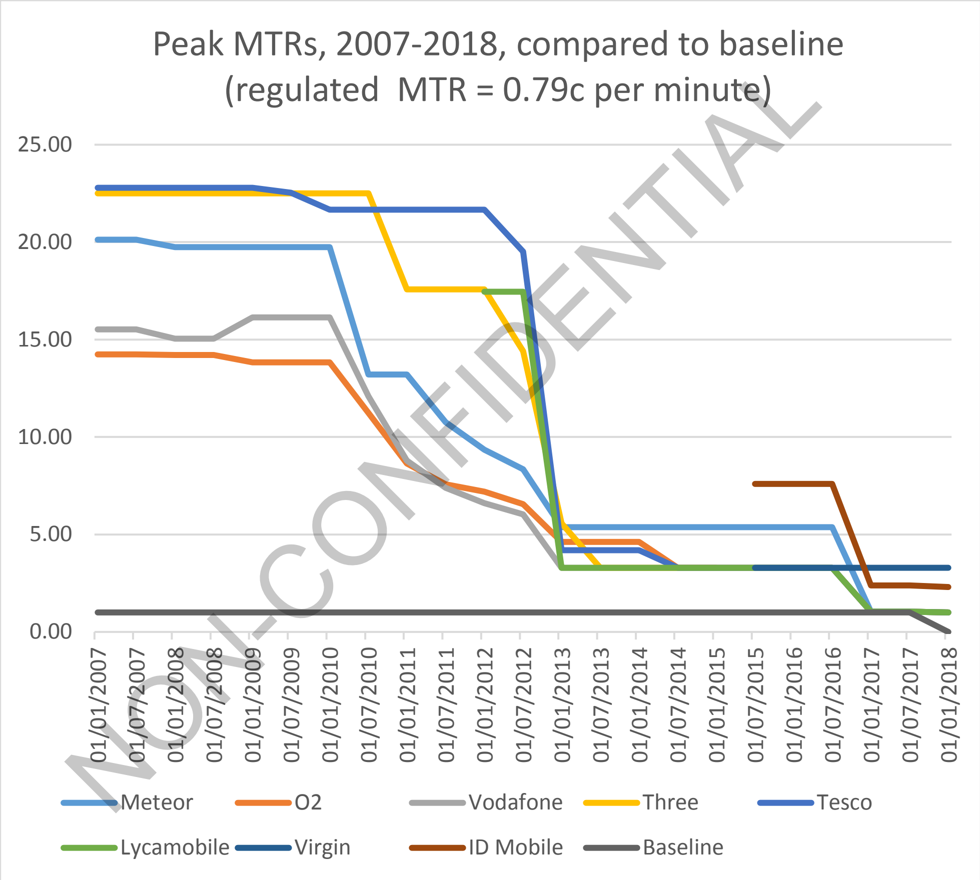
iD Mobile	H2'07	H2'08	H2'09	H2'10	H2'11	H2'12	H2'13	H2'14	H2'15	H2'16	H2'17	Until April 2018
Peak									231%	231%	230%	230%
Off-peak									231%	231%	230%	230%
Weekend									231%	231%	230%	230%

6.102 In assessing whether an MSP has SMP, ComReg considers how MVCT may have been priced absent SMP regulatory controls, and whether the resultant MTRs would approximate those which would arise in a competitive market. ComReg has set out its position in Section 5 that, given the market definition, MVCT consists of individual MSP-based markets and, as such, there are no effective actual or potential competitors against which the impact of competition on the level of MTRs can be readily assessed. In addition, for those MSPs providing MVCT and not subject to regulation, they may consider the potential threat of regulation in their MTR-setting behaviour. Nevertheless, in the context of the SMP assessment, ComReg considers trends in MSP pricing behaviour to date. ComReg has followed the same principles as those set out in respect of its assessment of FSP pricing behaviour above.[670]

[670] See paragraphs 6.37 to 6.42 above.

6.103 Figure 65, Figure 66 and Figure 67 below demonstrate how MTRs have changed in the period from 2007 to 2017. The graphs compare each MSP's MTRs against a baseline – in this case, the regulated MTR, which is currently set by ComReg at 0.79 cent per minute for the 2012 SMP MSPs. The graphs show that MTRs have dropped significantly in the past decade, by a factor of up to 21 in the case of peak MTRs. Both the level of MTRs, and the range between MSPs' MTRs, have reduced over time, to a situation now where the 2012 SMP MSPs charge common MTRs (pursuant to regulation), while Virgin Media, who are not currently regulated, charge at 329% of the regulated MTRs.[671]

Figure 65: Peak minute MTRs, 2007-2018



[671] Similarly, prior to its exit, iD Mobile charged MTRs at 230% of the regulated MTRs.

Figure 66: Off-peak minute MTRs, 2007-2018

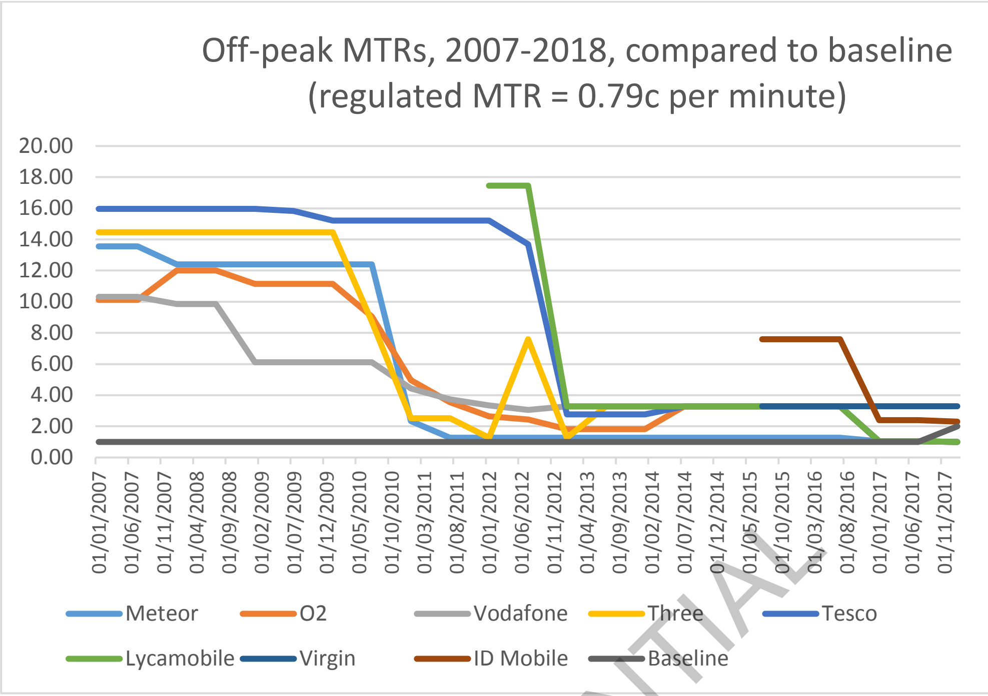
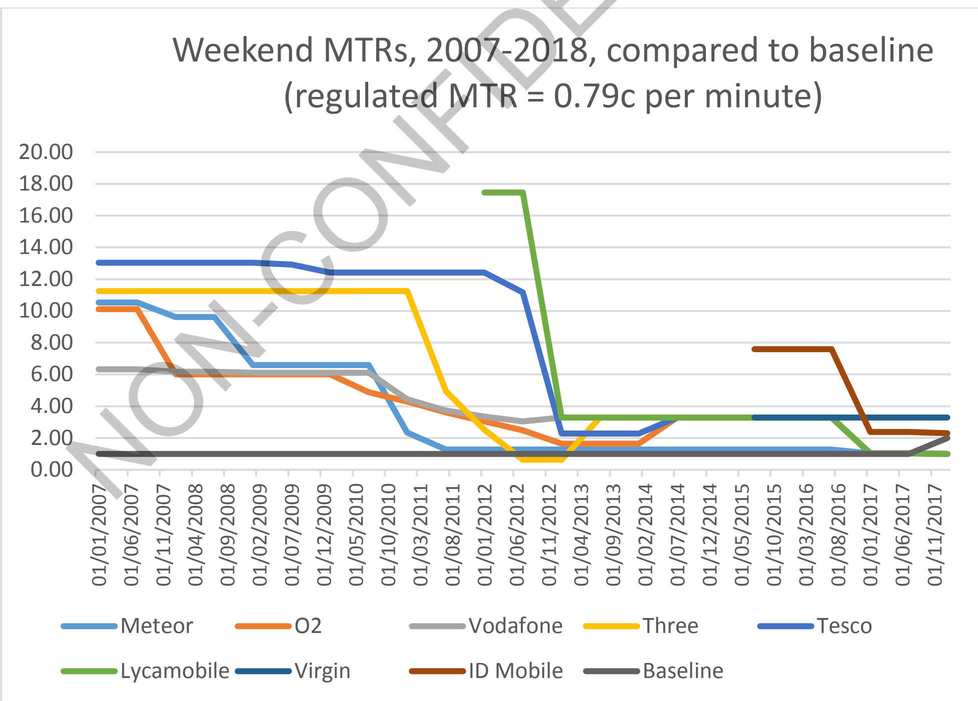


Figure 67: Weekend minute MTRs, 2007-2018



6.104 The 2012 SMP MSPs are, pursuant to the 2012 Pricing Decision, all subject to MTR price controls set in accordance with a cost orientation obligation based on the costs of an efficient operator using a BU pure LRIC approach (i.e., only those costs incurred by an efficient operator which are incremental to wholesale voice termination volumes). All 2012 SMP MSPs have set their MTRs at the maximum MTR permissible.

6.105 It is ComReg's position that, absent regulation, the 2012 SMP MSPs would not have reduced their MTRs to the levels established by means of regulation, based on the disparities in the levels of MTRs charged prior to, and following, the introduction of price regulation of FTRs. The review of historic pricing by the 2012 SMP MSPs (along with other factors already considered) suggests to ComReg that these MSPs have the power to behave, to an appreciable extent, independently of other Service Providers when setting their MTRs. This suggests that, absent SMP regulation, CBP would not be effective in constraining the MTR price-setting abilities of the 2012 SMP MSPs.

6.106 Neither Virgin Media (nor iD Mobile) has been subject to SMP regulation to date. Accordingly, for the reasons set out above with respect to FVCT,[672] these MSPs could potentially be expected to have a greater capacity to exert CBP, as their market conduct is not constrained by SMP remedies (and they therefore have the potential to retaliate in any negotiations by increasing their MTRs). Upon market entry in 2015, Virgin Media sets its MTRs equal to the then-prevailing rate charged by the 2012 SMP MSPs. It has retained that rate in the intervening period, while the 2012 SMP MSPs have been obliged by regulation to reduce their MTRs. Accordingly, Virgin Media's MTRs have been static since its entry to the market in 2015. From July 2015 to September 2016, Virgin Media's MTRs were the same as those of the 2012 SMP MSPs. As the 2012 SMP MSPs reduced their MTRs in September 2016, January 2017 and again in January 2018, the relativities between Virgin Media's MTRs and the 2012 SMP MSPs' MTRs rose to 310%, and then 329%.

6.107 Upon market entry in 2015, iD Mobile set its MTRs at 230% of the SMP-based MTRs. It has retained that percentage differential in the intervening period, as the 2012 SMP MSPs have been obliged by means of regulation to reduce their MTRs. Accordingly, since its market entry and prior to its exit, iD Mobile retained its MTRs at 230% of the SMP MTR, for any value of that MTR.

6.108 It is also noteworthy that both Virgin Media's MTRs are greater than those of its host network, Three, which provides the underlying radio access network and other arrangements to support Virgin Media's MVNO based services[673]. These major differences arise despite the fact that, as MVNOs, neither undertaking has invested to the same degree as Three in mobile network infrastructure and associated facilities. It is unclear as to what, if any, objective justifications for such cost differences arise. However, in the context of this SMP analysis ComReg is simply highlighting the fact that such differences exist and that they demonstrate a degree of independence by both Virgin Media and iD Mobile in setting their MTRs.

[672] As set out in paragraph 6.44 above.

[673] This was also the case for iD Mobile prior to its exit.

6.109 It is therefore ComReg's position that the pricing behaviour of Virgin Media and, along with other factors already considered, is suggestive that it has the power to behave, to an appreciable extent, independently of all other MSPs and other undertakings when setting their MTRs. This suggests that CBP has not been, nor is likely to be, effective in constraining the MTR price-setting abilities of the Unregulated MSPs.

6.110 The analysis in paragraphs 6.99 to 6.109 above shows that there have been wide variations between the MTRs charged by each of the MSPs. The Unregulated MSP Virgin Media has charged higher MTRs than the 2012 SMP MSPs, with the difference increasing over time as the 2012 SMP MSPs have reduced their MTRs (via regulation). While there have also been differences between the MTRs charged by the 2012 SMP MSPs, [674] this has eroded over time, given the presence of regulation. In light of this analysis and having regard to the definition of the Relevant MVCT Markets (i.e. based on individual MVCT markets), it is ComReg's position that absent SMP regulation, each MSP individually has the power to set its MTRs, to an appreciable extent, independently of each other, customers and consumers. The review of trends in MTR pricing behaviour, and ComReg's view that such market power would likely continue on a prospective basis (absent regulation), support the strong presumption of SMP in the Relevant MVCT Markets which is not constrained by the sufficiently effective and immediate exercise of CBP.

6.111 In the following paragraphs, ComReg assesses whether each of the six MSPs currently active in the provision of MVCT are likely to be effectively constrained by the exercise of CBP. In the Consultation ComReg also carried out a CBP assessment with respect to iD Mobile, however, given that it has now exited the market, ComReg no longer does so.

(a) Lycamobile (at paragraphs 6.112 to 6.129);

(b) Eir Mobile (at paragraphs 6.130 to 6.145 below);

(c) TMI (at paragraphs 6.146 to 6.160 below);

(d) Three (at paragraphs 6.162 to 6.176 below);

(e) Virgin Media (at paragraphs 6.177 to 6.192); and

(f) Vodafone (at paragraphs 6.193 to 6.207).

[674] These differences stem in large part from the fact that, of the 2012 SMP MSPs, one (TMI) was not previously subject to price regulation, while, pursuant to ComReg Decisions D11/05 and D05/08, Vodafone, Meteor, O2 and Three were all subject to price control remedies. However, the level of the maximum MTR which each SMP MSP was entitled to charge pursuant to these Decisions varied.

Analysis of whether CBP is likely to effectively constrain Lycamobile

6.112 For the reasons set out in paragraphs 6.113 to 6.129 below, given Lycamobile's position in the Relevant FVCT Market, ComReg does not consider it likely that Lycamobile has been, or is likely to be, subject to effective CBP.

Response to Statutory Information Requests

6.113 Lycamobile, in its response to the 2016 SIR,[675] indicated that it had not experienced CBP as a supplier of MVCT (although this is in the presence of regulation). Lycamobile noted that MTRs charged by both itself and its host network (Three) are regulated.

6.114 ComReg notes Lycamobile's position, which appears to suggest that any CBP would not be effective in constraining Lycamobile's ability to set its MTRs above the level consistent with a competitive market outcome, albeit in the presence of regulation.

Size of the buyer and its relative importance to the seller

6.115 Lycamobile is directly interconnected with [✂ [redacted]]

6.116 ComReg has considered the share of supplied MVCT that is purchased by individual Service Providers directly and indirectly interconnected with Lycamobile, and trends over time. Table 22 below shows the relative sizes of all buyers of MVCT provided by Lycamobile, according to the most recent data at ComReg's disposal:

Table 22: Largest buyers of Lycamobile MVCT [✂ REDACTED]

MVCT buyer	Q4 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[675] The SIR was issued to Lycamobile on 8 July 2016, and a response received on 8 September 2016.

Table 23: Largest sellers of MVCT to Lycamobile [✂ REDACTED]

MVCT seller	Q4 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

6.117 As at Q1 2017, [✂ [redacted]]. In absolute terms, over the period 2015 to Q1 2017 (the '**Relevant Time Period'**), Lycamobile's own purchases of MVCT from [✂ [redacted]] have increased, largely at the expense of [✂ [redacted]]

6.118 ComReg has also considered the size of each MSP's subscriber base, as set out in Table 24 below, to give a preliminary indicator of the credibility of any attempt by an MSP to use its CBP to constrain another MSP. All other things being equal, if it were possible to exert CBP, it is likely that those MSPs which control a larger share of the market would be best positioned to exert CBP:

Table 24: MSP subscriber bases as % of overall base, 2013-Q3 2018[676]

<table>
<tr><th>MSP</th><th>Q1 2013</th><th>Q2 2016[677]</th><th>Q3 2018</th></tr>
<tr><td>Vodafone</td><td>45%</td><td>37%</td><td>36%</td></tr>
<tr><td>Three</td><td>10%</td><td>33%</td><td>32%</td></tr>
<tr><td>Meteor</td><td>17%</td><td>20%</td><td>20%</td></tr>
<tr><td>TMI</td><td>1%</td><td>7%</td><td>8%</td></tr>
<tr><td>Lycamobile</td><td rowspan="3"></td><td rowspan="3">3%</td><td rowspan="3">4%</td></tr>
<tr><td>Virgin Media</td></tr>
<tr><td>iD Mobile</td></tr>
<tr><td>O2</td><td>26%</td><td></td><td></td></tr>
</table>

[676] The sources of these data are ComReg's Quarterly Key Data Reports for Q1 2013, Q2 2016 and Q3 2018.

[677] ComReg started to include Virgin Media and iD Mobile in its QKDR from Q2 2016.

6.119 As set out in Table 24 above, Lycamobile's subscriber base is substantially lower than that of Vodafone, Three or eir Mobile[678]. Nevertheless, ComReg considers that, given the respective parties' subscriber numbers, they will consider it somewhat important to interconnect with other domestic MSPs,[679] as consumers expect to be able to call subscribers of other Service Providers. As a result Service Providers need to ensure as wide as possible interconnection with other Service Providers. It should, however, be noted that these commercial incentives could be somewhat lower in the case of larger MSPs. Given the comparatively low level of Lycamobile's subscriber base, larger MSPs could still claim to offer wide interconnection for its subscribers, without having concluded direct interconnection with Lycamobile.

6.120 Absent regulation, on a forward looking basis, it is ComReg's view that there may be some commercial incentives to interconnect to a certain degree[680] and, as Lycamobile's subscriber base grows further, may increase. Moreover, given that the MTRs of the 2012 SMP MSPs are price regulated, this limits their incentive to engage in conduct intended to influence the level of MTR payable by a new market entrant.

6.121 Overall, for Lycamobile, the size of other MSPs, and Vodafone, Three and Meteor in particular, and their relative importance to Lycamobile may be distinguishing factors which could affect the relative bargaining power between the parties in interconnection negotiations. However, the scope of this bargaining power is likely to be considerably constrained by the fact that the MTRs of the 2012 SMP MSPs (including Lycamobile) are regulated.

Credible alternative sources of MVCT supply for the buyer

6.122 As set out above at paragraphs 5.217 to 5.224 ComReg is of the view that, in the absence of effective demand-side substitution possibilities, buyers of MVCT cannot credibly switch to alternative sources of MVCT in the short term without incurring significant switching or sunk costs. In this regard, purchasers of MVCT from Lycamobile are unlikely to be able to exercise effective CBP by switching to, or credibly threatening to switch to, an alternative source of MVCT supply.

[678] Meteor trading as Eir Mobile

[679] Although not necessarily at any level of MTR.

[680] Although not necessarily on the terms and conditions that would pertain in the presence of regulation.

Price sensitivity of the buyer

6.123 Purchasers of MVCT from Lycamobile are likely to have limited price sensitivity to the MTRs charged by it, given that current MTRs are subject to regulation. As its retail subscribers would have a general expectation of end-to-end connectivity with all available networks, any price sensitivity on the part of Lycamobile is likely to be somewhat constrained by the need to build a fully comprehensive retail offer which meets the general expectation of interoperability and accessibility to other networks.

6.124 Given that the MTRs of the 2012 SMP MSPs are regulated at a common level, purchasers of MVCT from Lycamobile are likely to have limited price sensitivity with respect to the MTRs it charges, as no MTR asymmetries arise. However, having regard to the historical pricing behaviour of Lycamobile (prior to regulation), purchasers of MVCT would likely be price sensitive absent regulation.

6.125 Moreover, a Service Provider's level of price sensitivity to MTRs is likely to be greater, the greater the proportion of the cost of completing an off-net call accounted for by MTRs. Regulated MTRs now form a relatively lower proportion of retail call costs, compared to when they were unregulated. Data set out at Table 21 indicate that, prior to its SMP designation, Lycamobile charged MTRs far in excess of the SMP-based MTRs. Unregulated MTRs tend to form a higher proportion of retail costs, and ComReg takes the view that the price sensitivity of purchasers of MVCT from Lycamobile is likely to be currently lower than it otherwise would be due to the effectiveness of SMP regulation in reducing MTRs to the levels which would be expected to obtain in a competitive market. Absent regulation, it is likely that Lycamobile would have the ability and incentive to raise its MTRs to supra-competitive levels, leading to increased price sensitivity on the part of purchasers of MVCT from Lycamobile, as these higher MTRs form a larger proportion of retail call costs.

Evidence of price-setting behaviour and negotiations between operators

6.126 Like other 2012 SMP MSPs, Lycamobile is subject to price regulation pursuant to the 2012 MVCT Decision and the 2016 MTR Decision.[681] As such, it has been constrained through the presence of regulation when negotiating in respect of the level at which it sets its MTRs. This is confirmed by Lycamobile in its response to the SIR issued to it by ComReg.[682]

[681] Decision D02/16, "Mobile Termination Rates: Response to Consultation 14/29 and Supplementary Consultation 15/19 and Decision Document" (the '**2016 MTR Decision**'.)

[682] See paragraphs 6.112 to 6.121 above.

6.127 Lycamobile's MTRs have been reduced on a number of occasions since the 2012 MVCT Decision as a result of regulatory obligations imposed by ComReg in that decision, rather than necessarily as a result of CBP being exercised by other Service Providers over Lycamobile.

6.128 Accordingly, an examination of Lycamobile's price-setting behaviour would not be a useful means of assessing the nature of any CBP exercised over it to date. ComReg does, however, note that prior to regulation, Lycamobile's MTRs were significantly higher than their current levels, as noted in the 2012 MVCT Decision. ComReg has instead analysed above the credibility of the ways in which other Service Providers could potentially exert CBP over Lycamobile if *ex ante* regulation were removed.

Conclusion on whether Lycamobile faces effective CBP

6.129 Having regard to the discussion in paragraphs 6.113 to 6.128 above, ComReg's position is that no undertaking is likely to be able to exert sufficient CBP such that, absent regulation, it would sufficiently constrain Lycamobile's ability to set MTRs above the level consistent with a competitive market outcome. There is insufficient CBP to prevent Lycamobile acting in the Relevant MVCT Market independently of competitors, customers and consumers.

Analysis of whether CBP is likely to effectively constrain Meteor

6.130 For the reasons set out in paragraphs 6.131 to 6.145 below, given its position in the Relevant FVCT Market, ComReg does not consider it likely that Meteor has been, or is likely to be, subject to effective CBP.

Response to Statutory Information Requests

6.131 Meteor, in its response to the 2016 SIR (while branded as eir Mobile),[683] indicated that it was unable to determine the presence or level of CBP when setting MTRs, due to the fact that, as an SMP MSP, it is subject to price controls.

6.132 ComReg notes [✂ [redacted]]

Size of the buyer and its relative importance to the seller

6.133 Meteor currently has [✂ [redacted]] MVCT supply agreements with other undertakings. ComReg has considered the share of supplied MVCT that is purchased by individual Service Providers directly and indirectly interconnected with Meteor, and trends over time.

683 The SIR was issued to Meteor on 8 July 2016, and a response was received on 2 September 2016.

6.134 Table 25 below shows the relative sizes of all buyers of MVCT provided by Meteor, according to the most recent data at ComReg's disposal (as provided by SPs):

Table 25: Largest buyers of Meteor MVCT [✂ REDACTED]

MVCT buyer	Q1 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			
[redacted]	[redacted]	[redacted]	[redacted]

Table 26: Largest sellers of MVCT to Meteor [✂ REDACTED]

MVCT seller	Q1 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

6.135 As at Q1 2017, [✂ [redacted]] accounted for [✂ [redacted]] of the total share of Meteor-provided MVCT, having increased from a share of [✂ [redacted]] in 2015. In absolute terms, over the same time period, Meteor's own purchases of MVCT from [✂ [redacted]] remained static at [✂ [redacted]].

6.136 As set out in Table 24 above, ComReg has also considered the size of each MSP's subscriber base relative to Meteor's subscriber base. Meteor's subscriber base is lower than that of Vodafone and Three. Even so, ComReg considers that, given the respective parties' subscriber numbers, they will consider it somewhat important to interconnect with other domestic MSPs,[684] owing to the fact that consumers expect to be able to call subscribers of other Service Providers and the consequential need for Service Providers to ensure as wide as possible interconnection with other Service Providers. As a consequence, ComReg considers that it would be similarly important for Meteor to interconnect with other MSPs as it is for those MSPs to interconnect with Meteor. Absent regulation, on a forward looking basis, it is ComReg's view that there may be some commercial incentives to interconnect, although not necessarily on the same terms and conditions that would pertain in the presence of regulation.

[684] Although not necessarily at any level of MTR.

6.137 Overall, for Meteor, it is ComReg's position that the size of other MSPs as buyers of MVCT and their relative importance to Meteor are not likely to be distinguishing factors which would materially rebalance the relative bargaining power between the parties in interconnection negotiations. Moreover, the scope for any bargaining power is likely to be considerably constrained by the fact that the MTRs of the 2012 SMP MSPs are regulated.

Credible alternative sources of MVCT supply for the buyer

6.138 As set out above at paragraphs 5.217 to 5.224, ComReg is of the view that, in the absence of effective demand-side substitution possibilities, buyers of MVCT cannot credibly switch to alternative sources of MVCT in the short term without incurring significant switching or sunk costs. In this regard, purchasers of MVCT from Meteor are unlikely to be able to exercise CBP by switching to, or credibly threatening to switch to, an alternative source of MVCT supply.

Price sensitivity of the buyer

6.139 Purchasers of MVCT from Meteor are likely to have limited price sensitivity to the MTRs charged by it, given that current MTRs are subject to regulation. As its retail subscribers would have a general expectation of end-to-end connectivity with all available networks, any price sensitivity on the part of Meteor is likely to be somewhat constrained by the need to build a fully comprehensive retail offer which meets the general expectation of interoperability and accessibility to other networks.

6.140 Given that the MTRs of Meteor and the other 2012 SMP MSPs are regulated at a common level, purchasers of MVCT from Meteor are likely to have limited price sensitivity with respect to the MTRs it charges, as no MTR asymmetries arise. However, having regard to the historical pricing behaviour of Meteor (prior to regulation), purchasers of MVCT would likely be price sensitive absent regulation.

6.141 Moreover, a Service Provider's level of price sensitivity to MTRs is likely to be greater, the greater the proportion of the cost of completing an off-net call accounted for by MTRs. Regulated MTRs now form a relatively lower proportion of retail call costs, compared to when they were unregulated. Unregulated MTRs tend to form a higher proportion of retail costs, and ComReg takes the view that the price sensitivity of purchasers of MVCT from Meteor is likely to be currently lower than it otherwise would be due to the effectiveness of SMP regulation in reducing MTRs to the levels which would be expected to obtain in a competitive market. Absent regulation, it is likely that Meteor would have the ability and incentive to raise its MTRs to supra-competitive levels, leading to increased price sensitivity on the part of purchasers of MVCT from Meteor, as these higher MTRs form a larger proportion of retail call costs.

Evidence of price-setting behaviour and negotiations between operators

6.142 Like other 2012 SMP MSPs, Meteor is subject to price regulation pursuant to the 2012 MVCT Decision and the 2016 MTR Decision. As such, it has been constrained through the presence of regulation when negotiating in respect of the level at which it sets its MTRs. This is confirmed by Meteor (responding as Meteor) in its response to the SIR issued to it by ComReg.

6.143 Meteor's MTRs have been reduced on a number of occasions since the 2012 MVCT Decision as a result of regulatory obligations imposed by ComReg in that decision, rather than necessarily as a result of CBP being exercised by other Service Providers over Meteor.

6.144 Accordingly, an examination of Meteor's price-setting behaviour would not be a useful means of assessing the nature of any CBP exercised over it to date. ComReg has instead analysed above the credibility of the ways in which other Service Providers could potentially exert CBP over Meteor if *ex ante* regulation were removed.

Conclusion on whether Meteor faces effective CBP

6.145 Having regard to the discussion in paragraphs 6.131 to 6.144 above, ComReg's position is that no undertaking is likely to be in a position to exert sufficient CBP such that, absent regulation, it would sufficiently constrain Meteor's ability to set its MTRs above the level consistent with a competitive market outcome, i.e. there is insufficient CBP to prevent Meteor acting in the Relevant MVCT Market independently of competitors, customers and consumers.

Analysis of whether CBP is likely to effectively constrain TMI

6.146 For the reasons set out in paragraphs 6.147 to 6.160 below, given TMI's position in the Relevant FVCT Market, ComReg does not consider it likely that TMI has been, or is likely to be, subject to effective CBP.

Response to Statutory Information Requests

6.147 TMI, in its response to the 2016 SIR,[685] indicated that it sets it MTRs independently. It therefore follows that TMI has not experienced CBP as a supplier of MVCT, nor had it exerted CBP as a purchaser of MVCT.

Size of the buyer and its relative importance to the seller

6.148 TMI currently has [✂ [redacted]] MVCT supply agreements with other undertakings, with the largest buyers of MVCT from TMI being [✂ [redacted]] TMI also has interconnection agreements with [✂ [redacted]] FSPs for the purchase of FVCT and other services.

[685] The SIR was issued to TMI on 8 July 2016, and a response was received on 2 September 2016.

6.149 ComReg has considered the share of supplied MVCT that is purchased by individual Service Providers directly and indirectly interconnected with TMI, and trends over time. Table 27 below shows the relative sizes of all buyers of MVCT provided by TMI following its market entry in 2015, and according to the most recent data at ComReg's disposal:

Table 27: Largest buyers of TMI MVCT [✂ REDACTED]

MVCT buyer	2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Table 28: Largest sellers of MVCT to TMI [✂ REDACTED]

MVCT seller	2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

6.150 As at Q1 2017, [✂ [redacted]] accounted for [✂ [redacted]] of the total share of TMI-provided MVCT, having increased marginally from a share of [✂ [redacted]] in 2015. In absolute terms, over the period 2015 to Q1 2017, TMI's own purchases of MVCT from [✂ [redacted]] increased by [✂ [redacted]]

6.151 As set out in Table 24 above, TMI's subscriber base is lower than that of Vodafone, Three or Meteor, but greater than that of Lycamobile and Virgin Media. Nevertheless, ComReg considers that, given the respective parties' subscriber numbers, they will consider it somewhat important to interconnect with other domestic MSPs,[686] owing to the fact that consumers expect to be able to call subscribers of other Service Providers and the consequential need for Service Providers to ensure as wide as possible interconnection with other Service Providers.

6.152 Absent regulation, on a forward looking basis, it is ComReg's view that there may be some commercial incentives to interconnect to a certain degree[687] and, as TMI's subscriber base grows further, may increase. Moreover, given that the MTRs of the 2012 SMP MSPs are price regulated, this limits the incentive of SMP MSPs to engage in conduct intended to influence the level of MTR payable by a new market entrant.

6.153 Overall, for TMI, the size of other MSPs, and Vodafone, Three and Meteor in particular, and their relative importance to TMI may be distinguishing factors which could affect the relative bargaining power between the parties in interconnection negotiations. However, the scope of this bargaining power is likely to be considerably constrained by the fact that the MTRs of the 2012 SMP MSPs (including TMI) are regulated.

[686] Although not necessarily at any level of MTR.

[687] Although not necessarily on the same terms and conditions that would pertain in the presence of regulation.

Credible alternative sources of MVCT supply for the buyer

6.154 As set out above at paragraphs 5.217 to 5.224 above, ComReg is of the view that, in the absence of effective demand-side substitution possibilities, buyers of MVCT cannot credibly switch to alternative sources of MVCT in the short term without incurring significant switching or sunk costs. In this regard, purchasers of MVCT from TMI are unlikely to be able to exercise CBP by switching to, or credibly threatening to switch to, an alternative source of MVCT supply.

Price sensitivity of the buyer

6.155 Purchasers of MVCT from TMI are likely to have limited price sensitivity to the MTRs charged by it, given that current MTRs are subject to regulation. As its retail subscribers would have a general expectation of end-to-end connectivity with all available networks, any price sensitivity on the part of TMI is likely to be somewhat constrained by the need to build a fully comprehensive retail offer which meets the general expectation of interoperability and accessibility to other networks.

6.156 Given that the MTRs of TMI and the other 2012 SMP MSPs are regulated at a common level, purchasers of MVCT from TMI are likely to have limited price sensitivity with respect to the MTRs it charges, as no MTR asymmetries arise. However, having regard to the historical pricing behaviour of TMI (prior to regulation), purchasers of MVCT would likely be price sensitive absent regulation.

6.157 Moreover, a Service Provider's level of price sensitivity to MTRs is likely to be greater, the greater the proportion of the cost of completing an off-net call accounted for by MTRs. Regulated MTRs now form a relatively lower proportion of retail call costs, compared to when they were unregulated. Data set out at Table 21 indicate that, prior to its SMP designation, TMI charged MTRs far in excess of the SMP-based MTRs. Unregulated MTRs tend to form a higher proportion of retail costs, and ComReg takes the view that the price sensitivity of purchasers of MVCT from TMI is likely to be currently lower than it otherwise would be due to the effectiveness of SMP regulation in reducing MTRs to the levels which would be expected to obtain in a competitive market. Absent regulation, it is likely that TMI would have the ability and incentive to raise its MTRs to supra-competitive levels, leading to increased price sensitivity on the part of purchasers of MVCT from TMI, as these higher MTRs form a larger proportion of retail call costs.

Evidence of price-setting behaviour and negotiations between operators

6.158 Like other 2012 SMP MSPs, TMI is subject to price regulation pursuant to the 2012 MVCT Decision and the 2016 MTR Decision. As such, it has been constrained through the presence of regulation when negotiating in respect of the level at which it sets its MTRs. This is confirmed by TMI in its response to the SIR issued to it by ComReg.

6.159 TMI's MTRs have been reduced on a number of occasions since the 2012 MVCT Decision as a result of regulatory obligations imposed by ComReg in that decision, rather than necessarily as a result of CBP being exercised by other Service Providers over TMI.

6.160 Accordingly, an examination of TMI's price-setting behaviour would not be a useful means of assessing the nature of any CBP exercised over it to date. ComReg does, however, note that prior to regulation, TMI's MTRs were significantly higher than their current levels, as noted in the 2012 MVCT Decision. ComReg has instead analysed above the credibility of the ways in which other Service Providers could potentially exert CBP over TMI if *ex ante* regulation were removed.

Conclusion on whether TMI faces effective CBP

6.161 Having regard to the discussion in paragraphs 6.147 to 6.160 above, ComReg's position is that no undertaking is likely to be in a position to exert sufficient CBP such that, absent regulation, it would sufficiently constrain TMI's ability to set its MTRs above the level consistent with a competitive market outcome, i.e. there is insufficient CBP to prevent TMI acting in the Relevant MVCT Market independently of competitors, customers and consumers.

Analysis of whether CBP is likely to effectively constrain Three

6.162 For the reasons set out in paragraphs 6.163 to 6.176 below, given Three's position in the Relevant FVCT Market, ComReg does not consider it likely that Three has been, or is likely to be, subject to effective CBP.

Response to Statutory Information Requests

6.163 Three, in its response to the 2016 SIR,[688] indicated that it had not experienced CBP with respect to the setting of MTRs at any point over the past three years (although this is in the presence of regulation). ComReg notes Three's position, which appears to suggest that any CBP would not be effective in terms of its ability to constrain Three in setting its MTRs above the level consistent with a competitive market outcome, albeit in the presence of regulation.

[688] The SIR was issued to Three on 8 July 2016, and a response was received on 2 September 2016.

Size of the buyer and its relative importance to the seller

6.164 Three currently has [✂ [redacted]] MVCT supply agreements with other undertakings. Three also has interconnection agreements with [✂ [redacted]] FSPs for the purchase of FVCT and other services.

6.165 ComReg has considered the share of supplied MVCT that is purchased by individual Service Providers directly and indirectly interconnected with Three, and trends over time. Table 29 below shows the relative sizes of all buyers of MVCT provided by Three, according to the most recent data at ComReg's disposal:

Table 29: Largest buyers of Three MVCT [✂ REDACTED]

MVCT buyer	Q4 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Table 30: Largest sellers of MVCT to Three [✂ REDACTED]

MVCT seller	Q1 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

6.166 As at Q1 2017, [✂ [redacted]] accounted for [✂ [redacted]] of the total share of Three-provided MVCT, having increased from a share of [✂ [redacted]] in 2015. In absolute terms, over the period Q1 2015 to Q1 2017, Three's own purchases of MVCT from [✂ [redacted]] have remained largely static, with a [✂ [redacted]] in purchases.

6.167 As set out in Table 24 above, ComReg has also considered the size of each MSP's subscriber base relative to Three's subscriber base. Three's subscriber base is second only to that of Vodafone, approaching one third of all subscribers. ComReg accordingly considers that, given the respective parties' subscriber numbers, they will consider it important to interconnect with other domestic MSPs,[689] owing to the fact that consumers expect to be able to call subscribers of other Service Providers and the consequential need for Service Providers to ensure as wide as possible interconnection with other Service Providers. As a consequence, ComReg considers that it would be similarly important for Three to interconnect with other MSPs as it is for those MSPs to interconnect with Three. Absent regulation, on a forward looking basis, it is ComReg's view that there may be some commercial incentives to interconnect, although not necessarily on the same terms and conditions that would pertain in the presence of regulation.

6.168 Overall, for Three, it is ComReg's position that the size of other MSPs as buyers of MVCT and their relative importance to Three are not likely to be distinguishing factors which would materially rebalance the relative bargaining power between the parties in interconnection negotiations. Moreover, the scope for any bargaining power is likely to be considerably constrained by the fact that the MTRs of the 2012 SMP MSPs are regulated.

<u>Credible alternative sources of MVCT supply for the buyer</u>

6.169 As set out above at paragraphs 5.217 to 5.224, ComReg is of the view that, in the absence of effective demand-side substitution possibilities, buyers of MVCT cannot credibly switch to alternative sources of MVCT in the short term without incurring significant switching or sunk costs. In this regard, purchasers of MVCT from Three are unlikely to be able to exercise CBP by switching to, or credibly threatening to switch to, an alternative source of MVCT supply.

<u>Price sensitivity of the buyer</u>

6.170 Purchasers of MVCT from Three are likely to have limited price sensitivity to the MTRs charged by it, given that current MTRs are subject to regulation. As its retail subscribers would have a general expectation of end-to-end connectivity with all available networks, any price sensitivity on the part of Three is likely to be somewhat constrained by the need to build a fully comprehensive retail offer which meets the general expectation of interoperability and accessibility to other networks.

[689] Although not necessarily at any level of MTR.

6.171 Given that the MTRs of Three and the other 2012 SMP MSPs are regulated at a common level, purchasers of MVCT from Three are likely to have limited price sensitivity with respect to the MTRs it charges, as no MTR asymmetries arise. However, having regard to the historical pricing behaviour of Three (prior to regulation), purchasers of MVCT would likely be price sensitive absent regulation.

6.172 Moreover, a Service Provider's level of price sensitivity to MTRs is likely to be greater, the greater the proportion of the cost of completing an off-net call accounted for by MTRs. Regulated MTRs now form a relatively lower proportion of retail call costs, compared to when they were unregulated. Unregulated MTRs tend to form a higher proportion of retail costs, and ComReg takes the view that the price sensitivity of purchasers of MVCT from Three is likely to be currently lower than it otherwise would be due to the effectiveness of SMP regulation in reducing MTRs to the levels which would be expected to obtain in a competitive market. Absent regulation, it is likely that Three would have the ability and incentive to raise its MTRs to supra-competitive levels, leading to increased price sensitivity on the part of purchasers of MVCT from Three, as these higher MTRs form a larger proportion of retail call costs.

Evidence of price-setting behaviour and negotiations between operators

6.173 Like other 2012 SMP MSPs, Three is subject to price regulation pursuant to the 2012 MVCT Decision and the 2016 MTR Decision. As such, it has been constrained through the presence of regulation when negotiating in respect of the level at which it sets its MTRs. This is confirmed by Three in its response to the SIR issued to it by ComReg.

6.174 Three's MTRs have been reduced on a number of occasions since the 2012 MVCT Decision as a result of regulatory obligations imposed by ComReg in that decision, rather than necessarily as a result of CBP being exercised by other Service Providers over Three.

6.175 Accordingly, an examination of Three's price-setting behaviour would not be a useful means of assessing the nature of any CBP exercised over it to date. ComReg has instead analysed above the credibility of the ways in which other Service Providers could potentially exert CBP over Three if *ex ante* regulation were removed.

Conclusion on whether Three faces effective CBP

6.176 Having regard to the discussion in paragraphs 6.163 to 6.175 above, ComReg's position is that no undertaking is likely to be in a position to exert sufficient CBP such that, absent regulation, it would sufficiently constrain Three's ability to set its MTRs above the level consistent with a competitive market outcome, i.e. there is insufficient CBP to prevent Three acting in the Relevant MVCT Market independently of competitors, customers and consumers.

Analysis of whether CBP is likely to effectively constrain Virgin Media

6.177 For the reasons set out in paragraphs 6.178 to 6.192 below, given Virgin Media's position in the Relevant FVCT Market, ComReg does not consider it likely that Virgin Media has been, or is likely to be, subject to effective CBP.

Response to Statutory Information Requests

6.178 Virgin Media, in its response to the 2016 SIR,[690] indicated that it had not experienced CBP as a supplier of MVCT, since its entry into the market (though this is in the presence of regulation in respect of the 2012 SMP MSPs).

Size of the buyer and its relative importance to the seller

6.179 Virgin Media currently has [✂ [redacted]] MVCT supply agreements with other undertakings, with the largest MSP buyer of MVCT from Virgin Media being [✂ [redacted]] Virgin Media also has interconnection agreements with [✂ [redacted]] FSPs for the purchase of FVCT and other services.

6.180 ComReg has considered the share of supplied[691] MVCT that is purchased by individual Service Providers directly and indirectly interconnected with Virgin Media, and trends over time. Table 31 below shows the relative sizes of all buyers of MVCT provided by Virgin Media following its market entry in 2015, and according to the most recent data at ComReg's disposal:

Table 31: Largest buyers of Virgin Media MVCT [✂ REDACTED]

MVCT buyer	Q4 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Table 32: Largest sellers of MVCT to Virgin Media [✂ REDACTED]

MVCT seller	Q4 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[690] The SIR was issued to Virgin Media on 8 July 2016, and a response received on 2 September 2016.

[691] Some of the figures in the initial periods below must be interpreted with some caution given the low volumes of Virgin Media termination sales and purchases from its initial retail launch, which occurred in October 2015.

6.181 As at Q1 2017, [✂ [redacted]] accounted for [✂ [redacted]] of the total share of Virgin Media-provided MVCT, the same proportion as in 2015. In absolute terms, over the period 2015 to Q1 2017, Virgin Media's own purchases of MVCT from [✂ [redacted]] dropped by [✂ [redacted]]

6.182 ComReg has also considered the size of each MSP's subscriber base, as set out in Table 24 above. That table shows that Virgin Media's subscriber base is substantially lower than that of Vodafone, Three or Meteor. Nevertheless, ComReg considers that, given the respective parties' subscriber numbers, they will consider it somewhat important to interconnect with other domestic MSPs,[692] owing to the fact that consumers expect to be able to call subscribers of other Service Providers and the consequential need for Service Providers to ensure as wide as possible interconnection with other Service Providers. It should, however, be noted that these commercial incentives could be somewhat lower in the case of larger MSPs. Given the comparatively low level of Virgin Media's subscriber base, larger MSPs could still claim to offer wide interconnection for their subscribers, without having concluded direct interconnection with Virgin Media.

6.183 Absent regulation, on a forward looking basis, it is ComReg's view that there may be some commercial incentives to interconnect to a certain degree[693] and, as Virgin Media's subscriber base grows further, may increase, particularly given that it already holds a large legacy subscriber base from its TV and broadband offerings. Moreover, given that the MTRs of the 2012 SMP MSPs are price regulated, this limits the incentive of the 2012 SMP MSPs to engage in conduct intended to influence the level of MTR payable by a new market entrant, such as Virgin Media.

6.184 Overall, for Virgin Media, the size of other MSPs, in particular Vodafone, Three and Meteor, and their relative importance to Virgin Media (particularly in the early years post-launch) may be distinguishing factors which could affect the relative bargaining power between the parties in interconnection negotiations. However, the scope of this bargaining power is likely to be considerably constrained by the fact that the MTRs of the 2012 SMP MSPs are regulated, and the potential for Virgin Media to be designated with SMP.

[692] Although not necessarily at any level of MTR.

[693] Although not necessarily on the same terms and conditions that would pertain in the presence of regulation.

Credible alternative sources of MVCT supply for the buyer

6.185 As set out above at paragraphs 5.217 to 5.224 above, ComReg is of the view that, in the absence of effective demand-side substitution possibilities, buyers of MVCT cannot credibly switch to alternative sources of MVCT in the short term without incurring significant switching or sunk costs. In this regard, purchasers of MVCT from Virgin Media are unlikely to be able to exercise effective CBP by switching to, or credibly threatening to switch to, an alternative source of MVCT supply.

Price sensitivity of the buyer

6.186 Purchasers of MVCT from Virgin Media may have limited price sensitivity to the MTRs charged by it for two main reasons.

6.187 **Firstly**, subscribers have a general expectation of end-to-end connectivity with all available networks. Thus, any price sensitivity would be somewhat constrained by the need to build a fully comprehensive retail offer which meets this expectation of interoperability and accessibility to other networks – and, hence, to interconnect to Virgin Media, regardless of the MTRs which it charges.

6.188 **Secondly**, a Service Provider's level of price sensitivity to MTRs, including MTRs charged by Virgin Media, is likely to be greater, the greater the proportion of the cost of completing an off-net call accounted for by MTRs. Regulated MTRs now form a relatively lower proportion of retail call costs, compared to when they were unregulated. It is likely that the unregulated MTRs of iD Mobile and Virgin Media have been somewhat conditioned by regulated MTRs, and the potential threat of being regulated. Unregulated MTRs form a higher proportion of retail costs, and ComReg takes the view that purchasers of MVCT from iD Mobile and Virgin Media are likely to be more price sensitive for this reason.

Evidence of price-setting behaviour and negotiations between operators

6.189 Virgin Media is the only MSP currently active on the Irish market which has not been designated with SMP, and is therefore free to set its MTRs at any level. Table 33 below sets out the development of MTRs since Virgin Media entered the market:

Table 33: MTRs, 2015 to date

<table>
<tr><th>Vodafone, Three, TMI, Lycamobile</th><th>H2'15</th><th>H2'16</th><th>2017</th><th>Current</th></tr>
<tr><td>Peak, Off-peak and Weekend</td><td>2.60</td><td>0.84</td><td>0.82</td><td>0.79</td></tr>
<tr><th>Meteor</th><th>H2'15</th><th>H2'16</th><th>2017</th><th>Current</th></tr>
<tr><td>Peak</td><td>4.25</td><td rowspan="3">0.84</td><td rowspan="3">0.82</td><td rowspan="3">0.79</td></tr>
<tr><td>Off-peak</td><td>1.00</td></tr>
<tr><td>Weekend</td><td>1.00</td></tr>
<tr><th>Virgin Media</th><th>H2'15</th><th>H2'16</th><th>2017</th><th>Current</th></tr>
<tr><td>Peak, Off-peak and Weekend</td><td>2.60</td><td>2.60</td><td>2.60</td><td>2.60</td></tr>
</table>

iD Mobile	H2'15	H2'16	2017	Until April 2018
Peak, Off-peak and Weekend	6.00	1.94	1.89	1.82

6.190 As set out at Table 33 above, Virgin Media initially launched at MTR parity to the 2012 SMP MSPs (2.6c per minute). However, as the 2012 SMP MSPs reduced their MTRs pursuant to regulation, Virgin Media has retained its MTR at 2.6c per minute, such that its MTR is now more than 300% greater than the regulated MTR rate.

6.191 Unlike the case of [✂ [redacted]] ComReg has not been provided with evidence of efforts by other MSPs to negotiate lower MTRs with Virgin Media, particularly when its rate began to diverge from the regulated MTR levels in September 2016.

Conclusion on whether Virgin Media faces effective CBP

6.192 Having regard to the discussion in paragraphs 6.178 to 6.191 above, ComReg's position is that no undertaking is likely to be in a position to exert effective CBP such that, absent regulation, it would sufficiently constrain Virgin Media's ability to set its MTRs above the level consistent with a competitive market outcome, i.e. there is insufficient CBP to prevent Virgin Media acting in the Relevant MVCT Market independently of competitors, customers and consumers.

Analysis of whether CBP is likely to effectively constrain Vodafone

6.193 For the reasons set out in paragraphs 6.194 to 6.207 below, given Vodafone's position in the Relevant FVCT Market, ComReg does not consider it likely that Vodafone has been, or is likely to be, subject to effective CBP.

Response to Statutory Information Requests

6.194 Vodafone, in its response to the 2016 SIR,[694] indicated that it had not experienced CBP as a supplier of MVCT, nor had it exerted CBP as a purchaser of MVCT (although this is in the presence of regulation). Vodafone suggested that, since MTRs charged by the 2012 SMP MSPs are regulated, all operators accept these MTRs, and have no opportunity to apply CBP.

6.195 ComReg notes Vodafone's position, which appears to suggest that any CBP would not be effective in terms of its ability to constrain Vodafone in setting its MTRs above the level consistent with a competitive market outcome, albeit in the presence of regulation.

[694] The SIR was issued to Vodafone on 8 July 2016, and a response was received on 5 September 2016.

Size of the buyer and its relative importance to the seller

6.196 Vodafone currently has [✂ [redacted]] MVCT supply agreements with other undertakings. ComReg has considered the share of supplied MVCT that is purchased by individual Service Providers directly and indirectly interconnected with Vodafone, and trends over time. Table 34 below shows the relative sizes of all buyers of MVCT provided by Vodafone, and according to the most recent data at ComReg's disposal:

Table 34: Largest buyers of Vodafone MVCT [✂REDACTED]

MVCT buyer	Q1 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Table 35: Largest sellers of MVCT to Vodafone [✂ REDACTED]

MVCT seller	Q1 2015	Q1 2017	% Change
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

6.197 As at Q1 2017, [✂ [redacted]] accounted for [✂ [redacted]] of the total share of Vodafone-provided MVCT, [✂ [redacted]] from Q4 2015. In absolute terms, over the period Q4 2015 to Q1 2017, Vodafone's own purchases of MVCT from [✂ [redacted]] have remained steady at [✂ [redacted]].

6.198 As set out in Table 24 above, ComReg has also considered the size of each MSP's subscriber base relative to Vodafone's subscriber base. Vodafone's subscriber base is the largest of any MSP, exceeding one third of all subscribers. ComReg accordingly considers that, given the respective parties' subscriber numbers, they may consider it important to interconnect with other domestic MSPs,[695] owing to the fact that consumers expect to be able to call subscribers of other Service Providers and the consequential need for Service Providers to ensure as wide as possible interconnection with other Service Providers. As a consequence, ComReg considers that it may be similarly important for Vodafone to interconnect with other MSPs as it is for those MSPs to interconnect with Vodafone. Absent regulation, on a forward looking basis, it is ComReg's view that there may be some commercial incentives to interconnect, although not necessarily on the same terms and conditions that would pertain in the presence of regulation.

6.199 Overall, for Vodafone, it is ComReg's position that the size of other MSPs as buyers of MVCT and their relative importance to Vodafone are not likely to be distinguishing factors which would materially rebalance the relative bargaining power between the parties in interconnection negotiations. Moreover, the scope for any bargaining power is likely to be considerably constrained by the fact that the MTRs of the 2012 SMP MSPs are regulated. For these reasons, buyer size may not be a useful barometer of CBP.

<u>Credible alternative sources of MVCT supply for the buyer</u>

6.200 As set out above at paragraphs 5.217 to 5.224 above, ComReg is of the view that, in the absence of effective demand-side substitution possibilities, buyers of MVCT cannot credibly switch to alternative sources of MVCT in the short term without incurring significant switching or sunk costs. In this regard, purchasers of MVCT from Vodafone are unlikely to be able to exercise CBP by switching to, or credibly threatening to switch to, an alternative source of MVCT supply.

<u>Price sensitivity of the buyer</u>

6.201 Purchasers of MVCT from Vodafone are likely to have limited price sensitivity to the MTRs charged by it, given that current MTRs are subject to regulation. As its retail subscribers would have a general expectation of end-to-end connectivity with all available networks, any price sensitivity on the part of Vodafone is likely to be somewhat constrained by the need to build a fully comprehensive retail offer which meets the general expectation of interoperability and accessibility to other networks.

[695] Although not necessarily at any level of MTR.

6.202 Given that the MTRs of Vodafone and the other 2012 SMP MSPs are regulated at a common level, purchasers of MVCT from Vodafone are likely to have limited price sensitivity with respect to the MTRs it charges, as no MTR asymmetries arise. However, having regard to the historical pricing behaviour of Vodafone (prior to regulation), purchasers of MVCT would likely be price sensitive absent regulation.

6.203 Moreover, a Service Provider's level of price sensitivity to MTRs is likely to be greater, the greater the proportion of the cost of completing an off-net call accounted for by MTRs. Regulated MTRs now form a relatively lower proportion of retail call costs, compared to when they were unregulated. Unregulated MTRs tend to form a higher proportion of retail costs, and ComReg takes the view that the price sensitivity of purchasers of MVCT from Vodafone is likely to be currently lower than it otherwise would be due to the effectiveness of SMP regulation in reducing MTRs to the levels which would be expected to obtain in a competitive market. Absent regulation, it is likely that Vodafone would have the ability and incentive to raise its MTRs to supra-competitive levels, leading to increased price sensitivity on the part of purchasers of MVCT from Vodafone, as these higher MTRs form a larger proportion of retail call costs.

Evidence of price-setting behaviour and negotiations between operators

6.204 Like other 2012 SMP MSPs, Vodafone is subject to price regulation pursuant to the 2012 MVCT Decision and the 2016 MTR Decision. As such, it has been constrained through the presence of regulation when negotiating in respect of the level at which it sets its MTRs. This is confirmed by Vodafone in its response to the SIR issued to it by ComReg.

6.205 Vodafone's MTRs have been reduced on a number of occasions since the 2012 MVCT Decision as a result of regulatory obligations imposed by ComReg in that decision, rather than necessarily as a result of CBP being exercised by other Service Providers over Vodafone.

6.206 Accordingly, an examination of Vodafone's price-setting behaviour would not be a useful means of assessing the nature of any CBP exercised over it to date. ComReg has instead analysed above the credibility of the ways in which other Service Providers could potentially exert CBP over Vodafone if *ex ante* regulation were removed.

Conclusion on whether Vodafone faces effective CBP

6.207 Having regard to the discussion in paragraphs 6.194 to 6.206 above, ComReg's position is that no undertaking is likely to be in a position to exert sufficient CBP such that, absent regulation, it would sufficiently constrain Vodafone's ability to set its MTRs above the level consistent with a competitive market outcome, i.e. there is insufficient CBP to prevent Vodafone acting in the Relevant MVCT Market independently of competitors, customers and consumers.

Overall conclusion on assessment of CBP in the Relevant Termination Markets

6.208 In paragraphs 6.46 to 6.96 above, ComReg has carried out an assessment of the impact posed by strong buyers on the competitive behaviour of each of the suppliers in the Relevant **FVCT** Markets identified in paragraph 5.173.

6.209 ComReg's conclusion is that the level of any CBP held by any of the FVCT purchasers identified is unlikely to be sufficiently effective such that it would, absent regulation, prevent the individual abilities of any FVCT supplier to set its FTRs above the level which would occur in a competitive market outcome.

6.210 In paragraphs 6.111 to 6.207 above, ComReg has carried out an assessment of the impact posed by strong buyers on the competitive behaviour of each of the suppliers in the Relevant **MVCT** Markets identified in paragraph 5.265.

6.211 ComReg's conclusion is that the level of any CBP held by any of the MVCT purchasers identified is unlikely to be sufficiently effective such that it would, absent regulation, prevent the individual abilities of any MVCT supplier to set its MTRs above the level which would occur in a competitive market outcome.

SMP Designation

6.212 ComReg has considered a wide range of factors to identify whether any Service Provider enjoys a position of SMP in each of the Relevant Termination Markets identified in paragraphs 5.173 and 5.265 above. These factors include

(a) existing competition in the Relevant Termination Markets;

(b) potential competition in the Relevant Termination Markets; and

(c) the strength of any Countervailing Buyer Power in the Relevant Termination Markets.

6.213 Having regard to Regulation 25 of the Framework Regulations, where ComReg determines, as a result of a market analysis carried out by it in accordance with Regulation 27 of the Framework Regulations, that a given market identified in accordance with Regulation 26 of the Framework Regulations is not effectively competitive, ComReg is obliged under Regulation 27(4) of the Framework Regulations to designate an undertaking(s) with SMP in that market.

6.214 On the basis of its assessment, and taking account of Respondents' views[696], ComReg's position is that each of the Relevant Termination Markets is not effectively competitive and the Service Provider operating in each Relevant Termination Market, as identified below, should be designated with SMP:

[696] See paragraph 6.18 above.

2019 Designated SMP FSPs

6.215 On the basis of its assessment, ComReg's position is that each of the Relevant FVCT Markets is not effectively competitive and the FSPs operating in each Relevant FVCT Market, as identified below, should be designated as having SMP:

(a) Wholesale FVCT supplied by Airspeed Communications Unlimited Company;

(b) Wholesale FVCT supplied by BT Communications Ireland Limited;

(d) Wholesale FVCT supplied by Blueface Limited**;**

(c) Wholesale FVCT supplied by Colt Technology Services Limited;

(d) Wholesale FVCT supplied by Dialoga Servicios Interactivos, SA;

(e) Wholesale FVCT supplied by Eircom Limited;

(f) Wholesale FVCT supplied by Equant Network Systems Limited;

(g) Wholesale FVCT supplied by Finarea SA;

(h) Wholesale FVCT supplied by Imagine Communications Ireland;

(i) Wholesale FVCT supplied by Intellicom Ireland Limited;

(j) Wholesale FVCT supplied by Internet Protocol Telecom Limited;

(k) Wholesale FVCT supplied by In2com Limited;

(l) Wholesale FVCT supplied by Magnet Networks Limited;

(m) Wholesale FVCT supplied by Magrathea Telecommunications (Ireland) Limited;

(n) Wholesale FVCT supplied by Modeva Networks Unlimited Company;

(o) Wholesale FVCT supplied by PlanNet 21 Communications Limited (or, for the avoidance of doubt, its 100% owned subsidiary, 3Play Plus Limited);

(p) Wholesale FVCT supplied by Telcom Limited;

(q) Wholesale FVCT supplied by Verizon Ireland Limited;

(r) Wholesale FVCT supplied by Viatel Ireland Limited;

(s) Wholesale FVCT supplied by Virgin Media Ireland Limited;

(t) Wholesale FVCT supplied by Vodafone Ireland Limited; and

(u) Wholesale FVCT supplied by Voxbone SA.

6.216 The above FSPs are collectively referred to as the 2019 Designated SMP FSPs.

2019 Designated SMP MSPs

6.217 On the basis of its assessment, ComReg's position is that each of the Relevant MVCT Markets is not effectively competitive and the MSPs operating in each Relevant MVCT Market, as identified below, should be designated as having SMP:

(a) Wholesale MVCT supplied by Meteor (eir Mobile is a business name of eircom Limited);

(b) Wholesale MVCT supplied by Lycamobile Ireland Limited;

(c) Wholesale MVCT supplied by Tesco Mobile Ireland Limited;

(d) Wholesale MVCT supplied by Three Ireland (Hutchison) Limited;

(e) Wholesale MVCT supplied by Virgin Media Ireland Limited; and

(f) Wholesale MVCT supplied by Vodafone Ireland Limited.

6.218 The above MSPs are collectively referred to as the 2019 Designated SMP MSPs.

7 Competition Problems and Impacts on Competition and Consumers in the Relevant Termination Markets

Overview

7.1 In Section 7 of the Consultation ComReg identified competition problems which, absent regulation, could potentially arise in the Relevant Termination Markets[697].

7.2 With the exception of TMI, who submitted objections in relation to the Relevant MVCT Markets, there was either general agreement with the competition problems identified or no objections made. Verizon and Eircom submitted some specific comments applicable to both FVCT and MVCT on Section 7 of the Consultation. There were no general themes emerging. An overview of these submissions, along with ComReg's responses, is provided in Annex: 11 in paragraphs A11.157 to A11.168.

7.3 In Section 5 of this Decision, ComReg identified 22 separate Relevant FVCT Markets and 6 separate Relevant MVCT Markets. In Section 6 of this Decision, ComReg sets out its position that, in accordance with Regulation 27(4) of the Framework Regulations, none of the Relevant Termination Markets are effectively competitive and designates 22 separate FSPs and 6 separate MSPs as having SMP on each of the termination markets within which they operate. This means that each identified Service Provider has the ability to act independently of its competitors, customers and consumers.

7.4 In accordance with Regulation 27(4) of the Framework Regulations, where an undertaking is designated as having SMP on a relevant market, ComReg is required to impose on that undertaking such of the remedies set out in Regulations 9 to 13 of the Access Regulations as it considers appropriate.

[697] Then, in Section 8 of the Consultation, ComReg considered the imposition of appropriate remedies in order to address the identified competition problems. In Section 8 of this Decision ComReg states its final position, after considering Respondent's views, on the the imposition of appropriate remedies in order to address the identified competition problems identified in this Decision.

7.5 As noted in the European Commission's Explanatory Note to the 2014 Recommendation, the underlying purpose of the *ex ante* regulatory framework is to address competition problems that have their origin in industry structural factors in a systematic and predictable manner. For example, the finding of an absence of effective competition in the Relevant Termination Markets indicates the potential for competition problems to arise over the review period in question, thereby justifying the imposition of *ex ante* regulation.

7.6 In the absence of regulation in the Relevant Termination Markets, a Service Provider designated with SMP would have the ability and incentive to influence a range of competition parameters, including prices, innovation, output and the variety or quality of goods and services provided.

7.7 ComReg notes that it is necessary neither to catalogue examples of actual abuse, nor to provide exhaustive examples of potential abuses in the Relevant Termination Markets. Rather, the purpose of *ex ante* regulation is to prevent the possibility of abuses materialising, given that undertakings have been designated with SMP in the Relevant Termination Markets, and so have both the ability and incentive to engage in exploitative and exclusionary behaviours to the detriment of competition and, ultimately, end users.

7.8 Below ComReg sets out its position, having considered Respondents' views, on competition problems which, absent regulation, could potentially arise in the Relevant Termination Markets:

(a) Types of Competition Problems (discussed in paragraphs 7.9 to 7.83 below);

(b) Impacts of Competition Problems on Competition and Consumers (discussed in paragraphs 7.84 to 7.103 below); and

(c) Overall conclusion on competition problems (discussed in paragraph 7.104 to 7.106 below).

Types of Competition Problems

7.9 In determining what forms of *ex ante* regulatory remedies are warranted in the Relevant Termination Markets, ComReg has carried out an assessment of potential competition problems that are likely to arise, assuming SMP regulation is absent and taking account of the structure and characteristics of the Relevant Termination Markets (and adjacent markets), per the Modified Greenfield Approach.

7.10 An SMP undertaking may engage in a range of conducts, for example:

(a) Exploiting customers or consumers by virtue of its SMP position in the relevant market (as set out in paragraphs 7.13 to 7.49), and

(b) Leveraging market power into adjacent vertically and/or horizontally related markets by engaging in exclusionary practices (as set out in paragraphs 7.50 to 7.83).

7.11 In considering the types of competition problem which could arise, ComReg has also been guided by experience in the markets, where relevant. ComReg does not, for instance, consider exclusionary conduct vis-à-vis its competitors carried out by a Service Provider designated with SMP on its own relevant market. This is because, as set out in Section 5, only one Service Provider is present on the supply side in each Relevant Termination Market. By definition, it is unnecessary to assess the likelihood of exclusionary conduct on each Relevant Termination Market given that, as a matter of market definition, only one Service Provider is present on each Relevant Termination Market.

7.12 Although it is not necessary *per se* to demonstrate actual abuse, examples of competition problems which have previously arisen, even in the presence of existing regulation, can help ground the analysis in actual experience.

Exploitative practices

7.13 In this sub-section, ComReg firstly briefly introduces the broad concept of exploitative practices (at paragraphs 7.14 to 7.18). It then discusses how exploitative practices may arise, firstly, in Relevant FVCT Markets (at paragraphs 7.19 to 7.38), and, secondly, in Relevant MVCT Markets (at paragraphs 7.39 to 7.49).

7.14 Economic theory suggests that, where an undertaking possesses SMP, it is in a position to increase prices above and/or reduce output below competitive levels. This allows that undertaking to earn higher than normal profits. These higher profits effectively create a wealth transfer from the consumer to the undertaking with SMP. It is ComReg's position that an undertaking having SMP in the Relevant Termination Markets would have the ability and incentive to engage in exploitative practices, such as excessive pricing.

7.15 According to the definition set out in EU competition case law, excessive pricing refers to a situation where the prices charged by a dominant firm (i.e. an undertaking having SMP) are not closely related to the value of the relevant service to the consumer and/or the cost of producing or providing that service.[698]

[698] Case C 27/76 United Brands v. Commission [1978] ECR 207, para. 250. In *United Brands* the Court of Justice of the European Union held that: ''… *charging a price which is excessive because it has no reasonable relation to the economic value of the product supplied would be… an abuse''*.

7.16 High termination rates may ultimately be recovered through higher call charges for end users. In its 2009 Termination Rates Recommendation (of which ComReg is required to take utmost account), the European Commission noted that, in the case of call termination *"excessive pricing is the main competition concern of regulatory authorities."* The 2009 Termination Rates Recommendation notes further that:

> *"Termination markets represent a situation of two-way access where both interconnecting operators are presumed to benefit from the arrangement but, as these operators are also in competition with each other for subscribers, termination rates can have important strategic and competitive implications. Where termination rates are set above efficient costs, this creates substantial transfers between fixed and mobile markets and consumers. In addition, in markets where operators have asymmetric market shares, this can result in significant payments from smaller to larger competitors."*[699]

7.17 Accordingly, a key concern of the 2009 Termination Rates Recommendation is that "significant divergences in the regulatory treatment of fixed and mobile termination rates create fundamental competitive distortions"[700] and the European Commission underlines the EU-wide importance of regulating fixed and mobile termination rates effectively and in a consistent manner.

7.18 Competition concerns in relation to excessive termination rates are not limited to the issue of excessive pricing. Call termination is a situation of two-way access, where termination rates generate revenue for terminating Service Providers and expense streams for originating Service Providers. The level of termination rates can therefore have important competitive and distributional implications for undertakings which make more outgoing termination payments than they receive, or vice versa.

Relevant FVCT Markets

7.19 Below, ComReg discusses how 2019 Designated SMP FSPs have the incentive to engage in exploitative conduct by means of:

(a) Pricing FTRs at excessive levels, compared to the levels that would be expected to obtain in a competitive market (see paragraphs 7.20 to 7.31 below), and

(a) Engaging in costly, inefficient or unproductive business practices which, ultimately, raise prices (see paragraphs 7.36 to 7.38 below).

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[699] At Recital 3 of the 2009 Termination Rates Recommendation.

[700] Ibid.

Risk of Excessive FTR Pricing

7.20 As noted in Section 6, each Relevant FVCT Market is characterised by:

(a) 100% market shares;

(b) An absence of existing competition;

(c) High and non-transitory barriers to entry associated with control over infrastructure not easily replicated;

(d) Little or no scope for potential competition; and

(e) Insufficient CBP.

7.21 Having regard to these characteristics, ComReg has designated [22] FSPs as having SMP and it is ComReg's position that each of these FSPs would be capable of behaving, to an appreciable extent, independently of their competitors and customers, with respect to their FTR pricing behaviour. Therefore, in the absence of regulation, it is ComReg's position that each FSP with SMP would have the ability to charge excessive prices for its FVCT services in its own Relevant FVCT Market.

7.22 The ability of FSPs to charge excessive prices for FVCT is derived largely from the high and non-transitory barriers to entry associated with control over resources[701] not easily replicated, little or no scope for potential competition and the likely ineffective countervailing buyer power over the timeframe of the review.

7.23 In addition, such FSPs have incentives to maximise profits through charging excessive prices for FVCT. Additional strategic benefits would also accrue from excessive prices because the terminating FSPs' wholesale customers are also their competitors in downstream retail (and in some cases wholesale) markets. Thus, charging excessive prices for FVCT could also restrict (or distort) competition by raising rivals' costs in downstream markets, thereby enabling the terminating FSP's retail (and in some cases wholesale) arm to gain an undue competitive advantage (for example, higher market shares and profits) at the expense of rivals. This possibility is considered in the subsection dealing with exclusionary practices below.

[701] As number ranges are allocated to individual FSPs, replicating an FSP's network would not alleviate the competition bottleneck associated with termination of calls to specific numbers.

7.24 Excessive pricing may also reduce the incentive for productive efficiencies or innovation. Absent competitive pressures in a Relevant FVCT Market, incentives to minimise costs may be decreased, particularly given that such costs can be recovered through FTRs. This may, however, depend on whether such innovation is capable of also being driven by retail market dynamics. Incentives for innovation in advanced forms of interconnection (such as IP interconnection) could also be reduced, for example, as these could potentially erode the excessive profits earned through less efficient forms of access. Incentives may also exist for a strategy to reduce investment in network elements, services and associated facilities specifically associated with the supply of FVCT, particularly where it results in degraded quality or supply capacity constraints for buyers (although this may also impact the FVCT supplier's own subscribers too, where they are the called party).

7.25 In the absence of regulation, it is ComReg's position that each 2019 Designated SMP FSP has the ability to charge excessive prices for FVCT services in their Relevant FVCT Market.[702] To address the potential for excessive pricing in each of the Relevant FVCT Markets, ComReg considers that *ex ante* regulation is required, and that *ex post* competition law would be unsuitable in preventing excessive pricing in a manner conducive to facilitating a reasonably certain and predictable regulatory environment which supports competition and investment aims.[703] This is evidenced by the lack of successful excessive pricing cases under Article 102 of the Treaty on the Functioning of the European Union ('**TFEU**'). An *ex post* approach to excessive pricing in the Relevant FVCT Markets, which are characterised by an absence of actual competition or potential competition, is unlikely to adequately protect consumers or promote effective competition in an effective and timely manner, although this may also impact the FVCT supplier's own subscribers too, given that they are the called party in some scenarios.

[702] As set out in greater detail at paragraph 7.22 above.

[703] This includes reasons associated with the complexity and time involved in resolving such issues *ex post*, along with the competitive harm that could occur in the interim. Excessive pricing cases also require a detailed knowledge of the cost structures and levels of the SMP undertaking.

7.26 This is because addressing the issue of excessive pricing by means of competition law (if proven to the required standard of proof) would likely occur sometime after the occurrence of the competition problem itself, thereby contributing to uncertainty among downstream market participants in the interim, and undermining the development of effective competition to the ultimate detriment of consumers. Furthermore, it would not be conducive to contributing to a consistent and coherent pan-European regulatory environment, as foreseen by the European Commission and noted in paragraph 7.16 above. The 2009 Termination Rates Recommendation further notes that:[704]

> *"….in the light of the ability and incentives of terminating operators to raise prices substantially above cost, cost orientation is considered the most appropriate intervention to address this concern over the medium term."*

7.27 Pursuant to the 2012 Pricing Decision,[705] FTRs charged by BT Communications, Colt Technology Services, Eircom, Magnet Networks, Smart Telecom, Virgin Media and Verizon Ireland are subject to price control obligations and Eircom is additionally subject to cost accounting obligations. The FTRs charged by the Unregulated FSPs have not been regulated to date. Similarly, no access obligation has been imposed on Unregulated FSPs to date. ComReg's analysis indicates, however, that each of the 2019 Designated SMP FSPs has the ability and incentive to engage in excessive pricing absent regulation. ComReg sees no objective reason to distinguish its approach[706] for the 2019 Designated Alternative SMP FSPs from the approach which applies to Eircom, particularly given that the same exploitative competition problem has been identified in each case.

7.28 This is reinforced by the European Commission's comments on ComReg's 2007 FVCT Decision that appropriate access and price control remedies should have been imposed on all FSPs.[707] Furthermore, the European Commission has reiterated its views that the different treatment of termination markets or operators is, in general, unlikely to be compatible with EU law. In a serious doubts letter to the Italian NRA it noted that:

[704] Recital 7 of the 2009 Termination Rates Recommendation.

[705] See Annex: 1 of the 2012 Pricing Decision setting out the Decision Instrument for Fixed Voice Call Termination.

[706] As described at Table 37.

[707] Case IE/2007/0701: Call termination on individual public telephone networks provided at a fixed location in Ireland - Comments pursuant to Article 7(3) of Directive 2002/21/EC.

"The measure proposed by AGCOM would very likely lead to the creation of a barrier to the internal market, as on the basis of the calling party pays principle the terminating new MVNO in Italy would be able to charge higher than efficient wholesale terminating rates for calls originated in those Member States, to the detriment of operators and their subscribers in other Member States. In addition, the Commission points out that in most Member States a symmetric price control remedy was imposed on the full MVNOs following their entry in the market. Different regulatory approaches adopted by the NRAs within the EU would undermine the integrity of the internal market."[708]

7.29 Similarly, in a serious doubts letter to the Austrian NRA, it noted that:

"Even though the termination service provided by Austrian operators will be technically identical, they will be allowed to charge a different rate for this identical service on the basis of operators' place of establishment. Therefore, in the opinion of the Commission, the draft measures may constitute a restriction to the freedom to provide services, by establishing a direct discrimination on the basis of the nationality of the operator originating the call."[709]

7.30 The analysis in paragraphs 6.67 to 6.79 furthermore shows wide variations in the FTRs charged by each of the FSPs following the implementation of the 2007 FVCT Decision, and the 2012 Pricing Decision. Unregulated FSPs have charged higher FTRs than the 2007 SMP FSPs, with the difference increasing over time as the 2007 SMP FSPs have reduced their cost oriented FTRs.[710]

7.31 ComReg therefore considers that certain SMP obligations are justified for all 2019 Designated SMP FSPs to ensure that FTRs are appropriately set at levels that mimic what a competitive price would be,[711] and that there is no unjustified variation in the FTRs that are charged to different wholesale customers. These obligations are discussed in detail in Section 8 of this Decision.

[708] See Commission Decision concerning Case IT/2016/1885.

[709] See Commission Decision concerning Case AT/2016/1846 and 1847.

[710] BT Communications Ireland, Colt Telecom, Eircom, Magnet Network, Smart Telecom, Verizon Ireland, Virgin Media,

[711] With price control obligations acting as a proxy for the prices which could be expected to obtain in a competitive market.

7.32 It should, however, be noted that asymmetries in the charging of FTRs may arise in the case of calls made between different jurisdictions. At an EU level, ComReg set out in its 2012 FVCT Consultation[712] that its approach to regulation of FVCT markets was, amongst other things, to promote the provision of pan-European services, with this being consistent and harmonised with approaches adopted or being adopted by other EU NRAs. Since then, a number of EU NRAs have adopted measures which allow SMP Service Providers to respond to these asymmetries, most commonly by restricting the application of WVCT price control obligations to calls originated within the EEA. ComReg sets out below (at paragraphs 8.139 to 8.193) the relevant considerations in considering whether or not to allow a differentiated approach with respect to the application of price control (and other relevant) obligations for calls originated within the EEA on the one hand, and originated outside the EEA on the other.

7.33 In respect of the provision of FVCT for calls originating outside of the EEA, regulatory approaches to FVCT, FTRs, and the application of non-discrimination obligations in the charging of FTRs may vary for non-EEA jurisdictions. In practice, this means that there may be disparities between the FTRs charged by non-EEA MSPs to Irish Service Providers for the termination of calls originating in Ireland, and the FTRs charged by Irish MSPs to non-EEA Service Providers for calls originated outside the EEA. In circumstances where high FTRs are charged by non-EEA MSPs to Irish Service Providers, and Irish MSPs' FTRs are regulated, this could result in a revenue outflow[713] from the Irish FSP to the non-EEA FSP. This is despite the likelihood that, from a functional/technical perspective, equivalent and reciprocal services are being provided by both the Irish and the non-EEA Service Provider.

[712] At paragraph 7.15

[713] The size of the revenue outflow is likely to be contingent on both the disparity in termination rates and the relative traffic flows between Service Providers – the wealth transfer will be greater, the larger the disparity between termination rates, and the larger the excess of originated over terminated calls, on the part of the EEA Service Provider.

7.34 The European Commission serious doubts letter noted in 7.29 objected to a proposal by the Austrian NRA, whereby Austrian Service Providers would be entitled to charge Service Providers in other EEA Member States differentiated termination rates, depending on the level of termination rates being charged by the Service Provider in the originating EEA Member State. Such an approach was objected to on the grounds that this measure would likely fail to meet the standard of non-discrimination, and therefore create barriers to the internal market. The European Commission does not appear, however, to have issued similar objections in respect of proposals of this nature vis-à-vis non-EEA countries, and did not object to circumstances whereby termination rates in such instances may be agreed by means, not of regulation, but of commercial negotiation.

7.35 ComReg will further address the issue of asymmetric FTRs in the context of EEA/Non-EEA originated calls in Section 8[714].

Risk of Inefficiency/Inertia

7.36 An undertaking with SMP in a Relevant FVCT Market may also, by virtue of the lack of effective competitive pressure in that market, engage in costlier and less efficient methods of production, resulting in higher prices for wholesale customers and their consumers than would otherwise exist under competitive market conditions.[715]

7.37 Regarding exploitative behaviour associated with inefficiency/inertia in the provision of FVCT, the network used to provide FVCT is also generally that used to deliver retail services. Hence, the degree of competition in the retail market and the extent to which this drives cost efficiency on the network overall could also impact on the cost efficiency of inputs used to deliver FVCT. Nevertheless, ComReg proposes to monitor possible concerns arising with regard to inefficiency/inertia over the timeframe of this market review. Furthermore, it is recognised that, absent regulation, retail competitive distortions resulting from FTRs set above efficient cost could, over time, also contribute to a degree of inefficiency/inertia and costlier methods of production at both wholesale and retail levels.

[714] See 8.139 to 8.193

[715] For example, in *Merci Convenzionali Porto di Genova v. Siderurgica Gabrielli* the refusal of dock workers (who had a monopoly for the loading and discharging of cargo on behalf of third-parties in the port of Genoa) to use modern technology for the unloading of vessels meant that operations were more expensive than they would otherwise be. This failure to use new technology was found to constitute an abuse of dominance. (Article 102(2)(b) of the TFEU). [See Case C-179/90 [1991] ECR I-5889].

7.38 Above-cost MTRs arising from, for instance, inefficiency or inertia effectively create a floor to retail off-net pricing behaviour, influencing the ability and incentives of smaller Service Providers to pursue customers with significant off-net calling volumes. Termination rates may therefore have a real bearing on the retail commercial strategies pursued by smaller Service Providers. They may prevent tariff innovation, such as Service Providers being able to include off-net calls in tariff bundles, without taking an unacceptable risk of high off-net termination payments.

Relevant MVCT Markets

7.39 Below, ComReg discusses how SMP MSPs have the ability and incentive to engage in exploitative conduct by means of:

(a) Pricing MTRs at excessive levels, compared to the levels that would be expected to obtain in a competitive market (see paragraphs 7.40 to 7.48 below), and

(b) Engaging in costly, inefficient or unproductive business practices which, ultimately, raise prices (see paragraph 7.49 below).

Risk of Excessive MTR Pricing

7.40 As noted with respect to the Relevant FVCT Markets at paragraph 7.20 above, the Relevant MVCT Markets are characterised by:

(a) 100% market shares;

(b) An absence of existing competition;

(c) High and non-transitory barriers to entry associated with control over infrastructure not easily replicated;

(d) Little or no scope for potential competition; and

(e) Ineffective CBP.

7.41 Thus, there is insufficient pressure to constrain an MSP from behaving, to an appreciable extent, independently of its customers, competitors or consumers, including in relation to its MVCT pricing behaviour.

7.42 Having regard to these characteristics, ComReg has designated 6 MSPs as having SMP. In the absence of regulation, it is ComReg's position that each 2019 Designated SMP MSP has the ability to charge excessive prices for MVCT services in the Relevant MVCT Market. This would raise input costs to FSPs and rival MSPs, potentially restricting their sales of calls made to subscribers of the terminating MSP and could ultimately result in raised prices to consumers. Such excessive pricing would therefore not only exploit consumers making calls to mobiles, but might also harm or distort competition where the excessively-priced MVCT input distorts competition in related downstream markets, e.g. in retail markets where Service Providers rely on the upstream MVCT input.

7.43 Excessive pricing may also reduce the incentive for productive efficiencies or innovation. Absent competitive pressures in a Relevant MVCT Market, incentives to minimise costs may be decreased, particularly given that such costs can be recovered through MTRs. This may, however, depend on whether such innovation is capable of also being driven by retail market dynamics. Incentives for innovation in advanced forms of interconnection (such as IP interconnection) could also be reduced, for example, as these could potentially erode the excessive profits earned though less efficient forms of access. Incentives may also exist for a strategy to reduce investment in network elements, services and associated facilities specifically associated with the supply of MVCT, particularly where it results in degraded quality or supply capacity constraints for buyers (although this may also impact the MVCT supplier's own subscribers too where they are the called party).

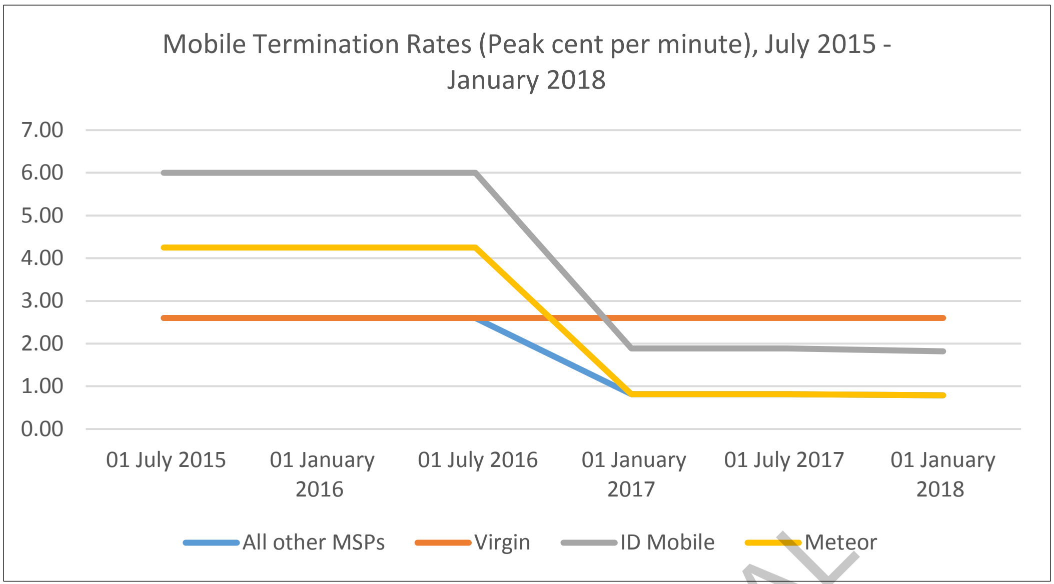
7.44 In addition, MSPs may have incentives to maximise profits through charging excessive prices for MVCT. Additional strategic benefits would also accrue from excessive prices because the terminating MSPs' wholesale customers are also their competitors in downstream retail (and in some cases wholesale) markets. Thus, charging excessive prices for MVCT could also restrict competition by raising rivals' costs in downstream markets, thereby enabling the terminating MSP's retail arm to gain an undue competitive advantage (for example, higher market shares and profits) at the expense of rivals.

7.45 As set out in paragraphs 7.25 and 7.26 above, for reasons similar to those set out in respect of the Relevant FVCT Markets, ComReg does not consider that competition law is the best means of protecting consumers and promoting effective competition in a timely manner in this instance, and that *ex ante* regulation is accordingly required.

7.46 As noted in the analysis in Section 6,[716] the MTRs of Three, Lycamobile, eir Mobile, TMI and Vodafone are currently regulated by means of the BU Pure LRIC methodology, as set out in ComReg's 2016 MTR Decision. The MTRs of Virgin Media Ireland are not currently regulated. ComReg proposes to designate all six of these MSPs with SMP. Per the data in the STRPL, iD Mobile had, since its market entry, priced its MTRs at 230% of the regulated rate, for all levels of the regulated rate. However, as noted earlier, iD Mobile exited the market in April 2018. In contrast, Virgin Media entered the market pricing its MTR at the then-prevailing rate (2.6 cent per minute), but it has retained this rate as the 2012 SMP MSPs have reduced their MTRs, leading to a widening gap over time between Virgin Media's MTRs and the regulated MTRs, from parity in July 2015, to 310% in September 2016, to 317% in January 2017 and 329% in January 2018:

[716] See paragraph 6.104.

Figure 60: Mobile Termination Rates (peak cent per minute), July 2015 – January 2018



7.47 ComReg's maintains its view that this analysis has demonstrated that each of the 2019 Designated SMP MSPs has the ability and incentive to engage in excessive pricing for its termination services in its own Relevant MVCT Market. Absent regulation, MTRs would not be likely to be reduced to a competitive level. Price control (and related access, transparency, and non-discrimination obligations) are, therefore, considered justified by ComReg to ensure MTRs are set at appropriate levels that are reflective of the underlying cost of providing MVCT and that there are, unless otherwise permitted by ComReg, no differences in the charging of such MTRs to other Service Providers.

7.48 ComReg also notes that the issue raised between 7.32 and 7.35 in relation to asymmetries in the FTRs charged for FVCT between different jurisdictions similarly applies to the MTRs charged for MVCT. ComReg will further address the issue of asymmetric MTRs in the context of EEA/Non-EEA originated calls in Section 8[717] – Remedies.

[717] See 8.308 to 8.337

Risk of Inefficiency/Inertia

7.49 An undertaking with SMP in a relevant market may also, by virtue of the lack of effective competitive pressure in that market, engage in costlier and less efficient methods of production, resulting in higher prices for wholesale customers and their consumers than would otherwise exist under competitive market conditions. An SMP MSP may also face the same incentives as those described in respect of SMP FSPs at paragraphs 7.36 to 7.38 above, leading to sub-optimal outcomes for purchasers of MVCT at the wholesale level and, ultimately, consumers.

Leveraging and Exclusionary Practices

7.50 Another potential competition problem arises when a vertically-integrated operator has SMP in one market which has links with other adjacent markets either at the same (horizontal) or different (vertical) level in the supply chain. The SMP operator may attempt to leverage its market power into these horizontally- or vertically-related markets. This could enable the SMP operator to strengthen its position or distort competition in those related markets and potentially also reinforce its existing market power in the SMP market in question. For example, high termination rates may have exclusionary effect by raising the costs of rivals, especially new entrants, who are likely to originate more off-net than on-net calls, compared to incumbents who have had time to build their network. Such new entrants will likely pay more in termination rates than their incumbent competitors.

7.51 In the following subsections, ComReg discusses the following aspects of leveraging and exclusionary practices:

(a) The capacity of Eircom to engage in anticompetitive leveraging on the Relevant FVCT Markets, and related markets (discussed in paragraphs 7.55 to 7.65 below),

(b) The capacity of 2019 Designated Alternative SMP FSPs to engage in anticompetitive leveraging on the Relevant FVCT Markets, and related markets (discussed in paragraphs 7.66 to 7.78 below), and

(c) The capacity of 2019 Designated SMP MSPs to engage in anticompetitive leveraging on the Relevant MVCT Markets, and related markets (discussed in paragraphs 7.98 to 7.100 below).

Relevant FVCT Markets

7.52 Given the close relationship between the Relevant FVCT Markets and other relevant upstream (e.g. FACO and Transit)[718] and downstream (e.g. Wholesale SV services and Retail Calls) markets, competition problems with both vertical and horizontal leveraging are likely. Horizontal leveraging arises where an operator with SMP at one level in the production or distribution chain engages in exclusionary or other conduct which aims to extend that market power into closely related markets at a similar level in the value chain. Vertical leveraging arises where a vertically integrated operator has SMP at one level in the production or distribution chain and can potentially use this market power to affect competitive conditions in downstream markets in which it is also active. Both types of behaviour may raise rivals' costs, reduce competitive pressures on related wholesale or retail services and enable the 2019 Designated SMP FSPs to extract additional revenues. This could also have the effect of reinforcing market power in the SMP market in question (defensive leveraging), although in view of the high and non-transitory entry barriers and resulting low threat of entry in the Relevant FVCT Markets, defensive leveraging is less of a concern.

7.53 As is clear from Sections 5 and 6, originating Service Providers require effective access to FVCT to enable their retail customers to contact FSPs' subscribers, thereby providing them with a full service offering. In addition, as identified in Sections 5 and 6 there is currently no effective alternative to terminating on the specific fixed number on which the called party is located (nor is there likely to be within the lifetime of this market analysis). Therefore, a terminating FSP controls an important input for downstream retail markets, giving it scope and ability to influence competitive conditions on those downstream markets (and potentially in other wholesale markets). In this case, ComReg must therefore consider whether, absent regulation, SMP providers of FVCT would have the ability and incentives to leverage market power into:

[718] For example, as noted in paragraph 5.9 above, while this Decision is concerned with the provision of FVCT services, these services can form part of a set of complementary wholesale interconnection inputs, also including wholesale CO and Transit services, used to support end-to-end provision of retail voice calls to end users at a fixed location. For the purpose of this discussion, the three interconnection markets underlying the carriage of a call (FACO, Transit, and FVCT) are deemed to be at the same (horizontal) level in the supply chain.

(a) Any adjacent wholesale markets related to the provision of retail voice calls, e.g. Transit, Fixed Access and Call Origination,[719] and/or

(b) Downstream wholesale and/or retail voice markets (which are located downstream of the Relevant FVCT Markets), e.g. Wholesale SV[720] and/or Retail Calls[721] services.

7.54 Absent regulation in the Relevant FVCT Markets, other competition problems may arise with respect to the discriminatory use of, or withholding of, information, and discrimination on quality and pricing parameters. In order to facilitate interconnection with the Designated SMP FSPs and ensure access to FVCT, purchasers of FVCT must also provide information to the Designated SMP FSPs on matters such as their own network configuration and/or call traffic patterns. In these situations, the Designated SMP FSP may have the power to use such information about downstream competitors' networks and/or traffic patterns in the design of their own retail services.

Risk of Leveraging - Eircom

7.55 Eircom has historically had a strong position on downstream retail calls markets, although this has been mitigated by means of regulation. Accordingly, Eircom's ability and incentives to engage in vertical leveraging and any consequential competition impacts would appear to be strong. In view of its position on a number of key input markets (Eircom is active across a number of (horizontally) related wholesale interconnection services markets, e.g. FACO, Transit and FVCT), its provisioning of downstream wholesale end-to-end (Wholesale Switchless Voice) services, as well as its established position in the downstream retail calls markets, Eircom has the ability and incentive to impede downstream competitors through price and/or non-price means. It could thus potentially use its SMP in some of those upstream input markets to leverage its market power horizontally into adjacent wholesale input markets, and/or vertically into downstream markets.

[719] ComReg Decision D05/15, *Wholesale Fixed Voice Call Origination and Transit Markets - Response to Consultation and Decision*. It should be noted that, at the wholesale level, voice services may be sold in bundles, with the result that the impacts of any attempts to leverage market power may also be felt in those markets which relate to the provision of each element of the service bundle.

[720] Wholesale Switchless Voice ('**SV**'), also known as 'White Label Access', is a wholesale product which allows authorised undertakings to enter the retail fixed voice market without the need to invest in interconnection infrastructure by purchasing end-to-end call services from the wholesale provider.

[721] As defined in ComReg Decision 07/07, *"Market Analysis – Retail Fixed Calls Market Review"* to include Retail residential domestic calls from a fixed location; Retail residential international calls from a fixed location; Retail non-residential domestic calls from a fixed location; and Retail non-residential international calls from a fixed location in Ireland.

7.56 Examples of non-price vertical leveraging could involve restricting or delaying access to the key FVCT input and any relevant associated facilities to downstream competitors in an attempt to extract excessive FTRs and/or dampen competition in retail calls (and potentially access) or other markets. Any raising of rivals' costs and related distortion of, or reduction in, competition in these retail markets could result in harm to consumers, potentially in the form of higher prices, lower output/sales, reduced quality or consumer choice as well as further delaying investment and entry into upstream wholesale markets.

7.57 A refusal to deal/denial of access to FVCT may manifest itself as a constructive denial and not necessarily as an outright and categorical refusal to supply. This could include delaying tactics such as protracted negotiations in respect of the provision of access to FVCT or associated facilities (e.g. in the case of new FVCT products/features such as the introduction of VoIP-based FVCT), and/or seeking unreasonable terms and conditions associated with such access. It could also include unwarranted withdrawal of access already granted.

7.58 As noted in the assessment of CBP in Section 6,[722] while indirect interconnection to Eircom's network *via* third-party Transit providers with established interconnects might somewhat constrain Eircom's ability to refuse or delay interconnection to FVCT purchasers, it would not, however, necessarily constrain Eircom's ability and incentive as the FVCT supplier to set FTRs above an efficient level for those third-party Transit providers absent regulation, which would in turn presumably be passed through (indirectly) to all FVCT purchasers, still impacting on their ability to compete in downstream markets.

7.59 Furthermore, the availability of Transit services does not solve the problem of a denial of, or delayed, access. As noted by the European Commission in its expression of serious doubts to the Latvian NRA,[723] in the event that direct interconnection is impeded, access seekers to the FVCT service in question would be forced to interconnect indirectly bearing additional costs resulting from Transit services.

[722] See paragraph 6.60.

[723] See the European Commission's serious doubts and BEREC's opinion in case LV/2012/1296 referred to in footnote 959 below concerning non-imposition of an access obligation in MVCT markets. The BEREC opinion noted that indirect interconnection may raise the costs of access and thus Transit services are not a substitute for the availability of direct interconnection.

7.60 2019 Designated SMP FSPs may discriminate in the quality treatment of a competitor's traffic terminating with the 2019 Designated SMP FSP relative to the 2019 Designated SMP FSP's treatment of its own on-net traffic. Information asymmetries may also apply to future planning. For example, changes by Eircom to its network topography, such as migration to VoIP traffic switching/routing may have implications for Service Providers using FVCT, and a lack of information and associated uncertainty may impact on their downstream operations.

7.61 Exclusionary conduct may also be apparent in other pricing behaviours. A vertically-integrated operator such as Eircom which provides a wholesale input on which other operators rely to compete in downstream markets, coupled with its own presence in downstream markets could price its upstream and downstream services in such a way as to impede effective downstream competition due to an insufficient margin between the upstream and downstream prices, i.e. a margin squeeze or insufficient economic space may exist. For example, absent regulation, the level of the FTR charged to FVCT wholesale customers may be such that the margin between the FTR charged to those wholesale customers and their retail price for a call may, having regard to objective cost differences, be insufficient to cover the downstream retail costs they face, even assuming that they are operating efficiently.

7.62 As regards horizontally related markets, Eircom could have the ability and incentive to set an insufficient economic space between its pricing of FVCT sold on a standalone basis and FVCT packaged with adjacent inputs such as Transit services (i.e. tandem and double-tandem termination). A squeeze in Eircom's relative pricing of standalone FVCT and FVCT packaged with Transit could prevent an efficient competitor relying on standalone FVCT from profitably replicating Eircom's packaged FVCT/Transit (i.e. tandem and double-tandem termination) offer. While the Transit market was deregulated by means of ComReg's 2015 FACO and Transit Decision, an insufficient economic space between standalone and packaged FVCT inputs could nevertheless consequently impede competition in the adjacent Transit market and deter network investment (potentially delaying entry into other key input markets, such as Fixed Access and Call Origination). By means of the same decision, the FACO market continues to be regulated.

7.63 Eircom could also use its integrated position at horizontal and vertical levels of the supply chain to undermine infrastructure investments that could potentially pose a longer-term competitive risk to its business. In its 2015 FACO and Transit Decision, ComReg's view was that, absent regulation, Eircom would have the ability and incentive to engage in behaviour that would delay or deter network investment and entry into FACO Markets, and, ultimately, the RFTS market.[724] ComReg concluded in its 2014 FACO and Transit Consultation[725] that

> *"Eircom could have the ability and incentive to price its wholesale inputs in a way that increases uncertainty and could dissuade potential entrants from engaging in efficient infrastructural investments, potentially foreclosing competition in horizontally related markets."*[726]

7.64 Absent regulation, Eircom could attempt to foreclose competition in a downstream market by offering a downstream product at a price that would not allow an efficient Access Seeker a sufficient margin to recover their efficiently-incurred costs, resulting in the foreclosure of competition.

7.65 In view of the foregoing assessment, ComReg thus considers that obligations of access, transparency, non-discrimination, and price control are justified to protect against possible exploitative and leveraging/exclusionary behaviour in the case of Eircom.

Risk of Leveraging - the 2019 Designated Alternative SMP FSPs

7.66 Given the commonality of competition problems in respect of the 2019 Designated Alternative SMP FSPs, this subsection analyses the leveraging risks which each of these FSPs face on a collective basis.

[724] At paragraph 8.2.c.

[725] ComReg Document 14/26, "Market Review - Wholesale Fixed Voice Call Origination and Transit Markets." (the '**2014 FACO and Transit Consultation**').

[726] *Ibid*, at paragraph 8.41.

7.67 While smaller or new-entrant FSPs are more likely to have greater incentives to interconnect with the more established networks, the 2019 Designated Alternative SMP FSPs may still have incentives to engage in discriminatory tactics as a means of extracting excessive termination rates in the course of negotiations. As noted in the CBP subsection above, by virtue of their control over access to their subscribers' fixed numbers, some Unregulated FSPs have charged higher FTRs than Eircom's regulated FTRs, with the difference increasing over time as Eircom has reduced its cost oriented FTRs. It is conceivable that such 2019 Designated Alternative SMP FSPs might invoke delaying tactics such as protracted negotiations in respect of the provision/renewal of access to FVCT or associated facilities with a view to extracting an FTR which is above what would otherwise arise in a competitive market outcome.

7.68 While ComReg recognises that a new entrant or smaller FSP may wish to maximise its returns by offering its subscribers comprehensive end-to-end connectivity with all other established Service Providers, the risk remains that delayed or ineffective access by any 2019 Designated SMP FSP could still raise rivals' costs and contribute to increased barriers and/or expansion to entry in downstream retail voice markets for either new entrants or smaller Service Providers with fewer subscribers. Raising rivals' costs and the related distortion of, or restrictions in, competition in these retail markets could result in harm to consumers, potentially in the form of higher prices, lower output/sales, and reduced quality or consumer choice. While, as noted at paragraph 4.13 of the 2007 FVCT Decision, there may be fewer incentives for new entrant or smaller FSPs to deny access to established Service Providers with larger customer bases, smaller FSPs could still have an incentive to deny access to other small-scale Service Providers.

7.69 2019 Designated Alternative SMP FSPs in a Relevant FVCT Market might also potentially have the ability and incentive to discriminate or refuse to supply FVCT to operators of a comparable size and/or potential new entrants in the downstream markets.[727] Thus, 2019 Designated Alternative SMP FSPs also have the ability and incentive to impede downstream competitors through price (e.g. excessive and/or discriminatory pricing) and/or non-price means (e.g. delaying negotiations or not facilitating calls from the customers of rival Service Providers which may be relatively new entrants in the retail voice calls markets).

[727] See BEREC opinion in case LV/2012/1296 referenced in footnote 959 below.

7.70 In line with European Commission guidance, ComReg takes a forward-looking perspective to assessing the scope for 2019 Designated Alternative SMP FSPs to deny or delay FVCT access to FSPs (particularly new entrant FSPs), and notes that such opportunities could arise over the period of the current market review. This risk may become more pronounced over the period of the present market review as the 2019 Designated Alternative SMP FSPs become more established on retail markets.[728]

7.71 Further to the above risks of price and non-price leveraging strategies, ComReg considers that obligations relating to access, transparency, non-discrimination and price control are appropriate in respect of the 2019 Designated Alternative SMP FSPs.

7.72 ComReg's analysis suggests that each of the FSPs in the Relevant FVCT Markets has SMP. ComReg's analysis furthermore suggests that each FSP, as a vertically-integrated undertaking, would have the ability and incentive to engage in price and non-price leveraging strategies through using its control over FVCT inputs to raise rivals' costs in related downstream markets. Any such raising of entry barriers/lessening of competition in downstream markets would ultimately be to the detriment of consumers in terms of higher prices and lower choice and innovation. Under these circumstances, robust obligations of access, transparency, non-discrimination, and price control are justified.

7.73 Aside from not imposing an access obligation, at the time of the 2007 FVCT Decision, ComReg imposed a delayed price control obligation subject to a trigger mechanism for the 2007 Alternative SMP FSPs in recognition of their initially less efficient economies of scale and scope and early stage of market development. In this respect, the European Commission's Explanatory Note to the 2009 Termination Rates Recommendation notes that rewarding an operator for its smaller size can give inappropriate investment signals and risks promoting inefficient entry. The Explanatory Note states further (at p.19) that economies of scale would not seem an appropriate argument for asymmetric price controls in the case of FSPs:

[728] At the time of the 2007 FVCT Decision, the European Commission was of the view that any general interconnection obligation that might stem from Irish legislation would not swiftly resolve eventual access problems such as delaying tactics, compared to a more specific access obligation imposed as a result of a market analysis. Therefore, the European Commission invited ComReg to impose effective access obligations on the 2007 Alternative SMP FSPs. See footnote 707 above.

> *"As regards the extent to which new entrants might be expected to have higher unit costs than incumbents, it has been argued that this consideration is more relevant for mobile than for fixed operators. Fixed operators have the opportunity to build their networks in a particular geographic area and focus on higher-density routes. Furthermore, they can lease relevant network services from the incumbent to reduce the fixed costs of network build and thereby reduce the impact of economies of scale."*

7.74 At the time of the 2007 FVCT Decision ComReg also noted some indications of possible convergence between the 2007 Alternative SMP FSPs' FTRs with those of Eircom. In this Decision (in paragraphs 6.67 to 6.79 above), however, ComReg has observed persistent variations in the level of FTRs applied by FSPs, and notes that the gap between the FTRs of Unregulated FSPs, and the FTRs of the 2007 SMP FSPs is widening over time as the regulated FSPs reduce their cost oriented FTRs. It should also be noted that the cent per minute FTRs for peak calls charged by the 2007 SMP FSPs fell by between 68% and 90% when maximum FTRs took effect on 1 July 2013, pursuant to the FVCT Decision Instrument included as an Annex to the 2012 Pricing Decision.

7.75 In view of the foregoing assessment, ComReg thus considers that robust obligations of access, transparency, non-discrimination, and price control are justified to protect against possible exploitative and leveraging/exclusionary behaviour in the case of all 2019 Designated SMP FSPs.

7.76 However, mindful of the need to ensure that regulation is still proportionate to the competition problems that have been identified in the current market review, ComReg takes into account the lesser ability of the 2019 Designated Alternative SMP FSPs (relative to Eircom) to leverage their position across related markets. As discussed further in Section 8 of this Decision, while the risks of leveraging behaviour by Eircom is greater (as it is also active in the provision of related services such as wholesale FACO, which remains regulated and Transit, which was deregulated in 2015), these risks are somewhat mitigated in the presence of price control obligations in the FVCT market and, having regard to proportionality considerations, the imposition of cost accounting obligations is not likely to be warranted. Overall, ComReg does not consider it necessary to impose cost accounting obligations on either Eircom or on the 2019 Designated Alternative SMP FSPs at this stage.

7.77 However, in the case of Eircom, ComReg's analysis has shown that, in addition to the problems identified for all 2019 Designated SMP FSPs, Eircom holds a position of strength across a number of vertically and horizontally related wholesale and retail markets. Hence, additional protection is needed to ensure an appropriate economic space is maintained in Eircom's relative pricing of FVCT and other horizontally and vertically-related input services.

7.78 The Decision Instrument annexed to the 2015 FACO and Transit Decision requires Eircom to comply with obligations in respect of:

(a) Access,

(b) Non-discrimination,

(c) Transparency,

(d) Accounting Separation, and

(e) Price control and cost accounting

given its SMP on the Relevant FACO Markets. Accordingly, the obligations placed on Eircom in the Relevant FACO Markets, together with the various regulatory obligations proposed to be imposed on Eircom in the Relevant FVCT Markets, are expected to reduce the ability and incentive of Eircom to distort competition through its relative pricing of key strategic inputs at upstream and downstream supply levels. The obligations for the 2019 Designated SMP FSPs are discussed in detail in Section 8 of this Decision.

Relevant MVCT Markets

Risk of Leveraging

7.79 Given the individual nature of the Relevant MVCT Markets, competition problems associated with vertical leveraging are also likely to arise, absent regulation. A vertically-integrated MSP that has SMP in its Relevant MVCT Market may have the incentive to use this market power to affect the competitive conditions in related downstream retail markets where competitors rely on this key MVCT input, such as the RFTS and RMTS markets. This could result in a distortion of, or reduction in, competition in these retail markets resulting in harm to consumers, potentially in the form of higher prices, lower output/sales, reduced quality or consumer choice.

7.80 An example of such exclusionary conduct is refusal to supply access to MVCT. A refusal to deal/denial of access to MVCT may manifest itself as a constructive denial and not necessarily as an outright and categorical refusal to supply. This could include delaying tactics such as protracted negotiations in respect of the provision of access to MVCT or associated facilities, or seeking unreasonable terms and conditions associated with such access. It could also include unwarranted withdrawal of access already granted.

7.81 Absent regulation in the Relevant MVCT Markets, other possible competition problems may arise with respect to the discriminatory use of or withholding of information, and discrimination on quality and pricing parameters. In this regard, in order to facilitate interconnection with the 2019 Designated SMP MSPs and ensure access to MVCT, purchasers of MVCT must also provide information to the 2019 Designated SMP MSP on matters such as their own network configuration and/or call traffic patterns. In these situations, the MSP may have the power to use such information about downstream competitors' networks and/or traffic patterns in the design of their own retail services. 2019 Designated SMP MSPs may also discriminate in the quality treatment of a competitor's traffic relative to their own (on-net) terminating traffic. 2019 Designated SMP MSPs could also discriminate on price grounds whereby, absent objective justification, different undertakings operating in equivalent circumstances are charged different MTRs. This could particularly be the case in respect of MTRs levied on smaller or new entrant MSPs or FSPs.

7.82 Exclusionary conduct may also be apparent in other pricing behaviours. A vertically-integrated operator which has SMP at the wholesale level and which provides a wholesale input on which other operators rely to compete in downstream markets could price its upstream and downstream services in such a way as to impede effective downstream competition due to an insufficient margin between wholesale and retail prices, i.e. a margin squeeze may exist. For example, absent regulation, the level of the MTR charged by an MSP to another undertaking may be such that the margin between the MTR charged to that undertaking and the same MSP's retail price for an on-net call may, having regard to objective cost differences, be insufficient to cover the MSP's retail costs. However, this may be mitigated in the presence of an appropriate price control obligation such as cost orientation.

7.83 ComReg's analysis has indicated that each of the MSPs in the Relevant MVCT Markets has SMP. ComReg's analysis furthermore suggests that each 2019 Designated SMP MSP, as a vertically-integrated undertaking, would have the ability and incentive to engage in price and non-price leveraging strategies through using its control over MVCT inputs to raise rivals' costs in related downstream markets. Any such raising of entry barriers/lessening of competition in downstream markets would ultimately be to the detriment of consumers in terms of higher prices and lower choice and innovation. Under these circumstances, robust obligations of access, transparency, non-discrimination, and price control are justified. Such obligations are discussed in Section 8.

Impacts of Competition Problems on Competition and Consumers

7.84 Having considered the general categories of competition problems which have the potential to arise in each of the Relevant Termination Markets, ComReg discusses below the potential impact of such issues on competition and consumers.

7.85 In this respect, the 2009 Termination Rates Recommendation aims to address competition and consumer impacts where it notes that:

(a) Where termination rates are set above efficient costs, substantial transfers between fixed and mobile markets and consumers, and significant payments from smaller to larger competitors can result (*Recital 3*);

(b) High termination rates tend to lead to high retail prices for originating calls and correspondingly lower usage rates, thus decreasing consumer welfare (*Recital 3*); and

(c) A lack of harmonisation in the application of cost accounting principles for setting termination rates to date impacts on the regulatory burden on operators active in several countries (*Recital 4*).

7.86 In this subsection ComReg addresses how competition problems impact both competition and efficiency in, firstly, the Relevant FVCT Markets and, secondly, the Relevant MVCT Markets.

Relevant FVCT Markets

Impacts on Competition

7.87 FTRs above efficient cost can result in financial payments and competitive distortions for undertakings (and their consumers) with off-net traffic outflows to the SMP FSPs, particularly where there are asymmetric traffic flows. In particular, FTRs set above an efficient level could have important competitive and distributional impacts for smaller FSPs with large traffic outflows to other more established FSPs. The further FTRs deviate from efficient costs, the larger the financial outflows from such smaller FSPs to their larger, more established rivals. Financial and competitive distortions generated by high inter-operator wholesale payments further imply that consumers as a group will ultimately pay more in terms of reduced competition, innovation and higher prices.

7.88 Furthermore, where off-net FTRs exceed efficient cost, on-net/off-net retail price discrimination[729] could potentially result. This could lead to increased use of on-net calls to subscribers at a fixed location, as well as consumers being generally deterred from making off-net calls, whether from a fixed or mobile phone, to subscribers at a fixed location due a higher off-net retail price being applied for such calls.[730] Since subscribers to smaller networks are more likely to make a larger proportion of off-net calls than subscribers to larger networks, the impact of on-net/off-net retail price differentiation is likely to be more pronounced for smaller networks and their subscribers.

7.89 Tariff-mediated network externalities[731] stemming from on-net/off-net price differentiation strategies (with high retail off-net call prices being further facilitated by high off-net termination charges) put smaller networks at a disadvantage while benefitting Service Providers with a larger customer base.

7.90 FTRs set above efficient cost may also reduce the flexibility for retail pricing innovation (such as offering more inclusive any network minute bundles, or unlimited call offerings).[732] High per-minute termination rates effectively create a retail pricing floor and tend to make it difficult for Service Providers to offer innovative calling plans due to uncertainty regarding customer take-up. This may be particularly so depending on, for example, differences between MTRs and FTRs, or the level of asymmetries between FTRs.

[729] While not a widely observed retail pricing practice in respect of RFVC, the potential for on-net/off-net retail price discrimination and associated tariff-mediated network externalities remains, absent regulation.

[730] The pass-through of any wholesale termination profits into lower retail call prices for certain consumers (e.g. on-net calls) is known as a 'waterbed' effect. However, even if there is full pass-through of termination profits into lower on-net retail prices, the above financial and competitive distortions can still result from the structure of FVCT prices. Depending on the intensity of retail competition and/or the ability to successfully price discriminate at the retail level, FSPs may, however, decide to retain the excessive profit earned and not cross-subsidise retail services at all.

[731] Network externalities (which can be either positive or negative) are the effects on the value of a product or service arising from the number of users of that product or service. In the case of fixed telephony, positive network externalities arise as more users join a network, and it becomes more attractive to both existing and potential users. A tariff-mediated network externality is a network externality which is created or supported by a Service Provider's decision to price on-net calls more favourably than off-net calls, thereby increasing the attractiveness of the 'on-net' network for users, while simultaneously making other networks more expensive to access, and therefore less attractive. One effect of tariff-mediated network externalities is that a user is likely to join the network which is most used by their peer group.

[732] Retail pricing flexibility is not solely determined by termination rates, and is also impacted by retail costs and other network costs associated with the provision of the services (such as call origination etc.).

Impacts on Efficiency

7.91 There are three types of efficiency which are considered from the point of view of maximising economic welfare. These are summarised briefly below.

7.92 ***Allocative efficiency*** concerns the promotion of efficient production and consumption decisions, and in the case of FVCT is dependent on the respective sizes of network externalities and call externalities. For example, the existence of strong network externalities might imply FTRs above efficient cost to subsidise initial take-up of voice subscriptions at a fixed location.[733] However, evidence points to take-up of fixed voice services being relatively mature, if not somewhat declining.

7.93 Call externalities, on the other hand, recognise that both the calling party and the called party can derive utility from the interaction. If this two-sided aspect to calling relationships is not taken into account, then FTRs set above efficient costs could result in the calling party initiating an inefficiently low number of calls from the called party's perspective. This is because, where the calling party network passes the costs of FTRs down to its subscribers, the calling party will make fewer calls to subscribers of the network levying the high FTR than would otherwise be the case, *ceteris paribus*. The existence of receiver benefits can have important implications for the way in which FTRs are set to maximise efficiency and overall welfare.

7.94 ***Productive efficiency*** concerns firms minimising their total costs with respect to production technology. Pricing above efficient cost can also reduce FSPs' incentives to innovate and increase efficiency, as inefficient FTRs are paid for by competitors and, in turn, by their competitors' customers. It is important to note, however, that incentives to minimise costs also depend on the strength of retail competition. The network used to provide FVCT is also generally used to deliver other retail services. Hence, the degree of competition in the retail market and the extent to which this drives cost efficiency on the network should also impact on the cost efficiency of inputs used to deliver wholesale termination.

7.95 If the retail market alone does not provide sufficient incentives for efficient service operation, low wholesale costs and an FTR based on the efficient cost of FVCT would likely provide some encouragement to FSPs to be efficient.

[733] Thus, in theory, the undertaking incurs a loss on recruiting each new subscriber to the network, but recovers this loss at retail level by means of a higher termination rate charge to other networks at wholesale level. As a second-order effect, however, where all undertakings engage in this conduct, this may lead to an increase in retail call charges, as each undertaking passes on the costs of paying termination rates to its own subscribers.

7.96 ***Dynamic efficiency*** concerns the optimal rate of innovation and investment such that productive efficiency improves over time. The European Commission, in its Explanatory Note to the 2009 Termination Rates Recommendation recognises that efficient investment and innovation should be encouraged sustainably across all telecoms markets, for instance, by ensuring that termination rates do not distort or restrict competition. If FTRs are set in line with efficient costs, this will create the correct economic environment for dynamic efficiency as it would lower financial barriers to entry/expansion faced by late entrants with large off-net traffic outflows. Rivalry amongst Service Providers would, in turn, encourage innovation and cost efficiency over time.

7.97 Regulatory stability promotes undertakings' incentives to invest and innovate, and can thereby promote dynamic efficiency. As also noted by the European Commission,[734] inconsistencies in the methodologies and practices applied when regulating termination rates across EU Member States contribute to a lack of transparency and legal uncertainty for SMP Service Providers. Furthermore, it can increase the regulatory burden on existing operators active on termination markets in multiple Member States. As a result, Service Providers must package their services in different ways to satisfy divergent regulatory requirements in different Member States. According to the European Commission *"This can affect operators' incentives to enter certain national markets and thus distort cross-border competition and investment"*.[735] Hence, a coherent pan-European approach to regulating FVCT is desirable for facilitating efficient investment and entry decisions, and dynamic efficiency over time.

[734] European Commission Staff Working Document accompanying the European Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, Implications for Industry, Competition and Consumers, 9 May 2009.

[735] Ibid, p. 9.

Relevant MVCT Markets

Impacts on Competition

7.98 As set out in paragraphs 7.40 to 7.48 above, excessive termination rates may distort markets and reduce retail competition. Moreover, since MTRs form part of the cost base for an off-net call to a mobile (whether originating from another MSP or FSP), excessive MTRs would likely result in the retail cost of such calls being priced at inefficiently high levels, with terminating MSPs using the excessive MTR profits to cross subsidise[736] and lower the price of their own retail services (such as access, handset or on-net call prices).

7.99 Distorted pricing signals could also raise distributional concerns, whereby customers who predominantly make off-net mobile-to-mobile calls or fixed-to-mobile calls are disadvantaged vis-à-vis those customers that make mostly on-net mobile-to-mobile calls or receive calls to their mobiles. In this regard, even though some or all of the profit earned from excessive MTRs is passed on by MSPs to their retail subscribers in the form of lower prices, subscribers of other Service Providers are still disadvantaged, as they do not receive such benefits.

7.100 Competition between MSPs could also be reduced, particularly with respect to smaller or new entrant MSPs, whose subscribers are more likely to make more off-net than on-net calls (given the size of their subscriber base). In these circumstances, excessive MTRs may foreclose a new entrant MSP.

Impacts on Efficiency

7.101 Paragraphs 7.98 to 7.100 above set out in detail the impacts of competition problems on allocative, productive and dynamic efficiencies, and these impacts apply equally on the Relevant MVCT Markets. In this regard, consumers would face inefficient signals on the pricing of on-net mobile calls, off-net mobile-to-mobile calls, and fixed-to-mobile calls. These effects may result in consumers being deterred from making off-net calls to mobiles from FSPs or off-net MSPs. This could have the effect of distorting competition amongst MSPs and between FSPs and MSPs. In particular, consumer choice between RMTS and RFTS would be distorted due to differences in the relative retail prices of fixed-to-mobile and mobile-to-mobile calls that do not reflect the underlying costs involved in providing MVCT. Consumers that make large amounts of on-net mobile-to-mobile calls are, in effect, subsidised by consumers who make off-net calls (whether originating from FSPs or off-net MSPs).

[736] Depending on the intensity of retail competition and the ability to successfully price discriminate at the retail level, MSPs may decide to retain the excessive profit earned and not cross-subsidise retail services.

7.102 Excessive pricing can also reduce MSPs' incentives to innovate and increase efficiency, as inefficient MTRs are paid for by competitors and, in turn, by consumers.

7.103 Asymmetries between MSPs' MTRs that are not based on objective cost differences can also distort competition amongst MSPs, as the higher MTR creates a cross-subsidy which can simultaneously reduce the other MSPs' investment incentives.

Overall conclusion on competition problems

ComReg's Consideration of Respondents' Views

7.104 With the exception of TMI there was either general agreement with the competition problems identified or no objections were made. While expressing no view on competition problems identified with respect to the Relevant FVCT Markets, TMI submitted that, with respect to the Relevant MVCT Markets, the competition problems identified were theoretical and did not apply to it. ComReg rejects TMI's assertions that it does not have SMP (with this considered in Section 5 and Section 6 of this Decision). Neither does ComReg accept that that the competition problems identified are theoretical and do not apply to TMI. ComReg's assessment in this regard is set out in paragraph A11.168.

7.105 Eircom and Verizon agreed in general with ComReg's assessment of Competition problems but submitted views on certain aspects of ComReg's assessment. These are summarised in paragraphs A11.159 to A11.161 and assessed in A11.162 to A11.167.

7.106 In summary, and considering Respondent's Submissions, ComReg's position is that, absent regulation, Service Providers with SMP in the Relevant Termination Markets have the ability and incentive to engage in exploitative and exclusionary behaviours which would impact on competition and customers. ComReg has provided examples of potential competition problems and their potential impact. As a consequence, it is ComReg's view that the imposition of appropriate *ex ante* remedies is considered both justified and necessary. These remedies are discussed in Section 8.

8 Approach to Specifying and Implementing Remedies in the Relevant Termination Markets

Introduction

8.1 In Section 8 of the Consultation ComReg set out its proposed approach to specifying and implementing remedies in the Relevant Termination Markets.

8.2 Of the 11 Submissions received Alto, BT, Eircom, Three Ireland and Verizon commented on the proposed remedies in the Relevant FVCT markets in response to Q.10 of the Consultation[737]. Eircom, Three Ireland and Verizon also commented on the draft FVCT Decision Instrument.[738] Eircom, iD Mobile, Lycamobile, Three Ireland, and TMI commented on the proposed remedies in the relevant MVCT markets in response to Q.12 of the Consultation[739]. Eircom, Three Ireland, and TMI submitted specific suggestions regarding the Draft MVCT Instrument.[740]

8.3 AT&T, BT, Eircom, Lycamobile, Three Ireland, TMI, Verizon, Virgin Media and Vodafone commented on ComReg's proposed approach on price control for the supply of WVCT to calls originated outside the European Economic Area (EEA) in response to Q.14 of the Consultation[741] and, where applicable, the draft FVCT and MVCT Decision Instruments.

8.4 An overview of these submissions, along with ComReg's consideration of them, is provided in Annex: 11 in paragraphs A11.169 to A11.422.

[737] Question 10 on page 373 of the Consultation asked: "Do you agree with ComReg's approach to imposing remedies in each of the Relevant FVCT Markets? Are there other approaches that would better address the identified competition problems?"

[738] Question 11 on page 373 of the Consultation asked: "Do you agree with ComReg's draft FVCT Decision Instrument set out in Appendix 6? Do you agree with ComReg's definitions and interpretations as set out in this draft Decision Instrument?" See Annex: 16 of the Consultation for the Draft FVCT Decision Instrument and Annex: 6 of this Decision for the FVCT Decision Instrument.

[739] Question 12 on page 398 of the Consultation asked: "Do you agree with ComReg's approach to imposing remedies in each of the Relevant MVCT Markets? Are there other approaches that would better address the identified competition problems?"

[740] Question 13 on page 398 of the Consultation asked: "Do you agree with ComReg's draft MVCT Decision Instrument set out in Appendix 7? Do you agree with ComReg's definitions and interpretations as set out in this draft Decision Instrument?" See Annex 7: of the Consultation for the Draft MVCT Decision Instrument and Annex: 17 of this Decision for MVCT Decision Instrument.

[741] Question 14 on page 398 of the Consultation asked: "In respect of the potential alternative approaches for price control obligations on the application of WVCT to calls originated outside the EEA, please indicate which approach would better address the identified competition problems?"

8.5 In Eircom’s April 2019 letter, Eircom raised concerns regarding the detailed specification of certain cost orientation price control obligations set out in ComReg’s Notified Draft Measure as submitted to the EC on 11 March 2019.

8.6 A summary of the issues raised in Eircom’s April 2019 Letter and ComReg’s assessment thereof is set out in Annex: 11 paragraphs A11.348 to A11.366 below. A copy of Eircom’s Aril 2019 Letter is at Annex: 15.

8.7 In Section 7 of this Decision (and Section 7 of the Consultation), ComReg identified a range of competition problems and competition or consumer impacts that, absent regulation, could arise in each of the Relevant Termination Markets due to the ability and incentives of the 2019 Designated SMP Service Providers to engage in a range of anti-competitive behaviours.

8.8 Having regard to these identified competition problems and having considered Respondents’ views, in this Section ComReg sets out obligations which ComReg considers appropriate and proportionate to impose on the 2019 Designated SMP Service Providers, in order to remedy these identified competition problems. In accordance with Regulation 8(1) of the Access Regulations, where a Service Provider is designated as having SMP on a relevant market, ComReg is required to impose on that Service Provider such obligations as it considers appropriate, as set out in Regulations 9 to 13 of the Access Regulations. In this regard, the obligations that may be imposed by ComReg on SMP undertakings relate to:

(a) Access;

(b) Transparency;

(c) Non-Discrimination;

(d) Price Control and Cost Accounting; and

(e) Accounting Separation.

8.9 In addition, Regulation 8(6) of the Access Regulations provides that any obligations imposed must be:

(a) Based on the nature of the problem identified;

(b) Proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations; and

(c) Only imposed following public consultation and notification of the draft measures to the European Commission, BEREC and other NRAs, in accordance with Regulation 12 of the Framework Regulations.

8.10 Regulations 12(1) and 12(4) of the Access Regulations also provide statutory criteria that ComReg must take into account before imposing access obligations on an SMP undertaking. These criteria include, *inter alia*, examining the technical and economic viability of using or installing competing facilities; the feasibility of providing access; the initial investment outlay by the undertaking; and the need to safeguard competition in the long term.

8.11 Regulations 13(2) and (3) of the Access Regulations provide that ComReg is also required to take into account:

(a) The investment made by the SMP operator which ComReg considers relevant, allowing that operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new network investment project; and

(b) Ensuring that any cost recovery mechanism or pricing methodology that ComReg imposes serves to promote efficiency and sustainable competition, and maximises consumer benefits.

8.12 The considerations set out in paragraphs 8.8 to 8.11 are taken into account, as appropriate, when assessing what, if any, obligations to impose and are also discussed in the context of the Regulatory Impact Assessment ('**RIA**') set out in Section 9.

8.13 In considering the imposition of appropriate remedies on Service Providers that are being designated with SMP, ComReg also takes into account:

(a) Any relevant comments letters issued by the European Commission to NRAs pursuant to Articles 7 and 7a of the Framework Directive regarding its review of regulatory measures notified under the EU consultation mechanism for electronic communications services (the 'Comments Letters');

(b) The European Commission's 2009 Termination Rates Recommendation; and

(c) The European Commission's 2005 Accounting Separation and Cost Accounting Recommendation.[742]

8.14 Below ComReg sets out its position, having considered Respondents' views on the approach to specifying and implementing remedies in the Relevant Termination Markets:

(a) Option of no Regulation (as discussed in paragraphs 8.15 to 8.18 below);

[742] European Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications (2005/698/EC) ('**2005 Accounting Separation and Cost Accounting Recommendation**').

(b) Existing remedies for the Relevant FVCT Markets (as discussed in paragraphs 8.19 to 8.34 below);

(c) Imposition of Remedies in the Relevant FVCT Markets (as discussed in paragraphs 8.35 to 8.234 below);

(d) Existing remedies for the Relevant MVCT Markets (as discussed in paragraphs 8.239 to 8.243 below);and

(e) Imposition of Remedies in the Relevant MVCT Markets (as discussed in paragraphs 8.244 to 8.365).

Option of No Regulation in the Relevant Termination Markets

8.15 ComReg has considered whether the option of de-regulation (in the case of existing regulation) or regulatory forbearance is appropriate in the Relevant Termination Markets.

8.16 Where a Service Provider has been designated with SMP, Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations require ComReg to impose the appropriate specific regulatory obligations, which requires at least some level of regulation to be imposed. In Section 6, ComReg sets out its view that none of the Relevant Termination Markets are effectively competitive (nor are they likely to become effectively competitive within the timeframe covered by this market review). In Section 7, ComReg identified a range of competition problems that could occur in the Relevant Termination Markets, absent regulation.

8.17 Accordingly, absent the imposition of remedies on the Relevant Termination Markets, it is ComReg's position that these markets are unlikely to function effectively, and, consequently, downstream markets are similarly unlikely to function effectively. In the context of interconnection negotiations between the 2019 Designated SMP Service Providers and other Service Providers, access could be denied or effectively refused, thereby resulting in subscribers of one Service Provider being unable to make calls to, or receive calls from, the subscribers of another Service Provider. Similarly, termination rates could be set at an excessive or inefficient level, thereby effectively impacting on access arrangements.

8.18 It is ComReg's position, therefore, that the option of regulatory forbearance or no regulation in each of the Relevant Termination Markets is not appropriate or justified. Therefore, the relevant issue to be considered is what form of regulation is appropriate, and which of the remedies identified are appropriate, having regard to the particular circumstances of the Relevant Termination Markets and the associated competition problems.

Remedies for the Relevant FVCT Markets

Existing Remedies in the Relevant FVCT Markets

8.19 As outlined in the Consultation the following remedies currently apply to the relevant FVCT markets as defined under the 2007 FVCT Decision.

8.20 The 2007 FVCT Decision designated Eircom, BT Communications, Verizon, UPC (now Virgin Media), Colt, Smart Telecom (now Viatel) and Magnet Networks with SMP in the Relevant FVCT Markets (together, the '**2007 SMP FSPs'**).[743] Consequently, each of these FSPs is subject to regulatory obligations, specifically:

(a) In the case of BT Communications, Verizon, UPC (now Virgin Media), Colt, Smart Telecom (now Viatel) and Magnet Networks, obligations of transparency, non-discrimination and price control were imposed; and

(b) In the case of Eircom, obligations of access to, and use of, specific network facilities, transparency, non-discrimination, price control and cost accounting, and accounting separation were imposed.

8.21 The 2011 Decision[744] amended both the transparency and price control obligations in respect of Eircom alone, while the 2012 Pricing Decision imposed and/or amended the price control and cost accounting obligations on all 2007 SMP FSPs.

[743] Viatel was not designated with SMP in the 2007 FVCT Decision. However, Smart Telecom was designated with SMP pursuant to the 2007 FVCT Decision. Digiweb acquired Smart Telecom in December 2009, and Digiweb then merged with Viatel in 2013. Similarly, at the time of the 2007 FVCT Decision, Ntl Communications (Ireland) Limited and Chorus Communications Limited were in the process of merging under the UPC heading. UPC subsequently rebranded as Virgin Media in 2015, following Liberty Global's acquisition of Virgin Media UK in 2013. Accordingly, per section 3.2 of the Decision Instrument appended to the 2007 FVCT Decision, businesses now operated by Viatel and Virgin Media have previously been, and continue to be, subject to SMP remedies in the current Relevant FVCT Markets.

[744] ComReg Decision D07/11, Wholesale Call Origination and Wholesale Call Termination Markets: Response to Consultation Document No. 10/76 and decisions amending price control obligations and withdrawing and further specifying transparency obligations ('**2011 Decision')**.

8.22 The fifteen (15) 2019 Newly Designated SMP FSPs[745] have not, to date, been subject to SMP regulation in the Relevant FVCT Markets and consequently have not had any obligations imposed upon them.

8.23 A non-exhaustive summary of existing obligations is set out below in paragraphs 8.24 to 8.34.

Existing Transparency Remedies in Relevant FVCT Markets

8.24 Pursuant to the 2007 FVCT Decision (and subsequent decisions), Eircom is subject to transparency obligations whereby it must publish information in relation to interconnection and access. This includes specific obligations on Eircom to:

(a) Publish and keep updated on its wholesale website a Reference Interconnect Offer ('RIO') in respect of wholesale access products, features or additional associated facilities;

(b) Ensure that the RIO is sufficiently unbundled to ensure that undertakings are not required to pay for facilities which are not necessary for the service requested;

(c) Ensure that the RIO includes a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions, including prices[746];

(d) Ensure that the RIO contains details of the terms and conditions of access in respect of facilities already granted; and

(e) Make public information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices, in respect of wholesale access products, features or additional associated facilities, as specified by ComReg from time to time.

[745] As identified in Table 14: above.

[746] Eircom was also required to continue to publish the call termination schedules, prices, product descriptions and inter-operator process manuals contained in "Core RIO document Version 3.14" (as amended from time to time) and Eircom RIO Price List Version 1.64 (as amended from time to time).

8.25 The 2011 Decision, which *inter alia* amended the price control obligations and withdrew and further specified the transparency obligations set out in the 2007 FVCT Decision, specifically requires Eircom to publish detailed documentation on all terms (other than price), conditions, service level agreements, guarantees and other product-related assurances associated with its provision of FVCT within its Wholesale SV Services[747]. ComReg notes that the 2011 Decision[748] was further amended by the 2015 FACO and Transit Decision, in particular, the elements of the margin squeeze test associated with the access and call origination components of Eircom's Wholesale SV Services.

8.26 Pursuant to the 2007 FVCT Decision, the 2007 Alternative SMP FSPs have an obligation to apply similar terms and conditions to undertakings that obtain, or seek to obtain from them, call termination services, products, and facilities. This includes obligations to:

(a) Publish on their websites (or make public in an easily accessible manner where no website exists), their prices and associated terms and conditions (and any amendments thereto) in respect of the relevant wholesale call termination services; and

(b) Give a minimum of 30 calendar days' notice of a change in their termination rates to other operators.

Existing Non-Discrimination Remedies in Relevant FVCT Markets

8.27 The 2007 FVCT Decision places an obligation of non-discrimination on Eircom with respect to the provision of wholesale access products, features and additional associated facilities.[749] In particular, Eircom is required to:

(a) Apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, and provide services and information to others under the same conditions and of the same quality as Eircom provides for its own services or those of its subsidiaries or partners; and

[747] The margin squeeze test imposed under the 2011 Decision concerned the relative pricing by Eircom of its wholesale CO and FVCT products sold within its Wholesale SV Service, and the relative price of its wholesale CO and FVCT products sold on a standalone basis.

[748] In particular, the Decision Instrument entitled "Decision Instrument (Wholesale Call Origination)" annexed to the 2011 Decision was withdrawn and replaced with obligations set out in the 2015 FACO and Transit Decision.

[749] As set out at sub-sections 7.1 and 7.2 of the Decision Instrument contained in the 2007 FVCT Decision.

(b) Ensure that information and services are provided to undertakings according to timescales, on a basis, and of a quality, which are at least equivalent to those provided by Eircom to its retail arms and its associates.

8.28 The 2007 Alternative SMP FSPs each have had an obligation imposed upon them to apply similar terms and conditions to undertakings that obtain, or seek to obtain, call termination services, products, and facilities.[750]

Existing Access Remedies in the Relevant FVCT Markets

8.29 A range of access obligations are currently imposed solely upon Eircom by virtue of its SMP designation under the 2007 FVCT Decision. These include, *inter alia*, obligations to:

(a) Negotiate in good faith with undertakings requesting access;

(b) Not withdraw access to facilities already granted, and continue to provide access to such facilities in accordance with existing terms, conditions and specifications;

(c) Meet reasonable requests for access to specified network elements, network facilities, or both;

(d) Ensure that all reasonable requests for access are expedited in a fair, reasonable and timely manner;

(e) Grant open access to technical interfaces, protocols or other key technologies that are indispensable for the interoperability of services or virtual network services;

(f) Provide access to operational support systems or similar software systems necessary to ensure fair competition in the provision of services; and

(g) Interconnect networks or network facilities.

[750] As set out at sub-section 7.3 of the Decision Instrument contained in the 2007 FVCT Decision.

8.30 The 2007 Alternative SMP FSPs[751] did not have any specific access obligations imposed on them. At the time of the 2007 FVCT Decision, the European Commission commented[752] on ComReg's proposal not to impose an access obligation on the 2007 Alternative SMP FSPs.[753] The European Commission was of the view that any general interconnection obligation stemming from Irish legislation would not swiftly resolve eventual access problems, such as delaying tactics, compared to a more specific access obligation imposed as a result of a market analysis. Therefore, the European Commission invited ComReg to impose effective access obligations on alternative FSPs.

Existing Price Control and Cost Accounting Remedies in the Relevant FVCT Markets

8.31 Pursuant to the 2007 FVCT Decision, Eircom is currently subject to a price control obligation of cost orientation, as well as a cost accounting obligation. Eircom's FTRs were initially subject to a pricing model based on forward looking - long run incremental costs ('**FL-LRIC**').

8.32 The 2011 Decision, as amended by the 2015 FACO and Transit Decision, also requires Eircom not to apply a margin squeeze when supplying FVCT as part of a Wholesale SV Service.

[751] BT Communications, Verizon, UPC (now Virgin Media), Colt, Smart Telecom (now Viatel) and Magnet Networks

[752] Commission Decision concerning Case IE/2007/0701 — Call termination on individual public telephone networks provided at a fixed location in Ireland Article 7(3) of Directive 2002/21/EC. Available online at https://circabc.europa.eu/webdav/CircaBC/CONNECT/e-cctf/Library/Ireland%20-%20IE/Registered%20notifications/2007/ie20070701/IE-2007-0701%20acte_EN.pdf

[753] However, the 2007 FVCT Decision imposed an obligation of non-discrimination on the 2007 Alternative SMP FSPs, which had the effect of generating access obligations to other Service Providers, where failure to provide such access would amount to discriminatory treatment in violation of the obligation.

8.33 Under the 2007 FVCT Decision, the price control obligations did not apply to the 2007 Alternative SMP FSPs until such time as they reached a 5% share of total direct access paths. This provision was amended by the 2012 Pricing Decision, which stipulated that all 2007 SMP FSPs[754], including the 2007 Alternative SMP FSPs, are subject to price control obligations of cost orientation, specifically a bottom-up ('BU')[755] modelling approach using pure long-run incremental costs ('**pure LRIC**')[756] as the relevant cost methodology.

Existing Accounting Separation Remedies in the Relevant FVCT Markets

8.34 Pursuant to the 2007 FVCT Decision, Eircom is the only SMP FSP that currently has an obligation to maintain separate accounts.

Imposition of Remedies in the Relevant FVCT Markets

8.35 Having summarised existing FVCT remedies in paragraphs 8.19 to 8.34 above, this Decision now sets out ComReg's position, taking account of Respondents' Submissions on the imposition (or not) of regulatory obligations on each of the 2019 Designated SMP FSPs, as follows:

(a) Transparency remedies (discussed in paragraphs 8.36 to 8.56 below);

(b) Non-discrimination remedies (discussed in paragraphs 8.57 to 8.70 below);

(c) Access remedies (discussed in paragraphs 8.71 to 8.109 below);

(d) Price control and cost accounting remedies (discussed in paragraphs 8.110 to 8.208 below); and

(e) Accounting separation remedies (discussed in paragraphs 8.209 to 8.220 below).

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[754] As set out at section 4.3 of the FTR Decision Instrument appended to the 2012 Pricing Decision.

[755] A BU modelling approach is derived from an economic and / or engineering model of an efficient network.

[756] Under a pure LRIC approach the relevant increment is the WVCT service and which includes only avoidable costs, i.e. all fixed and variable costs which are incremental to the provision of the wholesale call termination service.

Transparency Remedies in the Relevant FVCT Markets

Overview

8.36 Regulation 9 of the Access Regulations provides that ComReg may, *inter alia*, specify obligations to ensure transparency in relation to access or interconnection which require a Service Provider designated with SMP to make public specified information such as accounting information, technical specifications, network characteristics, prices, and terms and conditions for supply and use, including any conditions limiting access to, or use of, services and applications where such conditions are permitted by law.

8.37 Transparency obligations can be standalone, but can also support other obligations being imposed and, as evidenced from the above, usually relate to requirements to make specified information publicly available. In the Consultation ComReg proposed a range of transparency[757] obligations.

Transparency Remedies

8.38 In Section 7, ComReg identified that the 2019 Designated SMP FSPs have the ability and incentive to engage in a range of exploitative and/or exclusionary conducts which may impact downstream competition and consumers. The potential for leveraging of SMP into related markets can occur through information asymmetries, delaying tactics such as protracted negotiations in respect of the provision of access to FVCT or associated facilities, and/or seeking unreasonable terms and conditions to grant access.

8.39 As noted at Recital 16 of the Access Directive, transparency of terms and conditions for access and interconnection, including prices, serves to speed up negotiations, avoid disputes and give confidence to market players that a service is being provided on non-discriminatory terms. Openness and transparency of technical interfaces can also be particularly important in ensuring interoperability. Transparency on prices (and changes to prices) provides the necessary clarity to buyers of FVCT in order that they can consider impacts on the structure or level of retail prices. Transparency also provides the means to demonstrate that access is provided in a non-discriminatory manner.

[757] See the Consultation at paragraphs 8.32 to 8.47.

8.40 In this regard, ComReg proposed in the Consultation that, as part of a general transparency obligation, pursuant to Regulation 9 of the Access Regulations, each designated SMP FSP should publish a RIO setting out the contractual terms and conditions and technical basis upon which Service Providers can obtain access to FVCT and associated facilities. ComReg therefore proposed in the Consultation that Designated SMP FSPs should be required to publish FTRs and to provide advance notice of FTR changes to ComReg and to other Service Providers.

Respondents' Views on the Transparency Remedies.

8.41 **Alto** and **Verizon** commented on the proposal in the Consultation[758] requiring a 60 (sixty) calendar day advance pre-notification to ComReg of any proposed changes to FTRs, stating that it is burdensome and reduces flexibility for SPs. Respondents' views and ComReg's assessment thereof is addressed in Annex: 11 in paragraphs A11.175 to A11.179). ComReg's position is set out below in paragraph 8.44 of this Decision.

8.42 **Alto** and **Verizon** also submitted comments relating to the requirement to publish a RIO. Respondents' views and ComReg's assessment thereof is addressed in Annex: 11 in paragraphs A11.180 to A11.187. ComReg's position in this regard is set out in paragraphs 8.45 to 8.50 of this Decision.

8.43 **Eircom** submitted two comments relating the Transparency obligation. Firstly; Eircom stated that they should not be obliged to continue to publish the STRPL (this is addressed in Annex: 11 in paragraphs to A11.371 to A11.372 and in paragraphs A11.391). Secondly; Eircom disagreed with the inclusion of SV as part of the transparency obligation. (This is addressed in Annex: 11 in paragraph A11.373 and in paragraphs A11.391 to A11.393). ComReg's position in this regard is set out in this Decision in paragraphs 8.51 and 8.52 below.

[758] In paragraph 8.35 of the Consultation ComReg stated that: "In order to ensure and support compliance (and transparency in relation to this) by the Proposed SMP FSPs with respect to their price control obligations, ComReg requires such FSPs to provide ComReg with advance pre-notification of any proposed changes to FTRs. In this respect ComReg is requiring Proposed SMP FSPs to provide 60 (sixty) calendar days' notification in advance of the date on which any such FTR amendments come into effect. In addition, each Proposed SMP FSP will, at the same time, be required to furnish ComReg with a statement confirming that its proposed amendments comply with its price control obligations".

ComReg's Position on the Transparency Remedies

8.44 In order to ensure and support compliance (and transparency in relation to this) by the 2019 Designated SMP FSPs with respect to their price control and other obligations, ComReg requires such FSPs to provide ComReg with advance pre-notification of any proposed changes to FTRs. In this respect, and taking account of Respondents' Submissions (see paragraphs A11.175 to A11.179), ComReg is amending the requirement such that the 2019 Designated SMP FSPs will be obliged to provide 30 (thirty) calendar days' notification in advance of the date on which any such FTR amendments come into effect (and aligning it with the separate requirement to publish proposed changes in termination rates 30 days in advance of when they come into effect[759]). In addition, each 2019 Designated SMP FSP will, at the same time, be required to furnish ComReg with a statement confirming that its proposed amendments comply with its price control obligations. This is to provide greater flexibility for SPs to pass on any reductions in termination rates to consumers more quickly and, relative to the preliminary view set out in the Consultation, to minimise, any undue administrative burden on SPs.

8.45 ComReg's position is that in addition to a general transparency obligation, pursuant to Regulation 9 of the Access Regulations, all 2019 Designated SMP FSPs are required to do the following:

(a) To make publicly available and keep updated on its website a RIO, which is the standard offer of contract for access to FVCT and associated facilities;

(b) To ensure that the RIO is sufficiently unbundled in order that Service Providers availing of access are not required to pay for services or facilities which are not necessary for the access requested;

(c) To ensure that the RIO includes a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions, including prices;

(d) To ensure that the RIO includes a description of the technical specifications and network characteristics of the access (including access to FVCT and associated facilities) being offered;

[759] See paragraph 8.45(e) and (f) below.

(e) To make FTRs publicly available and publish such FTRs in an easily accessible manner on its website. In so doing, the 2019 Designated SMP FSP shall publish notice of its intention to amend its FTRs not less than 30 (thirty) calendar days in advance of the date on which any such amendment comes into effect, unless otherwise agreed with ComReg. Such notice shall, at a minimum, include a statement of the existing FTRs, a description of the proposed new FTRs, and the date on which such new FTRs are proposed to come into effect;

(f) To provide directly to undertakings with which it has entered into a contract in respect of access to FVCT and associated facilities, written notification of its intention to amend the FTRs. Such written notification is to be provided not less than 30 (thirty) calendar days in advance of the date on which any such FTR amendment comes into effect, unless otherwise agreed with ComReg. Such notice is also to include, at a minimum, a statement of the existing FTRs, a description of the proposed new FTRs and the date on which such new FTRs are proposed to come into effect;

(g) To notify ComReg of its intention to amend its published FTRs, not less than 30 (thirty) calendar days in advance of the date on which any such amendments come into effect, unless otherwise agreed with ComReg; and

(h) To furnish to ComReg at the date outlined in (g) above a statement confirming that its proposed amended FTRs comply with its price control obligations.

8.46 While 21 calendar days' advance notification periods were specified in the 2007 FVCT Decision, ComReg now considers that a 30 (thirty) calendar day timeframe for advance notification of FTR (and other) changes should achieve an appropriate balance between the need for the 2019 Designated SMP FSPs to be able to make changes speedily, while also recognising the requirements for FVCT purchasers to factor such changes into retail and wholesale pricing decisions and any related billing system changes or developments. In particular, given that many FVCT purchasers do so via indirect interconnection through third-party wholesale transit arrangements, the wholesale billing systems of such third-parties will require amendment to give effect to FTR changes. This may also involve such third-parties providing notification to their wholesale customers.

8.47 In view of current notification arrangements (arising from SMP obligations or commercial practice) in relation to existing FTR publication arrangements, ComReg does not consider that the implementation of the above obligations would place a disproportionate burden on the 2019 Designated SMP FSPs. ComReg does recognise that the obligation to publish a RIO requires some greater level of implementation than, for example, publication of prices on websites. As Eircom is already subject to RIO obligations by virtue of the 2007 FVCT Decision, the level of incremental burden for it is likely to be relatively contained. Furthermore, Eircom's ability and incentives to engage in leveraging behaviour with potential competitive consequences for adjacent markets implies that the level of transparency afforded by a RIO is proportionate and justified by the competition problems identified.

8.48 In the case of the 2007 Alternative SMP FSPs, the requirement to publish a RIO is also considered to represent the minimum regulatory obligation consistent with their proposed SMP designation and their ability and incentive to engage in exploitative and discriminatory behaviour. While the 2007 Alternative SMP FSPs are required to publish their prices and terms and conditions of supply on their websites, this RIO obligation would be a completely new obligation for the 2019 Newly Designated SMP FSPs. At the same time, the FTRs of all FVCT suppliers are currently published in Eircom's STRPL. In this regard, the level of additional burden for these FSPs to publish FTRs and future FTR changes in an easily accessible manner on their own publicly available websites would likely be relatively low. Such a requirement to publish FTRs is proportionate and justified to help ensure certainty and transparency in any future interconnect negotiations with such 2019 Designated SMP FSPs. Furthermore, since the RIO is effectively the standard offer of contract for access to FVCT and associated facilities, the additional burden involved in publishing this standard contract should also likely be relatively contained (see Annex: 11 paragraphs A11.180 to A11.187 regarding Respondents' views on the requirement to publish a RIO and ComReg's assessment thereof).

8.49 As a proportionate measure, ComReg has furthermore decided that, with respect to the 2019 Designated Alternative SMP FSPs, the RIO be published within 90 calendar days following the effective date of this Decision. This will allow such FSPs sufficient time to adapt their publication processes accordingly.

8.50 In the context of FVCT, the ability and incentives to engage in leveraging behaviours were identified to be stronger in the case of Eircom due to its position across a number of related markets. However, smaller or new entrant FSPs may also potentially effectively impede access to undertakings of a similar size and/or those with which they are directly competing in downstream markets.

8.51 ComReg maintains the view that, absent regulation, Eircom would have the ability and incentive to price key inputs at successive levels of the value chain in such a way that could discourage efficient infrastructural investments in interconnection. As noted in paragraph 7.63 to 7.64, this could be achieved, for example, through setting an insufficient space between the relative prices for FVCT when sold on a stand-alone basis to interconnected operators and FVCT when sold as part of (end-to-end) Wholesale SV Services. The extent to which the application of the proposed price control methodology would serve to mitigate this margin squeeze risk in respect of the FVCT component of Eircom's Wholesale SV Service is set out in paragraph 8.133 to 8.137.

8.52 ComReg's position is that the present transparency obligation should continue in order to ensure visibility of Eircom's non-price behaviour in respect of the FVCT component of its Wholesale SV Service, and to safeguard against possible discrimination on non-price parameters, which was also identified as a competition risk in Section 7. See Annex: 11 paragraphs A11.373 regarding Eircom's Submissions in this regard and ComReg's assessment thereof in paragraphs A11.391 to A11.393. To address these specific competition concerns identified, and taking account of Eircom's submissions, ComReg's position is that Eircom should continue to be subject to an additional obligation requiring it to:

(a) publish detailed documentation on all terms (other than price), conditions, service level agreements, guarantees and other product-related assurances associated with its provision of call origination and call termination within its Wholesale SV Services;

8.53 The above transparency obligations must also be implemented by 2019 Designated SMP FSPs in a manner that is consistent with other obligations such as those relating to access, non-discrimination and price control.

ComReg's overall position on the imposition of Transparency Remedies in the Relevant FVCT Markets

8.54 Having regard to the analysis set out at paragraphs 8.36 to 8.53 above, ComReg proposes that all 2019 Designated SMP FSPs are subject to the requirements set out in paragraphs 8.45 (a) to (h), with Eircom also being subject to the additional obligation set out in paragraph 8.52(a) above. Having regard to the analysis above, including the identified competition problems, ComReg considers these measures to be both justified and proportionate.

8.55 ComReg has also considered whether transparency obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, constructive denial of access problems or poor service quality issues could still occur in the presence of a transparency obligation.

8.56 ComReg considers that the imposition of the above transparency obligations is both proportionate and justified, having regard to the competition problems identified in Section 7. ComReg therefore has decided that all 2019 Designated SMP FSPs should have transparency obligations imposed upon them. Furthermore, it is ComReg's position that it is not objectively justified to adopt an alternate approach for the 2019 Newly Designated SMP FSPs that ComReg has designated as having SMP for the first time.

Non-Discrimination Remedies in the Relevant FVCT Markets

Overview

8.57 As noted at Recital 17 of the Access Directive, the principle behind non-discrimination is to ensure that undertakings with SMP do not distort competition, particularly where they are vertically-integrated and supply services to undertakings with whom they compete on downstream markets.

8.58 Regulation 10 of the Access Regulations provides that ComReg may impose non-discrimination remedies in relation to access or interconnection on a Service Provider designated with SMP, in particular to ensure that it:

(a) Applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services; and

(b) Provides services and information to others under the same conditions and of the same quality as it provides for its own services or those of its subsidiaries or partners.

8.59 Non-discrimination obligations can be standalone, and can also support other obligations, such as those relating to access, transparency and price control.

8.60 ComReg has set out, the existing FVCT non-discrimination obligations, in this Decision in paragraphs 8.27 to 8.28 above.

Non-Discrimination Remedies for the Relevant FVCT Markets

8.61 The application of an *ex ante* non-discrimination remedy is designed to prevent a vertically-integrated SMP FSP from engaging in discriminatory (price or non-price) behaviour which would hinder the development of sustainable and effective competition in downstream retail markets. In Section 7, ComReg identified that a 2019 Designated SMP FSP has the ability and incentive to engage in behaviours which may negatively impact downstream competition and consumers. For example, 2019 Designated SMP FSPs could offer different FTRs, terms and conditions, and service quality, to other Service Providers purchasing FVCT. Equally, a 2019 Designated SMP FSP could degrade inbound traffic from other undertakings relative to its own terminating traffic.

8.62 Accordingly, pursuant to Regulation 10 of the Access Regulations, it is ComReg's position that all 2019 Designated SMP FSPs are required to:

(a) apply equivalent conditions, including in respect of FTRs or other charges, in equivalent circumstances to other undertakings requesting or being provided with access (including access to FVCT and associated facilities) or requesting or being provided with information in relation to such access; and

(b) ensure that access (including access to FVCT and associated facilities) and information relating to such access are provided to all other undertakings under the same conditions and of the same quality as the FSP designated with SMP provides to itself or to its subsidiaries, affiliates or partners.

8.63 Additionally, and for the avoidance of doubt, the non-discrimination obligations above are to apply irrespective of whether or not a specific request for services or information has been made by an undertaking to the relevant 2019 Designated SMP FSP. For example, if information or a service is provided by a 2019 Designated SMP FSP following a request from one undertaking, the 2019 Designated SMP FSP is obliged to offer the same information or service to other undertakings, notwithstanding that such other undertakings have not made a request for it. This is to ensure fair treatment of all Service Providers.

8.64 ComReg has considered whether the non-discrimination obligations above should specifically require the 2019 Designated SMP FSP to apply the same FTRs to other undertakings as those applied to self-supplied termination, given the potential competition problems of excessive and discriminatory pricing. It is ComReg's position that, in the specific circumstances of voice termination services, this issue is more appropriately and proportionately dealt with in the context of a price control obligation.

8.65 In respect of the Relevant FVCT Markets, ComReg concluded in Section 7 that the ability and incentive to engage in discriminatory behaviour is particularly strong in the case of Eircom in view of its position across a number of related markets. However, smaller or new entrant FSPs may also effectively impede access with respect to undertakings of a similar size and/or those with which they are directly competing in the downstream market.

8.66 In the case of the Relevant FVCT Markets, new forms of interconnection may emerge over the period of this market review (such as IP interconnection), facilitated by the development of next generation networks. ComReg considers that, where new forms of interconnection are provided by a 2019 Designated SMP FSP to one undertaking (including that which is provided by the 2019 Designated SMP FSP to itself or to its subsidiaries, affiliates or partners) in respect of FVCT access and associated facilities, the 2019 Designated SMP FSP should offer equivalent terms to other Service Providers.

Respondents' Views on the Non-Discrimination Remedies

8.67 **Verizon** was the only FSP to comment on the FVCT non-discrimination obligation (this is discussed in Annex: 11 in paragraph A11.368 and ComReg's response at paragraphs A11.383 to A11.384)[760].

ComReg's overall position on the imposition of the Non-Discrimination Remedies in the Relevant FVCT Markets

8.68 Having regard to the analysis set out at paragraphs 8.57 to 8.67 above, ComReg is imposing the following non-discrimination obligations on the 2019 Designated SMP FSPs:

(a) a requirement to apply equivalent conditions, including in respect of FTRs or other charges, in equivalent circumstances to other undertakings requesting or being provided with access (including access to FVCT and associated facilities); and

(b) a requirement to ensure that access (including access to FVCT and associated facilities) and information are provided to all other undertakings under the same conditions and of the same quality as the FSP designated with SMP provides to itself or to its subsidiaries, affiliates or partners.

8.69 ComReg has also considered whether non-discrimination obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, constructive denial of access problems or poor service quality issues could still occur in the presence of a non-discrimination obligation.

8.70 ComReg considers that the imposition of the above non-discrimination obligations is both proportionate and justified, having regard to the competition problems identified in Section 7. ComReg therefore proposes that all 2019 Designated SMP FSPs should have non-discrimination obligations imposed upon them. Furthermore, it is ComReg's view that, given the similarity in the competition issues to be addressed, it is not objectively justified to adopt an alternate approach for the 2019 Newly Designated FSPs that ComReg is designating with SMP for the first time.

[760] Verizon noted that its comments applied to both FVCT and MVCT.

Access Remedies in the Relevant FVCT Markets

Overview

8.71 Regulation 12(1) of the Access Regulations provides that ComReg may, in accordance with Regulation 8 of the Access Regulations, impose on an operator obligations to meet reasonable requests for access to, and use of, specific network elements and associated facilities where ComReg considers that the denial of such access, or the imposition by operators of unreasonable terms and conditions having similar effect, would:

(a) Hinder the emergence of a sustainable competitive retail market;

(b) Not be in the interests of end users; and

(c) Otherwise hinder the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended).

8.72 Regulations 12(2)(a) to (j) and Regulation 12(3) of the Access Regulations provide that ComReg can impose, where appropriate, additional access obligations and may attach conditions covering fairness, reasonableness and timeliness to those proposed access obligations.

8.73 Pursuant to Regulation 12(4) of the Access Regulations, when considering whether to impose the obligations referred to in paragraphs (1) and (2) of Regulation 12 and, in particular, when assessing whether such obligations would be proportionate to the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended), ComReg takes the following factors into account:

(a) The technical and economic viability of using or installing competing facilities, in light of the rate of market development, taking into account the nature and type of interconnection and access involved;

(b) The feasibility of providing the access proposed, in relation to the capacity available;

(c) The initial investment by the facility owner, bearing in mind the risks involved in making the investment;

(d) The need to safeguard competition in the long-term;

(e) Where appropriate, any relevant intellectual property rights; and

(f) The provision of pan-European services.

8.74 ComReg described the existing FVCT Access remedies, in the Consultation, at paragraphs 8.21 to 8.22 and in this Decision at paragraphs 8.29 to 8.30.

Access Remedies in the Relevant FVCT Markets

8.75 Service Providers are wholly dependent on having access to FVCT services and associated facilities supplied by the 2019 Designated SMP FSPs, in order to enable their subscribers to make voice calls to subscribers of the 2019 Designated SMP FSPs. ComReg has concluded that the 2019 Designated SMP FSPs[761] have the ability and incentive[762] to refuse, or effectively refuse, to provide interconnection and access to FVCT and associated facilities to their downstream competitors, or to provide these services on discriminatory or unreasonable terms and conditions (including in relation to price and quality).

8.76 It is ComReg's position that each of the Relevant FVCT Markets is (and will continue to be over the period intended to be covered by this review) characterised by differences in CBP[763] between 2019 Designated SMP FSPs and buyers of FVCT services, particularly given the absence of credible alternative sources of supply of FVCT.

8.77 A denial of interconnection and access to FVCT and associated facilities, or the imposition of unreasonable terms and conditions having similar effect, would, in ComReg's view, ultimately hinder the emergence of sustainable competitive retail markets in which Service Providers and other undertakings purchasing FVCT compete. Actual or constructive denial of access would ultimately be detrimental to the interests of end users and would also otherwise hinder the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations.

[761] As set out paragraph 6.215 above.

[762] For further details, please refer to paragraph 7.57.

[763] ComReg has considered the impact of CBP in Section 6 in the context of SMP.

8.78 ComReg notes that smaller or new entrant FSPs providing FVCT (which have lower subscriber numbers or traffic flows relative to other Service Providers) may face fewer incentives to refuse or delay access compared to larger and more established FSPs. This asymmetry of incentives principally arises due to the need for smaller or new entrant FSPs to ensure that their subscribers can make and receive calls from subscribers of other FSPs which, in turn, can ensure the growth of their own subscriber base (as the probability is that smaller FSPs will likely have a higher proportion of off-net traffic and therefore face a greater need to interconnect to complete inbound and outbound calls). However, such smaller or new entrant FSPs may effectively refuse or delay access (by extending negotiations or imposing unreasonable terms and conditions) with a view to extracting an inefficient termination rate. In particular, they may engage in such behaviour with respect to undertakings of a similar size and/or those with which they are directly competing in downstream retail markets[764]

8.79 Given the scope for such behaviour, and absent any regulatory obligation to provide access, access disputes would be considered by ComReg through its dispute resolution or compliance functions. This process would occur after the fact; take time to resolve;[765] be specific to the bilateral circumstances between the relevant parties; and would not thereby contribute to regulatory certainty among market players. The resulting regulatory uncertainty would, as a consequence, likely be damaging to downstream competition and, ultimately, consumers. Case-by-case interventions by ComReg would also be inefficient and ineffective in resolving the broader competition problem of denial of access, or delayed access by a SMP Service Provider.

[764] For further information, please refer to pricing analysis set out at paragraphs 6.85 to 6.93 above, which shows that a number of smaller FSPs have higher FTRs than the regulated FTRs charged by the 2007 SMP FSPs.

[765] Including time for ComReg to consider the dispute, along with possible public consultation and notification to the European Commission.

8.80 In this regard, the European Commission has issued several Comments Letters[766] under Article 7/7a of the Framework Directive, on the imposition by NRAs of both SMP obligations pursuant to findings of SMP following a market analysis, and the imposition of SMP-type obligations on non-SMP undertakings pursuant to the exercise of dispute resolution functions. Such comments highlight the importance, in recommended markets[767], of effective remedies imposed through a formal market analysis process, including the imposition of access (and other) obligations on all SMP Service Providers.

8.81 ComReg considers that the access obligations set out below should, therefore, be imposed on all the 2019 Designated SMP FSPs, as these obligations will promote regulatory predictability and ensure that the 2019 Designated SMP FSPs operating in similar market circumstances are treated, from a regulatory perspective, in an equivalent and consistent manner.

8.82 The specific access remedies which ComReg proposes to impose on each of the 2019 Designated SMP FSPs are set out below.;

(a) Requirement to provide access to FVCT and Associated Facilities (discussed at paragraphs 8.83 to 8.92 below);

(b) Requirement to negotiate in good faith, (discussed at paragraphs 8.93 to 8.97);

(c) Requirement not to withdraw access to facilities already granted, (discussed at paragraphs 8.98 to 8.99);

(d) Requirement to grant open access to technical interfaces, protocols and other key technologies, (discussed at paragraphs 8.100 to 8.101);and

(e) Requirements governing fairness, reasonableness and timeliness of access (discussed at paragraphs 8.102 to 8.105).

[766] See European Commission comments and BEREC Opinions (where made) on Polish cases PL/2010/1127, PL/2011/1273, PL/2011/1255-1258 and Latvian case LV/2012/1296, all of which related to MVCT markets.

[767] Markets recommended by the European Commission pursuant to Article 15 of the Framework Directive as subject to *ex ante* regulation. The most recent recommendation is the European Commission's 2014 Recommendation.

Requirement to provide access to FVCT and Associated Facilities

8.83 Pursuant to Regulation 4 of the Access Regulations, ComReg considers that an obligation on the 2019 Designated SMP FSPs to meet reasonable requests for access and to specifically provide access to FVCT services is required to facilitate competition in downstream markets. It is ComReg's position that such FSPs will also be required to meet all reasonable requests from other undertakings for the provision of access and, in so doing, shall provide access to FVCT and associated facilities necessary to support such access.

8.84 It is ComReg's position that an obligation requiring that access is provided to all necessary information that necessary to terminate calls is necessary as an associated facility). ComReg notes that Fixed Number Portability ('**FNP'**) subscribers can retain their fixed telephone number when switching their service to another FSP. Given FNP, Service Providers seeking to purchase FVCT will need to be in a position to identify the routing details associated with individual telephone numbers, with such information being under the control of the 2019 Designated SMP FSP. ComReg considers that the ability for Service Providers purchasing FVCT to have efficient and effective access to this routing information is necessary to facilitate the accurate and efficient routing of calls to ported fixed telephone numbers and, therefore, FVCT. Absent access to this, originating Service Providers directly interconnected with FSPs will have no direct means of knowing to which terminating FSP a call should be routed. This could result in inefficient routing of a call. ComReg sets out below its assessment of the factors listed in paragraph 8.82 above in respect of the proposed access obligations.

(a) **Technical and economic viability of using or installing competing facilities**: In Sections 5 and 6, ComReg defined the Relevant FVCT Markets, and set out its position that existing competition, potential competition and CBP are unlikely to result in effective competition in each of these markets. In light of this, and having regard to the presence of barriers to entry in such markets (related to control of infrastructure/resources not easily duplicated), using or installing competing facilities to provide FVCT is not likely to be technically or economically feasible. Each of the 2019 Designated SMP FSPs provide or have offered to provide interconnection and access to FVCT (albeit in some cases in the presence of regulation), as well as to associated facilities necessary to ensure end-to-end interoperability of the services.

(b) **Feasibility of providing access in relation to capacity available**: Access to FVCT and associated facilities is currently provided by FSPs, either on foot of existing regulatory obligations or commercially, where such obligations do not exist. On a forward-looking basis, ComReg is not aware of any material capacity constraints that would give rise to 2019 Designated SMP FSPs facing material difficulties in meeting the proposed access obligations.

(c) **The initial investment of the facility owner**: Having regard to Regulation 12(4)(c) of the Access Regulations, ComReg's approach to imposing access remedies is based on principles that, inter alia, allow a reasonable rate of return on adequate capital employed, taking into account the risks involved. When applying price control remedies (see paragraphs 8.117 to 8.137 below, and the Separate Pricing Decision), ComReg will be mindful of facilitating the development of effective and sustainable competition to the benefit of consumers without compromising efficient entry and investment decisions of undertakings over time. ComReg is also mindful of the role of regulatory transparency and consistency in contributing to a more predictable environment conducive to long-run investment. ComReg is ensuring that, in setting an appropriate price control, FSPs designated with SMP recover those efficiently incurred costs which are relevant to the provision of access to FVCT.

(d) **The need to safeguard competition**: ComReg has highlighted in 7 the impacts on downstream competition and consumers that could arise from 2019 Designated SMP FSPs engaging in exploitative or exclusionary behaviours in the Relevant FVCT Markets (absent regulation). These include, *inter alia*, excessive pricing and leveraging behaviours which would give rise to distortions in downstream competition among Service Providers. ComReg considers that imposing access (and other obligations) in the Relevant FVCT Markets will safeguard the long-term development of competition in downstream markets, thereby benefiting consumers.

(e) **Intellectual property rights:** it is ComReg's position that intellectual property rights are not a concern in the context of the provision of access to FVCT and associated facilities in the Relevant FVCT Markets.

(f) **Pan-European services:** it is ComReg's position that its approach will facilitate the provision of pan-European services, as the approach is consistent with the policies of the European Commission and other NRAs. Consistent regulation of voice call termination across the EU will support the seamless provision of pan-European services by allowing Service Providers in other EU Member States to provide electronic communications services in the State. For example, calls originating in the EU outside the State, but destined for an Irish subscriber will require access to FVCT.

8.85 ComReg considers that it is appropriate to place an obligation on Eircom (and Eircom alone) to grant access to certain associated facilities for the purpose of interconnection associated with Eircom's FVCT services. The reasoning for doing so is that it is appropriate to oblige Eircom to facilitate interconnection when terminating calls on its network, having regard to the multiple and deep levels of interconnection required by Service Providers handing over such calls to Eircom[768] and absent such regulation effective access to FVCT could be impeded.

8.86 If an interconnection access obligation is placed on Eircom, it follows that an obligation should also be placed on Eircom to conclude SLAs in respect of such access.

8.87 In respect of FVCT in particular, as part of its SMP obligations, it is expressly foreseen that Eircom shall provide and grant access to specific interconnection services as a form of associated facility to FVCT. This obligation is needed to support Eircom's general access obligation because Eircom could otherwise potentially impede/raise the costs of effective handover of calls for termination to fixed numbers on its network, thus undermining the effectiveness of the general access obligation.

8.88 As Eircom has ubiquitous network coverage, the provision of Interconnection Services[769] (including interconnection paths)[770] by Eircom is required to provide other FSPs with a mechanism for reaching all points on the Eircom network to which they need to interconnect in order to use the FVCT services provided by Eircom in the most efficient fashion possible. As other FSPs do not have the same network scale or hierarchy, ComReg does not intend to expressly require any other FSPs to provide Interconnection Services to other Service Providers under the current market review.

[768] See paragraph 5.13 regarding hierarchical networks such as Eircom's

[769] "Interconnection Service(s)" means interconnection used for services including FVCT supplied by Eircom and includes IBH, ISH, CSH, and Interconnection Paths.

[770] "Interconnection Path(s)" means the physical and logical transmission path(s) between the ECNs of two Undertakings to facilitate Interconnection.

8.89 Different co-location mechanisms exist for Service Providers availing of such Interconnection Services as follows:

(a) In-Building Handover ('**IBH**'): the connection from the Eircom network to the alternative Service Provider's equipment within the Eircom Exchange, or equivalent facility,

(b) In-Span Handover ('**ISH**'): the connection between the Eircom Exchange and the alternative Service Provider's nominated Point of Handover, and

(c) Customer-Sited Handover ('**CSH**') does not require any infrastructure build by the Service Provider as Eircom builds to the Service Provider's site.

8.90 Recognising the differing levels of infrastructure deployment by Service Providers availing of FVCT, ComReg considers that the three interconnection services above should be made available by Eircom as part of its general obligation to provide Interconnection Services. For example, not all Service Providers have sufficient network deployments to avail of IBH or ISH. Conversely, if only CSH were available, then larger Service Providers would not be able to take advantage of any deeper infrastructure deployments when terminating calls on Eircom's network.

8.91 The availability of these mechanisms also means that Service Providers can request access to these associated facilities in a manner that ensures they are not required to pay for facilities which are unnecessary for the FVCT service requested. Thus, when availing of Eircom's FVCT service, Eircom is required to provide access to the above interconnection products in order to allow Service Providers to efficiently gain access to FVCT supplied by Eircom.

8.92 In view of the scope of Eircom's access obligations, ComReg is obliging it to conclude legally-binding and fit-for-purpose Service Level Agreements ('**SLAs**')[771] with Service Providers with respect to Interconnection Services.

[771] SLAs are contracts between Eircom and other undertakings in relation to the service levels which Eircom commits to from time to time, as more particularly set out in the RIO. For the avoidance of doubt, however, to the extent that there is any conflict between the SLAs and Eircom's obligations to be set out in the Decision arising from this Consultation, it is the latter which shall prevail.

Requirement to negotiate in good faith

8.93 Pursuant to Regulation 12(2)(b) of the Access Regulations, ComReg imposes an obligation on all the 2019 Designated SMP FSPs to negotiate in good faith with undertakings requesting access to FVCT and associated facilities. Having regard to the competition problems identified in Section 7, ComReg considers this measure to be proportionate and justified in order to ensure that *bona fide* negotiations take place between the 2019 Designated SMP FSPs in relation to access, particularly given that such FSPs have the ability and incentive to expressly or constructively refuse to provide FVCT to an undertaking requesting access.

8.94 This will also assist in addressing imbalances between the bargaining powers of the respective parties to the negotiation process by reducing incentives to unnecessarily prolong negotiations and will facilitate a more efficient and effective consideration of reasonable requests for access and provision of such access. Overall, an obligation to negotiate in good faith will support the provision of efficient and effective access to FVCT and associated facilities, thereby promoting the development of downstream competition, to the benefit of consumers.

8.95 ComReg also notes that the obligation to negotiate in good faith implies that the responsibility rests with 2019 Designated SMP FSPs to demonstrate that their approach to negotiation with undertakings was in good faith and that any unmet access requests can be shown to be unreasonable by reference to objective criteria. In this regard, with respect to access requests made to 2019 Designated SMP FSPs, recital 19 of the Access Directive states:

> *"…such requests should only be refused on the basis of objective criteria such as technical feasibility or the need to maintain network integrity."*

8.96 ComReg is of the view that, should an access request be refused, the objective criteria for refusing same should be provided by the 2019 Designated SMP FSP to the requesting undertaking at the time of refusal. This will also improve regulatory effectiveness and efficiency, should any complaint or dispute be raised with ComReg, as it will provide an audit trail for compliance monitoring purposes.

8.97 ComReg's position is that this remedy does not impose any significant additional burden on 2019 Designated SMP FSPs beyond that which would normally be expected to occur in circumstances involving fair commercial negotiations between parties.

Requirement not to withdraw access to facilities already granted

8.98 Pursuant to Regulation 12(2) (c) of the Access Regulations, ComReg is imposing on all 2019 Designated SMP FSPs an obligation not to withdraw access to facilities already granted, without the prior approval of ComReg. For the avoidance of doubt, this does not mean there are no objectively justified circumstances for withdrawing access, for example, to ensure network integrity and security.

8.99 Having regard to the competition problems identified in Section 7, ComReg has set out its position that a 2019 Designated SMP FSP would have the ability and incentive to delay or refuse access to FVCT and access to associated facilities, resulting in restrictions and/or distortions in competition to the detriment of consumers. As networks develop, this could also result in changes to points of interconnection or types of interconnection by such an FSP. ComReg recognises that a balance needs to be struck between the investments of 2019 Designated SMP FSPs in providing FVCT and the investments made by buyers of FVCT in availing of it. However, ComReg considers that the remedy, requiring that 2019 Designated SMP FSPs seek ComReg's approval prior to any withdrawal of access, will promote regulatory certainty for all parties without unduly restricting investment incentives.

Requirement to grant open access to technical interfaces, protocols and other key technologies

8.100 Pursuant to Regulation 12(2)(e) of the Access Regulations, ComReg is imposing on all 2019 Designated SMP FSPs an obligation to grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of actual or virtual network services. Having regard to the competition problems identified in Section 7, ComReg considers that this remedy is both justified and proportionate to ensure that, in the context of the provision of access to FVCT and associated facilities, interoperability of networks and services is ensured.

8.101 In so doing, ComReg considers that this remedy will contribute to the development of effective downstream competition to the ultimate benefit of consumers.

Requirements governing fairness, reasonableness and timeliness of access

8.102 Pursuant to Regulation 12(3) of the Access Regulations, ComReg is imposing on all 2019 Designated SMP FSPs an obligation that access to FVCT and associated facilities be provided in a fair, reasonable and timely manner.

8.103 In this regard, ComReg is also imposing on all 2019 Designated SMP FSPs a requirement that, where a request for access from an undertaking is refused or only partially met, the objective reasons for doing so be provided in detail to the undertaking which has made the request, and in a timely fashion, having regard to the nature of the request.

8.104 The remedies above are intended to address competition problems associated with the potential, actual or constructive denial of access to FVCT, and to minimise the scope for discriminatory treatment of undertakings by ensuring consistency in the treatment of requests for access.

8.105 ComReg considers that this remedy will contribute to the development of effective downstream competition, to the ultimate benefit of consumers.

Respondents' views on the Access Remedies

8.106 Eircom and BT were the only SPs that commented on the proposed access remedies:

(a) Eircom's comments on the access remedies are discussed in Annex 11 in paragraphs A11.374 to A11.375 and in paragraphs A11.394 to A11.398.

(b) BT's comments on the access remedies is discussed in paragraphs in Annex 11 in paragraphs A11.380 to A11.381 and at paragraph A11.402.

ComReg's position on the imposition of the Access Remedies in the Relevant FVCT Markets

8.107 Having regard to Respondents views (see paragraph 8.106 above) and the analysis set out at paragraphs 8.71 to 8.106 above, ComReg is imposing the following Access obligations on all 2019 Designated SMP FSPs:

(a) A requirement to provide access to FVCT and Associated Facilities;

(b) A requirement to negotiate in good faith;

(c) A requirement not to withdraw access to facilities already granted;

(d) A requirement to grant open access to technical interfaces, protocols and other key technologies; and

(e) A requirement governing the fairness, reasonableness and timeliness of access.

8.108 ComReg is further imposing the following additional access obligations on Eircom alone on the Relevant FVCT Markets:

(a) Requirements to provide access to Interconnection Services, and

(b) Requirements to conclude legally-binding and fit-for-purpose SLAs with respect to Interconnection Services.

8.109 ComReg's position is that obligations to provide access to FVCT and associated facilities are both proportionate and justified. ComReg has considered whether obligations other than those relating to access would, in themselves, resolve the competition problems identified. ComReg does not consider this to be the case. The imposition of the above access obligations alone would also not resolve issues such as excessive pricing, discrimination (on price or quality grounds) or ensure transparency of terms and conditions of access.

Price Control and Cost Accounting Remedies in the Relevant FVCT Markets

Overview

8.110 Regulation 13 of the Access Regulations provides that ComReg may impose on a Service Provider obligations relating to cost recovery and price controls. These include obligations for both cost orientation of prices and cost accounting systems, for the provision of specific types of access or interconnection in situations where a market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level or apply a price squeeze to the detriment of end users[772]

8.111 In imposing any such obligations, ComReg is required to:

(a) Take into account any investment made by the SMP Service Provider which ComReg considers relevant and allow that Service Provider a reasonable rate of return on adequate capital employed, taking into account any risks specific to a new investment network project,[773] and

(b) Ensure that any cost recovery mechanism or pricing methodology that ComReg imposes serves to promote efficiency and sustainable competition, and maximises consumer benefits[774]

8.112 Accordingly, the purpose of price control and cost accounting obligations is to ensure that prices charged are not excessive (or cause a margin squeeze) and promote efficiency and sustainable retail competition, while maximising consumer benefits.

8.113 The European Commission's 2009 Termination Rates Recommendation provides guidance to NRAs regarding the regulatory treatment of termination rates, and ComReg is required to take the utmost account of this when establishing price control remedies.

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[772] Pursuant to Regulation 13(1) of the Access Regulations.

[773] Pursuant to Regulation 13(2) of the Access Regulations.

[774] Pursuant to Regulation 13(3) of the Access Regulations.

8.114 ComReg has noted the existing Price Control and Cost Accounting obligations, in this Decision at (paragraphs 8.31 and 8.33 above).

8.115 In Sections 6 and 7, ComReg sets out its view that the 2019 Designated SMP FSPs have the ability and incentive to set prices for access to FVCT at an excessively high level, thereby impacting on downstream competition to the ultimate detriment of consumers. ComReg therefore considers it justified and proportionate to impose a price control remedy on all 2019 Designated SMP FSPs.

8.116 Below ComReg outlines its position on the following:

(a) Price control remedies[775] (discussed at paragraphs 8.117 to 8.196 below) and;

(b) Cost accounting remedies (discussed at paragraphs 8.197 to 8.204 below)

(c) ComReg's overall position on the Price Control and Cost Accounting remedies (8.205 to 8.208 below)

Price Control Remedies

8.117 Given the risk of price-related competition problems which ComReg has identified in Section 7 as deriving from the 2019 Designated SMP FSPs' abilities and incentives to engage in price related behaviours (including excessive pricing), pursuant to Regulation 13 of the Access Regulations, ComReg has decided that each such FSP is to be subject to a price control obligation of cost orientation with respect to access to FVCT and associated facilities.

8.118 ComReg issued the 2018 Separate Pricing Consultation on the detailed nature and implementation of the specific nature of the proposed price control obligation of cost orientation. The consideration by ComReg of responses to the 2018 Separate Pricing Consultation is set to be set out in the Separate Pricing Decision which is being issued alongside this Decision.

8.119 The 2007 FVCT Decision and the 2012 Pricing Decision imposed price controls of cost orientation on the 2007 SMP FSPs, and ComReg is retaining this approach to price control. ComReg considers that other price control methodologies are less appropriate.

[775] Including an analysis of Q.14 from the Consultation regarding the EEA/Non EEA issues

8.120 **Retail minus** regulation sets a wholesale price by reference to an SMP FSP's retail price, minus an appropriate margin to enable the purchasing Service Provider to cover their retail costs and compete with the SMP Service Provider. ComReg does not consider that this approach would be appropriate in the context of FVCT, given the complex wholesale and retail pricing structure of the services offered by FSPs and the disconnect between retail prices and the likely costs of termination. ComReg also notes that, given that there are no retail charges for receiving calls, a retail minus approach for FVCT would also be impractical.

8.121 While ComReg has, in the past, applied a **benchmarking** approach (in its 2012 MTRs Decision), this approach has been found to be inconsistent with EU and Irish legislation. Following an appeal by Vodafone against the 2012 MTRs Decision, in its judgment delivered on 14 August 2013, the High Court found that the benchmarking approach adopted by ComReg in this instance (and recommended by the European Commission) for setting MTRs was outside the scope of what is provided for in the relevant EU and Irish legislation. Accordingly, ComReg proposes not to adopt a benchmarking approach with respect to FVCT.

8.122 ComReg has similarly declined to apply a **price cap** approach in the form of CPI-X (where CPI is the rate of inflation, measured by the Consumer Price Index). ComReg notes that price control by means of cost orientation is, itself, a form of price cap regulation, whereby the SMP entity is permitted to charge a price which is reflective of underlying costs. In contrast, CPI-X price cap regulation permits an SMP entity to charge a price which incentivises efficiency savings. However, it may be challenging for a regulator to determine what the appropriate predicted level of efficiency savings is likely to be over the course of the market review.

<u>Rationale for the Price Control Remedy</u>

8.123 A consistent approach to price control in the form of cost orientation for SMP FSPs will ensure efficient price and investment signals are provided to market players and, in ComReg's view, does not represent an undue burden in light of the identified problem of excessive pricing and its detrimental impact on downstream competition and consumers.

8.124 ComReg also considers that imposing a price control obligation of cost orientation on all 2019 Designated SMP FSPs provides regulatory certainty to each party, as well as to buyers of FVCT who purchase this service from several FSPs. In doing so, it will minimise the scope for disputes or investigations and potentially inefficient case-by-case regulation through dispute resolution or other activities. A consistent and harmonised approach will also promote the provision of pan-European services and minimise the regulatory burden on FSPs, many of which have operations in other European countries.

8.125 A cost orientation obligation, once specified in detail, will reduce the scope for inefficient financial transfers from smaller to larger FSPs and associated competitive distortions. It will further reduce the scope for undue on-net/off-net price discrimination arising from FTRs set above efficient costs, while at the same time continuing to allow retail pricing flexibility. However, as noted in Section 5 above, it is recognised that, while current retail pricing structures for fixed voice services do not widely feature such on-net/off-net price discrimination at present, according to the Modified Greenfield Approach, ComReg nonetheless recognises this as a potential risk, absent regulation.

8.126 Since the 2007 FVCT Decision, ComReg has observed persistent variations in the level of FTRs applied by the 2019 Newly Designated SMP FSPs (noting that the 2007 SMP FSPs have been regulated to date). The analysis in Section 6 and 7 above shows wide variations between the FTRs charged by each of these FSPs since the 2007 FVCT Decision. 2019 Newly Designated SMP FSPs have charged higher FTRs than the 2007 SMP FSPs, with the difference increasing over time as regulated FTRs have reduced. ComReg also notes that the 2007 SMP FSPs' FTRs have, prior to each regulatory price control intervention by ComReg, consistently been higher than current regulated FTR levels.

8.127 Given the 2019 Designated SMP FSPs' abilities and incentives to set FTRs above a competitive market outcome level and the scope for such pricing behaviour to impact on downstream competition and consumers, ComReg sees no objective reason to distinguish its approach in setting a price control among FSPs, particularly given that such a remedy is designed to address the same competition problem.

8.128 ComReg's position also takes into account the European Commission's comments on the 2007 FVCT Decision[776] where it noted ComReg's proposal not to impose price control obligations on the 2007 Alternative SMP FSPs. The European Commission was of the view that the mechanism proposed to impose price control obligations on other FSPs did not address the competition problem identified (i.e. risk of excessive pricing). Moreover, the European Commission commented that the remedy was based on a threshold which was not sufficiently justified. Taking into account its view that the 2007 Alternative SMP FSPs were able to charge FTRs above those of Eircom and that, in general, FTR levels in the State seemed high, the European Commission invited ComReg to impose appropriate price controls on the 2007 Alternative SMP FSPs. ComReg subsequently amended the 2007 Decision by means of the 2012 Pricing Decision to impose a cost orientation obligation on the 2007 Alternative SMP FSPs.

8.129 Furthermore, this view takes into account the European Commission's comments on the draft 2013 FVCT Decision where it noted ComReg's then proposal to impose price control obligations on both Eircom and other regulated FSPs, and offered no further comments on ComReg's proposed measures[777]

8.130 ComReg has, in the Separate Pricing Decision, and in accordance with Regulation 13 of the Access Regulations, considered relevant investments made by SMP FSPs and allows such operators a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to particular new investment network projects. The precise costing methodology to be employed will also seek to promote efficiency and sustainable competition and maximise consumer benefits.

8.131 ComReg would also note that, in accordance with Regulation 13(4) of the Access Regulations, in the presence of the proposed obligation of cost orientation, the burden of proof that charges (including FTRs) are derived from costs, including a reasonable rate of return on investment, will rest with the FSP concerned.

776 https://www.comreg.ie/publication/interconnection-market-review-fixed-wholesale-call-termination-services/

777 Commission Decision concerning Case IE/2013/1469 — Call termination on individual public telephone networks provided at a fixed location in Ireland Article 7(3) of Directive 2002/21/EC: No comments. Available online at https://circabc.europa.eu/sd/a/1e3cc814-0e02-46d4-b041-fc7f2aa2910f/IE-2013-1469%20Adopted_EN.pdf

8.132 ComReg is required to take utmost account of the 2009 Termination Rates Recommendation. The 2009 Termination Rates Recommendation sets out that the evaluation of efficient costs in Relevant FVCT Markets should be based on a bottom-up (‘**BU**’) modelling approach using long-run incremental costs (‘**LRIC**’) as the relevant cost methodology. This approach is referred to as a ‘pure LRIC’ approach in which the relevant increment is the WVCT service and which includes only avoidable costs, i.e. all fixed and variable costs which are incremental to the provision of WVCT.

8.133 ComReg also maintains its position in the 2011 Decision (as amended by the 2015 FACO and Transit Decision) that, absent regulation, Eircom would have the ability and incentive to price key inputs at successive levels of the value chain in such a way as to dissuade market participants from making efficient infrastructural investments in interconnection. This could be achieved, as set out at paragraph 7.63 to 7.64, through setting an insufficient space between the relative prices for FVCT when sold on a stand-alone basis to interconnected operators and FVCT when sold as part of (end-to-end) Wholesale SV Services to non-interconnected operators.

8.134 It is ComReg’s position that a cost orientation cost recovery approach for FTRs, consistent with the 2009 Termination Rates Recommendation, could limit the scope for Eircom to apply an insufficient economic space between its pricing of FVCT sold as part of a Wholesale SV Service, and sold on a standalone basis.

8.135 The Margin Squeeze test adopted in the 2011 Decision (as amended by the 2015 FACO and Transit Decision) includes all costs incurred in the provision of Wholesale SV Services, including the costs of wholesale Call Origination and FVCT sold on a standalone basis, together with the other cost inputs of an interconnected FSP, such as interconnect links, to give a fair representation of the likely cost of the hypothetical Similarly Efficient Operator[778] wishing to compete against Eircom in the provision of Wholesale SV Services.

8.136 However, where the price of standalone FVCT is set at a pure LRIC level, the scope for Eircom to act in a discriminatory manner on FVCT by giving preferential FVCT rates to its Wholesale SV customers that are not available to interconnected FSPs appears somewhat moderated. Notwithstanding this, the ability and incentive for Eircom to squeeze interconnected FSPs on the other components of Wholesale SV remains (i.e. the Call Origination and other inputs involved in providing Wholesale SV), even in the presence of wholesale regulation in the FACO Market.

[778] A Similarly Efficient Operator is an operator that shares the same costs as Eircom but does not have the same economies of scale and economies of scope as Eircom.

8.137 Having regard to the above, it is ComReg's position that the non-price principles for the delivery of FVCT within Eircom's Wholesale SV Service would continue to be monitored through the transparency obligation proposed for Eircom in its Relevant FVCT Market[779]

Respondents' Views on the Price Control Remedy

8.138 Respondents' Submissions in response to the Consultation related primarily to the application of the price control remedy to the termination of calls originated in non-EEA countries. This is discussed in paragraphs 8.139 to 8.196 below and in Annex: 11 in paragraphs A11.188 to A11.347. As noted in paragraph 1.20 further work has been ongoing in relation to the Separate Pricing Consultation with Respondents' views on this and ComReg's assessment of them set out in the Separate Pricing Decision.

Price Control remedy – EEA and non-EEA countries

8.139 In the Consultation[780] ComReg considered alternative approaches to the application of price control remedies with respect to termination provided for calls originating within the European Economic Area (**'EEA'**) on the one hand, and originating in non-EEA countries on the other.[781] In this regard, the Consultation set out the advantages and disadvantages of two potential courses of action and sought the views of interested parties in determining which approach is likely to be better able to remedy the identified competition problem in a proportionate manner consistent with ComReg's statutory objectives. The two alternative Candidate Approaches considered were:

(a) **Candidate Approach 1:** Retain the status quo ante i.e., retain the existing methodology, whereby all remedies imposed on 2019 Designated SMP Service Providers apply to all calls which that Service Provider terminates, without distinction as to the call's origin; or

[779] As set out at paragraph 8.52 above.

[780] See paragraph 8.128 and 8.129 of the Consultation.

[781] The EEA includes the EU, Norway, Iceland and Liechtenstein.

(b) **Candidate Approach 2:** Allow differentiated approaches with respect to prices charged for termination supplied for calls originated within and outside the EEA. Under this approach, ComReg would stipulate that the price control obligation of cost orientation being imposed would apply only to the termination of calls which originated within the EEA. Where a call originated outside the EEA, a 2019 Designated SMP Service Provider would not be obliged to charge the regulated termination rate, and would be free to commercially negotiate a termination rate, or indeed to unilaterally set a termination rate, for such calls. For the avoidance of doubt, none of the other remedies would distinguish between calls originated in the EEA and elsewhere. Moreover, pursuant to the Transparency remedy, a 2019 Designated SMP Service Provider would still be obliged to publish the different termination rates it charges for terminating calls originating outside the EEA (as well as within the EEA).

8.140 It was noted that Irish SPs are potentially constrained by means of SMP price control obligations from responding to very high termination rates levied by non-EEA SPs on Irish Service Providers, leading to a potential revenue transfer through the cross-subsidisation by Irish SPs to those non-EEA SPs and, ultimately, Irish retail subscribers.

8.141 While Irish SPs are, under regulation, limited to recovering those costs efficiently incurred in providing WVCT services, this is not necessarily the case in respect of non-EEA SPs, who may not face similar regulatory restrictions. Information gathered by ComReg[782] (as well as research carried out by BEREC[783]) indicates that SPs in certain non-EEA countries (particularly in Eastern Europe and North Africa) charge termination rates significantly in excess of the TRs charged by SMP SPs in EU Member States, including Ireland.

8.142 The 2019 Designated SMP FSPs are to be subject to regulated FTRs, but they have to pay higher FTRs (which may not necessarily be justified by cost differences) to certain FSPs in certain non-EEA countries. This may, depending on factors such as relative traffic volumes, lead to wealth transfers from the 2019 Designated SMP FSPs to these non-EEA FSPs. In this sense, Irish SPs and, by extension, their subscribers, are potentially cross-subsidising[784] non-EEA SPs.

[782] See paragraph 8.159 of this Decision.

[783] BEREC, 2015. "Regulatory treatment of termination rate for voice calls originated outside the European Economic Area", BoR (15) 78

[784] See paragraph A11.202 of this Decision for further clarification.

8.143 In the Consultation and in Section 5 of this Decision, ComReg specified that the Relevant FVCT Markets encompassed the provision of FVCT services to other undertakings, regardless of whether those undertakings were located in Ireland or abroad. Amongst the reasons for so doing is that the service is, from a functional and technical perspective, the same irrespective of which undertaking it is provided to and regardless of their geographic location.[785]

8.144 As noted in paragraph 8.139 above, ComReg considered two possible approaches in the Consultation to the issue of the application of a price control in the presence of asymmetries in EEA and non-EEA termination rates, namely, the Candidate Approach 1 (no differentiation of termination rates) and Candidate Approach 2 (differentiation of termination rates).

8.145 9 Respondents commented on this issue. Two Respondents (AT&T and Verizon) indicated a preference for the Candidate Approach 1 (retain the status quo), while six Respondents (Eircom, iD Mobile, Lycamobile, Three, Virgin Media, and Vodafone) indicated a preference for the Candidate Approach 2 (allow differentiated approaches to calls originated within and outside the EEA). One Respondent (BT) did not set out a preference for either approach.

8.146 In March 2018 ComReg also issued a questionnaire to BEREC's member NRAs to understand the approaches adopted by other European NRAs with respect to any price controls for the termination of non-EEA originated calls. The questionnaire also sought to understand the kinds of experiences NRAs have had since adopting any differentiated approaches to the price control. 25 NRAs responded to ComReg's questionnaire. A non-confidential summary of the responses ('**BEREC Questionnaire Responses'**) can be found in Annex: 12 of this Decision.

8.147 ComReg has considered Respondents' Submissions, the BEREC Questionnaire Responses and additional information as gathered by ComReg (as referred to below) and now sets out its response to the key themes arising and its final position on the matter.

8.148 A complete summary of Respondents' views on this matter and ComReg's assessment of these views can be found in Annex: 11 in paragraphs A11.188 to A11.347.

8.149 Note that information applicable to the Relevant MVCT Markets is also introduced in this Section insofar as it assists in the evaluation of the principle issues to be addressed.

[785] The reasons for including non-EEA originated calls within the market definition is further set out in A11.90 to A11.92.

8.150 ComReg notes that there are sound arguments both for and against adopting either of the Candidate Approaches proposed in the Consultation. Weighing the possible advantages of either approach against their potential disadvantages has proven to be somewhat of a difficult exercise given the limited availability of granular information (e.g., details on relative call traffic flows with non-EEA countries) and considering that there is no history of a differentiated approach in Ireland that would allow for possible effects to be examined[786].

8.151 Under the existing regulatory scenario, Irish SPs are prevented from responding to unreasonably high (or unreasonably high increases in) termination rates levied by certain non-EEA Service Providers.

8.152 Irish SPs face non-EEA termination rates well in excess of the regulated Irish FTRs and MTRs. An indication of the extremes faced by Irish SPs is shown in Figure 68 below, which shows the termination rates which three Irish SPs have faced when paying for the termination of Irish originated traffic in non-EEA countries.[787] As noted in paragraph 8.159 below, the data is based on information received by ComReg from four Irish SPs. These additional submissions are together called (**"the Additional Submissions")**.[788]

8.153 Based on analysis of the Additional Submissions, Figure 68 below shows the termination rates which non-EEA SPs charge Irish SPs. The x-axis is structured in percentiles, where, for any given termination rate, a corresponding percentage of non-EEA SPs set a termination rate at or below this rate. As shown on the graph, 50% of non-EEA SPs set a termination rate at or below 15c/min, meaning that half of non-EEA SPs set a termination rate above 15c/min (a rate which is 1800% of the current Irish regulated MTR and 20,000% of the Irish regulated FTR). Similarly, 75% of non-EEA SPs set termination rates at or below 30c/min, meaning that a quarter of non-EEA SPs charge Irish SPs termination rates greater than 30c/min.

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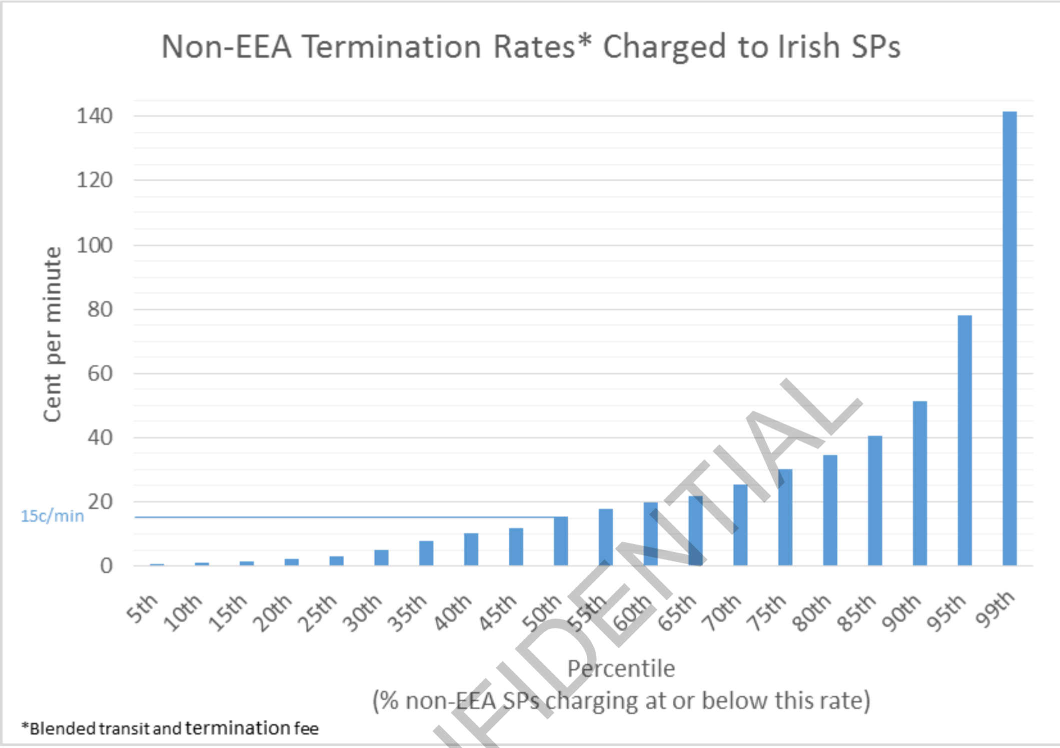
[786] Certain service providers noted that, in respect of incoming calls, their systems did not currently enable them to identify which SPs were originating calls from outside of the EEA. Further, many Service Providers interconnect international traffic by means of transit arrangements, and therefore do not have data on the ultimate origin/destination of call traffic. Therefore, the complete set of disaggregated data necessary to accurately quantify the extent of relative traffic and revenue flows between Ireland and non-EEA countries was not available to ComReg during the course of this market review.

[787] ComReg notes that the termination rates paid by these Irish SPs may be blended termination rates (i.e. may include the cost of transit and termination) and therefore, may exaggerate somewhat, the termination rates set by non-EEA SPs.

[788] Data analysed includes out-payments made by three Irish SPs to more than 1000 non-EEA SPs. Data analysed excludes one of the Additional Submissions provided by ([✂ [redacted]]), as it did not provide country specific data.

8.154 Although some non-EEA SPs set termination rates equivalent to those in the EEA[789], Figure 68 shows that a significant proportion of non-EEA SPs set a termination rate well in excess of the Irish regulated termination rates.

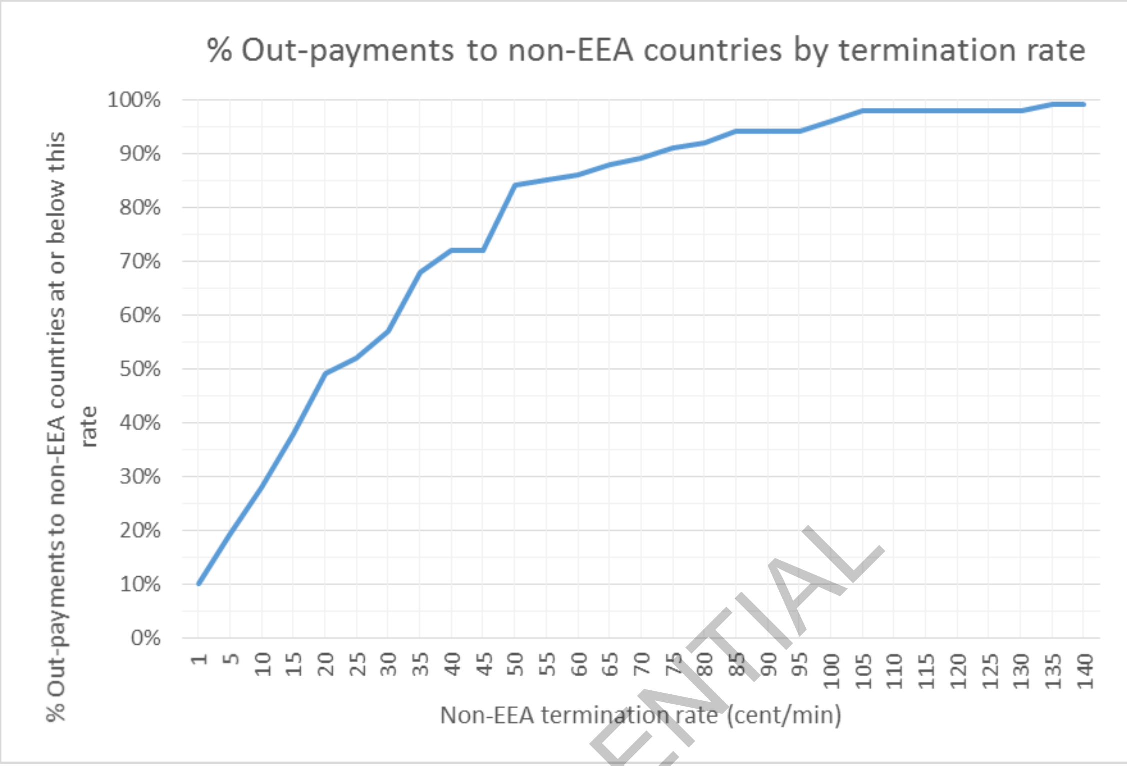
Figure 68: Non-EEA Termination Rates Charged to Irish SPs



8.155 Figure 69 below shows the out-payments Irish SPs make to non-EEA SPs at each non-EEA termination rate. The graph shows a trend of increasingly greater proportions of non-EEA out-payments being paid the higher the non-EEA termination rate.

[789] 10% of non-EEA SPs set termination rates at or below approximately 1c/min

Figure 69: % Out-payments to non-EEA Countries by Termination Rate



8.156 For example, 10% of non-EEA out-payments are to non-EEA SPs who set a termination rate at or below 1c/min. Approximately 30% of non-EEA out-payments are made to non-EEA SPs who set a termination rate at or below 10c/min, while around half of the non-EEA out-payments made by Irish SPs to non-EEA SPs are charged at a rate of 20c/min or higher (a rate which is 2500% of the current Irish Regulated MTR and 27,000% of the Irish Regulated FTR).

8.157 This graph shows that termination out-payments Irish SPs make to non-EEA SPs who set high termination rates accounts for a significant proportion of overall non-EEA out-payments.

8.158 Incomplete data from the Service Provider's responses' to the SIRs issued by ComReg in 2016[790] indicated that sales of WVCT for calls originated abroad accounts for a small proportion of overall WVCT volumes sold. In the case of MVCT, 2% of all call minutes terminated by MSPs in the case of [✂ [redacted]] and 7% in the case of [✂ [redacted]] originated internationally (including EEA and non-EEA countries). In respect of FVCT, 6% of all call minutes terminated by FSPs in the case of [✂ [redacted]] and 2% in the case of [✂ [redacted]] originated internationally (including EEA and non-EEA countries). In each case, the data does not distinguish between international calls originated within and outside the EEA, such that the volumes for non-EEA originated calls are likely to be lower again.

8.159 In Q1 2018, ComReg also sent informal information requests to several Irish FSPs and MSPs (seeking additional data in relation to non-EEA termination rates, traffic flows to and from non-EEA countries, as well as termination out-payment and revenue data for Q4 2017). In response, ComReg received four Additional Submissions from Eircom, Three, Virgin Media and Vodafone.[791]

8.160 ComReg estimates (based on the Additional Submissions) that outgoing calls from Irish SPs (supplying FVCT and/or MVCT) to non-EEA countries account for around 1.1% of total voice traffic.

[790] For the avoidance of doubt, and as noted in footnote 786, the relevant data are incomplete not because Service Providers have failed to comply with the SIRs, but because many Service Providers interconnect international traffic by means of transit arrangements, and therefore do not have data on the ultimate origin/destination of call traffic.

[791] ComReg notes that information received in the Additional Submissions only includes data provided by three FSPs and four MSPs. Thus, the data is limited and provides ComReg with incomplete information. Together, these FSPs and MSPs account for 76% of retail fixed voice subscriptions and 88% of retail mobile voice subscriptions in Q3 2018 (based on QKDR information). Therefore, ComReg considers that these Service Providers account for a sufficiently representative proportion of both fixed and mobile retail markets to provide an estimate of the impact of non-EEA SP termination rate setting behaviour on Irish SPs.

8.161 If net revenue outflows fall within the range of €5m and €8.3m per annum for those SPs which provided Additional Submissions, it follows that the reduction in net revenue outflows that Irish SPs could achieve by matching the high termination rates of non-EEA SPs (and consequently any reduction of the extent of cross-subsidization) is currently relatively small – likely constituting no more than 0.16% to 0.26% of retail revenues[792] in Ireland in 2017. With reference to the 'BEREC Questionnaire Responses' (see paragraph 8.146) ComReg notes that a majority of decisions taken by NRAs since 2015 in relation to both FVCT and MVCT markets have lifted or amended the price control with respect to the prices charged with respect to non-EEA originated call traffic. Since 2015, 12 of 16 FVCT decisions and 12 of 16 MVCT decisions taken by NRAs have adopted a differentiated termination rate charging approach.

ComReg's Consideration of Respondents' Views

8.162 Respondents' views on this matter and ComReg's assessment of these views is set out in detail in Annex: 11 in paragraphs A11.188 to A11.347. With reference to Respondents' views on the advantages and disadvantages of maintaining the status quo versus a differentiated approach, ComReg summarises below the main considerations emerging from this assessment:

8.163 The main advantage associated with a differentiated approach is that Irish SPs will be enabled to respond to non-EEA SPs who levy high termination rates. If Irish SPs were to match the rates they are being charged by non-EEA SPs, this would mean that Irish SPs – and, by extension, Irish retail consumers (to the extent factored into retail prices) – would no longer be cross-subsidising non-EEA SPs.

8.164 Although likely constituting a relatively small proportion of retail revenues in Ireland at present[793], ComReg cannot rule out the possibility that the extent of cross-subsidisation may increase over time in the face of unfettered pricing by non-EEA SPs. In particular, if the Candidate Approach 1 is retained, Irish SPs will be prevented from responding to the levying by non-EEA SPs of unreasonably high termination rates. Irish SPs would be forced to continue to either absorb the costs of cross subsidisation, or pass these costs on to their retail subscribers.

[792] Based on QKDR data (gathered from the ComReg data portal), retail revenues for 2017 is estimated to be €3.154 billion. €5 million to €8.3 million represents 0.16% to 0.26% of 2017 retail revenues.

[793] See paragraph 8.161 above.

8.165 The main disadvantage with a differentiated approach (as proposed in the Consultation under Candidate Approach 2) is that it may lead to an increase in the termination rates charged by both Irish SPs and non-EEA SPs, ultimately leading to higher, rather than lower retail charges for Irish subscribers (depending on the intensity of competition in the affected retail markets). Further, the possibility could arise where an Irish SP increases the termination rates it charges to a high-termination rate charging non-EEA SP, leading to a retaliatory response from that SP and so on, resulting in a ‘race to the top’ (discussed in paragraphs A11.222 to A11.239 in Annex: 11). It follows that the main advantage for maintaining the status quo is that it prevents Irish SPs from charging unjustifiably high termination rates and avoids a ‘race to the top’ from being triggered.

8.166 In addition to concerns regarding a possible ‘race to the top’, Verizon and AT&T have noted that SPs in non-EEA countries that currently charge low termination rates could also face termination rate increases from Irish SPs under the differentiated Candidate Approach 2. In this regard, Verizon submitted that if ComReg were to allow differentiation, it should restrict this to traffic originating in countries that themselves apply high termination rates. According to Verizon this would ensure that Irish SPs could not charge higher rates for traffic originating in countries, such as the US, where regulated termination rates are comparable with Irish regulated termination rates (see paragraph A11.320 in Annex: 11).

8.167 ComReg notes concerns raised by Respondents that where Irish SPs increase termination rates for non-EEA originated traffic, non-EEA SPs may attempt to disguise the country of origin of traffic (thereby avoiding these higher termination rates) through inefficient routing of traffic via multiple countries or presentation CLI masking (discussed in paragraphs A11.273 to A11.287).

8.168 Further, implementation challenges arise under a differentiated approach in that Irish SPs would need to identify which calls are originating from non-EEA SPs and negotiate commercial rates where applicable. Possible disadvantages associated with burdensome commercial negotiations is addressed in Annex: 11 in paragraphs A11.329 to A11.340.

<u>ComReg's Position regarding the Application of a price control by FSPs to termination of non-EEA Originated Calls</u>

8.169 ComReg's position is that allowing 2019 Designated SMP FSPs the flexibility to raise their TRs in response to non-EEA Service Providers that set unreasonably high TRs will minimise the risks of a potential distortion that currently increases costs for Irish SPs and, by extension, Irish consumers (where those costs are passed through to consumers). In this regard, ComReg acknowledges that unfettered flexibility on 2019 Designated SMP SPs' FTR setting behaviour may have negative consequences for SPs in non-EEA countries that are currently charging Irish SPs low TRs. This may also trigger a 'race to the top' (a movement away from any existing symmetrically low TRs to symmetrically high TRs) or result in a scenario involving TR asymmetries in favour of Irish SPs.

8.170 In order to address these concerns, and having considered Respondents' views[794], ComReg's position is that it will be important to ensure that any flexibility afforded to Irish FSPs with respect to FTRs charged for non-EEA originated traffic is limited to those instances where the TRs of non-EEA SPs are 'unreasonably high' (in general referring to a scenario where TRs bear no reasonable relationship to efficient costs). ComReg notes that Irish SPs face a range of TR charges as levied by EEA SPs, despite such charges being based on a pure BU-LRIC costing methodology (recognising there may be some justified cost differences having regard to national circumstances). ComReg is not in a position to examine whether non-EEA SPs TRs are reasonable and, in these circumstances, is of the view that the highest pure BU-LRIC termination rate in the EEA provides a reasonable indication of the cost of WVCT.[795] This is the highest known regulated and efficient cost of termination which takes account of the appropriate methodology.

[794] See paragraphs 8.162 to 8.168 above and Annex: 11 paragraphs A11.188 to A11.347.

[795] The 2009 Termination Rate Recommendation notes that the efficient cost of termination should be calculated on a pure BU-LRIC basis.

8.171 Information regarding pure BU-LRIC EEA TRs is gathered from BEREC's July 2018 'Termination Rates at a European Level' report[796]. The highest EEA pure BU-LRIC FTR noted in this report is 0.14c/min (set in Romania)[797]. Currently, the highest EEA pure BU-LRIC MTR noted in this report is 1.2260c/min (set in Slovakia)[798]. The Irish Regulated FTR reported in this document is 0.072c/min, while the Irish Regulated MTR reported in this document is 0.79c/min. Note that these reported Irish Regulated TRs were based on the prevailing regulations in Ireland at the time of publication of the BEREC report. As such, the Irish regulated TRs are subject to change following ComReg's Separate Pricing Decision.

8.172 Any non-EEA FSP that charges an FTR greater than the highest EEA pure BU-LRIC FTR (**'Threshold EEA FTR'**) is, for the purpose of the price control obligations set out in this Decision, considered by ComReg to be charging an unreasonably high FTR. Similarly, any non-EEA MSP that charges a MTR greater than the highest EEA pure BU-LRIC MTR (**'Threshold EEA MTR'**) is for the purpose of the price control obligations set out in this Decision, considered by ComReg to be charging an unreasonably high MTR. Together the Threshold EEA FTR and Threshold EEA MTR are referred to as **Threshold EEA TRs**.

8.173 ComReg's position is that the Threshold EEA TRs identified in this Decision, based on the July 2018 BEREC 'Termination Rates at a European Level' (published December 2018), will be set at the following levels:

(a) **Threshold EEA FTR** = 0.14 c/min; and

(b) **Threshold EEA MTR** = 1.2260 c/min.

[796] The latest version 'Termination Rates at a European Level – July 2018' (published in December 2018) is available at:

https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8306-termination-rates-at-european-level-july-2018

Note that this is a biannual report. However, as set out in paragraph 8.172 Threshold EEA TRs will apply for purposes of the application of the price control set out in this Decision and will not be automatically revised with subsequent publications of the biannual BEREC Termination Rates at a European Level report.

[797] This number is found by noting the list of countries which have adopted a pure BU-LRIC cost methodology when setting FTRs (set out in "Annex: 3 FTR Regulatory Cost Accounting Model Implemented" on page 34) and the lowest regulated FTR per country (which can be found in Figure 1 "Overview of incumbents' lowest regulated fixed termination rates per country – July 2018 (eurocents per minute of service)" on page 4).

[798] A list of the countries which have adopted a Pure BU-LRIC cost methodology along with the MTRs per country can be found in "Annex 8 Regulatory model implemented to calculate MTRs" (p.51-52).

8.174 Therefore, the Threshold EEA TRs will apply for purposes of the application of the price control set out in this Decision (see paragraph 8.175 below) and will not be automatically revised with subsequent publications of the biannual BEREC Termination Rates at a European Level report. ComReg considers that this will allow for greater certainty for SPs seeking to apply differentiated pricing to termination of non-EEA originated calls (as permitted in accordance with this Decision) as well as reducing unnecessary administrative costs associated with possible biannual revisions to the Threshold EEA TRs. ComReg will monitor market developments in this regard and reserves the right to revise the Threshold EEA TRs should the need arise[799].

8.175 With a view to establishing a balanced and pragmatic solution, ComReg's position is to allow a differentiated approach to the application of the price control to the termination of calls originated within and outside the EEA. While the Irish Regulated FTR will apply to termination of calls originated within the EEA, ComReg's position is that 2019 Designated SMP FSPs may (although are not required to) apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the following conditions:

(a) Case of 2019 Designated SMP FSP charging a non-EEA **FSP** for FVCT:

(i) 2019 Designated SMP FSPs must charge the prevailing Irish Regulated FTR when terminating traffic originated by those non-EEA FSPs who charge termination rates that do not exceed the Threshold EEA FTR. This condition is imposed in order to prevent FSPs in non-EEA countries, who charge reasonable FTRs, facing the possibility of unreasonably high FTRs being imposed by 2019 Designated SMP FSPs; and

[799] As noted in paragraph A11.353 in Annex: 11 Eircom (in Eircom's April 2019 Letter) expressed concern that the conditions by which ComReg would undertake such a review are unclear thus creating regulatory uncertainty. Eircom noted that it is possible that the introduction of the single maximum EU wide fixed and mobile termination rates ('Eurorates') will result in a decrease of the regulated rate in a number of member states therefore calling into question whether the Threshold EEA FTR/MTR is an appropriate proxy for efficient costs. ComReg's response to Eircom's concerns in this regard is set out in paragraphs A11.365 and A11.366.

(ii) 2019 Designated SMP FSPs may charge an FTR above the Irish Regulated FTR for terminating calls originated by a non-EEA FSP where such a non-EEA FSP charges the 2019 Designated SMP FSP an FTR above the Threshold EEA FTR. Where this condition is met, the FTR that can be charged by the 2019 Designated SMP FSP shall be no higher than the prevailing Irish Regulated FTR plus the difference between the FTR charged by the non-EEA FSP and the Threshold EEA FTR. This overall FTR, being the Irish Regulated FTR plus the differential between the FTR charged by the non-EEA FSP and the Threshold EEA FTR, is referred to below as the **Maximum Allowable FTR A**.

(b) Case of 2019 Designated SMP FSP charging a non-EEA **MSP** for FVCT:

(i) 2019 Designated SMP FSPs must charge the prevailing Irish Regulated FTR when terminating traffic originated by those non-EEA MSPs who charge the 2019 Designated SMP FSP MTRs that do not exceed the Threshold EEA MTR. This condition is imposed in order to prevent MSPs in non-EEA countries, who charge reasonable MTRs, facing the possibility of unreasonably high FTRs being imposed by 2019 Designated SMP FSPs; and

(ii) 2019 Designated SMP FSPs may charge an FTR above the Irish Regulated FTR for terminating calls originated by a non-EEA MSP where such non-EEA MSP charges the 2019 Designated SMP FSP a MTR above the Threshold EEA MTR. Where this condition is met, the FTR that can be charged by the 2019 Designated SMP FSP shall be no higher than the prevailing Irish Regulated FTR plus the difference between the MTR charged by the non-EEA MSP and the Threshold EEA MTR. This overall FTR, being the Irish Regulated FTR plus the differential between the MTR charged by the non-EEA MSP and the Threshold EEA MTR, is referred to below as the **Maximum Allowable FTR B**.

8.176 The Maximum Allowable FTR A and Maximum Allowable FTR B are collectively referred to together as the **Applicable Maximum Allowable FTR**.

8.177 In order to give effect to the conditions set out in paragraph 8.175 above, ComReg sets out below the application of the condition, with illustrative examples, for calculating the Applicable Maximum Allowable FTR that Irish 2018 Designated FSPs may charge to non-EEA SPs that charge TRs above the Threshold EEA TRs:

(a) For the case of a 2019 Designated SMP FSP charging a non-EEA FSP for FVCT):

Maximum Allowable FTR A = Irish Regulated FTR + [non-EEA FTR – Threshold EEA FTR]

(b) For the case of a 2019 Designated SMP FSP charging a non-EEA MSP for FVCT:

Maximum Allowable FTR B = Irish Regulated FTR + [non-EEA MTR – Threshold EEA MTR]

8.178 The condition set out above provides for a TR differential that takes account of differences in TR levels that may arise between 2019 Designated SMP FSPs and non-EEA FSPs (in those case where Irish FSPs are terminating calls originating from non-EEA FSPs) as well as between 2019 Designated SMP FSPs and non-EEA MSPs (in those cases where Irish FSPs are terminating calls originating from non-EEA MSPs). In the case of charging a non-EEA FSP for termination, this differential is reflected in the difference between non-EEA FTR and the Threshold EEA FTR, with such differential capable of being added (although is not required to be added) to the prevailing Irish Regulated FTR. In the case of charging a non-EEA MSP for termination, this differential is reflected in the difference between non-EEA MTR and the Threshold EEA MTR, with such differential capable of being be added (although is not required to be added) to the prevailing Irish Regulated FTR[800].

8.179 Below ComReg sets out illustrative examples of the application of the conditions set out in paragraph 8.177 above:

8.180 For the case of a 2019 Designated SMP FSP charging a non-EEA FSP for termination, the following hypothetical example is set out for illustrative purposes:

What is the Maximum Allowable FTR that the 2019 Designated SMP FSP may charge where a non-EEA FSP charges a FTR of 1c/min?

8.181 As a FTR of 1c/min is greater than the Threshold EEA FTR of 0.14c/min, the 2018 Designated Irish FSP is permitted to respond (although is not required to) and charge an FTR to the non-EEA FSP that is higher than the prevailing Irish Regulated FTR.[801] However, in applying the condition in paragraph 8.177 above, the Maximum Allowable FTR A can be no higher than 0.932 c/m, where:

0.932c/m = 0.072c/min + [1c/min – 0.14c/min]

[800] As noted in paragraph A11.349 in Annex: 11, in Eircom's April 2019 Letter, Eircom expressed concern that the conditions proposed by ComReg with respect to the application of price control obligations to the termination of non-EEA originated calls were over-specified and should be amended. Eircom stated that the obligations do not allow sufficient flexibility to fully address termination rate asymmetries arising from non-EEA countries where termination rates are much higher than the regulated Irish rates. Rather, Eircom instead proposed a reciprocal rate price ceiling. ComReg's response to Eircom in this regard is set out in paragraphs A11.357 to A11.364.

[801] For the purposes of these hypothetical examples, the current Irish Regulated FTR is used. However, the Irish Regulated FTR will decrease over time as set out in the Separate Pricing Decision.

8.182 2019 Designated SMP FSPs are free to set rates below the Maximum Allowable FTR A (i.e., in this example they may agree to an FTR below 0.932c/m).

8.183 For the case of a 2019 Designated SMP FSP charging a non-EEA MSP for termination, the following hypothetical example is set out for illustrative purposes:

What is the maximum allowable FTR that the Irish FSP may charge where a hypothetical non-EEA MSP charges a MTR of 2c/min?

8.184 As a MTR of 2c/min is greater than the Threshold EEA MTR of 1.226c/min, the 2019 Designated SMP FSP is permitted to respond and charge a higher FTR to the non-EEA MSP. However, applying the methodology in paragraph 8.177 above, the Maximum Allowable FTR B can be no higher than 0.846 c/m, where:

0.846c/m = 0.072c/min + [2c/min – 1.226c/min]

8.185 2019 Designated SMP FSPs may negotiate rates below the Maximum Allowable FTR B (i.e., in this example they may agree to a rate below 0.846c/m).

8.186 ComReg's position is that this approach allows 2019 Designated SMP FSPs to minimise the cross-subsidisation arising from non-EEA Service Providers charging unreasonably high TRs, while also limiting the ability of 2019 Designated SMP FSPs to set termination rates in excess of the rates required to achieve this aim.

8.187 On the basis that 2019 Designated SMP FSPs have the necessary systems in place which give them the ability to distinguish between traffic which is originated within and outside the EEA and that enable them to effectively implement a differentiated pricing model, 2019 Designated SMP FSPs will have the freedom to set termination rates to non-EEA Service Providers, subject to the conditions set out at 8.175 to 8.177 above.

8.188 For the avoidance of doubt, the 2019 Designated SMP FSPs are under no obligation to implement differentiated TR charging for non-EEA originated calls. However, where they do so they must ensure that they meet the conditions identified in paragraph 8.175 to 8.177 above.

8.189 In line with the transparency obligations set out elsewhere in this Decision, in cases where 2019 Designated SMP FSPs charge differentiated FTRs, they will be obliged to comply with such obligations, including those relating to publication of these FTRs.

8.190 In addition, if the 2019 Designated SMP FSP adopts a differentiated FTR charging approach for non-EEA SPs, they must ensure that the above conditions are being met. The 2019 Designated SMP FSPs will be obliged to provide evidence and demonstrate this to ComReg, if requested.

8.191 ComReg notes that it has identified the advantages and disadvantages of allowing a differentiated termination rate charging approach with respect to non-EEA SPs, that the decision permitting it is finely balanced and that there may be risks associated with adopting such an approach (e.g., the risk of a 'race to the top'). Therefore, ComReg reserves the right to revisit the issue and assess whether the identified remedy is operating as intended.

8.192 To that end, ComReg may collect traffic data from those 2019 Designated SMP FSPs who choose to adopt a differentiated approach in order to monitor the effects of adopting a differentiated approach.

8.193 ComReg notes that under Article 75 of the European Electronic Communications Code (**'EECC'**), the European Commission is required, by 31 December 2020, to establish single EU wide maximum MTRs and FTRs which can be imposed on any SP active on a Relevant MVCT Market and Relevant FVCT Market respectively. However, the EECC also provides for the European Commission to consider the need to allow for a transitional period of no longer than 12 months in order to allow adjustments in Member States where this is necessary on the basis of TRs previously imposed, respectively, in any Member State. The EECC has a general two-year transposition period. In light of the above, it is likely that Article 75 will result in consequential changes to the application of price control obligations in Relevant Termination Markets, as well as implications for differentiated pricing in respect of termination of non-EEA originated calls. The EC has commenced a review of its current list of recommended markets ('**EC review**'), and has sought views on a range of issues, including the impact of OTTs on traditional services and whether the MVCT and FVCT markets should be removed from the future list of recommended markets, in particular, given the potential impact of the setting of Eurorates in the EU by 31 December 2020. The EC notes that the setting of Eurorates will avoid excessive wholesale termination prices. In view of this, the EC has asked whether continued regulation of termination markets is warranted at an EU level. ComReg awaits the outcome of the EC's review and will take full account of it, including the implications of the EC's review for differentiated pricing in respect of termination of non-EEA originated calls. ComReg will keep these matters under review.

<u>Application of FTR Price Control with respect to EEA mobile subscribers while roaming in non-EEA countries</u>

8.194 In Annex: 11 below, ComReg sets out the views of Respondents' in relation to the application of the price control to roaming subscribers at paragraphs A11.304 to A11.307. In paragraphs A11.308 to A11.315, ComReg includes its assessment of these views.

8.195 Based on this analysis, ComReg maintains its view as set out in the Consultation that EEA roaming calls are considered to be calls originating within the EEA, and are therefore subject to the price control.

8.196 Moreover, calls of subscribers of non-EEA MSPs while roaming in EEA countries are considered to be calls originating outside the EEA. Therefore, 2019 Designated SMP MSPs would not be required to charge cost oriented MTRs when supplying MVCT to non-EEA MSPs with respect to such calls. However, if a Designated SMP FSP chose to set differentiated termination rates for the termination of such calls, it would be subject to the conditions set out at paragraphs 8.175 to 8.177 above.

Cost Accounting Remedies for the Relevant FVCT Markets

Overview

8.197 It was noted in the Consultation that if specific price control obligations are to be meaningful, it is generally necessary to have a clear and comprehensive understanding of the costs associated with the provision of FVCT by a 2019 Designated SMP FSP. Obligations to maintain appropriate cost accounting systems generally support obligations of price control, and can also assist ComReg in monitoring the obligation of non-discrimination.

8.198 Allocating costs to the appropriate and relevant products and services of an operator is an important factor to consider when regulating multiple products and services carried over the same network. This is more so for Eircom, which is subject to regulation in respect of a number of markets on which it is active. ComReg had proposed to impose a cost accounting obligation on Eircom alone, namely that Eircom will be subject to the cost accounting obligations set out in the 2010 Accounting Separation Decision.

8.199 For the avoidance of doubt (and discussed further paragraphs 8.197 to 8.204), ComReg had not proposed to impose accounting separation remedies on Eircom or any of the SPs.

Respondent's Views on the Cost Accounting Remedies for the Relevant FVCT Markets

8.200 Eircom were the only SP to comment on the cost accounting remedy. Eircom stated that ComReg did not provide sufficient reasoning as to why Eircom should be subject to more burdensome regulatory remedies than other SPs that are to be designated with SMP. This is discussed further in Annex 11 in paragraphs A11.369 to A11.370 and in paragraphs A11.385 to A11.389

ComReg's Position on the Cost Accounting Remedies for the Relevant FVCT Markets

8.201 ComReg has considered Eircom's integrated position across several upstream and downstream markets (and noting its SMP designations in a number of these markets). ComReg has also considered the scope for Eircom to leverage its position and the need to ensure sufficient visibility of how costs are allocated across FVCT and other horizontally and vertically related input services. Based on that further consideration and Eircom's submission, ComReg has decided not to continue to apply an obligation of cost accounting on Eircom. In respect of the 2019 Designated Alternative SMP FSPs, ComReg notes that each such FSP would only be subject to regulation in one fixed wholesale market. This raises proportionality considerations with respect to such alternative FSPs. The relevant network information may not be available from these other 2019 Designated Alternative SMP FSPs and it may be disproportionate for ComReg to require cost models from them, given the scale of their operations and the likely burden involved.

8.202 Given the specific circumstances of the 2019 Designated Alternative SMP FSPs, in particular, that such FSPs are only being regulated in only one fixed input market, ComReg does not consider it proportionate at this point, to impose an obligation to maintain cost accounting systems on any 2019 Designated Alternative SMP FSPs. However, it may be necessary for ComReg to require such detailed information from all FSPs who provide FVCT for cost modelling purposes.

8.203 Therefore, ComReg will refrain from imposing cost accounting obligations on any of the 2019 Designated SMP FSPs. ComReg intends, however, to keep this under review and may revisit this issue if any data gathering exercise, required to arrive at a cost oriented FTR, shows that accounting separation and/or cost accounting obligations might be appropriate.

8.204 For the purpose of calculating the cost of efficient provision of FVCT and associated facilities, in accordance with Regulation 13(4) of the Access Regulations, ComReg may use cost accounting methods other than those used by FSPs. ComReg may also issue directions requiring an operator to provide full justification for its prices and may, where appropriate, require prices to be adjusted. ComReg does not therefore consider it to be proportionate or necessary, at this point, to impose an obligation to maintain appropriate cost accounting systems on any 2019 Designated SMP FSPs

ComReg's Overall Position on Price Control and Cost Accounting Remedies in the Relevant FVCT Markets

8.205 Having regard to the analysis set out at paragraphs 8.110 to 8.204 above, ComReg has decided to impose the following Price Control obligations on all 2019 Designated SMP FSPs:

(a) A price control obligation of cost orientation, the detailed specification of which is determined in the Separate Pricing Decision.

8.206 Having regard to the analysis set out in paragraphs 8.139 to 8.161 above and having considered Respondents views in paragraphs 8.162 to 8.168, ComReg's position is that while the Irish Regulated FTRs (as determined by ComReg) will apply to termination of calls originated within the EEA, 2019 Designated SMP FSPs may apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the conditions set out in paragraphs 8.175 to 8.177 above.

8.207 In the Consultation, ComReg proposed to impose a Cost Accounting obligations on Eircom alone, namely that Eircom will be subject to the cost accounting obligations set out in the 2010 Accounting Separation Decision (as may be amended from time to time). However on further consideration and with regard to Eircom's response to Consultation ComReg does not consider it to be proportionate or necessary, at this point, to impose an obligation of Cost Accounting on Eircom or any of the 2019 Designated Alternative SMP FSPs.

8.208 Having considered the matter, ComReg has decided that price control obligations alone would be insufficient to address the competition problems identified in Section 7. For example, discriminatory behaviour (on price or non-price grounds) or denial of access would not be adequately addressed by means of such obligations alone.

Accounting Separation Remedies in the Relevant FVCT Markets

Overview

8.209 In accordance with Regulation 11 of the Access Regulations, ComReg can require an operator which is vertically integrated to make transparent its wholesale prices and its internal transfer prices, to ensure compliance with any non-discrimination obligation imposed or, where necessary, to prevent unfair cross-subsidisation.

8.210 An accounting separation obligation can also reinforce cost accounting and transparency obligations as it can help to ensure that costs are neither over- nor under-recovered and help disclose possible competition problems by making visible the wholesale prices and internal transfer prices of an SMP Service Provider's services.

8.211 ComReg set out the existing FVCT accounting separation obligations at paragraph 8.27 of the Consultation, and at paragraph 8.34 of this Decision.

Accounting Separation Remedies for the Relevant FVCT Markets

8.212 Eircom is currently the only FSP which, pursuant to the 2007 FVCT Decision, is subject to an accounting separation remedy. The 2007 FVCT Decision did not specify in detail the reasons for imposing an accounting separation remedy on Eircom alone. However, in its 2012 FVCT Consultation, ComReg recommended that an accounting separation remedy with respect to Eircom alone be retained. The justification for so doing was that Eircom was the only FSP which was designated with SMP across a number of markets, with particular leveraging risks being identified in respect of the upstream FACO and Transit markets, and the downstream Wholesale SV and Retail Call market.

8.213 ComReg notes that market dynamics have shifted since 2012. While Eircom continues to be designated with SMP on the markets pursuant to the 2015 FACO and Transit Decision', it is not designated with SMP in respect of the provision of Wholesale SV, Transit or Retail Calls. ComReg is therefore of the view that Eircom faces competitive constraints in the provision of each of these products and services, such that regulation is not warranted. For example, at the retail level, ComReg's QKDRs indicate that Eircom's share of fixed voice subscriptions (taken as a proxy for retail calls) has fallen from 75% in Q1 2010, to 39% in Q3 2018 (in the presence of regulation).

8.214 The capacity of customers and competitors to discipline the conduct of Eircom on related upstream and downstream markets, albeit in the presence of regulation in markets other than the Relevant FVCT Markets, suggests that Eircom is unlikely to have the same ability to leverage its SMP from the Relevant FVCT to these markets as it may have done in the past. While Eircom continues to be designated with SMP on the FACO market, ComReg notes that Eircom is subject to an accounting separation remedy on that market. For this reason, ComReg is of the view that the rationale for imposing an accounting separation remedy on Eircom in its Relevant FVCT Market is no longer valid.

8.215 ComReg further notes that the main objective of accounting separation is to make practical the implementation of non-discrimination and cost orientation remedies by showing cross-subsidisation between products. However, ComReg's is of the view that an accounting separation remedy is unnecessary for ComReg to implement a cost orientation price control remedy, in circumstances where it involves a remedy based on the proposed Pure LRIC methodology (to be determined in the Separate Pricing Decision). ComReg therefore that an accounting separation remedy is not necessary for the successful implementation of a price control remedy on Eircom. Subject to the implementation of an appropriate price control obligation (considered in the Separate Pricing Decision), ComReg did not consider it appropriate or proportionate at this point to impose an obligation to maintain separate accounts, on any of the 2019 Designated SMP FSPs. Having regard to the competition problems identified in Section 7 and the particular circumstances of the Relevant FVCT Markets, it is ComReg's position that the imposition of an accounting separation obligation at this stage would be excessively burdensome and costly for FSPs to comply with and may therefore represent a disproportionate approach to resolving issues such as excessive pricing (and Eircom impacts on downstream markets), particularly in light of the other proposed obligations identified above.

8.216 An appropriately specified cost orientation obligation that takes utmost account of the 2009 Termination Rate Recommendation, coupled with non-discrimination obligations, should seek to prevent restrictions or distortions in competition in downstream markets arising from the impact of excessively priced FTRs on off-net retail prices for calling fixed subscribers (and price discrimination with respect to on-net FTRs).

Respondents' Views on the Accounting Separation Remedy

8.217 In its response to the Consultation, Eircom objected to the proposal to impose cost accounting and accounting separation obligations on it, namely that Eircom will be subject to;

> *"the cost accounting obligations set out in the 2010 Accounting Separation Decision (as may be amended from time to time)."*

8.218 For the avoidance of doubt, ComReg had not proposed to impose accounting separation remedies on Eircom or any of the SPs, as part of the Consultation.

8.219 Eircom's Submissions in this regard and ComReg's consideration thereof is discussed further in Annex 11 in paragraphs A11.369 to A11.370 and in paragraphs A11.385 to A11.389.

ComReg's Position on the Accounting Separation Remedies for the Relevant FVCT Markets

8.220 Having regard to the analysis set out in the Consultation at paragraph 8.174 to 8.176 and in this Decision at (paragraphs 8.212 to 8.220 above), ComReg is not imposing an accounting separation obligation on any 2019 Designated SMP FSP which it proposes to designate with SMP. However, the matter will be kept under review having regard to the specification and implementation of the detailed price control, which will be pursued through the Separate Pricing Decision, and the possibility of any other consideration of cost accounting obligations which ComReg may or may not carry out.

ComReg's Overall Position on the Imposition of Remedies in the Relevant FVCT Markets

8.221 Having regard to the competition problems identified in Section 7 and the discussion in paragraphs 8.15 to 8.220 above and A11.169 to A11.403, of the Annex, ComReg has decided to impose a range of transparency, non-discrimination, access and price control remedies on all the 2019 Designated SMP FSPs.

Transparency Remedies in the Relevant FVCT Markets

8.222 Having regard to the analysis set out at paragraphs 8.36 to 8.56 above, apart from a general transparency obligation, ComReg has decided that all 2019 Designated SMP FSPs are to be subject to the requirements set out in paragraphs 8.45(a) to (h), with Eircom also being subject to the additional obligation set out in paragraph 8.52 (a) above.

Non-Discrimination Remedies in the Relevant FVCT Markets

8.223 Having regard to the analysis set out at paragraphs 8.57 to 8.70 above, ComReg has decided to impose the following non-discrimination obligations on 2019 Designated SMP FSPs:

(a) a requirement to apply equivalent conditions, including in respect of FTRs or other charges, in equivalent circumstances to other undertakings requesting or being provided with access (including access to FVCT and associated facilities) or requesting or being provided with information in relation to such access; and

(b) a requirement to ensure that access (including access to FVCT and associated facilities) and information in relation to such access are provided to all other undertakings under the same conditions and of the same quality as the FSP designated with SMP provides to itself or to its subsidiaries, affiliates or partners.

8.224 ComReg has also considered whether non-discrimination obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, constructive denial of access problems or poor service quality issues could still occur in the presence of a non-discrimination obligation.

8.225 ComReg considers that the imposition of the above non-discrimination obligations is both proportionate and justified, having regard to the competition problems identified in Section 7. ComReg therefore has decided that all 2019 Designated SMP FSPs should have non-discrimination obligations imposed upon them. Furthermore, it is ComReg's position that it is not objectively justified to adopt an alternate approach for the 2019 Newly Designated SMP FSPs that ComReg has decided to designate with SMP for the first time.

Access Remedies for the Relevant FVCT Markets

8.226 Having regard to the analysis set out at paragraphs 8.71 to 8.109 above, ComReg has decided to impose the following Access obligations on all 2019 Designated SMP FSPs:

(a) A requirement to provide access to FVCT and Associated Facilities;

(b) A requirement to negotiate in good faith;

(c) A requirement not to withdraw access to facilities already granted;

(d) A requirement to grant open access to technical interfaces, protocols and other key technologies; and

(e) A requirement governing the fairness, reasonableness and timeliness of access.

8.227 ComReg further proposes to impose the following additional access obligations on Eircom alone on the Relevant FVCT Markets:

(a) Requirements to provide access to Interconnection Services and associated requirements to conclude legally-binding and fit-for-purpose SLAs.

8.228 ComReg's view is that obligations to provide access to FVCT and associated facilities are both proportionate and justified. ComReg has considered whether obligations other than those relating to access would, in themselves, resolve the competition problems identified. ComReg does not consider this to be the case. The imposition of the above access obligations alone would also not resolve issues such as excessive pricing, discrimination (on price or quality grounds), or ensure transparency of terms and conditions of access.

Price Control and Cost Accounting Remedies for the Relevant FVCT Markets

8.229 Having regard to the analysis set out at paragraphs 8.110 to 8.208 above, ComReg will impose the following Price Control and Cost Accounting obligation on all 2019 Designated SMP FSPs:

(a) A price control obligation of cost orientation, the detailed specification of which is determined through the Separate Pricing Decision.

8.230 Having regard to the analysis set out in paragraphs 8.139 to 8.161 above and having considered Respondents views in paragraphs 8.162 to 8.168, ComReg's position is that while the Irish Regulated FTRs (as determined by ComReg) will apply to termination of calls originated within the EEA, 2019 Designated SMP FSPs may apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the conditions set out in paragraphs 8.175 to 8.177 above.

8.231 In the Consultation ComReg proposed to impose Cost Accounting obligations on Eircom alone, namely that Eircom will be subject to the cost accounting obligations set out in the 2010 Accounting Separation Decision (as may be amended from time to time). However on further consideration and with regard to Eircom's Submission, ComReg does not consider it to be proportionate or necessary, at this point, to impose an obligation of Cost Accounting on Eircom or any of the 2019 Designated Alternative SMP FSPs.

8.232 Having considered the matter, ComReg holds the view that price control obligations alone would be insufficient to address the competition problems identified in Section 7. For example, discriminatory behaviour (on price or non-price grounds) or denial of access would not be adequately addressed by means of such obligations alone.

Accounting Separation Remedies for the Relevant FVCT Markets

8.233 Having regard to the analysis set out above, ComReg does not, at this time, intend to impose an accounting separation obligation on any FSP. However, the matter will be kept under review, having regard to the specification and implementation of the detailed price control, which will be pursued through the Separate Pricing Decision, and the possibility of further consideration of any cost accounting obligations.

8.234 ComReg has set out these remedies in the FVCT Decision Instrument ('DI') in Annex: 16.

Remedies for the Relevant MVCT Markets

8.235 This Section outlines the existing remedies imposed under the 2012 MVCT Decision and the final remedies that ComReg is now imposing in the Relevant MVCT Markets, in particular:

(a) Existing Remedies in the Relevant MVCT Markets are discussed in paragraphs 8.236 to 8.243 below; and

(b) Remedies now being imposed in the Relevant MVCT Markets are discussed in paragraphs 8.244 to 8.358 below.

Existing Remedies in the Relevant MVCT Markets

8.236 As noted in Section 5, Vodafone, O2 (now subsumed by Three following the merger in 2014), Meteor (trading as eir Mobile), Three, Tesco Mobile and Lycamobile were designated with SMP in their respective Relevant MVCT Markets pursuant to the 2012 MVCT Decision and, as a consequence, are subject to resultant specific regulatory obligations. All six MSPs (now five following the merger) were subject to obligations in respect of access, transparency, non-discrimination and price control.

8.237 Virgin Media, the 2019 Newly Designated SMP MSP[802] has not, to date, been subject to SMP regulation in the Relevant MVCT Markets and consequently has not had any obligations imposed upon it.

8.238 A non-exhaustive summary of existing obligations imposed on the 2012 SMP MSPs is set out below in paragraphs 8.239 to 8.243 below.

Existing Transparency Remedies in the Relevant MVCT Markets

8.239 Each of the 2012 SMP MSPs is subject to a range of transparency obligations, including *inter alia*, obligations to[803]

(a) Publish, and keep updated, a RIO on their website, with the RIO to include specific details, and to be sufficiently unbundled so as to ensure that undertakings availing of access are not required to pay for services or facilities which are not necessary for the access requested;

[802] As identified in paragraph 6.217 above. In the Consultation ComReg discussed the imposition of remedies on iD Mobile. However, given its exit from the market ComReg considers that it is no longer relevant to consider this question in this Section.

[803] As set out at Section 11 of the Decision Instrument attached to the 2012 MVCT Decision, and Section 5 of the Decision Instrument attached to the 2016 MTR Decision.

(b) Make MTRs publicly available and publish such MTRs in an easily accessible manner on its publicly available website;

(c) Notify ComReg of their intention to amend their MTRs; and

(d) Publish advance notification of MTR changes[804] on their websites and inform affected undertakings prior to their coming into effect.

Existing Non-Discrimination Remedies in the Relevant MVCT Markets

8.240 Each of the 2012 SMP MSPs is subject to a range of non-discrimination obligations, including inter alia, obligations to ensure that:[805]

(a) they apply equivalent conditions, including with respect to MTRs, in equivalent circumstances to undertakings requesting or being supplied with access or requesting or being supplied with information; and

(b) access and information is provided to other undertakings under the same conditions and of the same quality as the designated SMP MSP provides to itself.

Existing Access Remedies in the Relevant MVCT Markets

8.241 A range of symmetric access obligations is imposed upon each of the 2012 SMP MSPs. These include *inter alia* obligations to:[806]

(a) meet reasonable requests for access;

(b) provide access to MVCT and associated facilities;

(c) negotiate in good faith with undertakings requesting access;

(d) not withdraw access to facilities already granted without the prior approval of ComReg;

(e) grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services;

(f) ensure that access is provided in a fair, reasonable and timely manner; and

(g) provide the objective reasons for a refusal of access at the time such refusal is made.

[804] 30 calendar day advance notification is required and notifications are to contain specific details

[805] As set out at Section 10 of the Decision Instrument attached to the 2012 MVCT Decision.

[806] As set out in Sections 8 and 9 of the Decision Instrument attached to the 2012 MVCT Decision

Existing Price Control and Cost Accounting Remedies in the Relevant MVCT Markets

8.242 Each of the 2012 SMP MSPs is subject to a price control obligation of cost orientation[807]. The nature of this cost orientation obligation was further specified in the 2016 MTR Decision which specified a BU-LRIC cost orientation obligation.

Existing Accounting Separation Remedies in the Relevant MVCT Markets

8.243 None of the 2012 SMP MSPs has had an accounting separation obligation imposed on it.

Imposition of Remedies in the Relevant MVCT Markets

8.244 Having summarised the existing obligations imposed on the 2012 SMP MSPs in paragraphs 8.239 to 8.243 above, ComReg now sets out below its final position, taking account of Respondents' Submissions, on the imposition of remedies on each of the 2019 Designated SMP MSPs. These are discussed as follows:

(a) transparency remedies (discussed in paragraphs 8.245 to 8.257 below);

(b) non-discrimination remedies (discussed in paragraphs 8.258 to 8.266 below);

(c) access remedies (discussed in paragraphs 8.267 to 8.289 below);

(d) price control and cost accounting remedies (discussed in paragraphs 8.290 to 8.349 below); and

(e) accounting separation remedies (discussed in paragraphs 8.350 to 8.358 below).

Transparency Remedies in the Relevant MVCT Markets

<u>**Overview**</u>

8.245 In paragraphs 8.8 to 8.13 above, concerning remedies in the Relevant FVCT Markets, ComReg set out its powers and the circumstances in which it can impose remedies. These similarly apply in the context of the Relevant MVCT Markets.

[807] As set out at Section 12 of the Decision Instrument attached to the 2012 MVCT Decision.

Transparency Remedies MVCT Market

8.246 ComReg considers that all 2019 Designated SMP MSPs should be required to comply with transparency obligations in order to, among other things, minimise information asymmetries and, therefore, facilitate effective access to MVCT, thereby promoting effective competition in downstream markets. In the Consultation[808], ComReg proposed to impose a range of transparency obligations including requirements to, *inter alia*, publish a RIO, prices and requirements to provide advance notification of any changes to these.

8.247 Transparency obligations can be standalone but can also support other obligations being imposed including access, non-discrimination and price control obligations.

Respondents' Views on Transparency Remedies

8.248 Alto and Verizon commented on the proposal in the Consultation requiring a 60 (sixty) calendar day advance pre-notification to ComReg of any proposed changes to MTRs, stating that it is burdensome and reduces flexibility for SPs. Respondents' views and ComReg's assessment thereof is addressed in Annex: 11 in paragraphs A11.408 to A11.410 ComReg's position is set out in paragraphs 8.250 to 8.257 of this Decision.

8.249 Alto and Verizon also submitted comments relating to the requirement to publish a RIO. Respondents' views and ComReg's assessment thereof is addressed in Annex: 11 in paragraphs A11.411 to A11.413. ComReg's position in this regard is set out in paragraph 8.251 of this Decision

ComReg's Position on Transparency Remedies

8.250 In order to ensure and support compliance (and transparency in relation to this) by 2019 Designated SMP MSPs with respect to their price control obligations, and as set out in the Consultation, ComReg had proposed that MSPs be required to provide ComReg with 60 (sixty) calendar days advance pre-notification of any proposed changes to MTRs. However, in order to ensure consistency across the MVCT and FVCT markets and having considered Respondents' views, ComReg is amending the requirement such that the 2019 Designated SMP MSPs will instead be required to provide 30 (thirty) calendar days notification to ComReg in advance of the date on which any such MTR amendments come into effect. In addition, each 2019 Designated SMP MSP will, at the same time, be required to furnish ComReg with a statement confirming that its proposed amendments comply with its price control obligations.

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[808] See paragraphs 8.216 to 8.227 in the Consultation.

8.251 In addition to a general transparency obligation, pursuant to Regulation 9 of the Access Regulations, ComReg has decided that each of the 2019 Designated SMP MSPs will be required to:

(a) Make publicly available and keep updated on its website a RIO which is the standard offer of contract for access to MVCT and associated facilities;

(b) Ensure that the RIO is sufficiently unbundled in order that Service Providers availing of access are not required to pay for services or facilities which are not necessary for the access requested;

(c) To ensure that the RIO includes a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions, including prices;

(d) To ensure that the RIO includes a description of the technical specifications and network characteristics of the access (including access to MVCT and associated facilities) being offered;

(e) Make MTRs publicly available and publish such MTRs in an easily accessible manner on its website. In so doing, each 2019 Designated SMP MSP shall publish notice of its intention to amend its MTRs not less than 30 calendar days in advance of the date on which any such amendment comes into effect, unless otherwise agreed with ComReg. Such notice shall, at a minimum, include a statement of the existing MTRs, a description of the proposed new MTRs, and the date on which such new MTRs are proposed to come into effect;

(f) Provide directly to undertakings with which it has entered into a contract in respect of access to MVCT and associated facilities, written notification of its intention to amend the MTRs. Such written notification is to be provided not less than 30 calendar days in advance of the date on which any such MTR amendment comes into effect, unless otherwise agreed with ComReg. Such notice is also to include, at a minimum, a statement of the existing MTRs, a description of the proposed new MTRs, and the date on which such new MTRs are proposed to come into effect;

(g) To notify ComReg of its intention to amend its published MTRs, not less than 30 calendar days in advance of the date on which any such amendments come into effect, unless otherwise agreed with ComReg. Following notification and approval from ComReg, notify undertakings directly (as outlined in (f) above); and

(h) To furnish to ComReg at the date outlined in (g) above a statement confirming that its proposed amended MTRs comply with its price control obligations.

8.252 For the same reasons to those set out in paragraphs 8.45 to 8.56 above with respect to transparency remedies in the Relevant FVCT Markets, ComReg considers that the 30 (thirty) calendar day timeframe for advance notification of MTR changes is appropriate. ComReg also notes that in the consultation leading to the 2012 MVCT Decision it had proposed a 35 (thirty five) calendar day advance notification timeline. However, having considered responses received (including from MSPs), ComReg then adopted a 30 (thirty) calendar day time period[809] .

8.253 As a proportionate measure, ComReg furthermore is requiring that, with respect to the 2019 Newly Designated SMP MSP Virgin Media, that its RIO be published within 90 calendar days following the effective date of this Decision. This will allow Virgin Media sufficient time to adapt its publication processes accordingly.

8.254 The above transparency obligations will need to be implemented by the 2019 Designated SMP MSPs in a manner that is consistent with other obligations such as those relating to access, non-discrimination and price control.

ComReg's Overall Position on the Imposition of Transparency Remedies in the Relevant MVCT Markets

8.255 Having regard to the analysis set out at paragraphs 8.245 to 8.254 above, ComReg is imposing the transparency obligations as set out in paragraph 8.251 on all 2019 Designated SMP MSPs.

8.256 In view of current notification arrangements (arising from SMP obligations or commercial practice) in relation to MTR publication arrangements, ComReg does not consider that the implementation of the above obligations would place a disproportionate burden on the 2019 Designated SMP MSPs. ComReg does recognise that the obligation to publish a RIO requires some greater level of implementation than, for instance, publication of prices on websites. However, ComReg is of the view that this obligation is proportionate in view of the competition problems (as described in Section 7) which it is intended to address.

8.257 ComReg has also considered whether transparency obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, discriminatory behaviour (on price or non-price grounds) or denial of access problems would not be adequately addressed through transparency obligations alone.

[809] See paragraph 8.77 of the 2012 MVCT Decision.

Non-Discrimination Remedies in the Relevant MVCT Markets

Overview

8.258 In paragraphs 8.57 to 8.70 above concerning remedies in the Relevant FVCT Markets, ComReg set out its powers and the circumstances within which it can impose non-discrimination remedies. These similarly apply in the context of the Relevant MVCT Markets.

8.259 The existing non-discrimination obligations imposed on the 2012 SMP MSPs is summarised in paragraph 8.240 above.

Non-Discrimination Remedies in the Relevant MVCT Markets

8.260 As set out in detail at paragraphs 8.57 to 8.70 above in the context of non-discrimination obligations in the Relevant FVCT Markets, the application of non-discrimination obligations is designed to prevent a vertically-integrated SMP Service Provider from engaging in discriminatory (price or non-price) behaviour which would hinder the development of sustainable and effective competition in downstream markets. In Section 7 , ComReg identified that 2019 Designated SMP MSPs had the ability and incentive to engage in such behaviours.

8.261 Accordingly, ComReg is requiring all 2019 Designated SMP MSPs to:

(a) apply equivalent conditions, including in respect of MTRs or other charges, in equivalent circumstances to other Service Providers requesting or being provided with access (including access to MVCT and associated facilities) or requesting or being provided with information in relation to such access; and

(b) ensure that access (including access to MVCT and associated facilities) and information in relation to such access are provided to all other Service Providers under the same conditions and of the same quality as the MSP designated with SMP provides to itself or to its subsidiaries, affiliates or partners.

8.262 Additionally, and for the avoidance of doubt, the non-discrimination obligations above are to apply irrespective of whether or not a specific request for services or information has been made by a Service Provider to a 2019 Designated SMP MSP. For example, if information or a service is provided by a 2019 Designated SMP MSP following a request from one undertaking, the 2019 Designated SMP MSP is obliged to offer the same information or service to other Service Providers, notwithstanding that such other undertakings have not made a request for it. This is to ensure fair treatment of all Service Providers.

Respondents views on the Non- Discrimination Remedies

8.263 TMI commented on the non-discrimination obligations, with its comments largely stating that it should not be subject to such obligations given its view that it does not have SMP. TMIs comments, and ComReg's consideration thereof, is discussed in Annex: 11 in paragraphs A11.418 to A11.419 and in paragraphs A11.422 however, ComReg does not believe that it is necessary, following that consideration, to amend its position.

ComReg's Overall Position on the Imposition Non-Discrimination Remedies in the Relevant MVCT Markets

8.264 Having regard to the analysis set out at paragraphs above in paragraphs 8.258 to 8.266 and in paragraphs A11.418 to A11.419 and A11.422 in Annex: 11, ComReg is imposing the following Non-Discrimination obligations on all 2019 Designated SMP MSPs:

(a) Requirements to apply equivalent conditions, including in respect of MTRs or other charges, in equivalent circumstances to other undertakings requesting or being provided with access (including access to MVCT and associated facilities) or requesting or being provided with information in relation to such access; and

(b) Requirements to ensure that access (including access to MVCT and associated facilities) and information in relation to such access are provided to all other undertakings under the same conditions and of the same quality as the MSP designated with SMP provides to itself or to its subsidiaries, affiliates or partners.

8.265 ComReg has also considered whether non-discrimination obligations alone would be sufficient to address the competition problems identified in Section 7 and does not consider this to be the case. For example, excessive pricing, constructive denial of access problems or poor service quality issues could still occur in the presence of a non-discrimination obligation.

8.266 ComReg considers that the imposition of the above non-discrimination obligations is both proportionate and justified, having regard to the competition problems identified. ComReg therefore has decided that all 2019 Designated SMP MSPs will have non-discrimination obligations imposed upon them. Furthermore, it is ComReg's position that it is not objectively justified to adopt an alternate approach for Virgin Media that ComReg is designating with SMP for the first time.

Access Remedies in the Relevant MVCT Markets

Overview

8.267 In paragraphs 8.83 to 8.109 above, ComReg set out the regulatory framework governing its ability to impose access remedies, and the factors it must take into consideration in doing so (in the context of remedies in the Relevant FVCT Markets, with this applying here also). In paragraph 8.210 of the Consultation, ComReg summarised existing obligations imposed on the 2012 SMP MSPs, with this also noted in paragraph 8.241 of this Decision.

Access Remedies in the Relevant MVCT Markets

8.268 As was the case with respect to FVCT[810], Service Providers are wholly dependent on having access to MVCT services and associated facilities, in order to enable subscribers to make voice calls to subscribers of 2019 Designated SMP MSPs. ComReg has concluded that the 2019 Designated SMP MSPs[811] have the ability and incentive[812] to refuse, or effectively refuse, to provide interconnection and access to MVCT and associated facilities to downstream competitors, or to provide these services on discriminatory or unreasonable terms and conditions (including in relation to price and quality).

8.269 It is ComReg's position that each of the Relevant MVCT Markets is (and will continue to be over the period intended to be covered by this review) characterised by differences in negotiating power[813] between 2019 Designated SMP MSPs and buyers of MVCT services, particularly given the absence of credible alternative sources of supply of MVCT.

8.270 A denial of interconnection and access to MVCT and associated facilities, or the imposition of unreasonable terms and conditions having similar effect, would, in ComReg's view, ultimately hinder the emergence of sustainable competitive downstream (including retail) markets in which Service Providers and other undertakings purchasing MVCT compete. Actual or constructive denial of access would ultimately be detrimental to the interests of end users and would also otherwise hinder the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations.

[810] See paragraph 8.75 above.

[811] As set out in detail in Section 6 above, at paragraph 6.217.

[812] For further details, please refer to paragraph 7.80.

[813] ComReg has considered the impact of Countervailing Buyer Power in Section 6 in the context of SMP.

8.271 ComReg notes that Virgin Media, the 2019 Newly Designated SMP MSP (which has lower subscriber numbers or traffic flows relative to other MSPs) may face fewer incentives to refuse or delay access compared to larger and more established MSPs. However, it is ComReg's position that Virgin Media may effectively refuse or delay access (by extending negotiations or imposing unreasonable terms and conditions) with a view to extracting an inefficient termination rate. In particular, it may engage in such behaviour with respect to undertakings of a similar size and/or those with which they are directly competing in downstream retail markets[814] .

8.272 For the same reasons as set out with respect to FVCT access remedies, ComReg considers that use of its dispute resolution powers would be inefficient and ineffective in resolving the broader competition problem of denial of access, or delayed access by a 2019 Designated SMP MSP.

8.273 ComReg considers that the access obligations set out below are to be imposed on all 2019 Designated SMP MSPs, as these obligations will promote regulatory predictability and ensure that 2019 Designated SMP MSPs operating in similar market circumstances are treated, from a regulatory perspective, in an equivalent and consistent manner. The access remedies which ComReg proposes to impose on each of the 2019 Designated SMP MSPs are set out below.

Requirement to provide access to MVCT and associated facilities

8.274 ComReg considers that a requirement on the 2019 Designated SMP MSPs to provide access is needed to facilitate competition in downstream markets. ComReg has decided that such MSPs will be required to meet all reasonable requests from other undertakings for the provision of access and, in so doing, shall provide access to MVCT and associated facilities.

[814] For further detail, please refer in particular to paragraphs 6.85 to 6.93 above.

8.275 ComReg is imposing an obligation to provide access to all necessary information required to terminate calls as an associated facility in the Relevant MVCT Markets. ComReg notes that, given Mobile Number Portability (‘**MNP**’), subscribers can retain their mobile telephone number when switching their service to another MSP. As a result of MNP, Service Providers seeking to purchase MVCT will need to be in a position to identify the routing details associated with individual telephone numbers, with such information being under the control of the 2019 Designated SMP MSP. ComReg considers that the ability for Service Providers purchasing MVCT to have efficient and effective access to this routing information is necessary to facilitate the accurate and efficient routing of calls to ported telephone numbers and, therefore, MVCT. Absent access to this, originating Service Providers directly interconnected with MSPs will have no direct means of knowing to which terminating MSP a call should be routed. This could result in inefficient routing of a call. ComReg sets out below its assessment of the factors listed at paragraph 8.82 above in respect of the access obligations.

(a) **Technical and economic viability of using or installing competing facilities:** In Section 5 ComReg defined the Relevant MVCT Markets, and set out its position that existing competition, potential competition and CBP are unlikely to result in effective competition in each of these markets. In light of this, and having regard to the presence of barriers to entry in such markets (related to control of infrastructure/resources not easily duplicated), using or installing competing facilities to provide MVCT is not likely to be technically or economically feasible. Each of the 2019 Designated SMP MSPs provide or have offered to provide interconnection and access to MVCT (albeit in some cases in the presence of regulation), as well as to associated facilities necessary to ensure end-to-end interoperability of the services.

(b) **Feasibility of providing access in relation to capacity available:** Access to MVCT and associated facilities is currently provided by MSPs, either on foot of existing regulatory obligations or commercially, where such obligations do not exist. On a forward-looking basis, ComReg is not aware of any material capacity constraints that would give rise to 2019 Designated SMP MSPs facing material difficulties in meeting their proposed access obligations.

(c) **The initial investment of the facility owner:** Having regard to Regulation 12(4)(c) of the Access Regulations, ComReg's approach to imposing access remedies is based on principles that, *inter alia*, allow a reasonable rate of return on adequate capital employed, taking into account the risks involved. When applying price-control remedies (see paragraphs 8.290 to 8.349 below, with this also to be considered in the Separate Pricing Decision), ComReg has been (and will be in the Separate Pricing Decision) mindful of the need to facilitate the development of effective and sustainable competition to the benefit of consumers without compromising efficient entry and investment decisions of undertakings over time. ComReg is also mindful of the role of regulatory transparency and consistency in contributing to a more predictable environment conducive to long-run investment. ComReg will ensure that, in setting an appropriate price control, SMP MSPs recover those efficiently incurred costs which are relevant to the provision of access to MVCT.

(d) **The need to safeguard competition:** ComReg has highlighted in Section 7, the impacts on downstream competition and consumers that could arise from 2019 Designated SMP MSPs engaging in exploitative or exclusionary behaviours in the Relevant MVCT Markets (absent regulation). These include, inter alia, excessive pricing and leveraging behaviours which would give rise to distortions in downstream competition among Service Providers. ComReg considers that imposing access (and other obligations) in the Relevant MVCT Markets will safeguard the long-term development of competition in downstream markets, thereby benefiting consumers.

(e) **Intellectual property rights:** ComReg's position is that intellectual property rights are not a concern in the context of the provision of access to MVCT and associated facilities in the Relevant MVCT Markets.

(f) **Pan-European services:** ComReg's position is that its approach will facilitate the provision of pan-European services, as the approach is consistent with the policies of the European Commission, and of other NRAs. Consistent regulation of MVCT across the EU will support the seamless provision of pan-European services by allowing Service Providers in other EU Member States to provide electronic communications services in the State. For example, calls originating in the EU outside the State, but destined for an Irish MSP subscriber will require access to MVCT.

8.276 Having regard to the above, ComReg's position is that the obligations above requiring 2019 Designated SMP MSPs to provide access to MVCT and associated facilities are both proportionate and justified.

Requirement to negotiate in good faith

8.277 Pursuant to Regulation 12(2)(b) of the Access Regulations, ComReg intends to impose an obligation on all 2019 Designated SMP MSPs to negotiate in good faith with Service Providers requesting access to MVCT and associated facilities. Having regard to the competition problems identified in Section 7, ComReg considers this measure to be proportionate and justified in order to ensure that genuine *bona fide* negotiations take place between 2019 Designated SMP MSPs and other Service Providers in relation to access, particularly given the identified competition problem that 2019 Designated SMP MSPs have the ability and incentive to expressly or constructively refuse to provide MVCT to a Service Provider requesting access. It will also somewhat address imbalances in the bargaining powers of the respective parties in the negotiation process by reducing incentives to unnecessarily prolong negotiations and will facilitate a more efficient and effective consideration of reasonable requests for access and provision of such access. Overall, an obligation to negotiate in good faith will support the provision of efficient and effective access to MVCT and associated facilities, thereby promoting the development of downstream competition, to the benefit of consumers.

8.278 In the context of requirements to negotiate in good faith, ComReg has also decided that, should an access request be refused, the objective criteria for refusing same should be provided by the 2019 Designated SMP MSP to the requesting Service Provider at the time of refusal. This will also improve regulatory effectiveness and efficiency, should any complaint/dispute be raised with ComReg, as it will provide a useful audit trail for compliance monitoring purposes.

8.279 In ComReg's view, this obligation does not impose any significant additional burden on 2019 Designated SMP MSPs beyond that which would normally be expected to occur in circumstances involving fair commercial negotiations between parties.

Requirement not to withdraw access to facilities already granted

8.280 Pursuant to Regulation 12(2)(c) of the Access Regulations, ComReg has decided to impose an obligation on all 2019 Designated SMP MSPs not to withdraw, without the prior approval of ComReg, access to facilities already granted. For the avoidance of doubt, this does not mean there are no objectively justified circumstances for withdrawing access, for example, to ensure network integrity and security.

8.281 Having regard to the competition problems identified in Section 7, ComReg has identified that a 2019 Designated SMP MSP would have the ability and incentive to delay/refuse access to MVCT and access to associated facilities, resulting in restrictions and/or distortions in competition to the detriment of consumers. As networks develop, this could also result in changes to points of interconnection or types of interconnection by 2019 Designated SMP MSPs. ComReg recognises that a balance needs to be struck between the investments of 2019 Designated SMP MSPs in providing MVCT and the investments made by buyers of MVCT in availing of it. However, ComReg considers that the remedy, requiring that 2019 Designated SMP MSPs seek ComReg's approval prior to any withdrawal of access, will promote regulatory certainty for all parties without unduly restricting investment incentives.

Requirement to grant open access to technical interfaces, protocols and other key technologies

8.282 Pursuant to Regulation 12(2)(e) of the Access Regulations, ComReg has decided to impose an obligation on all 2019 Designated SMP MSPs to grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services. Having regard to the competition problems identified in Section 7, ComReg considers that this obligation is both justified and proportionate in order to ensure that, in the context of the provision of access to MVCT and associated facilities, interoperability of networks and services is ensured. This would also apply in the context of access to the Mobile Number Porting Centralised Database ('**MNPCD'**). In so doing, ComReg considers that this remedy will contribute to the development of effective downstream competition to the ultimate benefit of consumers.

Requirements governing fairness, reasonableness and timeliness of access

8.283 Pursuant to Regulation 12(3) of the Access Regulations, ComReg has decided to impose an obligation on all 2019 Designated SMP MSPs that access to MVCT and associated facilities should be provided in a fair, reasonable and timely manner.

8.284 In this regard, and as noted in paragraphs 8.259, ComReg has also decided to impose an obligation on all 2019 Designated SMP MSPs that, where a request for access from an undertaking is refused or only partially met, the objective reasons for such should be provided in detail to the undertaking which has made the request, and to do so in a timely fashion (having regard to the nature of the request).

8.285 The remedies above at paragraph 8.283 and 8.284 are intended to address competition problems associated with the denial of (actual or constructive) access to MVCT, as well as to minimise the scope for discriminatory treatment of undertakings by ensuring consistency in the treatment of requests for access.

8.286 ComReg considers that this obligation requiring that access to MVCT and associated facilities should be provided in a fair, reasonable and timely manner will address access concerns and thereby contribute to the development of effective downstream competition, to the ultimate benefit of consumers.

Respondents' views on the Access Remedies

8.287 TMI was the only MSP to comment on the Access Remedies in the MVCT market. TMI's Submissions and ComReg's assessment thereof is discussed in Annex: 11 in paragraphs A11.418 to A11.419 and in paragraph A11.422.

ComReg's overall Positon on the imposition of Access Remedies in the Relevant MVCT Markets.

8.288 Having regard to the analysis set out at paragraphs 8.267 to 8.286 above, ComReg is imposing the following access obligations on all 2019 Designated SMP MSPs requiring them to:

(a) provide access to MVCT and Associated Facilities;

(b) negotiate in good faith;

(c) not withdraw access to facilities already granted;

(d) grant open access to technical interfaces, protocols and other key technologies; and

(e) provide access to MVCT and associated facilities in a fair, reasonable and timely manner.

8.289 ComReg's position is that obligations to provide access to MVCT and associated facilities are both proportionate and justified. ComReg has considered whether obligations other than those relating to access would, in themselves, resolve the competition problems identified in Section 7. ComReg does not consider this to be the case. Moreover, the imposition of the above access obligations alone would also not resolve issues such as excessive pricing, discrimination (on price or quality grounds), or ensure transparency of terms and conditions of access.

Price Control and Cost Accounting Remedies in the Relevant MVCT Markets

Overview

8.290 In the Consultation, ComReg set out its powers and the circumstances within which it can impose price control and cost accounting obligations. Such obligations may include cost orientation of prices and obligations concerning cost accounting systems, for the provision of specific types of access or interconnection in situations where a market analysis indicates that a lack of effective competition means that the operator concerned may sustain prices at an excessively high level or may apply a price squeeze to the detriment of end users[815].

8.291 In imposing any such obligations, ComReg is also required[816] to:

(a) take into account the investment made by the SMP operator which ComReg considers relevant and allow such an operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project; and

(b) ensure that any cost recovery mechanism or pricing methodology that ComReg imposes serves to promote efficiency and sustainable competition and maximise consumer benefits.

8.292 In paragraph 8.242 above, ComReg also summarised existing price control obligations imposed on the 2012 SMP MSPs, namely cost orientation, with MTRs subject to a Pure LRIC costing methodology.

8.293 Below ComReg outlines its position on the following:

(a) Price control remedies[817] (discussed at paragraphs 8.294 to 8.337 below) and;

(b) Cost accounting remedies (discussed at paragraphs 8.338 to 8.345 below)

(c) ComReg's overall position on the Price Control and Cost Accounting remedies (discussed at paragraphs 8.346 to 8.349)

[815] Pursuant to Regulation 13(1) of the Access Regulations.

[816] Pursuant to Regulation 13(2) and 13(3) of the Access Regulations.

[817] Including an analysis of Q.14 from the Consultation regarding the EEA/Non EEA issues.

Price Control Remedies

8.294 In Section 7, ComReg set out its view that the 2019 Designated SMP MSPs have the ability and incentive to set prices for access to MVCT at an excessive or inefficient level, thereby impacting on downstream competition to the ultimate detriment of consumers. To address these risks, ComReg therefore considers that the imposition of symmetric price control obligations of cost orientation on all 2019 Designated SMP MSPs is justified and proportionate.

8.295 ComReg's Separate Pricing Decision gives consideration to, and further specifies, the precise cost orientation methodology (and its implementation). The Separate Pricing Decision takes utmost account of the 2009 Termination Rate Recommendation.

8.296 In view of the above, in this Decision, ComReg has decided to impose a price control remedy of cost orientation on all 2019 Designated SMP MSPs.

8.297 The 2012 MVCT Decision and the 2016 MTR Decision imposed price controls of cost orientation on the 2012 SMP MSPs, and ComReg has decided to retain this approach to price control. ComReg considers that other price control methodologies are less appropriate.

8.298 **Retail minus** regulation sets a wholesale price by reference to an SMP MSP's retail price, minus an appropriate margin to enable the purchasing Service Provider to cover their retail costs and compete with the 2019 Designated SMP MSPs. ComReg does not consider that this approach would be appropriate in the context of MVCT, given the complex wholesale and retail pricing structure of the services offered by MSPs and the disconnect between retail prices and the likely costs of termination. ComReg also notes that, given that there are no retail charges for receiving calls, a retail minus approach for MVCT would also be impractical.

8.299 While ComReg has, in the past, applied a **benchmarking** approach (in its 2012 Pricing Decision), this approach has been found to be inconsistent with EU and Irish legislation. Following an appeal by Vodafone against the 2012 MTRs Decision, in its judgment delivered on 14 August 2013, the High Court found that the benchmarking approach adopted by ComReg in this instance (and recommended by the European Commission) for setting MTRs was outside the scope of what is provided for in the relevant EU and Irish legislation. Accordingly, ComReg has decided not to adopt a benchmarking approach with respect to FVCT and MVCT.

8.300 ComReg has similarly declined to apply a **price cap** approach in the form of CPI-X (where CPI is the rate of inflation, measured by the Consumer Price Index). ComReg notes that price control by means of cost orientation is, itself, a form of price cap regulation, whereby the SMP entity is permitted to charge a price which is reflective of underlying costs. In contrast, CPI-X price cap regulation permits an SMP entity to charge a price which incentivises efficiency savings. However, it may be challenging for a regulator to determine what the appropriate predicted level of efficiency savings is likely to be over the course of the market review.

8.301 ComReg is of the view that each of the 2019 Designated SMP MSPs has the ability and incentive to engage in excessive pricing. In view of this, a combination of transparency, non-discrimination and access obligations is considered insufficient and a cost orientation obligation is considered necessary to address the scope for excessive pricing in the Relevant MVCT Markets.

8.302 Given the risk of price-related competition problems which ComReg has identified in Section 7 as deriving from 2019 Designated SMP MSPs' abilities and incentives to engage in excessive or inefficient pricing of MVCT, ComReg has decided that each 2019 Designated SMP MSP is to be subject to a cost orientation obligation with respect to access to MVCT and associated facilities, the detailed specification of which is being determined through the Separate Pricing Decision.

8.303 A consistent approach to price control in the form of cost orientation for each 2019 Designated SMP MSP will ensure efficient price and investment signals are provided to all market players and, in ComReg's view, does not represent an undue burden in light of the identified problem of excessive pricing and its potential detrimental impact on downstream competition and consumers.

8.304 ComReg also considers that imposing a cost orientation obligation on all such MSPs provides regulatory certainty to each party, as well as to buyers of MVCT who purchase this service from several MSPs. In doing so, it will minimise the scope for disputes or investigations and potentially inefficient case-by-case regulation through dispute resolution or other activities. A consistent and harmonised approach will also promote the provision of pan-European services and minimise the regulatory burden on MSPs, many of which have operations in other European countries.

8.305 A cost orientation obligation, with its detailed specification in the Separate Pricing Decision, will also reduce the magnitude of the effects of any undue on-net/off-net price discrimination through excessive MTRs, while at the same time continuing to allow retail pricing flexibility.

8.306 In this regard, absent regulation, ComReg has observed[818] that Virgin Media, notwithstanding its size or the duration of its operations in retail and MVCT markets, have priced their MVCT services persistently above the levels of the 2012 SMP MSPs, and at a level above that which would pertain in a competitive market (using regulated MTRs as a proxy for competitive prices). Given the impact of such behaviour on competition and consumers, ComReg sees no objective reason to distinguish its approach in setting a price control for the 2019 Newly Designated SMP MSP from the price control approach for other MSPs, particularly given that such a remedy is designed to address the same competition problem.

Respondent's Views on the Price Control

8.307 AT&T, BT, Eircom, Lycamobile, Three Ireland, TMI, Virgin Media, Verizon and Vodafone made submissions regarding the application of the price control to the termination of calls originated outside of the EEA. ComReg notes that as these submissions were made in response to Q.14 in the Consultation they apply to both the Relevant MVCT and the Relevant FVCT Markets. ComReg's position in relation to the Relevant MVCT Markets, taking account of Respondents' views, is set out below in paragraphs 8.309 to 8.337 below.

8.308 TMI and iD Mobile submitted additional comments on other aspects of the price control, applicable to the Relevant MVCT Market. TMI's comments, and ComReg's assessment thereof, is discussed in Annex 11 at paragraph A11.417 and at paragraphs A11.420 to A11.421. iD Mobile's comments, and ComReg's assessment thereof, is discussed in Annex 11 in paragraphs A11.416 and in paragraphs A11.420 to A11.420.

Price Control remedy – EEA and non-EEA countries

8.309 ComReg also notes that the analysis set out above in paragraphs 8.139 to 8.168 with respect to the application of the price control obligations in the Relevant FVCT Markets for calls originated within and outside the EEA similarly applies in respect of the Relevant MVCT Markets.

[818] See earlier discussion at paragraphs 6.196 to 6.211

<u>ComReg's Position regarding the Application of a price control by MSPs to termination of non-EEA Originated Calls</u>

8.310 ComReg's position is that allowing 2019 Designated SMP MSPs the flexibility to raise their TRs in response to non-EEA Service Providers that set unreasonably high TRs will minimise the risks of a potential distortion that currently increases costs for Irish SPs and, by extension, Irish consumers (where those costs are passed through to consumers). In this regard, ComReg acknowledges that unfettered flexibility on 2019 Designated SMP SPs' MTR setting behaviour may have negative consequences for SPs in non-EEA countries that are currently charging Irish SPs low TRs. This may also trigger a 'race to the top' (a movement away from any existing symmetrically low TRs to symmetrically high TRs) or a result in a scenario involving TR asymmetries in favour of Irish SPs.

8.311 In order to address these concerns, and having considered Respondents' views[819], ComReg's position is that it will be important to ensure that any flexibility afforded to Irish MSPs with respect to MTRs charged for non-EEA originated traffic be limited to those instances where the TRs of non-EEA SPs are 'unreasonably high' (in general referring to a scenario where TRs bear no reasonable relationship to efficient costs). ComReg notes that Irish SPs face a range of TR charges levied by EEA SPs, despite such charges being based on a pure BU-LRIC costing methodology (recognising there may be some justified cost differences having regard to national circumstances). ComReg is not in a position to examine whether non-EEA SPs TRs are reasonable and, in these circumstances, is of the view that the highest pure BU-LRIC termination rate in the EEA provides a reasonable indication of the cost of WVCT.[820] This is the highest known regulated and efficient cost of termination which takes account of the appropriate methodology.

[819] See paragraphs 8.162 to 8.168 above and Annex: 11 paragraphs A11.188 to A11.347.

[820] The 2009 Termination Rate Recommendation notes that the efficient cost of termination should be calculated on a pure BU-LRIC basis.

8.312 Information regarding pure BU-LRIC EEA TRs is gathered from BEREC's biannual 'Termination Rates at a European Level' report[821]. The highest EEA pure BU-LRIC FTR noted in this report is 0.14c/min (set in Romania)[822]. Currently, the highest EEA pure BU-LRIC MTR noted in this report is 1.2260c/min (set in Slovakia)[823]. The Irish Regulated FTR reported in this document is 0.072c/min, while the Irish Regulated MTR reported in this document is 0.79c/min. Note that these reported Irish Regulated TRs were based on the prevailing regulations in Ireland at the time of publication of the BEREC report. As such, the Irish Regulated TRs are subject to change following ComReg's adoption of its Separate Pricing Decision.

8.313 Any non-EEA FSP that charges an FTR greater than the highest EEA pure BU-LRIC FTR (**'Threshold EEA FTR'**) is, for the purpose of the price control obligations set out in this Decision, considered by ComReg to be charging an unreasonably high FTR. Similarly, any non-EEA MSP that charges a MTR greater than the highest EEA pure BU-LRIC MTR (**'Threshold EEA MTR'**) is for the purpose of the price control obligations set out in this Decision, considered by ComReg to be charging an unreasonably high MTR. Together the Threshold EEA FTR and Threshold EEA MTR are referred to as **Threshold EEA TRs**.

8.314 ComReg's position is that the Threshold EEA TRs identified in this Decision, based on the July 2018 BEREC 'Termination Rates at a European Level' (published December 2018), will be set at the following levels:

Threshold EEA FTR = 0.14 c/min; and

Threshold EEA MTR = 1.2260 c/min.

[821] The latest version 'Termination Rates at a European Level – July 2018' (published in December 2018) is available at:

https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8306-termination-rates-at-european-level-july-2018

[822] This number is found by noting the list of countries which have adopted a pure BU-LRIC cost methodology when setting FTRs (set out in "Annex: 3 FTR Regulatory Cost Accounting Model Implemented" on page 34) and the lowest regulated FTR per country (which can be found in Figure 1 "Overview of incumbents' lowest regulated fixed termination rates per country – July 2018 (eurocents per minute of service)" on page 4).

[823] A list of the countries which have adopted a Pure BU-LRIC cost methodology along with the MTRs per country can be found in "Annex 8 Regulatory model implemented to calculate MTRs" (p.51-52).

8.315 Therefore, the Threshold EEA TRs will apply for the purposes of the application of the price control set out in this Decision (see paragraph 8.316 below) and will not be automatically revised with subsequent publications of the biannual BEREC Termination Rates at a European Level report. ComReg considers that this will also allow for greater certainty for SPs seeking to apply differentiated pricing to termination of non-EEA originated calls (as permitted in accordance with this Decision) as well as reducing unnecessary administrative costs associated with possible biannual revisions to the Threshold EEA TRs. ComReg will monitor market developments in this regard and reserves the right to revise the Threshold EEA TRs should the need arise[824].

8.316 With a view to establishing a balanced and pragmatic solution, ComReg's position is to allow a differentiated approach to the application of the price control to the termination of calls originated within and outside the EEA. While the Irish Regulated MTR will apply to termination of calls originated within the EEA, ComReg's position is that 2019 Designated SMP MSPs may (although are not required to) apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the following conditions:

(a) Case of 2019 Designated SMP MSP charging a non-EEA **MSP** for MVCT:

(i) 2019 Designated SMP MSPs must charge the prevailing Irish Regulated MTR when terminating traffic originated by those non-EEA MSPs who charge termination rates that do not exceed the Threshold EEA MTR. This condition is imposed in order to prevent MSPs in non-EEA countries, who charge reasonable MTRs, facing the possibility of unreasonably high MTRs being imposed by 2019 Designated SMP MSPs; and

[824] As noted paragraph A11.353 in Annex: 11 Eircom (in Eircom's April 2019 Letter) expressed concern that the conditions by which ComReg would undertake such a review are unclear thus creating regulatory uncertainty. Eircom noted that it is possible that the introduction of the single maximum EU wide fixed and mobile termination rates ('Eurorates') will result in a decrease of the regulated rate in a number of member states therefore calling into question whether the Threshold EEA FTR/MTR is an appropriate proxy for efficient costs. ComReg's response to Eircom's concerns in this regard is set out in paragraphs A11.365 and A11.366.

(iii) 2019 Designated SMP MSPs may charge an MTR above the Irish Regulated MTR for terminating calls originated by a non-EEA MSP where such a non-EEA MSP charges the 2019 Designated SMP FSP a MTR above the Threshold EEA MTR. Where this condition is met, the MTR that can be charged by the 2019 Designated SMP MSP shall be no higher than the prevailing Irish Regulated MTR plus the difference between the MTR charged by the non-EEA MSP and the Threshold EEA MTR. This overall MTR, being the Irish Regulated MTR plus the differential between the MTR charged by the non-EEA MSP and the Threshold EEA MTR, is referred to below as the **Maximum Allowable MTR A**.

(b) Case of 2019 Designated SMP MSP charging a non-EEA **FSP** for MVCT:

(i) 2019 Designated SMP MSPs must charge the prevailing Irish Regulated MTR when terminating traffic originated by those non-EEA FSPs who charge the 2019 Designated SMP MSP FTRs that do not exceed the Threshold EEA FTR. This condition is imposed in order to prevent FSPs in non-EEA countries, who charge reasonable FTRs, facing the possibility of unreasonably high MTRs being imposed by 2019 Designated SMP MSPs; and

(iv) 2019 Designated SMP MSPs may charge a MTR above the Irish Regulated MTR for terminating calls originated by a non-EEA FSP where such non-EEA FSP charges the 2019 Designated SMP MSP a FTR above the Threshold EEA FTR. Where this condition is met, the MTR that can be charged by the 2019 Designated SMP MSP shall be no higher than the prevailing Irish Regulated MTR plus the difference between the FTR charged by the non-EEA FSP and the Threshold EEA FTR. This overall MTR, being the Irish Regulated MTR plus the differential between the FTR charged by the non-EEA FSP and the Threshold EEA FTR, is referred to below as the **Maximum Allowable MTR B**.

8.317 The Maximum Allowable MTR A and Maximum Allowable MTR B are collectively referred to together as the **Applicable Maximum Allowable MTR**.

8.318 In order to give effect to the conditions set out in paragraph 8.316 above, ComReg sets out below the approach, with illustrative examples, to be applied for calculating the Applicable Maximum Allowable MTR that Irish 2019 Designated MSPs may charge to non-EEA SPs that charge TRs above the Threshold EEA TRs:

(a) For the case of an 2019 Designated SMP MSP charging a non-EEA MSP for MVCT:

Maximum Allowable MTR A = Irish Regulated MTR + [non-EEA MTR – Threshold EEA MTR]

(b) For the case of 2019 Designated SMP MSP charging a non-EEA FSP for MVCT:

Maximum Allowable MTR B = Irish Regulated MTR + [non-EEA FTR – Threshold EEA FTR]

8.319 The condition set out above provides for a TR differential that takes account of unreasonable differences in TR levels that may arise between 2019 Designated SMP MSPs and non-EEA MSPs (in those cases where Irish MSPs are terminating calls originating from non-EEA MSPs) as well as between 2019 Designated SMP MSPs and non-EEA FSPs (in those cases where Irish MSPs are terminating calls originating from non-EEA FSPs). In the case of charging a non-EEA FSP for termination, this differential is reflected in the difference between non-EEA MTR and the Threshold EEA MTR, with such differential capable of being added (although is not required to be added) to the prevailing Irish Regulated MTR. In the case of charging a non-EEA FSP for termination, this differential is reflected in the difference between non-EEA FTR and the Threshold EEA FTR, with such differential capable of being be added (although is not required to be added) to the prevailing Irish Regulated MTR[825].

8.320 Below ComReg sets out illustrative examples of the application of the conditions set out in paragraph 8.316 to 8.319 above:

8.321 For the case of an 2019 Designated SMP MSP charging a non-EEA MSP for termination, the following hypothetical example is set out for illustrative purposes:

What is the Maximum Allowable MTR that the 2019 Designated SMP MSP may charge where a non-EEA MSP charges a MTR of 2c/min?

8.322 As a MTR of 2c/min is greater than the Threshold EEA MTR of 1.226c/min, the 2019 Designated Irish MSP is permitted to respond (although is not required to) and charge an MTR to the non-EEA MSP that is higher that the prevailing Irish Regulated MTR.[826] However, in applying the methodology in paragraph 8.318 above, the Maximum Allowable MTR A can be no higher than 1.564 c/m, where:

1.564c/m = 0.790c/min + [2c/min – 1.226c/min]

[825] As noted in paragraph A11.349 in Annex: 11, in Eircom's April 2019 Letter, Eircom expressed concern that the conditions proposed by ComReg with respect to the application of price control obligations to the termination of non-EEA originated calls were over-specified and should be amended. Eircom stated that the obligations do not allow sufficient flexibility to fully address termination rate asymmetries arising from non-EEA countries where termination rates are much higher than the regulated Irish rates. Rather, Eircom instead proposed a reciprocal rate price ceiling. ComReg's response to Eircom in this regard is set out in paragraphs A11.357 to A11.364.

[826] For the purposes of these hypothetical examples, the current Irish Regulated MTR is used. However, the Irish Regulated MTR will decrease over time as set out in the Separate Pricing Decision.

8.323 2019 Designated SMP FSPs are free to set rates below the Maximum Allowable MTR A (i.e., in this example they may agree to an MTR below 1.564c/m).

8.324 For the case of an 2019 Designated SMP MSP charging a non-EEA FSP for termination, the following hypothetical example is set out for illustrative purposes:

What is the maximum allowable MTR that the Irish MSP may charge where a hypothetical non-EEA FSP charges a FTR of 1c/min?

8.325 As a FTR of 1c/min is greater than the Threshold EEA FTR of 0.140c/min, the 2019 Designated SMP MSP is permitted to respond and charge a higher MTR to the non-EEA MSP. However, applying the methodology in paragraph 8.318 above, the Maximum Allowable MTR B can be no higher than 1.650c/m, where:

1.650c/m = 0.790c/min + [1c/min – 0.140c/min]

8.326 2019 Designated SMP MSPs may negotiate rates below the Maximum Allowable MTR B (i.e., in this example they may agree to a rate below 1.650c/m).

8.327 ComReg's position is that this approach allows 2019 Designated SMP MSPs to minimise the cross-subsidisation arising from non-EEA Service Providers charging unreasonably high TRs, while also limiting the ability of 2019 Designated SMP MSPs to set termination rates in excess of the rates required to achieve this aim.

8.328 On the basis that 2019 Designated SMP MSPs have the necessary systems in place which give them the ability to distinguish between traffic which is originated within and outside the EEA and that enable them to effectively implement a differentiated pricing model, 2019 Designated SMP MSPs will have the freedom to set termination rates to non-EEA Service Providers, subject to the conditions set out at paragraphs 8.316 to 8.319 above.

8.329 For the avoidance of doubt, the 2019 Designated SMP MSPs are under no obligation to implement differentiated TR charging for non-EEA originated calls. However, where they do so they must ensure that they meet the conditions identified in paragraphs 8.316 to 8.319 above.

8.330 In line with the transparency obligations set out elsewhere in this Decision, in cases where 2019 Designated SMP MSPs charge differentiated MTRs, they will be obliged to comply with such obligations, including those relating to publication of these MTRs.

8.331 In addition, if the 2019 Designated SMP MSP adopts a differentiated MTR charging approach for non-EEA SPs, they must ensure that the above conditions are being met. The 2019 Designated SMP MSPs will be obliged to provide evidence and demonstrate this to ComReg, if requested.

8.332 ComReg notes that it has identified the advantages and disadvantages of allowing a differentiated termination rate charging approach with respect to non-EEA SPs, that the decision permitting it is finely balanced and that there may be risks associated with adopting such an approach (e.g., the risk of a 'race to the top'). Therefore, ComReg reserves the right to revisit the issue and assess whether the identified remedy is operating as intended.

8.333 To that end, ComReg may collect traffic data from those 2019 Designated SMP MSPs who choose to adopt a differentiated approach in order to monitor the effects of adopting a differentiated approach.

8.334 ComReg notes that under Article 75 of the EECC, the European Commission is required, by 31 December 2020, to establish single EU wide maximum MTRs and FTRs which can be imposed on any SP active on a Relevant MVCT Market and Relevant FVCT Market respectively. However, the EECC also provides for the European Commission to consider the need to allow for a transitional period of no longer than 12 months in order to allow adjustments in Member States where this is necessary on the basis of TRs previously imposed, respectively, in any Member State. The EECC has a general two-year transposition period. In light of this, it is likely that Article 75 will result in consequential changes to the application of price control obligations in Relevant Termination Markets, as well as having implications for differentiated pricing in respect of termination of non-EEA originated calls. The EC has commenced a review of its current list of recommended markets ('EC review'), and has sought views on a range of issues, including the impact of OTTs on traditional services and whether the MVCT and FVCT markets should be removed from the future list of recommended markets, in particular, given the potential impact of the setting of Eurorates in the EU by 31 December 2020. The EC notes that the setting of Eurorates will avoid excessive wholesale termination prices. In view of this, the EC has asked whether continued regulation of termination markets is warranted at an EU level. ComReg awaits the outcome of the EC's review and will take full account of it, including the implications of the EC's review for differentiated pricing in respect of termination of non-EEA originated calls. ComReg will monitor developments in this regard.

<u>Application of MTR Price Control with respect to EEA mobile subscribers while roaming in non-EEA countries</u>

8.335 In Annex: 11 below, ComReg sets out the views of Respondents' in relation to the application of the price control to roaming subscribers at paragraphs A11.304 to A11.307. In paragraphs A11.308 to A11.315, ComReg includes its assessment of these views. ComReg notes that this analysis applies with respect to both FVCT and MVCT.

8.336 Based on this analysis, ComReg maintains its view as set out in the Consultation that EEA roaming calls are considered to be calls originating within the EEA, and are therefore subject to the price control.

8.337 Moreover, calls of subscribers of non-EEA MSPs while roaming in EEA countries are considered to be calls originating outside the EEA. Therefore, under a differentiated approach, SMP MSPs would not be required to charge cost oriented MTRs when supplying MVCT to non-EEA MSPs with respect to such calls. However, if a Designated SMP MSP chose to set differentiated termination rates for the termination of such calls, it would be subject to the conditions set out at paragraphs 8.316 to 8.319 above.

Cost Accounting Remedies for the Relevant MVCT Markets

8.338 It was noted in the Consultation that if specific price control obligations are to be meaningful, it is generally necessary to have a clear and comprehensive understanding of the costs associated with the provision of MVCT by a SMP MSP. Obligations to maintain appropriate cost accounting systems generally support obligations of price control (and accounting separation), and can also assist ComReg in monitoring the obligation of non-discrimination.

8.339 Having regard to the detailed nature of the cost orientation and price control obligations specified in the Separate Pricing Decision, to support the effectiveness of such obligations, ComReg does not currently consider it necessary or justified to impose a cost accounting obligation.

8.340 Ultimately, the burden of proof will rest on the 2019 Designated SMP MSPs to show that their MTRs are derived from costs. Furthermore, for the purpose of calculating the cost of efficient provision of MVCT and associated facilities, in accordance with Regulation 13(4) of the Access Regulations, ComReg may also use cost accounting methods other than those used by any 2019 Designated SMP MSPs. ComReg may also issue directions requiring an operator to provide full justification for its prices and may, where appropriate, require prices to be adjusted.

8.341 Each of the 2012 SMP MSPs are likely to have accounting systems for normal business purposes which should be sufficient to provide the necessary level of financial granularity to ComReg when required.

8.342 ComReg notes that eir Mobile is a fully-owned subsidiary of Eircom, which, as a 2007 SMP FSP, was subject to a cost accounting obligation on its Relevant FVCT Market[827]. No other 2019 Designated SMP MSP is linked to a 2007 SMP FSP which is subject to a cost accounting obligation. As part of this Decision, the additional obligation of Cost Accounting imposed on Eircom has been removed.

8.343 In addition given the specific circumstances of the Relevant MVCT Markets, recourse to Regulation 13(4) above, and the price control obligations specified in the Separate Pricing Decision, ComReg does not consider it to be proportionate or necessary, at this point, to impose an obligation to maintain cost accounting systems on any 2019 Designated SMP MSP or any 2019 Designated SMP FSPs.

8.344 Having regard to the outcome of the specific nature of the cost orientation obligation through the Separate Pricing Decision, ComReg may reconsider, at a later date, the requirement for a cost accounting obligation.

Respondent's Views on the Cost Accounting Remedies

8.345 No Respondents commented on the Cost Accounting Remedies given that such obligations were not proposed in the first instance.

ComReg's Position on the Price Control and Cost Accounting Remedies for the Relevant MVCT Markets

8.346 Having regard to the analysis set out at paragraphs 8.290 to 8.344 above, ComReg has decided that each 2019 Designated SMP MSP shall be subject to the following price control obligation:

(a) a cost orientation obligation as regards MTRs and prices charged for access to, or use of, MVCT and associated facilities.

8.347 Having regard to the analysis set out in paragraphs 8.139 to 8.161 above and having considered Respondents views in paragraphs 8.162 to 8.168, ComReg's position is that while the Irish Regulated MTRs (as determined by ComReg) will apply to termination of calls originated within the EEA, 2019 Designated SMP MSPs may apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the conditions set out in paragraphs 8.316 to 8.319 above.

8.348 The detailed nature of the above cost orientation obligation is further specified through the Separate Pricing Decision.

[827] Eircom's Accounting Separation and Cost Accounting obligations imposed in other regulated markets require it to have in place a well-defined, transparent and verifiable transfer charging system to demonstrate non-discrimination and to calculate internal costs and revenues. These are set out in ComReg's 2010 Accounting Separation Decision

8.349 Having considered the matter, ComReg holds the view that price control obligations alone would be insufficient to address the competition problems identified in Section 7. For example, discriminatory behaviour (on price or non-price grounds) or denial of access problems would not be adequately addressed by means of such obligations. A further obligation of Cost Accounting is not deemed necessary.

Accounting Separation Remedies for the Relevant MVCT Markets

Overview

8.350 In paragraphs 8.209 to 8.216 above concerning remedies in the Relevant FVCT Markets, ComReg set out its powers and the circumstances within which it can impose accounting separation obligations. These similarly apply in the context of the Relevant MVCT Markets.

8.351 None of the 2012 SMP MSPs had an accounting separation obligations imposed upon them.

Accounting Separation Remedies for the Relevant MVCT Markets

8.352 The purpose of an accounting separation obligation (set out at paragraphs 8.209 to 8.216) is to provide a higher level of detail of information than that which can be derived from the statutory financial statements of SMP Service Providers, with the objective of reflecting, as closely as possible, the performance of those parts of the undertaking's business were it to operate on a standalone basis. In the case of vertically-integrated undertakings, it can support non-discrimination obligations and prevent unfair cross-subsidies to other services.

8.353 Subject to the implementation of an appropriate price control obligation (considered in the Separate Pricing Decision), ComReg does not consider it appropriate or proportionate at this point to impose an obligation on the 2019 Designated SMP MSPs to maintain separate accounts. Having regard to the competition problems identified in Section 7 and the particular circumstances of the Relevant MVCT Markets, it is ComReg's view that the imposition of an accounting separation obligation at this stage may be excessively burdensome and costly for the 2019 Designated SMP MSPs to comply with (relative to the risks) and may therefore represent a disproportionate approach to resolving issues such as excessive pricing (and their impacts on downstream markets), particularly in light of the alternative proposed obligations identified in the subsections above.

8.354 An appropriately specified cost orientation obligation that takes utmost account of the 2009 Termination Rate Recommendation, coupled with non-discrimination obligations, should prevent restrictions or distortions in competition in downstream markets arising from the impact of excessively priced MTRs on off-net retail prices for calling mobile subscribers (and price discrimination with respect to on-net MTRs).

8.355 ComReg also considers that, in the specific circumstances of this analysis of the Relevant MVCT Markets, the potential burden of an accounting separation obligation on smaller MSPs, in particular, the three MVNOs (Tesco Mobile, Lycamobile and Virgin Media), would likely be disproportionate, compared to the MNOs.

8.356 Overall, for the reasons outlined above, ComReg does not, at this time, intend to impose an accounting separation obligation on any MSP. However, the matter will be kept under review having regard to the specification and implementation of the detailed price control remedy, which will be pursued through the Separate Pricing Decision, and the possibility of further consideration of any cost accounting obligations.

Respondents' Views of the Accounting Separation Remedy

8.357 No Respondents commented on the approach to accounting separation obligations.

ComReg's Position on the Accounting Separation Remedies for the Relevant MVCT Markets

8.358 Having regard to the analysis set out at paragraphs 8.350 to 8.356, ComReg therefore has decided not to impose accounting separation obligations on any 2019 Designated SMP MSP.

ComReg's Overall Position on the Imposition of Remedies in the Relevant MVCT Markets

8.359 Having regard to the competition problems identified in Section 7 and the discussion in paragraphs 8.245 to 8.358 above, ComReg has decided to impose a range of transparency, non-discrimination, access and price control remedies on all 2019 Designated SMP MSPs. These are summarised below, with their specification in legal form set out in the Decision Instrument at Annex 7 of this Decision.

Transparency Remedies for the Relevant MVCT Markets

8.360 Having regard to the analysis set out at paragraphs 8.245 to 8.257 above, ComReg has decided to impose the following Transparency obligations on each of the 2019 Designated SMP MSPs requiring each such MSP to:

(a) Make publicly available and keep updated on its website a RIO which is the standard offer of contract for access to MVCT and associated facilities;

(b) Ensure that the RIO is sufficiently unbundled in order that Service Providers availing of access are not required to pay for services or facilities which are not necessary for the access requested;

(c) Ensure that the RIO includes a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions, including prices;

(d) Ensure that the RIO includes a description of the technical specifications and network characteristics of the access (including access to MVCT and associated facilities) being offered;

(e) Make MTRs publicly available and publish such MTRs in an easily accessible manner on its website. In so doing, it shall publish a notice of its intention to amend its MTRs not less than 30 calendar days in advance of the date on which any such amendment comes into effect. Such notice shall, at a minimum, include a statement of the existing MTRs, a description of the proposed new MTRs, and the date on which such new MTRs are proposed to come into effect;

(f) Provide directly to undertakings with which it has entered into a contract in respect of access to MVCT and associated facilities, written notification of its intention to amend the MTRs. Such written notification is to be provided not less than 30 calendar days in advance of the date on which any such MTR amendment comes into effect. Such notice is also to include, at a minimum, a statement of the existing MTRs, a description of the proposed new MTRs and the date on which such new MTRs are proposed to come into effect;

(g) To notify ComReg of its intention to amend its published MTRs, not less than 30 calendar days in advance of the date on which any such amendments come into effect, unless otherwise agreed with ComReg. Following notification and approval from ComReg, notify undertakings directly (as outlined in (f) above); and

(h) To furnish to ComReg at the date outlined in (g) above a statement confirming that its proposed amended MTRs comply with its price control obligations.

Non-Discrimination Remedies in the Relevant MVCT Markets

8.361 Having regard to the analysis set out at paragraphs 8.258 to 8.266 above, ComReg has decided to impose the following Non-Discrimination obligations on all 2019 Designated SMP MSPs, requiring each such MSP:

(a) to apply equivalent conditions, including in respect of MTRs or other charges, in equivalent circumstances to other undertakings requesting or being provided with access (including access to MVCT and associated facilities) or requesting or being provided with information in relation to such access; and

(b) to ensure that access (including access to MVCT and associated facilities) and information in relation to such access are provided to all other undertakings under the same conditions and of the same quality as the MSP designated with SMP provides to itself or to its subsidiaries, affiliates or partners.

Access Remedies for the Relevant MVCT Markets

8.362 Having regard to the analysis set out at paragraphs 8.267 to 8.289 above, ComReg has decided to impose the following access obligations on all 2019 Designated SMP MSPs requiring each such MSP:

(a) to provide access to MVCT and Associated Facilities;

(b) to negotiate in good faith;

(c) not to withdraw access to facilities already granted;

(d) to grant open access to technical interfaces, protocols and other key technologies; and

(e) to provide access to MVCT and associated facilities in a fair, reasonable and timely manner.

Price Control Remedies for the Relevant MVCT Markets

8.363 Having regard to the analysis set out at paragraphs 8.290 to 8.349 above, ComReg has decided to impose the following Price Control obligations on each 2019 Designated SMP MSP, with each such MSP to shall be subject to the following price control obligations:

(a) a cost orientation obligation as regards MTRs and prices charged for access to, or use of, MVCT and associated facilities.

8.364 Having regard to the analysis set out in paragraphs 8.139 to 8.161 above and having considered Respondents views in paragraphs 8.162 to 8.168, ComReg's position is that while the Irish Regulated MTRs (as determined by ComReg) will apply to termination of calls originated within the EEA, 2019 Designated SMP MSPs may apply a differentiated approach in respect of the termination of calls originated outside the EEA, subject to the conditions set out in paragraphs 8.316 to 8.319 above.

8.365 The detailed nature of the above cost orientation obligation is further specified through the Separate Pricing Decision. A further obligation of cost accounting is not deemed necessary.

9 Regulatory Impact Assessment

Introduction

9.1 A Regulatory Impact Assessment ('**RIA**') is a detailed consideration of the likely effect of proposed new regulations, or changes to existing regulations. A RIA seeks to establish if such proposals are necessary and, in doing so, identifies any possible effects which might result from their implementation. A RIA identifies alternative regulatory options and ultimately establishes whether a proposed regulation is likely to have the desired impact. It is a structured approach to the development of policy, and analyses the impact of the proposed regulation, and other regulatory options, on different stakeholders. Appropriate use of a RIA should ensure that the most effective regulatory option is identified.

9.2 In carrying out a RIA, ComReg adheres to its RIA Guidelines[828] and takes account of the Better Regulation programme.[829] ComReg is also cognisant of international best practice, such as guidance from the European Commission and the Organisation for Economic Co-operation and Development ('**OECD**').

9.3 Section 13(1) of the Communications Regulation Act 2002 (as amended) requires ComReg to comply with Ministerial Policy Directions. Section 6 of the Ministerial Policy Direction to ComReg of February 2003 requires that, before imposing regulatory obligations on undertakings, ComReg shall conduct a RIA in accordance with international best practice, and otherwise in accordance with measures that may be adopted under the Better Regulation programme.

9.4 The ultimate aim of conducting a RIA of proposed regulation in the Relevant Termination Markets is to ensure that the regulatory measures which are implemented are appropriate, proportionate and justified. As decisions can vary in terms of their impact, if after initial investigation, a decision appears to have relatively low impact, ComReg may carry out a lighter RIA in that respect.

[828] ComReg, "Guidelines on ComReg's Approach to Regulatory Impact Assessment", ComReg Document No. 07/56a, 10 August 2007 ('**the RIA Guidelines**').

[829] Department of An Taoiseach, "Regulating Better", January 2004. See also "Revised RIA Guidelines: How to conduct a Regulatory Impact Analysis". June 2009. https://www.djei.ie/en/What-We-Do/Business-Sectoral-Initiatives/Reducing-Administrative-Burdens/Better-Regulation/

9.5 In Section 9 of the Consultation ComReg set out its proposed approach to the RIA. Of the 11 submissions received only Eircom and TMI offered specific comments on the RIA (See paragraphs A11.430 to A11.434 and A11.435 to A11.438). Verizon and Three stated that they agreed with ComReg's preliminary conclusions. iD Mobile did not comment on the RIA assessment in respect of FVCT but stated that they found ComReg's preliminary conclusions on the RIA in respect of MVCT to be reasonable. The other 9 respondents did not comment on the RIA assessment.

9.6 ComReg's approach to a RIA follows five steps:

Step 1: Describe the policy issue and identify the objectives;

Step 2: Identify and describe the regulatory options;

Step 3: Determine the impacts on stakeholders;

Step 4: Determine the impacts on competition; and

Step 5: Assess the impacts on stakeholders and competition and choose the best regulatory option.

9.7 In the analysis set out below, ComReg repeats each of these steps in respect, firstly, of Relevant FVCT Markets and, secondly, Relevant MVCT Markets.

9.8 The purpose of carrying out a RIA is to aid decision-making through identifying regulatory options and analysing the impact of those options in a structured manner. The Department of An Taoiseach's Revised RIA Guidelines state that:

> *"RIA should be conducted at an early stage and before a decision to regulate has been taken."*[830]

9.9 The European Commission, in its review of impact assessments, notes that:

> *"Impact assessments need to be conducted earlier in the policy development process so that alternative courses of action can be thoroughly examined before a proposal is tabled."*[831]

9.10 In determining the impacts of the various regulatory options, current best practice recognises that full cost-benefit analyses should only be carried out where it would be proportionate to do so, or, in exceptional cases, where robust, detailed and independently verifiable data are available. Such a comprehensive review may be undertaken by ComReg when necessary and appropriate.

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[830] See paragraph 2.1 of the Revised RIA Guidelines, available online at http://publicspendingcode.per.gov.ie/wp-content/uploads/2012/07/Revised_RIA_Guidelines_June_20091.pdf.

[831] Communication from the European Commission, "Second strategic review of Better Regulation in the European Union", COM(2008)32, p.6.

9.11 A RIA should be carried out as early as possible in the assessment of potential regulatory options, where appropriate and feasible. The consideration of regulatory impact facilitates the discussion of options, and a RIA should therefore be integrated into the overall analysis. This is the approach which ComReg follows in this Decision and this RIA should be read in conjunction with the overall Decision. This RIA is a finalised version of that contained in the Consultation, having taken into account Submissions in response to the Consultation, and any comments from the European Commission and the CCPC.

9.12 ComReg conducted a RIA having regard to the proposed regulatory remedies set out in Section 8 of the Decision, along with consideration of other options. The following sections, along with the analysis and discussion set out elsewhere in this Decision represent a RIA. It sets out an assessment of the potential impact of regulatory obligations that ComReg will impose on the 2019 Designated SMP Service Providers.

9.13 There are similarities in the approaches to regulation of FVCT and MVCT, as well as in the competition problems which ComReg has identified and seeks to remedy. For ease of reference, ComReg carries out a stepwise RIA assessment in respect of, firstly, FVCT and secondly, MVCT. This may lead to repetition of text, where common issues arise across both FVCT and MVCT.

9.14 The RIA makes frequent use of terminology describing categories of Service Providers. The table describing these categories is set out below.

Table 36: Service Provider terminology

FVCT Service Providers	
Name	**Description**
2007 SMP FSPs	The 7 FSPs designated with SMP in the 2007 FVCT Decision
2007 Alternative SMP FSPs	The 6 FSPs designated with SMP in the 2007 FVCT Decision, excluding Eircom
2019 Designated SMP FSPs	The 22 FSPs now designated with SMP in this Decision
2019 Designated Alternative SMP FSPs	The 21 FSPs now designated with SMP in this Decision, excluding Eircom
2019 Newly Designated SMP FSPs	The 15 FSPs newly designated with SMP in this Decision but which have not been so designated beforehand

Unregulated FSP	Any FSP offering FVCT which, prior to this Decision had not been designated with SMP[832]
MVCT Service Providers	
2012 SMP MSPs	The 6 MSPs designated with SMP in the 2012 MVCT Decision[833]
2019 Designated SMP MSPs	The 6 MSPs now designated with SMP in this decision
2019 Newly Designated SMP MSPs	The MSP newly designated with SMP in this Decision but which had not been so designated beforehand
Unregulated MSP	Any MSP offering MVCT which, prior to this Decision, had not been designated with SMP
Service Providers	
Existing SMP Service Providers	The 2007 SMP FSPs and the 2012 SMP MSPs
2019 Newly Designated SMP Service Providers	The 2019 Newly Designated SMP FSPs and the 2019 Newly Designated SMP MSPs
2019 Designated SMP Service Providers	The 2019 Designated SMP FSPs and the 2019 Designated SMP MSPs
Unregulated Service Provider	Unregulated FSPs and Unregulated MSPs

9.15 Below ComReg sets out its position, having considered Respondents' views on the approach to RIA:

(a) Principles in Selecting Remedies (as discussed in paragraphs 9.16 to 9.17 below);

(b) Regulatory Options for Relevant Termination Markets (as discussed in paragraphs 9.18 to 9.19 below);

(c) FVCT Regulatory Impact Assessment (as discussed in paragraphs 9.20 to 9.68 below); and

(d) MVCT Regulatory Impact Assessment (as discussed in paragraphs 9.69 to 9.116 below).

832 The Additional FSPs identified at paragraph 2.13 are captured as a separate category. There are nonetheless not subject to SMP regulation pursuant to this Decision.

833 While the 2012 MVCT Decision designated 6 SMP MSPs, this number fell to 5 in 2014, following the merger of two SMP MSPs, Three and O2.

Principles in selecting remedies

9.16 In Section 8[834] ComReg sets out the legislative basis for the imposition of remedies on the 2019 Designated SMP service providers. In choosing appropriate remedies, ComReg is obliged, pursuant to Regulation 8(6) of the Access Regulations, to ensure they are:

(a) Based on the nature of the problem identified;

(b) Proportionate and justified in the light of the objectives laid down in section 12 of the Communications Regulation Act 2002 (as amended), and Regulation 16 of the Framework Regulations; and

(c) Only imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations.

9.17 Section 12(1)(a) of the Communications Regulation Act 2002 (as amended) sets out the objectives of ComReg in exercising its functions in relation to the provision of electronic communications networks, services and associated facilities, namely:

(a) To promote competition;

(b) To contribute to the development of the internal market; and

(c) To promote the interests of users within the European Union.

Regulatory Options for Relevant Termination Markets

9.18 As far as possible, ComReg conducts this RIA having regard to the analytical similarities which arise in respect of both Relevant FVCT Markets and Relevant MVCT Markets. Accordingly, prior to conducting the stepwise RIA described at 9.6 above, ComReg sets out the four options it considers in terms of the bundles of regulatory obligations which could, in principle, be imposed on 2019 Designated SMP Service Providers in each of the Relevant Termination Markets. ComReg has already assessed in Section 8 above whether any obligation category on its own would suffice and has found that no single category of obligations would address the issues identified.

Option 1: Impose Transparency and Non-Discrimination obligations;

Option 2: Impose Transparency, Non-Discrimination and Access obligations;

[834] See paragraphs 8.7 to 8.13 above.

Option 3: Impose Transparency, Non-Discrimination, Access, and Price Control (but not Cost Accounting) obligations[835]; or

Option 4: Impose Transparency, Non-Discrimination, Access, Price Control & Cost Accounting and Accounting Separation obligations.

9.19 Having set out the four potential options for regulation of the Relevant Termination Markets, ComReg sets out below at Table 37 a summary of the impacts on three sets of stakeholders (2019 Designated SMP Service Providers, non-SMP Service Providers who may be potential new entrants to the Relevant Termination Markets, and Consumers) of each of the four Options. As ComReg is proposing to make a finding of SMP, a "do nothing" option is not available to ComReg, as discussed below.

Table 37: Assessment of regulatory options

Option 1: Impose Transparency and Non-Discrimination Obligations		
Impact on 2019 Designated SMP Service Providers	**Impact on non-SMP Service Providers**	**Impact on Consumers**
Existing SMP Service Providers would benefit from a reduced regulatory burden, compared to the 2007 FVCT Decision, the 2012 MVCT Decision, and the 2012 Pricing Decision. Increase in regulatory burden for all 2019 Newly Designated SMP Service Providers. Relatively low impact of compliance as termination rates already published in the openeir STRPL[836] and non-price terms included in RIO obligation would be those generally pertaining in Service Providers' standard interconnect agreements.	Risk that, even though non-discrimination mandated in principle, there would be scope for exploitative and exclusionary practices such as excessive pricing which may, in practice, amount to discrimination. Effective denial of access and/or delaying tactics could *inter alia* also be invoked to extract excessive termination rates and/or raise rivals' costs. This could also contribute to raising entry barriers for newer or smaller retail market participants. Negative impact on competition increases as retail market share of the 2019 Designated SMP Service Providers grow, further	Absent effective access and price control obligations, scope for WVCT access to be undermined through *inter alia* excessive pricing, refusals to supply, delaying tactics, etc. would contribute to reduced scope of retail service (limited interoperability or higher cost service) for end users. If downstream competition is distorted or investments discouraged through termination rates which are above efficient cost, consumers would potentially have reduced service choice, quality and innovation. Where termination rates are set above efficient cost, this could put upward pressure (or slow

[835] ComReg considers Cost Accounting with Price Control given these two obligations are mutually supportive. However, Cost Accounting would only potentially be considered for imposition where a price control obligation is contemplated. I.e. Cost Accounting obligations would not potentially be imposed without the presence of a Price Control obligation. ComReg recognises that it could have considered the separate option to include cost accounting obligations as well, however, this would ultimately lead to the same outcome under the options assessment.

[836] See paragraph A11.390.

Option 1: Impose Transparency and Non-Discrimination Obligations		
The 2019 Designated SMP Service Providers would, absent other obligations, have flexibility to charge termination rates above efficient cost and/or obstruct access by existing rivals and/or new entrants in downstream markets. Could facilitate extraction of excessive monopoly rents. 2019 Designated SMP Service Providers' incentives to innovate (including via retail pricing plans) and increase efficiency may be reduced where termination rates set above efficient cost are paid for by competitors and, in turn, by their customers. Risk of disputes and legal challenges if termination rates set above efficient cost.	increasing the disparity in bargaining power between Service Providers. Termination rates set above efficient cost could limit scope for retail pricing innovation by downstream rivals. Regulatory certainty is reduced given wholesale pricing and access uncertainty. Disputes over termination rates or access could also raise legal and regulatory costs for WVCT customers. Differences in regulatory approach between Ireland and other EU countries (NRAs generally envisage access and price control obligations) and deviations from European Commission guidance could generate legal uncertainty for pan-EU/EEA operators. Inconsistent with EU/EEA harmonisation principles.	the rate of any decline) on retail voice prices. Higher wholesale prices would also limit scope for retail pricing innovations, potentially depriving consumers of new and innovative bundles/packages involving voice calls.

Option 2: Impose Transparency, Non-Discrimination, and Access Obligations		
Impact on 2019 Designated SMP Service Providers	**Impact on non-SMP Service Providers**	**Impact on Consumers**
Existing SMP Service Providers would benefit from reduced regulatory burden (while an access obligation would be a new regulatory burden for the 2007 Alternative SMP FSPs, this would be countered by the removal of other existing regulatory obligations). Increased regulatory burden for 2019 Newly Designated SMP Service Providers.	While risk of impeding access to WVCT may be moderated relative to Option 1, effective WVCT access may still be undermined by means of exploitative practices such as excessive termination rate pricing, which could undermine effective access and raise rivals' costs. Where access is provided to downstream competitors on exploitative terms, this could disadvantage existing rivals and distort existing competition	Availability of WVCT access would enable subscribers of fixed and mobile networks to call one another. However, high risk that, even though access mandated in principle, there would be scope for such access to be effectively undermined through excessive pricing. If downstream competition is distorted or investments discouraged through termination rates which are above efficient cost,

Option 2: Impose Transparency, Non-Discrimination, and Access Obligations		
There would still be flexibility for the 2019 Designated SMP Service Providers to engage in exploitative and exclusionary behaviour in respect of termination rate pricing (leading to potential denial of access). Could facilitate extraction of excessive rents from WVCT and related markets. The 2019 Designated SMP Service Providers' incentives to innovate (including via retail pricing plans) and increase efficiency may be reduced where termination rates set above efficient cost are paid for by competitors and, in turn, by their customers. Risk of disputes and legal challenges involving WVCT services due to lack of direct regulatory oversight in respect of the 2019 Designated SMP Service Providers' termination rates. Disputes could increase the legal and regulatory costs faced by 2019 Designated SMP Service Providers. Relative to Option 1, imposition of a further access obligation would not generate significant incremental burden.	in downstream markets by raising their costs. Ineffective access to WVCT (through exploitative or exclusionary termination rates) could raise barriers to entry and expansion for new entrants or smaller participants in downstream markets due to inability to guarantee end-to-end connectivity. Termination rates set above efficient cost raise barriers to entry and expansion for smaller or newer entrants in downstream retail markets. This is because they would likely have traffic outflows to 2019 Designated SMP Service Provider subscribers. Excessive termination rate pricing thus results in inefficient cross-subsidies from smaller to larger operators. The Option 1 concerns, in respect of product innovation, regulatory uncertainty, disputes over the level of termination rates, and differences in regulatory approach between Ireland and other EU countries also arise in Option 2.	consumers would potentially have reduced service choice, quality and innovation. Where termination rates are set above efficient cost, this could put upward pressure (or slow the rate of any reduction) on retail voice prices. Higher wholesale prices would also limit scope for retail pricing innovations, thereby potentially depriving consumers of new and innovative bundles/packages involving voice calls. While access, transparency and non-discrimination obligations would facilitate interoperability of retail services, scope for WVCT access to be undermined through excessive pricing remains, without effective price control obligations. This would, in turn, contribute to reduced scope of retail service (limited interoperability or higher cost service) for end users.

Option 3: Impose Transparency, Non-Discrimination, Access, and Price Control (but not Cost Accounting) Obligations		
Impact on 2019 Designated SMP Service Providers	Impact on non-SMP Service Providers	Impact on Consumers
Regulatory burden on Existing SMP Service Providers would be largely similar. In respect of the access obligation, increased regulatory burden for 2007 Alternative FSP MSPs relative to current situation and relative to Options 1 and 2 above. Existing regulatory burden on Eircom (per the 2007 FVCT Decision) would be lessened, given removal of accounting separation and cost accounting obligations imposed under the 2007 FVCT Decision. Increase in regulatory burden for all 2019 Newly Designated SMP Service Providers. As Existing SMP Service Providers are currently subject to price control obligations, the incremental burden of such obligations on Existing SMP Service Providers is not likely to be significant. However, in case of cost accounting obligations, given the identified risks in Relevant Termination Markets and the nature of the price control, it is not considered necessary to continue this cost accounting obligation.	Regulating termination rates at efficient cost would reinforce the effectiveness of the access, transparency and non-discrimination obligations, thus reducing risk of competitive distortions in downstream retail markets and potentially lowering barriers to entry/expansion for smaller or new entrant Service Providers. The impact of lower wholesale costs would likely be more significant for smaller and new entrant Service Providers, since a large number of their calls are likely to be off-net. Thus, regulating termination rates at efficient cost would contribute to reducing the impact of any inefficient financial transfers or cross subsidies from smaller to larger Service Providers and thereby contribute to a level playing field between all Service Providers. Greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors. Greater certainty that termination rates would be set at efficient cost potentially moderates risk of disputes relative to Options 1 and 2. Regulating termination rates at efficient cost would potentially provide greater scope for retail pricing innovations.	Availability of effective WVCT access would facilitate interoperability of services by enabling subscribers of fixed and mobile networks to call one another. Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (e.g. in terms of packages/bundles offered). Reduced risk of excessive termination rates being passed through to end users in form of higher prices relative to Options 1 and 2 above. Potential for discriminatory behaviour due to lack of accounting separation may impact on downstream competition and investment with consequent negative implications in terms of price and service choice over time. However, this may be mitigated by means of the price control obligation of cost orientation.

Option 3: Impose Transparency, Non-Discrimination, Access, and Price Control (but not Cost Accounting) Obligations		
Risk of disputes and legal challenges involving termination rates may be eased relative to Options 1 and 2 due to price control obligation. Increasing symmetry of approach to imposition of obligations to all SMP Service Providers promotes regulatory certainty for all. When purchasing WVCT, the SMP Service Providers will also benefit from effective access to WVCT inputs from other suppliers.		

Option 4: Impose Transparency, Non-Discrimination, Access, Price Control & Cost Accounting, and Accounting Separation Obligations		
Impact on 2019 Designated SMP Service Providers	Impact on non-SMP Service Providers	Impact on Consumers
Regulatory burden on Existing SMP Service Providers would be largely similar, compared to the 2007 FVCT Decision and the 2012 MVCT Decision. Increase in regulatory burden for all 2019 Newly Designated SMP Service Providers. Existing regulatory burden on Eircom (per the 2007 FVCT Decision) would remain. Impacts associated with the price control obligations may be considered in the Separate Pricing Decision.	General competition / revenue / cost impacts associated with the price control for termination rates are as set out for Option 3 above. As set out for Option 3 above, greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors.	Availability of effective WVCT access would facilitate interoperability of services enabling subscribers of fixed and mobile networks to call one another. Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (e.g. in terms of packages/bundles offered). Reduced risk of above-cost termination rates being passed through to end users in form of higher prices relative to other Options.

Option 4: Impose Transparency, Non-Discrimination, Access, Price Control & Cost Accounting, and Accounting Separation Obligations		
Such additional accounting obligations help protect against discriminatory and leveraging behaviour. However, potentially exceeds what is necessary to address competition problems identified in Section 7. The 2019 Designated SMP Service Providers other than Eircom may have lesser ability to leverage across multiple markets and impacts of any leveraging may be less immediate than in the case of Eircom.	Greater certainty that termination rates would be set at efficient cost, complemented by greater visibility of internal transfers to support non-discrimination obligation, moderates risk of disputes relative to Options 1 and 2. Unclear, however, that accounting separation would add further certainty beyond that generated in Option 3. In addition to the impacts identified for Option 3 above, wholesale customers (and thus downstream rivals) would have greater certainty and transparency regarding 2019 Designated SMP Service Providers' costs and any potential leveraging practices. However, such wholesale customers would already be somewhat protected against such behaviour under Option 3.	Dynamic competition from Service Providers (facilitated by effective price control and appropriate preventative measures for discriminatory behaviour in respect of the provision of WVCT by SMP Service Providers) should help facilitate ongoing delivery of price and service innovations and choice to end users over time.

FVCT Regulatory Impact Assessment

Step 1: Describe the policy issue and identify the objectives in respect of FVCT

9.20 The European Commission acknowledges the need for the imposition of *ex ante* regulatory obligations to mitigate the potentially abusive exercise of market power by SMP Service Providers, and to ensure the development of effective competition within and across communications markets. ComReg has noted in paragraph 5.8 of this Decision that the European Commission has established that FVCT markets are susceptible to *ex ante* regulation, which ultimately forms the basis for the assessment set out in this Decision.

9.21 In this Decision, ComReg set out its analysis and views on the Relevant FVCT Markets. In doing so, its policy objectives are to identify whether or not any FSP operating in the Relevant FVCT Markets has SMP, whether competition concerns arise and, if so, how best to address these. This includes the following:

(a) In Section 5 of this Decision , ComReg sets out its views on the definition of the Relevant FVCT Markets, with this setting the boundary within which competition would be assessed;

(b) In Section 6 of this Decision, ComReg carried out competition assessments and set out its view that each of the Relevant FVCT Markets are not effectively competitive. ComReg now designates 22 FSPs with SMP in each of their individual Relevant FVCT Markets;

(c) In Section 7 of this Decision, ComReg assessed the ability and incentives of the SMP FSPs to engage in various anti-competitive conducts to the ultimate detriment of competition and consumers; and

(d) In Section 8 of this Decision, ComReg set out proposals to address these identified competition problems, and justifies proportionate remedies it will impose on the SMP FSPs.

9.22 As noted in Section 8, of this Decision, in order to address identified competition problems, ComReg is required to impose on the 2019 Designated SMP FSPs such of those obligations set out below, as it deems appropriate:

(a) Transparency;

(b) Non-Discrimination;

(c) Access;

(d) Price Control and Cost Accounting; and

(e) Accounting Separation.

9.23 As also noted in paragraph 1.29, ComReg is required to impose at least one of the above obligations on those Service Providers which it proposes to designate with SMP.

9.24 Having regard to the competition problems identified in Section 7, ComReg's objectives are to mitigate the effects of market power in Relevant FVCT Markets and the impacts on related markets. In so doing, ComReg aims to prevent the emergence of restrictions or distortions in competition among Service Providers, to the ultimate benefit of consumers. ComReg also seeks to provide regulatory certainty to all Service Providers through the development of an effective and efficient forward-looking regulatory regime that serves to promote competition between Service Providers. These objectives also serve to further the development of the internal market, given that many Service Providers operate in other EEA Member States, and given that FVCT is an input to calls originating in EEA countries, but destined for Irish fixed voice subscribers.[837]

[837] The same holds true for Irish Service Providers terminating calls to subscribers in EEA countries.

9.25 In pursuing these objectives, ComReg aims to influence the behaviour of the SMP FSPs to mitigate the potential harmful effects that can arise from the exercise of SMP in the Relevant FVCT Markets. In this regard, ComReg considers that the regulatory measures in Section 8 should address, in a proportionate way, the relevant competition problems and the consequential impacts on competition and consumers.

9.26 In Section 8, of this Decision, ComReg considered the impact of the specific nature of the regulatory obligations considered necessary in the Relevant FVCT Markets, and formed the view that the range of remedies specified is both appropriate and justified in light of the analysis set out in Section 7. The various regulatory options for the Relevant FVCT Markets are, in the context of the RIA, further considered below.

Step 2: Identify & describe potential regulatory options in the Relevant FVCT Markets

9.27 ComReg recognises that regulatory measures should be kept to the minimum necessary to address identified market failures in an effective, efficient and proportionate manner. A range of regulatory options are available to ComReg to address competition concerns in the Relevant FVCT Markets.

9.28 In this regard, regulation should be incremental, such that only those obligations are imposed which are necessary and proportionate to address the identified competition problems, as set out in Regulations 9 to 13 of the Access Regulations. For example, the lightest measure that can be imposed is the obligation of transparency. Should this be insufficient to address competition problems on its own, ComReg may apply a non-discrimination obligation. If this is still not sufficient, ComReg may next consider the imposition of an access obligation, or price controls, with accounting separation obligations potentially required where price control obligations are imposed.

9.29 ComReg first considers whether it is appropriate to forbear from imposing regulatory obligations. ComReg then assesses what regulatory options are available and appropriate in respect of the Relevant FVCT Markets.

Forbearance on Relevant FVCT Markets

9.30 By means of forbearance, a regulator may decide not to impose regulatory obligations on a FSP designated with SMP.

9.31 As set out in Section 6, of this Decision, ComReg is of the view that none of the Relevant FVCT Markets are effectively competitive, nor are they likely to become effectively competitive within the timeframe covered by this market review. Therefore, in accordance with Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations, ComReg is required to impose at least some level of regulation on the 2019 Designated SMP FSPs.

9.32 In Section7, of this Decision, ComReg set out its view that, absent regulation, such FSPs have the ability and incentives to engage in a range of exploitative and exclusionary behaviours. ComReg is of the view that, absent the imposition of remedies within the Relevant FVCT Markets, these markets would not function effectively, ultimately to the detriment of downstream competition and consumers.

9.33 In the context of interconnect negotiations between Service Providers, access could, for instance, be effectively refused or materially delayed. This could result in certain consumers being unable to contact the subscribers of particular FSPs, or having to incur the additional costs of their Service Providers interconnecting indirectly via a transit provider.

9.34 Furthermore, FTRs could be set above the level that would pertain in competitive markets and a 2019 Designated SMP FSP could be in a position to distort competition in adjacent or downstream markets by obstructing (through price or non-price means) effective access to FVCT.

9.35 Consequently, ComReg is of the view that the option of regulatory forbearance in the Relevant FVCT Markets is not appropriate or justified. ComReg would fail to fulfil its statutory obligations if it did not impose regulatory obligations on the 2019 Designated SMP FSPs.

Regulatory Options on Obligations in the Relevant FVCT Markets

FVCT Transparency Obligations

9.36 ComReg's position, set out in Section 8, of this Decision, is that, due to the ability and incentives of the 2019 Designated SMP FSPs to engage in the identified anti-competitive behaviours, transparency obligations[838] are necessary to facilitate the development of effective downstream competition. ComReg has specified transparency remedies including requirements to publish a RIO setting out contractual terms and conditions, and the technical basis upon which Service Providers can obtain access to FVCT and associated facilities, along with requirements to publish FTRs and provide advance notification of changes to them. Additionally, in paragraph 8.43, of the consultation, ComReg has specified transparency obligations for Eircom only, requiring it to publish detailed documentation relating to Wholesale SV Services.

9.37 ComReg considers that each of the 2019 Designated SMP FSPs should be required to comply with these transparency obligations in order to minimise information asymmetries and, therefore, facilitate timely and efficient access to FVCT and associated facilities. It is envisaged that these obligations will promote effective competition in downstream markets.

9.38 As set out in Sections 7 and 8, of this Decision, ComReg does not consider that transparency obligations, in isolation, will sufficiently address the competition problems in the Relevant FVCT Markets. For example, transparency obligations do not directly address concerns regarding denial of access, discrimination (on price or non-price grounds) or excessive pricing.

FVCT Non-Discrimination Obligations

9.39 Having reviewed competition problems with respect to the Relevant FVCT Markets in Section 7, ComReg set out its position in Section 8 that non-discrimination obligations were necessary to ensure that Service Providers being provided with FVCT are treated in an equivalent manner.[839] These obligations would also ensure that Service Providers are provided with information and services in a manner consistent with that which the 2019 Designated SMP FSP provides to itself.

[838] See paragraphs 8.36 to 8.56 above.

[839] See paragraphs 8.57 to 8.70 for the non-discrimination remedies in the Relevant FVCT Markets.

9.40 Such non-discrimination obligations are designed to promote pro-competitive behaviours in the Relevant FVCT Market, by requiring equivalent treatment of Service Providers (with the transparency obligation providing a means of observing that discrimination is not occurring). In view of potential issues of discriminatory treatment (on price or non-price terms), transparency obligations alone would not address such issues. Furthermore, a non-discrimination obligation itself (or coupled with transparency) does not specifically address what type of product or service should be offered, or how it should be priced.

9.41 Thus, the operation of the non-discrimination and transparency obligations alone are not considered by ComReg to be sufficiently adequate in providing a means of ensuring *ex ante* that the 2019 Designated SMP FSPs provide access to FVCT and associated facilities, or providing access in a fair, reasonable and timely manner.

FVCT Access Obligations

9.42 Having reviewed the competition problems identified in Section 7, ComReg set out its position in Section 8 that access obligations are necessary to prevent the actual denial of, or effective refusal to provide, access to FVCT and associated facilities.[840] Transparency and non-discrimination obligations are necessary supporting obligations, but ComReg considers that such obligations alone are incapable of effectively addressing access issues.

9.43 ComReg's view is that obligations to provide FVCT and access to associated facilities (including physical interconnect infrastructure necessary for effecting such access, e.g. Interconnection Services[841] and SLAs in the case of Eircom alone) are both proportionate and justified. An access obligation on all the 2019 Designated SMP FSPs will promote regulatory predictability and ensure that FSPs are treated in a consistent fashion. ComReg sees no objective reason to distinguish its approach for 2019 Designated Alternative FSPs from the approach which applies to Eircom (with respect to the core access obligations), particularly given that broadly the same competition problem has been identified in each case.

[840] See paragraphs 8.71 to 8.109 for the access remedies in the Relevant FVCT Markets.

[841] See paragraphs 8.85 to 8.91 of this Decision. Given the imposition of obligations on Eircom to provide access to Interconnection Services, ComReg has also imposed obligations upon Eircom to provide SLAs for such services. These services have been imposed upon Eircom to date and, in ComReg's view, do not present an undue additional burden on Eircom.

9.44 ComReg is of the view that the specified access obligations are fundamental requirements in the Relevant FVCT Markets and, taking account of the provisions of Regulation 12(1) of the Access Regulations, the absence of such obligations would hinder the development of effectively competitive retail markets by restricting or distorting competition among Service Providers, to the detriment of consumers.

9.45 These access obligations are therefore considered necessary and appropriate in achieving the objectives of Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations, namely the promotion of competition, contributing to the development of the internal market and protecting the interests of end users.

FVCT Price Control and Cost Accounting Obligations

9.46 Having identified competition problems with respect to the Relevant FVCT Markets in Section 7, ComReg set out its position in Section 8 that wholesale charges for access to FVCT and associated facilities should be subject to price control obligations. In the case of Eircom only, ComReg had considered imposing cost accounting obligations on it alone, however for the reasons set out in paragraphs 8.201 to 8.204 it does not consider this necessary.[842]

[842] See paragraphs 8.110 to 8.138 for price control and cost accounting remedies in the Relevant FVCT Markets.

9.47 In paragraph 8.117 to 8.196 and in paragraphs 8.294 to 8.337 ComReg outlines its analysis on the EEA and the Non EEA price control issue. Based on this analysis ComReg's position is that a differentiated approach should be allowed for calls that originate outside the EEA. However, ComReg is also aware that SPs may incur additional costs due to the possible technical requirements of implementing differentiated pricing. ComReg has not assessed what these likely costs would be or the extent of such costs on SPs as it does not have the information available to do so. ComReg also notes that Irish SPs adopting a differentiated approach may incentivise non-EEA SPs to engage in CLI masking, which may raise monitoring concerns or other costs for Irish SPs. Irish SPs retain the option of charging regulated termination rates for the supply of termination to all SPs, regardless of country of origin. Charging differentiated termination rates for non-EEA originated calls is done at the discretion of individual SPs subject to the conditions set out in paragraph 8.175. In imposing conditions on differentiation ComReg has adopted a pragmatic approach that takes account of the concern that unfettered flexibility on 2019 Designated SMP SPs' FTR setting behaviour may have negative consequences for SPs in non-EEA countries that are currently charging Irish SPs low TRs. Further, this takes account of the concern that unfettered flexibility may also trigger a 'race to the top' (a movement away from any existing symmetrically low TRs to symmetrically high TRs) or result in a scenario involving TR asymmetries in favour of Irish SPs.

9.48 ComReg requires that each SMP FSP be subject to a price control obligation of cost orientation with respect to access to FVCT and associated facilities. ComReg's analysis in Sections 7 and 8 indicates that each of the SMP FSPs has the ability and incentive to engage in excessive pricing, absent regulation.[843] ComReg thus sees no objective reason to distinguish its approach to price control amongst such FSPs, particularly given that the same competition problem – exploitative conduct by means of excessive pricing - has been identified in each case. Imposing a cost orientation obligation on all 2019 Designated SMP FSPs will provide regulatory certainty to each party, as well as to buyers of FVCT who purchase this service from several FSPs. In doing so, it will also minimise the scope for disputes and potentially inefficient case-by-case regulation through dispute resolution or other activities.

[843] Data from the STRPL demonstrate that only two Unregulated FSPs price at the regulated level. The next cheapest FTR is more than 4 times higher than the regulated rate.

9.49 If specific price control obligations are to be meaningful, it may be necessary to have a clear and comprehensive understanding of the costs associated with the provision of FVCT by a SMP FSP. ComReg does not consider it necessary to impose a cost accounting obligation on any 2019 Designated SMP FSP at this stage, although it proposes to keep the situation under review in case it becomes necessary to effect the price control obligation. This is a change to the proposal set out in the Consultation where ComReg had originally intended to impose cost accounting obligations on Eircom only. However, for the reasons set out in paragraphs 8.201 to 8.204 this is no longer considered necessary.

FVCT Accounting Separation Obligations

9.50 ComReg set out its position in Section 8.220 that the imposition of an accounting separation obligation on any of the 2019 Designated SMP FSPs at this stage may be excessive, burdensome and costly for all 2019 Designated SMP FSPs to comply with (having regard to the other obligations and the nature of the competition problems identified).[844]

Step 3: Determine the Impacts on FVCT Stakeholders

9.51 Given the proposal to designate 22 FSPs with SMP, it is ComReg's view, as outlined at paragraphs 9.30 to 9.35 above, that the option of regulatory forbearance is not appropriate or justified, and should be discounted when considering the impact on stakeholders.

9.52 Having regard to the SMP designations in Section 6, ComReg is required to impose at least some level of regulation.[845] In its review of competition problems identified in Section 7 and remedies in Section 8 respectively, ComReg has, on an incremental basis, set out its position that a range of remedies is necessary, proportionate and justified, while at the same time discounting other remedies, where appropriate.

9.53 The 2007 FVCT Decision and 2012 Pricing Decision imposed a range of regulatory obligations on Eircom, and ComReg proposes to impose a broadly similar suite of regulatory obligations on Eircom (save for the proposal to no longer impose accounting separation and cost accounting obligations). Accordingly, it faces a largely unchanged level of compliance burden arising from the obligations which ComReg proposes to impose on it.

[844] See paragraphs 8.209 to 8.220 for the discussion of the accounting separation remedies in the Relevant FVCT Markets.

[845] Pursuant to Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations.

9.54 The 2007 Alternative SMP FSPs are already subject to a range of SMP regulatory obligations, some of which remain largely unchanged, and some of which ComReg proposes to alter. For example, in respect of the transparency obligation, those FSPs are currently subject only to a general obligation to publish their prices and associated terms and conditions for FVCT access, and ComReg considers that publishing a RIO and FTRs does not, in ComReg's view, place an undue incremental burden on these FSPs.

9.55 The 15 2019 Newly Designated SMP FSPs[846] have not had any SMP obligations imposed on them to date. ComReg recognises that the imposition of SMP remedies will impose a greater burden on these FSPs than has been the case to date. However, ComReg is of the view that the remedies which will be imposed are necessary and proportionate, and amount to the minimum level of regulation required to promote competition and protect consumers.

9.56 In respect of the transparency obligations, ComReg considers that the implementation of an obligation on all 2019 Designated SMP FSPs to make FTRs publicly available would not place a disproportionate burden on them. ComReg recognises that the initial implementation of the RIO obligation will likely be more burdensome for the 2019 Designated Alternative SMP FSPs. Consequently, ComReg proposes that, for these FSPs, the RIO be published within 90 calendar days following the effective date of this Decision on this FVCT market analysis.

9.57 While the 2019 Newly Designated SMP FSPs have not been subject to any SMP regulatory obligations to date, broadly the same competition problems have been identified in respect of these FSPs and, thus, ComReg sees no objective reason to differentiate the obligations in respect of these FSPs, except in the case of those distinctions already set out in respect of Eircom.

9.58 Eircom currently has an obligation of non-discrimination with respect to the provision of wholesale access products, features and additional associated facilities. The 2019 Designated Alternative 2007 SMP FSPs have, to date, had an obligation to apply similar terms and conditions to undertakings that obtain, or seek to obtain, from them FVCT services, products, and facilities. The 2019 Newly Designated SMP FSPs are not currently subject to any non-discrimination obligations.

9.59 In view of the issues identified in Section 7, ComReg considers it objectively justified to adopt the same approach with respect to non-discrimination obligations for all the 2019 Designated SMP FSPs.

[846] Vodafone Ireland; PlanNet 21 Communications; Airspeed Communications; Imagine Communications Ireland; Telcom; In2com; Finarea SA; IP Telecom; Blueface; Modeva Networks; Equant Network Systems Limited; Dialoga Servicios Interactivos, SA; Intellicom Ireland; Magrathea Telecommunications; and Voxbone SA.

9.60 Having regard to the analysis of the Relevant FVCT Markets, and the three different categories of FSP which ComReg has set out above (Eircom, the 2007 Alternative SMP FSPs, and the 2019 Newly Designated SMP FSPs), ComReg has taken the position that, in each case, the remedies are necessary and proportionate, and are restricted to the minimum regulatory burden necessary to ensure that FSPs which have the ability and incentive to use their SMP for exclusionary or exploitative purposes are dissuaded or prevented from doing so. ComReg has now grouped remedies into four options set out at Table 37 above for the purpose of considering the incremental impact of each option on 2019 Designated SMP Service Providers, non-SMP Service Providers, and Consumers.

Step 4: Determine the Impacts on Competition in the Provision of FVCT

9.61 ComReg's view is that, absent regulation, the 2019 Designated SMP FSPs have the ability and incentive to engage in exploitative and exclusionary behaviours likely to impact on competition and consumers. In Section 7, ComReg provided examples of potential competition problems and their impacts on competition and consumers.[847] ComReg has also highlighted its objectives in regulating the Relevant FVCT Markets in paragraph 1.14 above, including preventing the restriction or distortion of competition in affected downstream markets and helping to ensure that consumers can achieve maximum benefits in terms of price, choice and quality of service.

9.62 The imposition of appropriate *ex ante* remedies to address such competition problems is set out in Section 8, with each of the remedies designed to promote the development of effective competition to the benefit of consumers. Remedies are to be applied consistently across all 2019 Designated SMP FSPs in order to address the identified impacts of competition problems, and will ultimately benefit Service Providers by allowing them to compete fairly at the retail level.

Step 5: Assess Likely Impacts and Choose Best Option in respect of FVCT

9.63 In its approach to remedies in this Decision, ComReg has taken full account of its obligations under Regulation 8(6) of the Access Regulations, as well as its relevant objectives as set out under Section 12 of the Communications Regulation Act 2002 (as amended).

[847] See discussion in paragraphs 7.84 to 7.86 above.

9.64 ComReg's position is that, absent regulation, the 2019 Designated SMP FSPs have the ability and incentive to engage in exploitative and exclusionary behaviours which would impact on competition and consumers. In Section 7, ComReg provided examples of potential competition problems and their impact on competition and, ultimately, consumers.

9.65 Based on its assessment above and throughout this Decision, and having considered the impacts on stakeholders and competition, including the impact on the development of competition within the internal market, it is ComReg's position that **Option 3** represents the most justified, reasonable and proportionate of the approaches to regulation of the Relevant FVCT Markets.

9.66 The imposition of appropriate *ex ante* remedies to address competition problems was discussed and justified in Section 8 (Remedies), and each of the specific remedies is designed to promote the development of effective competition and protect end users. ComReg will therefore apply the same suite of remedies that it is imposing on Eircom (with the exception of access requirements to provide Interconnection Services, SLAs and transparency obligations on Wholesale SV Services), and therefore a broadly consistent set of remedies, is also imposed on all 2019 Designated SMP FSPs. Accordingly, ComReg is of the view that the risk of competition problems and associated impacts resulting from SMP positions in the Relevant FVCT Markets should be minimised. This will ultimately be to the benefit of Service Providers and end users of downstream retail services.

9.67 The regulatory obligations do not unduly discriminate against 2019 Designated SMP FSPs in that, the obligations are to address specific competition problems, and are proportionate, in that they are the least burdensome means of achieving this objective.

9.68 ComReg considers that it has met its transparency obligations by setting out the remedies which it proposes to impose on the 2019 Designated SMP FSPs, outlining the justification for the obligations, taking account of the views of Respondents' Submissions and issuing a detailed and reasoned decision on these matters.

MVCT Regulatory Impact Assessment

Step 1: Describe the policy issue and identify the objectives in respect of MVCT

9.69 The European Commission acknowledges the need for the imposition of *ex ante* regulatory obligations to mitigate the potentially abusive exercise of market power by SMP Service Providers, and to ensure the development of effective competition within and across communications markets. ComReg has noted in paragraph 5.175 that the European Commission has established that MVCT markets are susceptible to *ex ante* regulation, which ultimately forms the basis for the assessment set out in this Decision.

9.70 In this Decision, ComReg has set out its analysis and positions on Relevant MVCT Markets. In doing so, its policy objectives are to identify whether or not any MSP operating in the Relevant MVCT Markets has SMP, whether competition concerns arise and, if so, how best to address these. This includes the following:

(a) In Section 5 ComReg set out its position on the definition of the Relevant MVCT Markets, with this setting the boundary within which competition would be assessed;

(b) In Section 6 ComReg carried out competition assessments and set out its position that each of the Relevant MVCT Markets are not effectively competitive. ComReg designates 6 MSPs with SMP in each of their individual Relevant MVCT Markets;

(c) In Section 7 ComReg assessed the ability and incentives of the SMP MSPs to engage in various anti-competitive conducts to the ultimate detriment of competition and consumers; and

(d) In Section 8 ComReg set out obligations to address these identified competition problems, and justifies proportionate remedies imposed on the 2019 Designated SMP MSPs.

9.71 As noted in Section 8, in order to address identified competition problems, ComReg is required to impose on the 2019 Designated SMP MSPs such of those obligations set out below, as it deems appropriate:

(a) Transparency;

(b) Non-Discrimination;

(c) Access;

(d) Price Control and Cost Accounting; and

(e) Accounting Separation.

9.72 As also noted in paragraph 1.27, ComReg is required to impose at least one of the above obligations on those Service Providers which it designates with SMP.

9.73 Having regard to the competition problems identified in Section 7, ComReg's objectives are to mitigate the effects of market power in the Relevant MVCT Markets and the impacts on related markets. In so doing, ComReg aims to prevent the emergence of restrictions or distortions in competition among Service Providers, to the ultimate benefit of consumers. ComReg also seeks to provide regulatory certainty to all Service Providers through the development of an effective and efficient forward-looking regulatory regime that serves to promote competition between Service Providers. These objectives also serve to further the development of the internal market, given that many Service Providers operate in other EEA Member States, and given that MVCT is an input to calls originating in EEA countries, but destined for Irish mobile subscribers.[848]

9.74 In pursuing these objectives, ComReg aims to influence the behaviour of the 2019 Designated SMP MSPs to mitigate the potential harmful effects that can arise from the exercise of SMP in the Relevant MVCT Markets. In this regard, ComReg considers that the regulatory measures in Section 8 should address, in a proportionate way, the relevant competition problems and the consequential impacts on competition and consumers.

9.75 In Section 8, ComReg considered the impact of the specific nature of the regulatory obligations considered necessary in the Relevant MVCT Markets, and formed the view that the range of remedies specified is both appropriate and justified in light of the analysis set out in Section 7. The various regulatory options for the Relevant MVCT Markets are, in the context of the RIA, further considered below.

Step 2: Identify & describe potential regulatory options in the Relevant MVCT Markets

9.76 ComReg recognises that regulatory measures should be kept to the minimum necessary to address identified market failures in an effective, efficient and proportionate manner. A range of regulatory options is available to ComReg to address competition concerns in the Relevant MVCT Markets.

848 The same holds true for Irish Service Providers terminating calls to subscribers in EEA countries.

9.77 In this regard, regulation should be incremental, such that only those obligations are imposed which are necessary and proportionate to address the identified competition problems, as set out in Regulations 9 to 13 of the Access Regulations. For example, the lightest measure that can be imposed is the obligation of transparency. Should this be insufficient to address competition problems on its own, ComReg may apply a non-discrimination obligation. If this is still not sufficient, ComReg may next consider the imposition of an access obligation, or price controls, with accounting separation obligations potentially required where price control obligations are imposed.

9.78 ComReg first considers whether it is appropriate to forbear from imposing regulatory obligations. ComReg then assesses what regulatory options are available and appropriate in respect of the Relevant MVCT Markets.

Forbearance on Relevant MVCT Markets

9.79 By means of forbearance, a regulator may decide not to impose regulatory obligations on a MSP designated with SMP.

9.80 As set out in Section 6, ComReg's position is that none of the Relevant MVCT Markets are effectively competitive, nor are they likely to become effectively competitive within the timeframe covered by this market review. Therefore, in accordance with Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations, ComReg is required to impose at least some level of regulation on the 2019 Designated SMP MSPs.

9.81 In Section 7, ComReg set out its position that, absent regulation, such MSPs have the ability and incentives to engage in a range of exploitative and exclusionary behaviours. ComReg's position is that, absent the imposition of remedies within the Relevant MVCT Markets, these markets would not function effectively, ultimately to the detriment of downstream competition and consumers.

9.82 In the context of interconnect negotiations between Service Providers, access could, for instance, be effectively refused or materially delayed. This could result in certain consumers being unable to contact the subscribers of particular MSPs, or having to incur the additional costs of their Service Providers interconnecting indirectly via a transit provider.

9.83 Furthermore, MTRs could be set above the level that would pertain in competitive markets and a SMP MSP could be in a position to distort competition in adjacent or downstream markets by obstructing (through price or non-price means) effective access to MVCT.

9.84 Consequently, ComReg is of the view that the option of regulatory forbearance in the Relevant MVCT Markets is not appropriate or justified. ComReg would fail to fulfil its statutory obligations if it did not impose regulatory obligations on 2019 Designated SMP MSPs.

Regulatory Options on Obligations in the Relevant MVCT Markets

MVCT Transparency Obligations

9.85 ComReg's position, set out in Section 8 is that, due to the abilities and incentives of 2019 Designated SMP MSPs, a transparency obligation[849] is necessary and would facilitate the development of effective downstream competition. ComReg has therefore specified transparency remedies involving requirements to publish a RIO setting out the contractual terms and conditions, and technical basis upon which Service Providers can obtain access to MVCT and associated facilities. ComReg has also specified requirements to publish MTRs and provide advance notice of changes to them not less than 30 calendar days in advance of the date on which any such amendment comes into effect.

9.86 ComReg considers that each 2019 Designated SMP MSP should be required to comply with transparency obligations in order to minimise information asymmetries and, therefore, facilitate timely and efficient access to MVCT and associated facilities. It is also envisaged that this obligation will promote effective competition in downstream markets.

9.87 ComReg does not, however, consider that transparency obligations, in isolation, will sufficiently address potential competition problems in the Relevant MVCT Markets, as set out in Section 7. For example, problems associated with denial of access, discrimination and excessive pricing could still occur.

MVCT Non-Discrimination Obligations

9.88 Having reviewed competition problems with respect to the Relevant MVCT Markets in Section 7, ComReg sets out its position in Section 8[850] that non-discrimination obligations are necessary to ensure that Service Providers being provided with MVCT are not treated differently where circumstances do not warrant this differential treatment. These obligations would also ensure that Service Providers are provided with information and service in a manner consistent with that which the 2019 Designated SMP MSP provides to itself.

[849] Please see paragraphs 8.245 to 8.257 for the Transparency obligations in the Relevant MVCT Markets.

[850] See paragraphs 8.258 to 8.266 for the Non – Discrimination obligations in the Relevant MVCT Markets.

9.89 Non-discrimination obligations are designed to ensure equivalent treatment of Service Providers, and the obligations to be implemented are specified in paragraphs 8.258 to 8.266. However, in view of the potential scope for discriminatory treatment, via price or non-price terms, ComReg's position is that transparency obligations alone are not sufficient to address these issues. Furthermore, non-discrimination obligations (with or without a transparency obligation) do not specifically address the issues associated with denial of access or excessive pricing.

9.90 Therefore, non-discrimination obligations, coupled with transparency obligations, are not considered by ComReg to provide a sufficient means of addressing the competition problems identified in Section 7.

MVCT Access Obligations

9.91 Having reviewed competition problems with respect to the Relevant MVCT Markets in Section 7, ComReg set out its position in Section 8 that access obligations are necessary to prevent the actual denial of, or effective refusal to provide access to, MVCT and associated facilities.

9.92 Access obligations give Service Providers the right to request access to MVCT and associated facilities and establish the principles on which such access should be granted. ComReg has specified the need for access remedies relating to the provision of access to MVCT and associated facilities, and to provide such access in a fair, timely and reasonable manner.

9.93 ComReg's position is that the specified access obligations are a fundamental requirement in the Relevant MVCT Markets and, taking account of the provisions of Regulation 12(1) of the Access Regulations, the absence of such obligations would hinder the development of effectively competitive retail markets by restricting or distorting competition among Service Providers, to the ultimate detriment of consumers.

9.94 These access obligations are therefore considered necessary and appropriate in achieving the objectives of Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations, namely the promotion of competition, contributing to the development of the internal market and protecting the interests of end users.

MVCT Price Control Obligations

9.95 Having reviewed competition problems with respect to the Relevant MVCT Markets in Section 7, ComReg set out its position in Section 8 that wholesale charges for access to MVCT and associated facilities should be subject to price control obligations. As set out at paragraphs 8.290 to 8.349 above, ComReg implements a price control obligation of cost orientation, in preference to other price control methodologies.

9.96 As set out above in paragraph 9.46, ComReg has in paragraph 8.294 to 8.337 outlined its considerations regarding price control of termination of non-EEA originated calls. Based on this analysis, ComReg's position is that a differentiated approach should be allowed for calls that originate outside the EEA. However ComReg is also aware that SPs may incur additional costs due to the possible technical requirements of implementing differentiated pricing. ComReg has not assessed what these likely costs would be or the extent of such costs on SPs. Differentiating termination rate charges for non EEA originated calls is done so at the discretion of individual SPs subject to the conditions set out in paragraph 8.316. In imposing conditions on differentiation ComReg has adopted a pragmatic approach that takes account of the concern that unfettered flexibility on 2019 Designated SMP SPs' MTR setting behaviour may have negative consequences for SPs in non-EEA countries that are currently charging Irish SPs low TRs. Further, this takes account of the concern that unfettered flexibility may also trigger a 'race to the top' (a movement away from any existing symmetrically low TRs to symmetrically high TRs) or result in a scenario involving TR asymmetries in favour of Irish SPs .

9.97 ComReg's position is that access to MVCT and associated facilities should be subject to a price control obligation of cost orientation. The specific costing methodology to be adopted in light of the cost orientation obligation is discussed and considered in the Separate Pricing Decision.

9.98 MTRs are an important consideration in the price of calls and other charges. Accordingly, setting MTRs *ex ante* also has the benefit of providing advance certainty for Service Providers when setting retail prices.

9.99 With respect to cost accounting obligations, ComReg's position is that a regulatory remedy of this nature is not necessary in the presence of an appropriately specified and implemented cost orientation obligation. In this regard, ComReg's position is that the 2019 Designated SMP MSPs should nonetheless be in a position to demonstrate that their charges are reflective of costs.

MVCT Accounting Separation Obligations

9.100 ComReg set out its position in Section 8 that the imposition of accounting separation remedies is, having regard to the nature of the price control obligations, unnecessary.

Step 3: Determine the Impacts on MVCT Stakeholders

9.101 Given the requirement to continue to regulate the 2012 SMP MSPs,[851] and to regulate the 2019 Newly Designated SMP MSPs[852] for the first time, it is ComReg's position that the option of regulatory forbearance is unwarranted and should be discounted when considering the impact on stakeholders.

9.102 The 2012 SMP MSPs are already subject to a range of SMP regulatory obligations, which remain largely unchanged.

9.103 The 2019 Newly Designated SMP MSP has not had any SMP obligations imposed on it to date. ComReg recognises that the imposition of SMP remedies will impose a greater burden on this MSP than has been the case to date. However, ComReg is of the view that the remedies which it proposes to impose are necessary and proportionate, and amount to the minimum level of regulation required to promote competition and protect consumers.

9.104 In respect of the transparency obligation, ComReg considers that the implementation of an obligation on all 2019 Designated SMP MSPs to make MTRs publicly available would not place a disproportionate burden on them. ComReg recognises that the initial implementation of the RIO obligation will likely be more burdensome for the 2019 Newly Designated SMP MSP. Consequently, ComReg proposes that, for this MSP, the RIO be published within 90 calendar days following the effective date of ComReg's decision on this MVCT market analysis.

9.105 While the 2019 Newly Designated SMP MSP has not been subject to any SMP regulatory obligations to date, broadly the same competition problems have been identified in respect of this MSP and, thus, ComReg sees no objective reason to differentiate the obligations in respect of this MSP.

9.106 The 2012 SMP MSPs have, to date, had an obligation to apply similar terms and conditions to undertakings that obtain, or seek to obtain, from them MVCT services, products, and facilities. The 2019 Newly Designated SMP MSP is currently not subject to any non-discrimination obligations.

9.107 In view of the issues identified in Section 7, ComReg considers it objectively justified to adopt the same approach with respect to non-discrimination obligations for all the 2019 Designated SMP MSPs.

[851] Vodafone, Meteor, Three, Lycamobile and Tesco Mobile.

[852] Virgin Media.

9.108 Having regard to the discussion in paragraphs 8.7 to 8.13 above and the approach to competition problems and remedies in Section 7 and Section 8 respectively, ComReg has, on an incremental basis, concluded that a range of appropriate remedies is necessary, proportionate and justified, while at the same time discounting other remedies. Having regard to the analysis of the Relevant MVCT Markets, ComReg grouped remedies into four options for the purpose of considering the incremental impact of each option on stakeholders (2019 Designated SMP Service Providers, non-SMP Service Providers, and Consumers), as set out in Table 37 above.

9.109 As set out at paragraph 9.18, given the similarities in market structures and competitive dynamics in the provision of both FVCT and MVCT services, Table 37 assesses the impact of each option across both Relevant MVCT Markets and Relevant FVCT Markets. The analysis set out in the table applies equally to the consideration of appropriate regulatory options for the Relevant MVCT Markets.

Step 4: Determine the Impacts on Competition in the provision of MVCT

9.110 ComReg's position is that, absent regulation, the 2019 Designated SMP MSPs would have the ability and incentive to engage in exploitative and exclusionary behaviours which would impact on competition and consumers. In Section 7, ComReg provided examples of potential competition problems and the impact of these on competition and consumers.[853] ComReg has also highlighted its objectives in regulating the Relevant MVCT Markets in paragraph 1.14 above, in particular, preventing the restriction or distortion of competition in affected downstream markets.

9.111 The imposition of appropriate *ex ante* remedies to address such competition problems was discussed and justified in Section 8, with each of the specific remedies designed to promote the development of effective competition. Remedies are to be applied consistently across all MSPs, address the identified impacts of competition problems associated with MSPs having SMP in the Relevant MVCT Markets. This approach will ultimately benefit Service Providers by allowing them to compete fairly at the retail level.

[853] See discussion in paragraphs 7.98 to 7.100 above.

Step 5: Assess Likely Impacts and Choose Best Option in respect of MVCT

9.112 In the discussion on the approach to remedies throughout this Decision, ComReg has taken full account of its obligations under Regulation 8(6) of the Access Regulations, as well as its relevant objectives as set out under section 12 of the Communications Regulation Act 2002 (as amended).

9.113 ComReg is imposing a range of specific regulatory obligations on the 2019 Designated SMP MSPs and, in so doing, has assessed the impact on stakeholders and competition not only in this Section, but throughout this Decision and the Consultation.

9.114 Based on its assessment as set out in Table 37 above, and having considered the impacts on stakeholders and competition, including the impact on the development of competition within the internal market, it is ComReg's position that **Option 3** represents the most justified, reasonable and proportionate of the approaches to regulation within the Relevant MVCT Markets.

9.115 Overall, the regulatory obligations chosen do not unduly discriminate against any one particular MSP, in that they are imposed symmetrically, and this should provide regulatory certainty and ensure fairer and more balanced retail competition amongst Service Providers purchasing MVCT.

9.116 ComReg has considered Respondent views and considers that it has met the requirement to be transparent in its approach by setting out the remedies, by providing the justification for such remedies, and by issuing a detailed and reasoned Decision on these matters.

10 Next Steps

10.1 ComReg has set out its position in the preceding sections regarding its analysis of the Relevant FVCT Market and the Relevant MVCT Markets, and has today published its Decision on its publicly available website www.comreg.ie.

10.2 The following 2019 Designated SMP FSPs which are subject to the regulatory obligations set out in the Decision Instrument set out at Annex: 16 of this Decision, are hereby notified of this Decision.

(a) Airspeed Communications;

(b) Blueface Limited;

(c) BT Communications Ireland Limited;

(d) Colt Technology Services Limited;

(e) Dialoga Servicios Interactivos,SA;

(f) Eircom (trading as Eir);

(g) Equant Network Systems Limited;

(h) Finarea SA;

(i) Imagine Telecommunications Business Limited;

(j) Intellicom Ireland;

(k) In2com Limited;

(l) Internet Protocol Telecom Limited;

(m) Magnet Networks Limited;

(n) Magrathea Telecommunications Limited;

(o) Modeva Networks;

(p) PlanNet 21 Communications Limited;

(q) Telcom Limited;

(r) Verizon Ireland Limited;

(s) Viatel Ireland Limited;

(t) Virgin Media Ireland Limited;

(u) Vodafone Ireland Limited; and

(v) Voxbone SA.

10.3 The following 2019 Designated SMP MSPs which are subject to the regulatory obligations set out in the Decision Instrument set out at Annex: 17 of this Decision, are hereby notified of this Decision.

(a) Lycamobile Ireland Limited;

(b) Meteor Mobile Communications Limited (trading as Eir Mobile);

(c) Tesco Mobile Ireland Limited;

(d) Three Ireland (Hutchison) Limited;

(e) Virgin Media Ireland Limited; and

(f) Vodafone Ireland Limited.

Annex: 1 Consultation with the Competition and Consumer Protection Commission

Coimisiún um Iomaíocht agus Cosaint Tomhaltóirí | Competition and Consumer Protection Commission

Jeremy Godfrey
Chairperson
Commission for Communications Regulation
1 Dockland Central
Guild Street
Dublin 1, D01 E4X0

12th November 2018

Re: Market Review of FVCT Markets and MVCT Markets

Dear Jeremy,

Pursuant to Regulation 27(1) of the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011), the Commission for Communications Regulation ("ComReg") has consulted the Competition and Consumer Protection Commission (the "Commission") with respect to ComReg's proposed draft measures arising from its analysis of the wholesale markets for Fixed Voice Call Termination ("FVCT") and Mobile Voice Call Termination ("MVCT").

On the basis of the facts and analysis presented by ComReg, the Commission is satisfied that there are no compelling grounds for altering the market definitions proposed by ComReg.

On the basis of the facts and analysis presented by ComReg, the Commission is satisfied that there are no compelling grounds to disagree with ComReg's conclusion that 22 Fixed Service Providers ("FSPs") and 6 Mobile Service Providers ("MSPs") should be designated as having significant market power in the FVCT and MVCT markets as defined by ComReg.

Yours sincerely

Ibrahim Bah
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Annex: 2 European Commission Response to ComReg's Notified Draft measures

A2.1 A copy of the letter from the European Commission to ComReg, dated 10 April 2019 (received 11 April 2019):

EUROPEAN COMMISSION

Brussels, 10.4.2019
C(2019) 2908 final

Commission for Communications
(ComReg)
One Dockland Central, Guild Street
D01 E4X0 Dublin 1
Ireland

For the attention of:
Mr Garrett Blaney
Chairperson of the Commission

Fax: +35318788193

Dear Mr Blaney,

Subject: Commission Decision concerning case IE/2019/2150: Wholesale call termination on individual public telephone networks provided at a fixed location in Ireland, and

Case IE/2019/2151: Wholesale voice call termination on individual mobile networks in Ireland

Comments pursuant to Article 7(3) of Directive 2002/21/EC

1. PROCEDURE

On 11 March 2019, the Commission registered two notifications from the Irish national regulatory authority, the Commission for Communications (ComReg)[1], concerning the markets for wholesale call termination on individual public telephone networks provided at a fixed location and wholesale voice call termination on individual mobile networks[2] in Ireland.

[1] Under Article 7 of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive), OJ L 108, 24.4.2002, p. 33, as amended by Directive 2009/140/EC, OJ L 337, 18.12.2009, p. 37, and Regulation (EC) No 544/2009, OJ L 167, 29.6.2009, p. 12.

[2] Corresponding to markets 1 and 2 in Commission Recommendation 2014/710/EU of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Recommendation on Relevant Markets), OJ L 295, 11.10.2014, p. 79.

Commission européenne/Europese Commissie, 1049 Bruxelles/Brussel, BELGIQUE/BELGIË - Tel. +32 22991111

The national consultation[3] ran from 2 October 2017 to 10 January 2018 for the fixed and mobile termination market analysis decision and from 13 March 2018 to 2 May 2018 for the decision specifying the price control remedies for both markets.

On 19 March 2019, a request for information[4] was sent to ComReg and a response was received on 22 March 2019. A supplementary request for information was sent to ComReg on 21 March 2019 and a response was received on 25 March 2019.

Under Article 7(3) of the Framework Directive, national regulatory authorities (NRAs), the Body of European Regulators for Electronic Communications (BEREC) and the Commission may make comments on notified draft measures to the NRA concerned.

2. Description of the draft measure

2.1. Background

Fixed termination

The review of the market for call termination on individual public telephone networks provided at a fixed location in Ireland was previously notified to and assessed by the Commission under cases IE/2007/0701[5] and IE/2013/1469[6].

In the 2007 market review, ComReg defined seven relevant markets and stated that all fixed telecommunication operators providing call termination services had significant market power (SMP) in their respective networks[7]. ComReg proposed to impose on Eircom the obligations of access, transparency, non-discrimination, accounting separation, cost orientation and cost accounting. Alternative operators (ANOs) were made subject to transparency, non-discrimination and price control obligations[8]. The specific obligation imposed on Eircom was to ensure that fixed termination rates (FTRs) were calculated using a forward-looking, long-run incremental costs (FL-LRIC) model. ANOs designated as having significant market power were exempt from cost orientation until they reached a 5 % share of total direct access paths. If the ANO did not reach the 5 % share of the market within five years, ComReg would impose a price control regulation on them.

3 In accordance with Article 6 of the Framework Directive.

4 In accordance with Article 5(2) of the Framework Directive.

5 SG-Greffe (2007) D/207013.

6 C(2013) 4628.

7 These operators were: Eircom, BT Ireland, Colt Telecom, Magnet Communications, Ntl Ireland and Chorus (merged under UPC heading and then rebranded Virgin Media), Smart Telecom (now Viatel) and Verizon.

8 ComReg considered that imposing the access obligation on ANOs would be disproportionate because it was in the commercial interests of ANOs to interconnect with Eircom and with other ANOs, and therefore it was highly unlikely for them to have an incentive not to interconnect. ComReg also explained that an ANO's failure to provide interconnection could be the subject of a dispute notification submitted to ComReg. It also considered that failure to provide a new entrant access to markets where access was already being provided to other operators could constitute a breach of the ANO's non-discrimination obligation and ComReg could intervene in a timely fashion to remedy non-compliance.

In its comments on the 2007 market review, the Commission considered ComReg's approach to alternative operators as inconsistent with EU practice and invited ComReg to revisit its market analysis. The Commission also invited ComReg to align its forthcoming review with the Commission's Termination Rates Recommendation and set FTRs for all SMP operators at the level of costs incurred by an efficient operator to achieve symmetric price control remedies on the relevant market. Finally, the Commission underlined the need for a coherent EU approach to using the cost accounting method.

In case IE/2012/1372[9], ComReg proposed to impose on all SMP operators a cost-orientation obligation based on a pure bottom-up long-run incremental cost (BU-LRIC) methodology, and to set a glide-path[10] (2012 Pricing Decision).

The Commission asked ComReg to review its proposed glide-path for fixed termination rates and called upon ComReg to implement the target FTR levels by the deadline set in the Termination Rates Recommendation. However, the Commission considered that a short delay in implementing the cost-oriented fixed termination rates could exceptionally be acceptable in this case.

ComReg notified the Commission of a new market analysis under case IE/2013/1469. However, ComReg never adopted the final decision due to an appeal against similar provisions in its mobile termination decision (2012)[11]. Therefore, the fixed voice call termination markets remained regulated under the 2007 Decision. In addition to the 2012 Pricing Decision, ComReg introduced amendments to remedies that were notified to the Commission under cases IE/2009/0917[12] and IE/2011/1220[13].

In particular, in case IE/2011/1220, ComReg proposed to: (i) supplement the existing price control obligation by a margin squeeze test between the price of the components of the wholesale switchless voice service[14] and the pricing of the corresponding wholesale call origination and call termination products for interconnected alternative operators, and (ii) further specify the details of the

9 C(2012) 8381.

10 The proposed BU-LRIC based FTRs are set out in the table below:

BU-LRIC FTR		
Start date	**Blended rate (EURcent per minute)**	**Efficient network technology**
1 July 2013	0.098	TDM
1 July 2014	0.085	TDM/NGN
1 July 2015	0.072	NGN

11 In its reply to a Commission request for information, ComReg explained that this appeal was not resolved until February 2016 and so ComReg did not introduce measures related to fixed voice call termination markets during this period. In the second half of 2016, ComReg commenced the review that ultimately has resulted in the current market analysis notification. As that review had already commenced, ComReg did not explore the possibility of addressing the high FTRs through any different procedure.

12 C(2009) 4570.

13 C(2011) 4377.

14 Eircom offers a wholesale switchless voice service which allows service providers to provide retail voice services at a fixed location without the need to invest in their own interconnection infrastructure. This service, known as 'white label' voice, allows fixed operators to purchase end-to-end wholesale voice services. Eircom terminates these calls on behalf of those operators who purchase white label voice on Eircom's network.

transparency obligation. On the margin squeeze test, the Commission commented that ComReg should ensure that its proposed measures did not lead to different regulated prices for the same wholesale products depending on whether they are sold independently or in a bundle. The Commission also urged ComReg to align its model with the Commission`s Termination Rates Recommendation.

Mobile termination

The second review of the market for mobile voice call termination was notified to and assessed by the Commission under case IE/2012/1371[15]. ComReg designated six mobile operators as having SMP[16] and imposed the following obligations on all of them: access, non-discrimination, transparency, and price control. Moreover, ComReg chose a pure BU-LRIC methodology as the most appropriate price control remedy for setting mobile termination rates (MTRs) in Ireland[17]. For the period from 1 July 2013 until the adoption of a pure BU-LRIC model (expected at the time by 1 July 2014 at the latest), ComReg had proposed to set MTRs in Ireland on the basis of a benchmarking method based on those countries that had at that time notified the Commission of using pure BU-LRIC models under Article 7 of the Framework Directive[18]. The resulting pure BU-LRIC benchmark to be achieved as of 1 July 2013 was 1.02 EURcents/min[19]. The Commission called upon ComReg to implement the target benchmarked MTR already by 31 December 2012, and commented that the benchmark should be based on the rates that are set by the NRAs by way of final decisions in the respective Member States, instead of notified rates as proposed by ComReg.

Both decisions (cases IE/2012/1371 and IE/2012/1373) were appealed to the High Court. Following the High Court's judgment of July 2013, a Court's Order[20] was issued in October 2013 imposing an interim maximum MTR of EURcents/min 2.60 applicable as of 1 July 2013. This rate corresponded to the MTR in place at the time of the Order.

In July 2015, ComReg notified the Commission of a proposed two-year extension of the period for conducting a new analysis of the markets for voice call termination on individual mobile networks in Ireland, pursuant to Article 16(6)(a) of the Framework Directive. The Commission did not object to the requested extension.

15 C(2012) 8381.

16 Hutchison 3G Ireland Limited (H3G), Lycamobile Ireland Limited (Lycamobile), Meteor Mobile Communications Limited (Meteor), Tesco Mobile Ireland Limited (TMI), Vodafone Ireland Limited (Vodafone) and Telefónica Ireland Limited (O2).

17 Case IE/2012/1373, C(2012) 8381.

18 UK, Belgium, Portugal, Spain, France, Denmark and Italy.

19 The intermediate rates proposed for the periods July 2012-January 2013 and January 2013-July 2013 were 4.15 EURcents/min and 2.58 EURcents/min, respectively.

20 In its judgment of 14 August 2013, the High Court ruled in part against ComReg, namely in relation to the benchmarking. However, it deferred its ruling on Vodafone's challenge to the legality of ComReg's choice of pure LRIC as the relevant cost standard pending the adoption of the model. The court's order was made on 11 October 2013 (and perfected on 17 October 2013) and a further statement of reasons for the judgment was provided by the High Court on 21 November 2013.

In case IE/2015/1812[21], ComReg specified the price control and transparency obligations previously imposed on the operators identified as having SMP. In particular, ComReg developed a new cost model and imposed new pure BU-LRIC rates[22]. The Commission did not have any comments.

2.2. Market definition

Fixed termination

ComReg defines the relevant fixed termination markets as including the provision by a fixed service provider of a wholesale fixed voice call termination service to other service providers from the nearest point to the end-user or level on that terminating fixed operator's network at which incoming voice calls can be handed over for termination to fixed numbers, and for which that fixed operator is able to set the FTR[23]. ComReg includes in the market the provision of fixed termination services to all geographic numbers, as well as to nomadic 076 numbers and to emergency 112/999 numbers, which share sufficiently similar competitive conditions as termination for geographic numbers. ComReg considers that termination services provided to geographic numbers in the fixed networks numbering range, using mobile technology should also be included in the product market definition, as these services share similar functionality characteristics (limited mobility) and similar pricing structures as voice call services delivered via narrowband technology to end users at a fixed location. ComReg excludes self-supply from the relevant product market, as self-supply is unlikely to constrain rate-setting behaviour in supplying termination to other service providers.

The geographic scope of the relevant market is national and corresponds to the geographic coverage of each individual fixed network.

Accordingly, ComReg identifies 22 separate national fixed termination markets[24].

Mobile termination

ComReg defines mobile termination markets as including the provision by a mobile service provider of a wholesale mobile voice call termination service to other service providers for the purpose of terminating incoming voice calls to mobile numbers, and for which that mobile service provider is able to set the MTR. ComReg considers that calls made on managed, partially-managed or unmanaged

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21 C(2015) 9591.

22 The symmetrically applicable MTR caps are as follows: 0.84 EURcents/min for 2016; 0.82 EURcents/min for 017; and 0.79 EURcents/min for 2018.

23 For this, ComReg also includes in the relevant product market definition calls to fixed numbers using managed or partially-managed VoIP technology, as well as termination services provided for calls to fixed numbers using unmanaged VoIP technologies where either the unmanaged VoIP service provider or a host service provider has the ability to set the level of the FTR.

24 Airspeed Communications, BT Communications, Blueface, Colt Technology, Dialoga Servicios, Eircom, Equant, Finarea, Imagine, In2com, Intellicom, IP Telecom, Magnet Networks, Magrathea, Modeva Networks, PlanNet 21 Communications, Telcom, Verizon, Viatel, Virgin Media, Vodafone, and Voxbone. Until now, 15 of these operators have been providing fixed termination services charging unregulated rates. In its reply to the second Commission request for information, ComReg explains that the fixed operators designated as having SMP account for approximately over 90 % of all sales of fixed voice call termination, with the remainder accounted for by the newly designated SMP fixed operators with very limited market share.

voice-over-IP (VoIP) services fall outside the relevant market as no mobile termination service is required and no MTR is levied.

The geographic scope of the relevant market is national and corresponds to the geographic coverage of each individual mobile service provider's network.

Accordingly, ComReg identifies six separate national mobile termination markets[25].

2.3. Finding of significant market power

Fixed termination

ComReg proposes to designate 22 SMP operators based on the following main criteria: (i) market share, (ii) control of infrastructure not easily duplicated and subject to significant barriers to entry, (iii) absence of potential competition, and (iv) absence of, or low, countervailing buying power. Historical and likely pricing behaviour are also taken into account.

ComReg intends to ascertain within six months from the adoption of the final decision whether the additional fixed termination providers (Phone Pulse, Goldfish and Nuacom) are operating within a relevant fixed voice termination market, whether they have SMP and, if so, whether they should have regulatory obligations imposed upon them.

Mobile termination

ComReg proposes to designate six SMP operators based on the following main criteria: (i) market shares, (ii) control of infrastructure not easily duplicated and subject to significant barriers to entry, (iii) absence of potential competition, and (iv) absence of, or low, countervailing buying power. Historical and likely pricing behaviour are also taken into account.

2.4. Regulatory remedies

Fixed termination

ComReg proposes to impose on all 22 SMP operators (including Eircom) the following obligations: (i) access, (ii) non-discrimination, (iii), transparency, including the requirement to publish a reference offer, and (iv) price control. In addition, ComReg proposes to impose additional transparency[26] and access obligations[27] only on Eircom. It also proposes to lift the obligations of cost accounting and accounting separation currently imposed on Eircom.

[25] Meteor (trading as eir Mobile, a business name of Eircom), Lycamobile, Tesco Mobile Ireland (TMI), Three, Virgin Media and Vodafone.

[26] ComReg requires Eircom to publish detailed documentation on all terms (other than price), conditions, SLAs, guarantees and other product-related assurances associated with the provision of fixed termination within its wholesale switchless voice services. In its reply to the Commission request for information, ComReg clarified that the fixed voice call termination component of the margin squeeze test notified in case IE/2011/1220 is to be withdrawn and replaced by these transparency obligations.

[27] ComReg requires Eircom to provide access to interconnection services as an associated facility given its ubiquitous network coverage and network hierarchy. ComReg's concern is that Eircom could impede/raise the costs of effective handover of calls for termination to fixed numbers on its network. Therefore, there would be a

Regarding the price control obligation, ComReg developed a cost model to calculate pure LRIC fixed termination rates on the basis of hypothetical efficient established operators (FTR Model). The FTR Model calculated costs of fixed termination on an annual basis over a multi-year period. The model calculated rates: (i) on a call set up fee and per minute call duration rate basis (two-part charge)[28], and (ii) on a pure per minute basis (one-part charge)[29]. However, ComReg proposes to implement FTRs using a glide-path based on the consideration that EU-wide fixed termination rates (Eurorates) will enter into force as of 2021 as the European Commission is currently working on the adoption of a delegated act pursuant to the recently adopted European Electronic Communications Code (EECC)[30]. The glide-path, as per the table below, would reduce the possibility of FTRs being lowered under the current national decision and then raised by operators when the Eurorates come into effect, and would be applicable until the Eurorates enter in force.

FTRs	Current rates	2019	2020	2021	2022
Two-part charge: call set-up fee (EURcent)	0.060	0.061	0.061	0.062	0.062
Two-part charge: per minute fee (EURcent)	0.049	0.043	0.037	0.030	0.024
One part charge: per minute fee (EURcent)	0.072	0.063	0.057	0.051	0.045

Table 1: Fixed termination rates based on glide-path

need to ensure that alternative operators can reach all points on the Eircom network to which they need to interconnect. Eircom is also required to conclude, maintain and update as appropriate, legally binding SLAs for the provision of interconnection services.

28 A very high percentage of minutes of traffic are billed on a 'cost per minute and a cost per call' basis. ComReg explains that the one-part charging fee is derived from the two-part charges on the basis that the average call duration of terminated fixed calls is 2.98 minutes. This is done using the following equation: 'One-part charge per minute rate = Call set-up fee/average call duration + pure per minute rate'.

29 The results of the FTR cost model are shown below:

FTRs	Current rates	2019	2020	2021	2022
Two-part charge: call set-up fee (EURcent)	0.060	0.071	0.068	0.065	0.062
Two-part charge: per minute fee (EURcent)	0.049	0.025	0.025	0.028	0.024
One part charge: per minute fee (EURcent)	0.072	0.049	0.047	0.050	0.045

30 Article 75 of the European Electronic Communications Code provides that the Commission will adopt a delegated act setting a single maximum EU-wide mobile voice termination rate and a single maximum EU-wide fixed voice termination rate (together referred to as 'the EU-wide voice termination rates'), applicable as of 31 December 2020.

Mobile termination

ComReg proposes to impose on all six SMP operators the following obligations: (i) access, (ii) transparency, (iii) non-discrimination, and (iv) price control. ComReg proposes to remove the cost accounting and accounting separation obligations.

Regarding the price control obligation, ComReg developed a cost model to calculate pure LRIC mobile termination rates on the basis of hypothetical efficient established operators (MTR Model). The MTR Model calculated costs of mobile termination on an annual basis over a multi-year period[31]. ComReg noted that if the maximum regulated MTRs were applied at the level of the modelled costs, Irish MTRs would be the lowest in the EU (0.33 EURcent/min in 2019). ComReg considers that such a steep decrease (from 0.79 EURcent/min to 0.33 EURcent/min) could be very disruptive and potentially introduce instability in the market. Therefore, also in order to reduce the possibility of MTRs being lowered and then potentially raised again by operators when the Eurorates come into effect, ComReg proposes to implement MTRs using a glide-path, as per the table below.

Year	Current rates	2019	2020	2021	2022
MTR (EURcent/min)	0.79	0.67	0.55	0.43	0.31

Table 2: Mobile termination rates based on glide-path

Treatment of non-EEA originated calls

ComReg proposes to allow designated SMP operators to differentiate between EEA and non-EEA originated calls. However, in order to avoid negative consequences for non-EEA operators, ComReg proposes that any flexibility afforded to termination rates charged for non-EEA originated traffic be limited to those instances where the termination rates of non-EEA operators are 'unreasonably high'. Termination rates are considered to be unreasonably high when they are above the highest EEA pure BU-LRIC termination rate. In particular, the notified measure provides for the following:

(i) SMP operators must charge the prevailing Irish regulated termination rate when terminating traffic originated by non-EEA operators who charge termination rates that do not exceed the highest EEA pure BU-LRIC termination rate.

(ii) If non-EEA operators charge termination rates above the highest EEA pure BU-LRIC termination rates, SMP operators may charge FTRs above the Irish regulated termination rate. In this case, the termination rate charged shall be no higher than the prevailing Irish regulated termination rates plus the difference between the rate charged by the non-EEA operator and the highest EEA pure BU-LRIC rate.

31 The results of the MTR cost model are shown in the table below:

Year	Current rates	2019	2020	2021	2022
Modelled cost per minute (EURcent)	0.79	0.33	0.32	0.31	0.31

3. COMMENTS

The Commission has examined the notification and the additional information provided by the ComReg and has the following comments[32]:

3.1 Efficient level of termination rates

The Commission takes note of ComReg's proposal to set fixed and mobile termination rates based on a four-year glide-path, despite having updated its pure BU-LRIC models for calculating fixed and mobile termination rates in order to determine the efficient symmetric termination rates for the years 2019-2022.

The Commission further takes note of the fact that the Irish fixed and mobile termination rates are already below the average of the pure BU-LRIC termination rates as calculated by NRAs in the EU[33]. The glide-path proposed by ComReg will lower FTRs and MTRs even further.

In addition, the Commission acknowledges the justifications given for ComReg's approach and its aim of reducing market disruptions and instability which could be caused by sudden significant reductions in the level of termination rates (from 0.79 to 0.33 EURcent/min in 2019 for MTRs). It also acknowledges that, in the run-up to the introduction of the Eurorates in 2021, ComReg wishes to mitigate the risk of instability caused by termination rates potentially being lowered and later increased when the Eurorates enter into force.

The Commission also acknowledges that, in the past, whenever an NRA proposed to set termination rates at levels that did not reflect recent market conditions, the Commission expressed serious doubts as to the compliance of such measures with the EU Regulatory Framework.

However, considering the proposed levels of the Irish fixed and mobile termination rates and that the current measure would apply only in the interim period before the Eurorates enter into force, the Commission distinguishes this case from its previous practice. In fact, contrary to the situation underlying case RO/2017/2017-2018, the rates that ComReg proposes to apply are low compared to the EU average[34]. Therefore, setting termination rates at the levels proposed by ComReg would not have a negative effect. Based on this, the Irish draft notified measures do not raise the same serious concerns for the Commission.

3.2 Delays in the market review of the fixed termination markets

The Commission notes that the last market review of the fixed voice call termination markets dates back to 2007. The Commission acknowledges that ComReg conducted a market review of these markets in 2012, but that the measure notified to the Commission in July 2013 was ultimately not adopted. The Commission also acknowledges that ComReg will adopt the notified draft measures as soon as possible and that it will conduct a new market analysis to assess whether

32 In accordance with Article 7(3) of the Framework Directive.

33 BEREC Report on termination rates (July 2018).

34 In the Romanian case, the level of termination rates was above the average pure BU-LRIC MTRs in the EU.

three additional fixed operators should be designated as SMP operators, as confirmed by ComReg in its reply to the request for information.

Timely market reviews are of utmost importance to ensure appropriate regulatory measures and market predictability. Therefore, the Commission calls on ComReg to ensure that all operators active on fixed termination markets are adequately regulated in a timely manner.

Pursuant to Article 7(7) of the Framework Directive, ComReg shall take the utmost account of the comments of other NRAs, BEREC and the Commission and may adopt the resulting draft measure; where it does so, shall communicate it to the Commission.

The Commission's position on this particular notification is without prejudice to any position it may take *vis-à-vis* other notified draft measures.

Pursuant to Point 15 of Recommendation 2008/850/EC[35] the Commission will publish this document on its website. The Commission does not consider the information contained in this letter to be confidential. You are invited to inform the Commission[36] within three working days following receipt whether you consider that, in accordance with EU and national rules on business confidentiality, this document contains confidential information which you wish to have deleted prior to such publication[37]. Please give reasons for such a request.

Yours sincerely,

CERTIFIED COPY
For the Secretary-General,

Jordi AYET PUIGARNAU
Director of the Registry
EUROPEAN COMMISSION

For the Commission,
Roberto Viola
Director-General

[35] Commission Recommendation 2008/850/EC of 15 October 2008 on notifications, time limits and consultations provided for in Article 7 of Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, OJ L 301, 12.11.2008, p. 23.

[36] Your request should be sent either by email: CNECT-ARTICLE7@ec.europa.eu or by fax: +32 2 298 87 82.

[37] The Commission may inform the public of the result of its assessment before the end of this three-day period.

Annex: 3 ComReg's Consideration of the European Commission's Response to ComReg's Notified Draft Measures

A3.1 At Annex: 2 above ComReg set out the EC Response to ComReg's Notified Draft Measures (Case IE/2019/2150 in respect of Wholesale FVCT, and Case IE/2019/2151 in respect of Wholesale MVCT, respectively).

A3.2 The EC commented on two main areas. ComReg has taken utmost account of each of these comments, as set out below:

(a) ComReg's proposal to set fixed and mobile termination rates based on a four-year glide-path (discussed in paragraphs A3.3 below); and

(b) Delays in the market review of the fixed termination markets (discussed in paragraphs A3.4 to A3.5 below).

ComReg's proposal to set fixed and mobile termination rates based on a four-year glide-path

A3.3 ComReg has taken utmost account of the EC's comments regarding a four-year glide-path for FTRs and MTRs in Annex 5 of the Separate Pricing Decision.

Delays in the market review of the fixed termination markets

A3.4 The EC's second comment in the EC Response addressed the importance of timely market reviews. In this respect the EC noted as follows:

"*The Commission notes that the last market review of the fixed voice call termination markets dates back to 2007. The Commission acknowledges that ComReg conducted a market review of these markets in 2012, but that the measure notified to the Commission in July 2013 was ultimately not adopted. The Commission also acknowledges that ComReg will adopt the notified draft measures as soon as possible and that it will conduct a new market analysis to assess whether three additional fixed operators should be designated as SMP operators, as confirmed by ComReg in its reply to the request for information.*

Timely market reviews are of utmost importance to ensure appropriate regulatory measures and market predictability. Therefore, the Commission calls on ComReg to ensure that all operators active on fixed termination markets are adequately regulated in a timely manner".[854]

A3.5 This Decision adopts measures as set out in ComReg's Notified Draft Measures. ComReg confirms that it will conduct the further consultation to assess whether the three identified additional fixed operators and any other operators should be designated as having SMP in a relevant termination market[855]. Further, ComReg acknowledges the importance of conducting timely reviews in order to ensure appropriate regulatory measures and market predictability.

[854] As set out at pages 9 and 10 of the EC Response.

[855] As noted in paragraph 2.13 of this Decision, ComReg further notes that, after the Consultation was published, three additional FSPs, namely Phone Pulse Ltd , Goldfish and TSFY Ltd (trading as Nuacom) ('Additional FSPs'), were identified as potentially providing FVCT services. ComReg intends to issue a further consultation within six months of the effective date of this Decision to assess whether these Additional FSPs are operating within a Relevant FVCT Market, whether they have SMP and, if so, whether they should have regulatory obligations imposed upon them

Annex: 4 Other SMP assessment criteria

A4.1 As noted in Section 6, other factors which could have been assessed to indicate the potential market power of a WVCT supplier in the course of this market review have been considered but, for the reasons set out below, are considered of little or no relevance for the purposes of the SMP assessment in the Relevant FVCT Markets, and the Relevant MVCT Markets.

Absolute and relative size of the undertaking

A4.2 This criterion refers to the potential advantages, and the sustainability of those advantages, that may arise by virtue of the size of an undertaking, relative to its competitors or customers. Having regard to the definition of the Relevant Termination Markets, each Relevant Termination Market consists of a single supplier of FVCT or MVCT and, therefore, there are no actual or potential competitors (given entry barriers). This criterion is, therefore, considered of nugatory relevance. ComReg does, however, consider this factor to be somewhat relevant in considering the strength and impact of any countervailing buyer power on SMP, which it has considered in Section 6.

Technological and commercial advantages or superiority

A4.3 Technological and commercial advances or superiority can represent a barrier to entry, as well as conferring the ability for an undertaking to achieve cost or production efficiencies, generating advantages over its competitors. Having regard to the definition of the Relevant Termination Markets, there is only one supplier in each Relevant Termination Market (given entry barriers) and, therefore, there are no actual or potential competitors with which to compare technologies. Comparisons amongst competitor technologies thus have little or no bearing on the assessment of SMP in the Relevant Termination Markets. This criterion is, therefore, considered of nugatory relevance.

Easy or privileged access to capital markets/financial resources

A4.4 Easy or privileged access to capital markets may act as a barrier to entry, however, for the same reasons identified in paragraph 4.3 there are absolute barriers to entry and no actual or potential competitors on each Relevant FVCT Market and Relevant MVCT Market. Capital/financial advantages vis-à-vis competitors do not therefore arise in the Relevant Termination Markets and this criterion is, therefore, considered of little relevance.

A highly developed distribution and sales network

A4.5 The need to establish distribution systems might delay short to medium term market entry, given the costs involved and could, therefore, act as a barrier to entry. The demand for wholesale FVCT and MVCT services is effectively driven by the retail subscribers of the wholesale access seekers making a call to the retail subscribers of the FVCT or MVCT supplier. The extent of an FVCT or MVCT supplier's wholesale distribution and sales network therefore plays little role in the decision to purchase FVCT or MVCT. Indeed, the decision to purchase FVCT or MVCT is not made at wholesale level by the actual purchaser (the originating Service Provider), but at retail level by the purchaser's subscriber. Hence, the nature of the SMP FSP or MSP's distribution and sales network is not necessarily complex. This criterion is, therefore, not considered relevant to the assessment of SMP in the Relevant Termination Markets.

Product or services diversification

A4.6 While there is often a positive correlation between product or service differentiation and market power (due to the capacity of differentiation to generate brand loyalty and thus to diminish a customer's willingness to switch supplier), FVCT or MVCT is generally purchased on a standalone basis, rather than as part of a broader suite of retail and wholesale services (although Transit may be included as part of a bundle with FVCT or MVCT). However, given that no actual or potential competitors have been identified in the Relevant Termination Markets, product and service differentiation by FSPs or MSPs would not confer any comparative advantage in such markets. FVCT or MVCT is purchased on a standalone rather than a bundled basis. This criterion is, therefore, considered of less relevance to the assessment of SMP in the Relevant Termination Markets.

Economies of scale and scope

A4.7 **Economies of scale** refer to reductions in average costs due to an increase in efficiency of production, as the number of goods produced increases. Typically, a company that achieves economies of scale does so through increased production as fixed costs are shared over an increased number of goods.

A4.8 Economies of scale can act as a barrier to entry, given that new entrants may not achieve the same cost advantages as an existing producer whose output is at operating at a higher level, i.e. it may result in new entrants only being able to operate below the minimum efficient scale.

A4.9 **Economies of scope** exist when a product's average costs are reduced by virtue of the firm producing the product jointly with other products, i.e. where the firm achieves lower costs of production as it produces products jointly rather than separately. Such economies can arise from businesses sharing centralised functions, such as finance or marketing. They can also arise from interrelationships elsewhere in the business process, such as cross-selling one product alongside another, or using the outputs of one business as the inputs of another.

A4.10 Economies of scope can act as a barrier to entry where they confer cost advantages on a firm over its competitors, who may not, for instance, produce multiple product lines.

A4.11 For the same reasons identified in paragraph 4.3 there are significant barriers to entry in the Relevant Termination Markets, and no actual or potential competitors. As a consequence, comparative cost advantages via scale or scope economies do not arise in the context of an SMP assessment. These criteria are, therefore, not considered relevant to the assessment of SMP in the Relevant Termination Markets.

Barriers to expansion

A4.12 Where entry barriers are overcome, the ability for new entrants to expand in a market is relevant to understanding the extent to which an undertaking can act independently of such new competitors. For the same reasons identified in paragraph 4.3 there are significant barriers to entry in the Relevant Termination Markets, no actual or potential competitors and, as a consequence, entry is unlikely to occur within the period of this market review. This criterion is, therefore, not considered of relevance to the assessment of SMP in the Relevant Termination Markets.

Sunk costs

A4.13 Sunk costs are costs that, once incurred, cannot be recovered on exit from the market, and can represent an absolute barrier to entry. A sunk cost differs from other, future costs that a business may face, such as inventory costs or R&D expenses, because it has already happened. For the same reasons identified in paragraph 4.3 there are significant barriers to entry in the Relevant Termination Markets, no actual or potential competitors and, as a consequence, any comparative advantages/disadvantages arising from sunk costs are not considered of relevance to the assessment of SMP in the Relevant Termination Markets.

Direct and indirect network effects

A4.14 Direct network effects are present when the consumption of one good by an increased number of customers increases the use/utility of that good for one consumer. Indirect network effects occur when the value a consumer derives from a good or service increases with the number of additional customers of identical and/or complementary goods or services.[856] In respect of network effects, ComReg notes that the 2018 SMP Guidelines define network effects in terms of value to the consumer. ComReg has considered network effects in its SMP analysis. While FVCT and MVCT are wholesale, rather than retail, products, ComReg has noted throughout the Decision the impact that termination rates can have on calling and called party behaviours.[857]

Conclusion of long-term and sustainable access agreements

A4.15 This criteria concerns the conclusion of commercial agreements with an access seeker so that the access-seeker cannot disrupt alleged tacit coordination by becoming a maverick.[858] In this respect, ComReg notes that this criterion is considered in the Staff Working Document in the context of joint dominance. Relevant Termination Markets are defined at the individual SP and given this joint dominance is not a relevant consideration.

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[856] See footnote 56 of the 2018 SMP Guidelines

[857] As set out at footnote 57 of the 2018 SMP Guidelines.

[858] See page 35-36 of the Staff Working Document.

Engagement in contractual relations with other market players that could lead to market foreclosure

A4.16 In respect of contractual relations with other market players that could lead to foreclosure, ComReg considers that the types of relations envisaged by the European Commission (roaming agreements, network sharing agreements as well as co-investment agreements not opened to third parties) are not present on the Relevant Termination Markets.[859]

[859] As set out at footnote 58 of the 2018 SMP Guidelines

Annex: 5 Identification of Key Wholesale FVCT and MVCT Service Providers

A5.1 This Annex documents Service Providers that currently provide (or may provide) FVCT and/or MVCT services, during the timeframe of this market review. It includes a summary of what typically characterises a Service Provider that provides or may potentially provide WVCT. ComReg proposes three categorises which enable grouping the FVCT and MVCT Service Providers or potential providers of WVCT services. The FVCT groups are outlined first followed by the MVCT groups.

Fixed Service Providers - Wholesale FVCT Service

A5.2 ComReg has identified the following three groups of FVCT Service Provider:

(a) **Group A FSPs**: these are comprised of all those FSPs with Fixed Number[860] allocations which set/control the FTRs in respect of such Geographic Numbers and are currently active in the provision of FVCT;

(b) **Group B FSPs**: these are comprised of those FSPs with Fixed Number allocations which are not currently active in the provision of FVCT in respect of such Geographic Numbers, but have negotiated, or have concrete plans to negotiate, interconnection with relevant wholesale purchasers, including the FTRs to be applied, and have formal plans regarding prospective wholesale and/or retail activity; and

(c) **Group C FSPs:** these are comprised of those FSPs that have Fixed Number allocations and have indicated an intention to start supplying/charging for FVCT for calls to those Geographic Numbers within the next three years but have not yet formalised their plans regarding prospective wholesale and/or retail activity.

A5.3 Section 5 of this Consultation sets out the key characteristics of a FVCT service as follows:

(a) FVCT involves the FSP's control (either by means of an allocation from ComReg, or the transfer of the Rights of Use from another authorised undertakings) of the subscriber's Geographic Number which is key to routing the final leg of an inbound call to an end user at a fixed location;

[860] In Section 5 dealing with the definition of the Relevant FVCT Markets, fixed numbers are defined fixed as including Geographic, 076, 112, 999 and (managed and partially-managed) VoIP numbers.

(b) FVCT involves interconnection between networks and the FSP's ability to set/control the FTR for inbound calls to the Geographic Numbers; and

(c) FVCT involves technological neutrality (i.e. FVCT services for calls to all Geographic Numbers are included irrespective of whether the underlying technology is wired or wireless).

A5.4 Therefore, ComReg has performed a detailed analysis in order to identify all FSPs that currently or prospectively will provide such FVCT services for the purposes of the present market review. In assessing the likelihood of potential FVCT service provisioning within the period of this market review, ComReg has examined *inter alia* whether a potential entrant has been assigned any of the numbering categories which, in Section 5 above, it concluded fell within the relevant markets (from ComReg or via transfer[861] from the original authorised Service Provider).

A5.5 Evidence of any wholesale interconnection negotiations, as obtained through statutory information requests, was considered and/or whether there are any formal plans for initiation of wholesale and/or retail activities over the three years, following the completion of this market analysis process and the adoption of a new decision.

A5.6 Using this process, ComReg has identified the list of FSPs that are currently or prospectively active in providing FVCT services within the timeframe of this market review, as set out below. Based on the credibility of FVCT service provisioning over the timeframe of this market review, ComReg is of the position that the FSPs in Groups A and B below are identified as providing a service which falls within a Relevant FVCT Market for the purposes of this market review.

A5.7 It should also be noted in respect of each of the Relevant FVCT Markets identified, in each case the listed FSP is deemed to include any undertaking which it owns or controls, and any undertaking which owns or controls it. The listed undertaking also includes its successors, affiliates and assigns. This means that consolidation of companies by acquisition, creation of a subsidiary or any other changes of control should not affect the list of FSPs operating or likely to operate within a Relevant FVCT Market.

A5.8 Where there is market entry or exit the list of FSPs will, however require, consideration. As noted in Section 5 of this Consultation, ComReg proposes to keep Group C FSPs under review as well as the Additional FSPs.

[861] When the original assignee allows another (authorised) service provider to use the numbers. The original assignee (as the rights of use holder) remains responsible for ensuring that the numbers are used in compliance with the Numbering Conditions of Use (ComReg Document 15/136).

Group A FSPs

A5.9 These are FSPs with Geographic Number allocations which currently supply FVCT.

	Group A - Fixed Service Provider
1.	Eircom Limited
2.	BT Communications Ireland Limited
3.	Vodafone Ireland Limited
4.	Verizon Ireland Limited
5.	Virgin Media Ireland Limited
6.	PlanNet 21 Communications Limited
7.	Airspeed Communications
8.	Colt Technology Services Limited
9.	Imagine Communications Ireland Limited
10.	Magnet Networks Limited
11.	Telcom Limited
12.	In2com Limited
13.	Finarea SA
14.	Viatel Ireland Limited
15.	Blue Face Limited (trading as Blueface)
16.	Modeva Networks
17.	Equant Network Systems Limited
18.	Dialoga Servicios Interactivos SA
19.	Intellicom Ireland Limited
20.	Magrathea Telecommunications Limited
21.	Voxbone SA
22.	Internet Protocol Telecom Limited (trading as IP Telecom)

Group B FSPs

A5.10 These are FSPs with fixed number allocations which do not currently supply FVCT but have negotiated, or have concrete plans to negotiate, interconnection with relevant wholesale partners, including FTRs to be applied, and have formal plans regarding prospective wholesale and/or retail activity. Since the Consultation, Internet Protocol Telecom Limited (trading as IP Telecom) has been moved into Group A because they are now providing FVCT in the relevant market.

	Group B - Fixed Service Provider
	None

Group C FSPs

A5.11 These are FSPs with fixed number allocations which do not currently supply FVCT and which have indicated an intention to supply FVCT over the next three years but do not currently have formal plans regarding prospective wholesale and/or retail activity. At the time of this Decision, Procom Voice Solutions Ltd, trading as Speechpath were not offering FVCT services in the relevant market.

	Group C - Fixed Service Provider
1.	Procom Voice Solutions Ltd, trading as Speechpath

Mobile Service Providers - Wholesale MVCT Service

A5.12 ComReg has identified MSPs which currently provide MVCT services and has completed analysis of those MSPs, to identify if any MVCT activity is likely and credible during the timeframe of this market review.

A5.13 Section 5 of this Consultation sets out the key characteristics of a MVCT service as follows:

(a) MVCT involves the provision of a WVCT service for the purpose of completing voice calls to subscribers' mobile numbers that have been assigned to an MSP;

(b) MVCT is provided by a MSP (irrespective of whether it is a MNO or an MVNO) which has the ability to set/control the MTR; and

(c) MVCT is technology neutral and does not differ according to whether MVCT is provided over 3G, 4G or other underlying mobile technology.

A5.14 In assessing the likelihood of potential new MVCT service provisioning within the period of this market review, ComReg has examined whether a potential entrant has been assigned Mobile Numbers (from ComReg or via transfer[862] from the original authorised Service Provider).

A5.15 Evidence of any wholesale interconnection negotiations was considered and/or whether there are any formal plans for initiation of wholesale and/or retail activities over the three years following the completion of this market analysis process and the adoption of a new decision.

A5.16 Using this process, ComReg has identified the list of MSPs that are currently or prospectively active in providing MVCT services within the timeframe of this market review, as set out below. Based on the credibility of MVCT service provisioning over the timeframe of this market review, ComReg is of the position that the MSPs in Groups A and B below would be identified as Relevant MVCT Markets for the purposes of this market review.

A5.17 It should also be noted in respect of each of the Relevant MVCT Markets, in each case the listed MSP is deemed to include any undertaking which it owns or controls and any undertaking which owns or controls it.

A5.18 The listed party also includes its successors, affiliates and assigns. This means that consolidation of companies by acquisition, creation of a subsidiary or any other changes of control should not affect the list.

A5.19 Where there is market entry or exit the list of MSPs will, however require, consideration. As noted in Section 5 of this Consultation, ComReg proposes to keep Group C MSPs under review.

A5.20 Similarly to the FVCT Groups above, ComReg proposes three groups of MSPs for the purposes of identifying their current and prospective MVCT activity as follows:

Group A MSPs

A5.21 These are MSPs with mobile number allocations[863] which set/control the MTRs in respect of such mobile numbers and are currently active in the provision of MVCT:

[862] When the original assignee allows another (authorised) service provider to use the numbers. The original assignee (as the rights of use holder) remains responsible for ensuring that the numbers are used in compliance with the Numbering Conditions of Use (ComReg Document 15/136).

[863] Since the Consultation iD mobile have exited the market, therefore are no longer in Group A.

	Group A - Mobile Service Provider
1.	Vodafone
2.	Meteor Mobile Communications[864]
3.	Three
4.	Lycamobile
5.	TMI
6.	Virgin Media

Group B MSPs

A5.22 These are MSPs with mobile number allocations which do not currently supply MVCT but have negotiated, or have concrete plans to negotiate, interconnection with relevant wholesale partners, including MTRs to be applied, and have formal plans regarding prospective wholesale and/or retail activity.

A5.23 During the analysis, no Service Providers were identified in this category.

Group C MSPs

A5.24 These are MSPs with mobile number allocations which do not currently supply MVCT and which have indicated an intention to supply MVCT over the next three years but do not currently have formal plans regarding prospective wholesale and/or retail activity.

A5.25 During the analysis, no Service Providers were identified in this category.

[864] Trading as Eir Mobile

Annex: 6 Retail price sensitivity and switching analysis (RFVC)

A6.1 The development and extent of competition in a market over time may be observed by reference to pricing behaviour. In an SMP assessment context, the ability of a Service Provider to behave, to an appreciable extent, independently of the pricing behaviour of its competitors may be suggestive (but not determinative in itself) of SMP when considered alongside other factors. ComReg assesses this factor when considering the effectiveness of CBP.

A6.2 The purpose of this Annex is to summarise the price sensitivity analysis[865] undertaken by ComReg in relation to RFVC which is then used in the analysis set out in Sections 4 and 5 (in respect of indirect constraints) of this Decision in the context of the assessment of the impact of indirect constraints on the Relevant FVCT Markets.

A6.3 In this regard, it should be noted that, since FTRs are an input to the overall costs of the Service Provider originating calls, an increase in FTRs is likely to be passed on to the Service Provider's subscribers through their retail calls or other charges. Thus, as part of the overall demand-side substitution assessment in defining the Relevant FVCT Markets, ComReg examines consumers' and SMEs' switching responses following an increase in the terminating FSP's FTRs and the extent of any pass-through[866] of this increase by the originating Service Provider into its retail prices for calling a subscriber of the relevant FSP.[867]

A6.4 ComReg's analysis draws on the 2016 Market Research which included a range of questions that examined consumer and SME behaviour and their potential responses to increases in the prices of RFVC as a result of the pass-through of FTR increases.

[865] The 2016 Market Research was carried out by RedC in July 2016. The analysis included 1018 consumer face-to-face interviews, which signified a nationally representative sample of telecommunications decisions makers aged 18+. 500 telephone interviews were also completed among a representative sample of Irish SMEs (0-250 employees).

[866] While likely, it is by no means certain that some or all of the increase will be passed through. This will depend on the originating Service Provider's ability to absorb the price increase.

[867] It is also worth noting that the pass-through of an FTR increase could be spread over the entire costs of a retail tariff/plan as opposed to retail call prices alone. For example, it could be recovered through a combination of access (line rental) and call price increases.

A6.5 In particular, RFVC subscribers, consumers[868] and SMEs[869] (Standalone and bundled services) were asked to indicate the extent to which they would change their behaviour when making off-net fixed-to-fixed, fixed-to-mobile, mobile-to-mobile and, in the SME sector only, mobile-to-fixed calls as a result of a hypothetical SSNIP of 1 cent in the cost of such calls.

A6.6 While it is uncertain whether the entire FTR increase will be passed through to the price of retail calls or other associated prices (or if it is passed through at all), ComReg notes that hypothetical 1 cent RFVC SSNIP tested in the 2016 Market Research greatly exaggerates the effects of a full retail pass-through of a 5-10% increase in FTRs (above the competitive price level).[870]

A6.7 The expressed consumer/SME behaviour in response to hypothetical RMVC price changes, rather than being determinative, is used to inform ComReg's demand-side substitution analysis in the Relevant FVCT Market (in the context of indirect constraints), with the views expressed by consumers and SMEs set out in the paragraphs below.

A6.8 At a 1 cent SSNIP of RFVC, 16% of consumer respondents purchasing standalone RFVC stated that they would definitely change their behaviour, with a further 14% noting that they might change their behaviour.[871]

A6.9 Among consumer respondents purchasing RFVC in a bundle with other services, 8% of consumer respondents stated that they would definitely change their behaviour, while 17% noted that they might change their behaviour.[872]

A6.10 Overall, the majority of consumer respondents purchasing RFVC noted that they would not change their behaviour in response to a 1 cent RFVC SSNIP. Table 1.1 outlines responses from consumers, when asked if they would change their behaviour based on a 1 cent per minute price increase.

[868] 2016 Consumer FVCT Market Research, slides 88 to 112.

[869] 2016 SME FVCT Market Research, slides 78 to 99.

[870] The current highest FTR is that of Ocean at 1.612 cent per minute (note Ocean is not currently designated with SMP and its FTRs are, therefore, unregulated). It is also likely that this FTR is above the competitive level, having regard to the FTRs charged by the 2007 SMP FSPs (0.072 cent per minute).

[871] 2016 Consumer FVCT Market Research, slide 88.

[872] 2016 Consumer FVCT Market Research, slide 100.

Table 1.1: Consumer respondents' stated likelihood of change in behaviour arising from 1 cent increase in the price of RFVC

	Yes, definitely change behaviour	Yes, maybe change behaviour	No change in behaviour
1 cent increase in fixed-to-fixed (off-net) call price (standalone RFVC)[873]	16%	14%	70%
1 cent increase in fixed-to-fixed (off-net) call price (purchasers of RFVC in a bundle)[874]	8%	17%	75%

A6.11 Among consumer respondents who were likely to change their behaviour as a result of a 1 cent SSNIP in RFVC, reducing the number of calls and downgrading to a cheaper bundle were the most frequently cited options by purchasers of standalone RFVC and purchasers of RFVC bundled with other services respectively.[875] Table 1.2 summarises the potential switching actions of responding residential RFVC subscribers.

[873] 2016 Consumer FVCT Market Research, slide 88.

[874] 2016 Consumer FVCT Market Research, slide 100.

[875] 2016 Consumer FVCT Market Research, slides 88 to 112.

Table 1.2: Reported switching behaviour of responding residential RFVC subscribers[876]

	Residential standalone RFVC subscribers	**Residential bundled RFVC subscribers**	**Total**	**Total as % of those respondents with a Fixed Line Phone (n=617)**
	N	**n**	**n**	**%**
No. of respondents	132	485	617	
Slide Reference	Slide 88	Slide 100		
Definitely /Maybe change behaviour in response to SSNIP[877]				
No. of respondents	39	121	160	26%
Slide Reference	Slide 89	Slide 101		
How Behaviour would change[878]				
Cancel Subscription	11	24	35	6%
Keep Subscription, but reduce the number of calls made or downgrade to a cheaper bundle	19	50	69	11%
Do nothing	7	28	35	6%
Other	2	19	21	3%
Slide Reference	Slide 89	Slide 101		
Potential Switching Actions after cancelling subscription or reducing the number of made calls[879]				
Make more calls on mobile	11	5	16	3%
Use mobile phone more for both calls and texts	8	6	14	2%
Send more texts on mobile	8	1	9	1%
Make less calls on fixed line phone and not replace them with other forms of communication	5		5	1%
Make more voice/video calls using OTT apps	5	1	6	1%
Send more emails or use the Internet more often for social networking/instant messaging	5	2	7	1%
Ask for call back via email or text message	2		2	0.3%
Do something else	1		1	0.1%
Make no changes	1		1	0.1%
Slide Reference	Slide 91	Slide 104		

A6.12 Residential RFVC respondents were also asked whether they would change their call receipt behaviour if they were concerned about the cost faced by people when calling them, with the reported behaviours and their frequency set out below. The 2016 Market Research indicates that the majority of respondents are not likely to shorten the length of calls, or not answer the call when receiving calls to their landline.[880] This suggests that the majority of consumer RFVC respondents are not concerned about receiving calls from other landlines on other networks, to their landlines.

[876] 1,018 residential respondents were surveyed. Of these, 625 respondents reported they had a fixed line phone used for voice telephony. These respondents were asked whether they purchase standalone RFTS or RFTS in a bundle with other services. Subsequently respondents were asked about their reaction to a SSNIP of a call to a fixed line phone on another fixed line network.

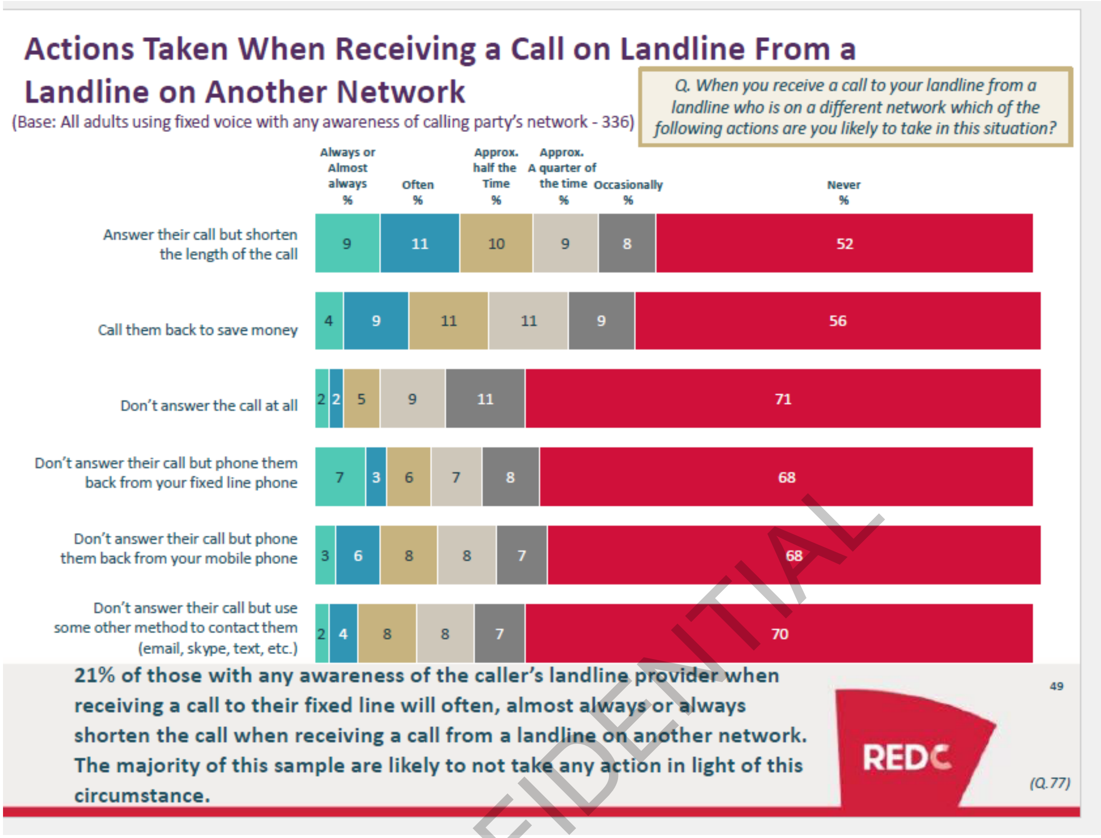
[877] Respondents were asked whether they would change their behaviour in response to a 1 cent increase in the price of an off-net fixed-to-fixed call. Responses were recorded as Yes or No. Those that stated Yes were asked whether they would Definitely Change Behaviour, Maybe - Might Change Behaviour or No Change in Behaviour.

[878] Respondents who stated they would definitely or maybe change their behaviour in response to a price increase were asked to state what actions they would take in response to the price increase. A number of these respondents stated they would cancel their RFTS subscription. Other respondents who said they would definitely or maybe change their behaviour stated they would keep their current subscription and reduce the number of calls they made, they would keep their current subscription, but switch to a cheaper package/bundle, do something else or do nothing in response to a price increase.

[879] Respondents who stated that they would definitely or maybe change their behaviour and responded that they would cancel their RFTS subscription or keep their subscription, but make fewer calls, were asked what actions they might take instead when communicating with other people. Respondents were allowed to pick multiple options.

[880] 2016 Consumer FVCT Market Research, slide 49.

Figure 1.1: Consumer respondents' behaviour when receiving an off-net fixed voice call



A6.13 Similar questions were asked of SME respondents. Table 1.3 illustrates that the majority of SME respondents purchasing RFVC are unlikely to change their behaviour when making calls to subscribers on other fixed voice networks in response to a 1 cent SSNIP of RFVC.

Table 1.3: SME respondents' stated likelihood of change in behaviour arising from a 1 cent increase in price of RFVC

	Yes, definitely change behaviour	Yes, maybe change behaviour	No change in behaviour
1 cent increase in fixed-to-fixed (off-net) call price (purchasers standalone RFVC)[881]	18%	13%	69%
1 cent increase in fixed-to-fixed (off-net) call price (purchasers of RFVC bundled with other services)[882]	17%	12%	71%
1 cent increase in mobile-to-fixed call price[883]	11%	4%	85%

A6.14 Among SME respondents who were likely to change their behaviour, researching other offers, reducing the number of calls and downgrading to a cheaper bundle were the most frequently quoted actions.[884] Table 1.4 summarises the potential switching actions of responding SME RFVC subscribers.

[881] 2016 SME FVCT Market Research, slide 78.

[882] 2016 SME FVCT Market Research, slide 89.

[883] 2016 SME MVCT Market Research, slide 117.

[884] 2016 SME FVCT Market Research, slide 90.

Table 1.4: Reported switching behaviour of responding SME RFVC subscribers[885]

	SME standalone RFVC subscribers	SME bundled RFVC subscribers	Total	Total as % of those respondents with a Fixed Line Phone (n=444)
	n	n	n	%
No of respondents	201	243	444	
Slide Reference	Slide 83	Slide 95		
Definitely/Maybe change behaviour in response to SSNIP[886]				
No of respondents	63	70	133	29%
Slide Reference	Slide 79	Slide 90		
How Behaviour would change[887]				
Cancel Subscription	9	9	18	4%
Keep Subscription, but reduce the number of made calls/downgrade to a cheaper bundle	11	19	30	7%
Do nothing	6	4	10	2%
Other[888]	37	38	75	17%
Slide Reference	Slide 79	Slide 90		
Potential Switching Actions after cancelling subscription or reducing the number of made calls[889]				
Make more mobile calls	13	15	28	6%
Use mobile phone more for both calls and texts	13	18	31	7%
Send more texts on mobile	9	16	25	6%
Make less calls on fixed line phone and not replace them with other forms of communication	8	17	25	6%
Make more voice/video calls using OTT apps	6	12	18	4%
Send more emails or use the Internet more often for social networking/instant messaging	13	18	31	7%
Slide Reference	Slide 81	Slide 93		

A6.15 Based on the above analysis it is ComReg's view that the majority of domestic and SME RFVC subscribers would not change their behaviour in response to a hypothetical 1 cent per minute increase.

[885] 500 SME respondents were surveyed. Of these, 445 respondents reported that they had a fixed line phone used for voice telephony. These respondents were asked whether they purchase standalone RFTS or RFTS in a bundle with other services. Subsequently, respondents were asked about their reaction to a SSNIP of a call to a fixed line phone on another fixed line network.

[886] Respondents were asked whether they would change their behaviour in response to a 1 cent increase in the price of an off-net fixed-to-fixed call. Responses were recorded as Yes or No. Those that indicated Yes were asked whether they would Definitely Change Behaviour, Maybe - Might Change Behaviour or No Change in Behaviour.

[887] Respondents who stated they would definitely or maybe change their behaviour in response to a price increase were asked to state what actions they would take in response to the price increase. A number of these respondents stated they would cancel their RFTS subscription. Other respondents who said they would definitely or maybe change their behaviour stated they would keep their current subscription and reduce the number of calls they made, they would keep their current subscription, but switch to a cheaper package/bundle, do something else or do nothing in response to a price increase.

[888] Over 20% of SME respondents (standalone and in a bundle) noted that they would research other offers.

[889] Respondents who stated they would definitely or maybe change their behaviour and responded that they would cancel their RFTS subscription or keep their subscription, but make fewer calls were asked what actions they might take instead when communicating with other people. Respondents were allowed to pick multiple options.

Annex: 7 Retail price sensitivity and switching analysis (RMVC)

A7.1 The purpose of this Annex is to summarise the price sensitivity analysis[890] undertaken by ComReg in relation to RMVC market which is set out in Sections 4 and 5 (in the context of indirect constraints) of this Decision.

A7.2 In this regard, it should be noted that, since MTRs are an input to the overall costs of the Service Provider originating calls, an increase in MTRs is likely to be passed on to the Service Provider's subscribers through their retail calls or other charges. Thus, as part of the overall demand-side substitution assessment, ComReg examines consumers' and SMEs' switching responses following an increase in the terminating MSP's MTRs and the pass-through[891] of this increase by the originating Service Provider into its retail prices for calling a subscriber of the relevant MSP.[892]

A7.3 ComReg's analysis draws on the 2016 Market Research which included a range of questions that examined consumer and SME behaviour and their anticipated responses to increases in the prices of RMVC. In particular, consumers[893] and SMEs[894] were asked to indicate the extent to which they would change their behaviour when making off-net mobile-to-mobile, fixed-to-mobile and mobile-to-fixed[895] calls as a result of a hypothetical SSNIP of 1 cent and, separately, 3[896] cent of such calls.

[890] Market Research was carried out by RedC on behalf of ComReg, in the MVCT market, in July 2016. The analysis included 1038 consumer face-to-face interviews, of all adults aged 15+ who used a mobile phone, in July 2016. In addition, 500 telephone interviews were completed among a representative sample of Irish SMEs (0-250 employees), in August 2016.

[891] While likely, it is by no means certain that some or all of the increase will be passed through. This will depend on the originating Service Provider's ability to absorb the price increase.

[892] The pass-through of an MTR increase could be spread over the entire costs of a retail tariff as opposed to retail call prices alone. For example, the MTR increase could be recovered through a combination of access, call or handset price increases.

[893] 2016 Consumer MVCT Market Research, slides 106 to 113.

[894] 2016 SME MVCT Market Research, slides 114 to 123.

[895] Mobile-to-fixed was tested in the SME sector only.

[896] This was tested on mobile-to-mobile off-net calls only.

A7.4 While it is uncertain whether the entire MTR increase will be passed through to the price of retail calls or other associated prices (or indeed if it is passed through at all), ComReg notes that hypothetical 1 cent and 3 cent SSNIPs in RMVC tested in the 2016 Market Research exaggerates the effects of a full retail pass-through of a 5% to 10% increase in MTRs (above the competitive price level).[897]

A7.5 The expressed consumer/SME behaviour in response to hypothetical RMVC price changes, rather than being determinative, is used to inform ComReg's demand-side substitution analysis, with the views expressed by consumers and SMEs set out in the below paragraphs.

A7.6 At a 1 cent increase in the price of RMVC, 6% of consumer respondents purchasing RMVC stated that they would definitely change their behaviour with a further 10% noting that they might change their behaviour.[898] Among respondents purchasing RFVC, the likelihood of change in behaviour is slightly higher, with 11%[899] of standalone RFVC purchasers and 7%[900] of bundled RFVC purchasers noting that they would definitely change behaviour. Overall, the majority of consumer respondents purchasing RMVC and/or RFVC noted that they would not change their behaviour if the price of RMVC were to increase by 1 cent.

A7.7 At a 3 cent increase, the indicated change in behaviour increases significantly with 22% of consumer respondents purchasing RMVC noting that they would definitely change their behaviour and a further 15% noting that they might change their behaviour.

[897] The current highest MTR is that of Virgin Media at 2.6 cent per minute (Virgin Media is not currently designated with SMP and its MTRs are, therefore, unregulated). It is also likely that this MTR is above the competitive level, having regard to the MTRs charged by the 2012 SMP MSPs (0.82 cent per minute). A 5% to 10% increase in a 2.6 cent MTR is in the range of 0.13 cent to 0.26 cent and assuming this is fully passed through to retail customers, it would give rise to an increase of less than 1 cent which is highly unlikely to be noticed by retail customers. Thus, hypothetical 1 cent and 3 cent increases in the price of RMVC were used to examine respondents' behaviour.

[898] 2016 Consumer MVCT Market Research, slides 107.

[899] 2016 Consumer FVCT Market Research, slide 93.

[900] 2016 Consumer FVCT Market Research, slide 106.

Table 2.1: Consumer respondents' likelihood of change in behaviour arising from 1c and 3c increases in the price of RMVC

	Yes, definitely change behaviour	Yes, maybe change behaviour	No change in behaviour
1c increase in mobile-to-mobile off-net call price[901]	6%	10%	84%
3c increase in mobile-to-mobile off-net call price[902]	22%	15%	63%
1c increase in fixed-to-mobile call price (purchasers of standalone RFVC)[903]	11%	13%	76%
1c increase in fixed-to-mobile call price (purchasers of RFVC in a bundle)[904]	7%	14%	79%

A7.8 Among consumer respondents who were likely to change their behaviour as a result of a SSNIP of 1 cent, reducing the number of calls made or the duration of off-net mobile-to-mobile calls, were the most frequently cited options as indicated below. Over 50% of respondents that noted such behavioural change also indicated that they would do this often or almost always.

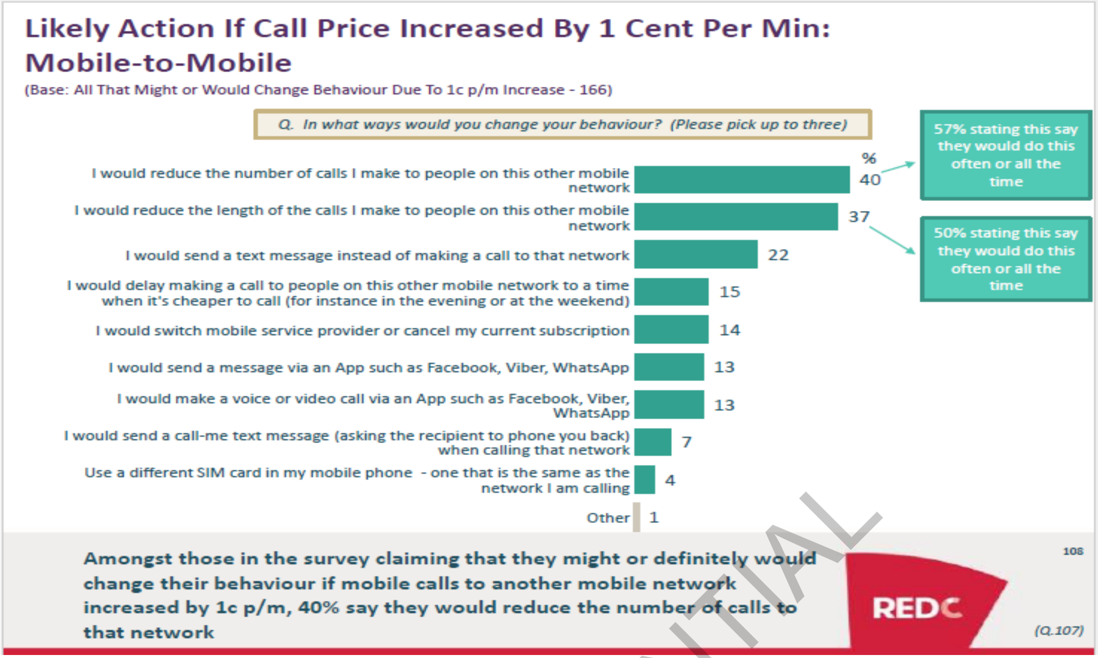
[901] 2016 Consumer MVCT Market Research, slide 107.

[902] 2016 Consumer MVCT Market Research, slide 109.

[903] 2016 Consumer FVCT Market Research, slide 93.

[904] 2016 Consumer FVCT Market Research, slide 106.

Figure 2.1: Consumer respondents' stated behavioural response at 1 cent RMVC price increase

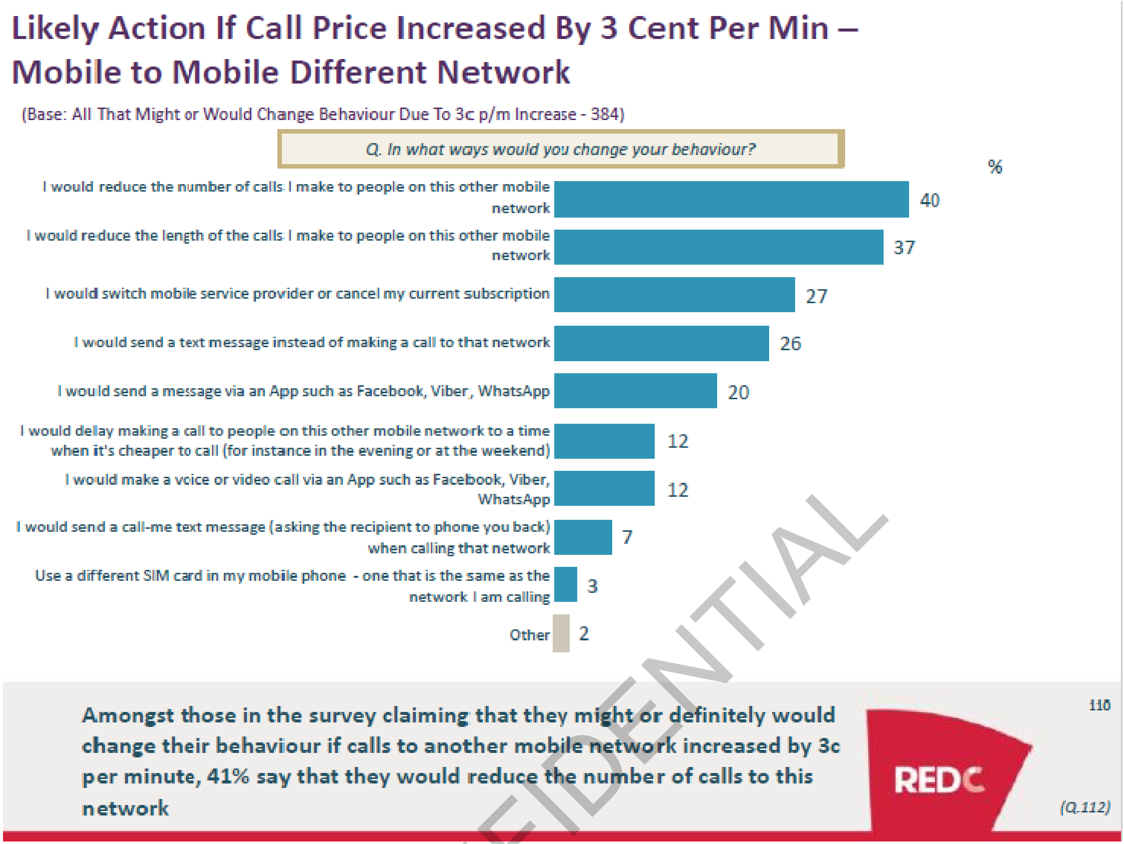


A7.9 Similar behavioural responses to a 3 cent SSNIP were cited by consumer respondents purchasing RMVC. However, a noticeable increase in the number of consumer respondents indicating that they would switch their MSP or cancel their current subscription is also observed as demonstrated below.[905]

A7.10 The frequency of stated behavioural changes is high with the majority of respondents noting that they would proceed with their stated behavioural change often or almost always.

[905] 2016 Consumer MVCT Market Research, slide 110. It should be noted that, in this instance, n=384, a smaller proportion of the overall sample.

Figure 2.2: Consumer respondents' behavioural response at 3 cent RMVC price increase



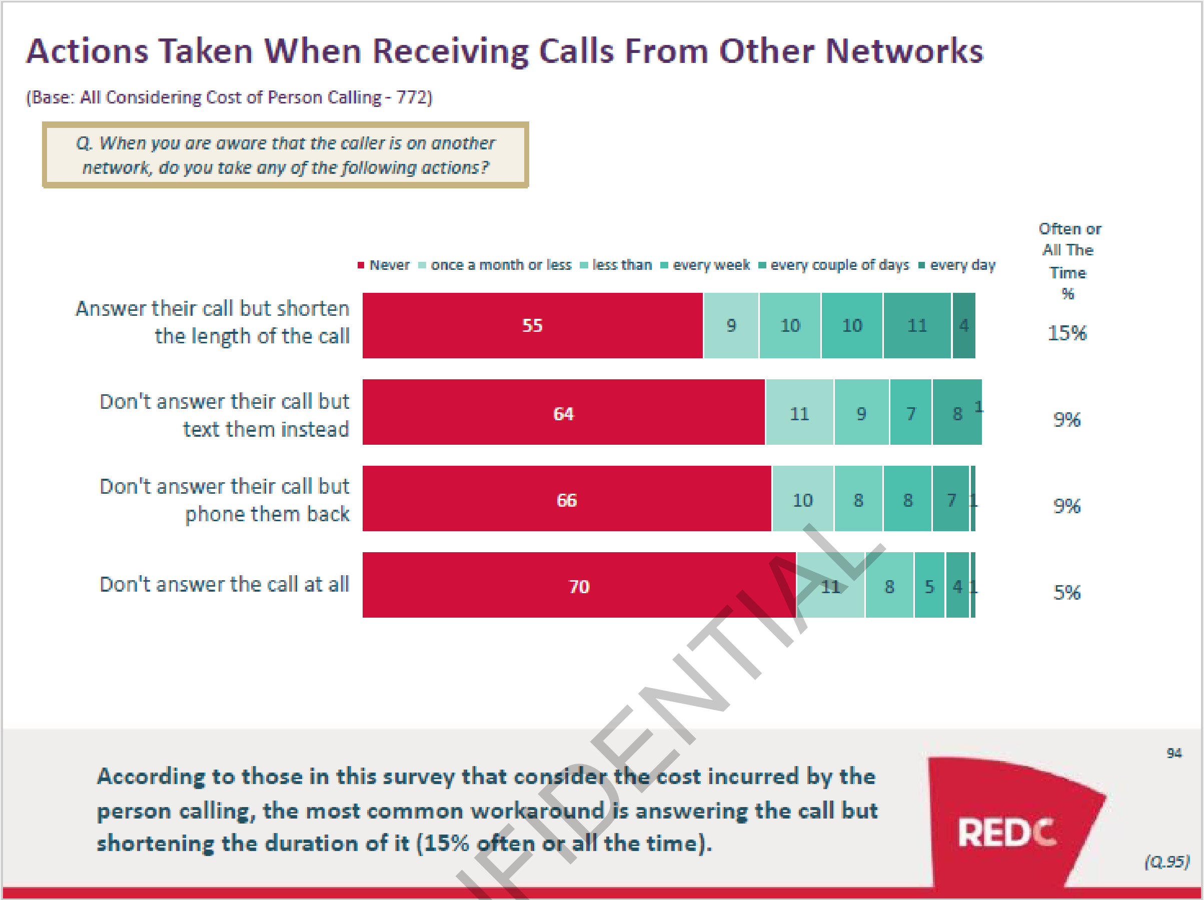
A7.11 Similar behavioural responses were also cited by purchasers of RFVC who noted that they are likely to change their behaviour in response to a 1 cent SSNIP of fixed-to-mobile calls.[906]

A7.12 Consumer respondents were also asked[907] whether they would change their behaviour, when receiving a call, if they were concerned about the cost for people when calling them, with the reported behaviours and their frequency set out below. It indicates that the majority of respondents are not likely to change their behaviour, when receiving a call, even if they know that the caller is on another mobile network.

[906] 2016 Consumer FVCT Market Research, slide 93.

[907] 2016 Consumer MVCT Market Research, slide 94.

Figure 2.3: Consumer respondents' stated behaviour when receiving off-net mobile call



A7.13 Similar questions were asked of SME respondents. Table 2.2 below demonstrates that the majority of SME respondents purchasing RMVC[908] and/or RFVC are unlikely to change their behaviour when making calls to mobile networks, in response to a 1 cent increase in the price of calls to mobiles.

[908] 2016 SME MVCT Market Research, slide 114.

Table 2.2: SME respondents' stated likelihood of change in behaviour arising from a 1 cent increase in price of RMVC

	Yes, definitely change behaviour	Yes, maybe change behaviour	No change in behaviour
1 cent increase in mobile-to-mobile off-net call price[909]	13%	3%	84%
1 cent increase in fixed-to-mobile call price (standalone RFVC)[910]	19%	10%	71%
1 cent increase in fixed-to-mobile call price (RFVC in a bundle)[911]	18%	12%	70%

A7.14 Among SME respondents, the following actions were most frequently encouraged by employers of their employees,[912] following a 1 cent price increase in the cost of making a call to another mobile network;

(a) 55% - make fewer calls

(a) 67 % - reduce the length of a call

(b) 52% - change supplier; and

(c) 63% - encourage employees to send a text message instead of making a call.

A7.15 Based on the above analysis it is ComReg's position that, the majority of RMVC subscriber's (consumers and SME) would not change their behaviour, as a result of a hypothetical 1 cent per minute increase. This item is further detailed in Sections 4 and 5 of this Decision.

[909] 2016 SME MVCT Market Research, slide 114.

[910] 2016 SME FVCT Market Research, slide 83.

[911] 2016 SME FVCT Market Research, slide 95.

[912] 2016 SME MVCT Market Research, slide 116.

Annex: 8 FSP and MSP Retail Price Plans

FSP Retail Price Plans[913]

Plan Name	Prepay (P) or Billpay (B) Plan	Plan Pricing Differs by Time of Day	Off-Net Plan Pricing Differs by Service Provider	On-Net Pricing Differs to Off-Net Pricing
Eircom				
Eir Talk Off-peak Mobile[914]	B	✓	✗	✗
Eir Talk Mobile World[915]	B	✗	✗	✗
Virgin Media				
World Talk[916]	B	✗	✗	✗
World Unlimited Talk[917]	B	✗	✗	✗
Pure Telecom				
Pure Telecom[918]	B	✗	✗	✗
Sky				
Sky Talk Freetime[919]	B	✓	✗	✗
Sky Talk Anytime[920]	B	✓	✗	✗

[913] Price plan data correct as of September 26, 2018.

[914] Unlimited Off Peak local & national calls to landlines & Irish mobiles: https://www.eir.ie/phone/

[915] Ibid.

[916] https://www.virginmedia.ie/broadband/learn-about-home-phone/

[917] Ibid.

[918] https://www.puretelecom.ie/residential/landline-service

[919] http://www.sky.com/ireland/broadband-talk/talk-compare/

[920] Ibid.

MSP Retail Price Plans[921]

Vodafone Price Plans					
Plan Name	**Prepay (P) or Billpay (B) Plan**	**Plan Pricing Differs by Time of Day**[922]	**Off-Net Plan Pricing Differs by Service Provider Called**[923]	**On-Net Pricing Differs to Off-Net Pricing**[924]	**Data Usage included**
Chat Extra[925]	P	×	×	×	✓
Smart Extra	P	×	×	✓ F	✓
Extra	P	×	×	×	✓
RED Connect 12 Month SIM Only[926]	B	×	×	×	✓
RED 30 day	B	×	×	×	✓
RED Connect	B	×	×	×	✓
RED Connect Essentials	B	×	×	✓ F	✓
RED Connect Super	B	×	×	×	✓

[921] Price plan data correct as of September 26, 2018.

[922] This column (throughout) captures whether the price of making calls differs according to when call is made during peak, off-peak or weekend. ✓=Yes and ×=No. If Yes, then it is also indicated if the difference applies to All Calls (Mobile and Fixed) (AC), Mobile Only (MO), Fixed Only (FO) or to calls to the Same Network (SN) only.

[923] This column (throughout)captures whether there is a difference in the price of making 'off-net' calls to subscribers of other mobile service providers (MSPs) or fixed service providers (FSPs) (together 'Service Providers') differs. ✓=Yes and ×=No. If Yes, then it is also indicated if this difference applies to one or more Specific Mobile Service Providers (SMSPs) on the one hand, or to FSPs on the other and whether the price is at a Discounted Rate (DR) or is Free (F).

[924] This column (throughout) captures whether the cost of making a call to a subscriber of the same MSP is different to the cost of calling a subscriber of a different MSP or FSP. ✓=Yes and ×=No. If Yes, then it is also indicated whether the on-net call price is at a Discounted Rate (DR) or is Free (F).

[925] http://www.vodafone.ie/pay-as-you-go-plans/

[926] http://www.vodafone.ie/bill-pay-plans/

Plan Name	Prepay (P) or Billpay (B) Plan	Plan Pricing Differs by Time of Day	Off-Net Plan Pricing Differs by Service Provider Called	On-Net Pricing Differs to Off-Net Pricing	Data Usage Included
		3 Ireland Price Plans			
Three Prepay[927]	P	×	×	✓ F	✓
Unlimited Flex Max Sim Only[928]	B	×	×	✓ F	✓
Mini Flex Max 100[929]	B	×	×	✓ F	✓
Classic Flex Max 350	B	×	×	✓ F	✓
Unlimited Flex max	B	×	×	✓ F	✓

927 http://www.three.ie/eshop/phone-plans/prepay/

928 http://www.three.ie/eshop/sim-only-plans/bill-pay-sim-only/

929 http://www.three.ie/eshop/phone-plans/bill-pay/

TMI Price Plans					
Plan Name	**Prepay (P) or Billpay (B) Plan**	**Plan Pricing Differs by Time of Day**	**Off-Net Plan Pricing Differs by Service Provider Called**	**On-Net Pricing Differs to Off-Net Pricing**	**Data usage included**
Prepay 15GB[930]	P	×	×	×	✓
30 day plan - €10 monthly[931]	B	×	×	×	✓
30 day plan - €25 monthly	B	×	×	×	✓
€10 monthly[932]	B	×	×	×	✓
€20 monthly	B	×	×	×	✓
€30 monthly	B	×	×	×	✓
€50 monthly	B	×	×	×	✓

[930] https://www.tescomobile.ie/prepay-plans.aspx

[931] https://www.tescomobile.ie/sim-only-plans.aspx

[932] https://www.tescomobile.ie/bill-pay-plans.aspx

Lycamobile Mobile Price Plans (National Bundles only)[933]					
Plan Name	**Prepay (P) or Billpay (B) Plan**	**Plan Pricing Differs by Time of Day**	**Off-Net Plan Pricing Differs by Service Provider Called**	**On-Net Pricing Differs to Off-Net Pricing**	**Data usage Included**
Ireland Plus	P	×	×	×	✓
All in one L	P	×	×	×	✓
All in one M	P	×	×	×	✓
Talk & Text S	P	×	×	✓ **F**[934]	×

[933] https://www.lycamobile.ie/en/bundle

[934] 450 minutes of calls to any network are included in the bundle. Charges for calls thereafter differ between on-net and off-net calls. See more at: https://www.lycamobile.ie/en/nationalrates

Eir Mobile Price Plans					
Plan Name	**Prepay (P) or Billpay (B)**	**Plan Pricing Differs by Time of Day**	**Off-Net Plan Pricing Differs by Service Provider Called**	**On-Net Pricing Differs to Off-Net Pricing**	**Data Usage Included**
€10 Calls[935]	P	×	×	×	×
€20 & Data	P	×	×	×	✓
€30 Calls & Texts	P	×	×	×	✓
eir Mobile Essential[936]	B	×	×	×	✓
eir Mobile Connect	B	×	×	×	✓
eir Mobile Complete	B	×	×	×	✓

935 https://www.eir.ie/mobile/prepay/

936 https://www.eir.ie/mobile/bill-pay/

Virgin Media Price Plans					
Plan Name	**Prepay (P) or Billpay (B) Plan**	**Plan Pricing Differs by Time of Day**	**Off-Net Plan Pricing Differs by Service Provider Called**	**On-Net Pricing Differs to Off-Net Pricing**	**Data Usage Included**
Virgin Mobile[937] Unlimited	B	×	×	×	✓
Virgin Mobile 2GB	B	×	×	×	✓
2GB Plan[938]	B	×	×	×	✓
Unlimited Plan	B	×	×	×	✓

[937] SIM Only plan. See more at: https://www.virginmedia.ie/mobile/sim-only/

[938] https://www.virginmedia.ie/mobile/

Annex: 9 List of Consultation Questions

Q. 1.	**Do you agree that this Section identifies the main relevant developments in the retail fixed voice and mobile voice markets since the previous reviews of the Relevant FVCT and MVCT Markets? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 2.	**Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant FVCT Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual or other evidence supporting your views.**

Q. 3.	**Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant MVCT Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual or other evidence supporting your views.**

Q. 4.	**Do you agree with ComReg's preliminary conclusions on the wholesale FVCT product market and geographic market definition assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 5.	**Do you agree with ComReg's preliminary conclusions on the wholesale MVCT product market and geographic market definition assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 6.	**Do you agree with ComReg's assessment of SMP in the Relevant FVCT Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 7.	**Do you agree with ComReg's assessment of SMP in the Relevant MVCT Markets? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 8.	**Do you agree that the competition problems and the associated impacts on competition and consumers which are identified in this Section are those which could potentially arise in the Relevant FVCT Markets? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 9.	**Do you agree that the competition problems and the associated impacts on competition and consumers which are identified in this Section are those which could potentially arise in the Relevant MVCT Markets? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 10.	**Do you agree with ComReg's approach to imposing remedies in the Relevant FVCT Markets? Are there other approaches that would better address the identified competition problems? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 11.	**Do you agree with ComReg's draft FVCT Decision Instrument set out in Appendix 6? Do you agree with ComReg's definitions and interpretations as set out in these draft Decision Instruments? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer.**

Q. 12.	**Do you agree with ComReg's approach to imposing remedies in the Relevant MVCT Markets? Are there other approaches that would better address the identified competition problems? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.**

Q. 13.	**Do you agree with ComReg's draft MVCT Decision Instrument set out in Appendix 7? Do you agree with ComReg's definitions and interpretations as set out in these draft Decision Instruments? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer.**

Q. 14.	**In respect of the potential alternative approaches for price control obligations on the application of WVCT to calls originated outside the EEA, please indicate which approach would better address the identified competition problems. Please explain the reason for your answer, providing any empirical evidence and clearly indicating the relevant paragraph numbers to which your comments refer.**

Q. 15.	**Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment, in respect of FVCT? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.**

Q. 16.	**Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment, in respect of MVCT? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.**

Annex: 10 Framework for CBP Assessment

A10.1 ComReg sets out below the framework which it uses to assess the existence of any existing or potential effective CBP in the Relevant Termination Markets. The assessment of any such CBP is considered in Section 6.

A10.2 ComReg assesses CBP in accordance with the following framework:

(a) The regulatory context for CBP assessment;[939] and

(b) The economic framework for CBP assessment.[940]

Regulatory Context for CBP Assessment

A10.3 In carrying out an assessment of CBP it is necessary to consider the impacts of existing or potential future regulation. In this regard, ComReg sets out below its approach to the treatment of:

(a) Existing SMP regulation in the Relevant Termination Markets under assessment;

(b) Existing SMP regulation in markets other than the Relevant Termination Markets under assessment; and

(c) Other non-SMP regulation, and the role of dispute resolution.

[939] As set out at paragraph 6.38 above.

[940] As set out at paragraphs 6.39 to 6.41 above.

Approach to existing SMP regulation in the Relevant Termination Markets when considering CBP

A10.4 ComReg has already noted[941] that it adopts the 'Modified Greenfield Approach' set out by the European Commission, whereby SMP regulation in the market under consideration is discounted when considering the prospective SMP analysis of the Relevant Termination Markets. In assessing the existence of any effective CBP, ComReg considers the potential bargaining outcomes if the Service Provider in question were not actually or potentially designated with SMP, and were therefore not subject to SMP obligations. This is to avoid drawing conclusions regarding the competitive structure of a particular market which may be influenced by, or indeed premised on, existing or potential regulation on that market. Considering how the Relevant Termination Markets may function absent regulation helps to ensure that regulation is only applied (or withdrawn) in those circumstances where it is truly justified and proportionate. To do otherwise could result in a circularity of argument whereby, for example, the Relevant Termination Markets are found to be effectively competitive (or not) only by virtue of constraints arising from existing or potential SMP obligations. Once found to be effectively competitive, SMP obligations would be withdrawn, thereby undermining the original finding of effective competition on those markets.

Approach to existing SMP regulation outside the Relevant Termination Markets

A10.5 Before assessing approaches to existing SMP regulation outside the Relevant Termination Markets, it is important to note that various approaches are possible under the Modified Greenfield Approach.

A10.6 Under one approach, it is assumed that neither the FSP active on the Relevant FVCT Market under consideration, nor FSPs active on separate Relevant FVCT Markets are subject to SMP regulation, but that MSPs active on Relevant MVCT Markets are subject to SMP regulation. The implication of this approach is that FSPs active on each Relevant FVCT Market are unregulated, and therefore more capable of exerting CBP with respect to one another, than MSPs active on each Relevant MVCT Market, who are subject to SMP regulation. The SMP MSPs are therefore likely to have less freedom to exercise CBP, as they will have less freedom of manoeuvre to threaten to alter their behaviour as a negotiating tool in their CBP strategy vis-à-vis suppliers of FVCT.

[941] See paragraph 1.28 above.

A10.7 Under an alternative approach, it could be assumed that the FSP active on the Relevant FVCT Market under consideration is not subject to SMP regulation, but that Service Providers active on all other Relevant FVCT Markets and Relevant MVCT Markets are subject to SMP regulation. In this case, the Modified Greenfield Approach assumes that only one FSP on one Relevant FVCT Market is unregulated. In these circumstances, all other Service Providers are likely to be constrained in their capacity to exert CBP on the Unregulated FSP, due to their SMP regulatory obligations. The Unregulated FSP on the Relevant FVCT Market is therefore much more likely to be able to exert CBP against other Service Providers, while those Service Providers in turn are much less likely to be able to exert CBP on it.

A10.8 ComReg proposes to take the latter approach that, in the case of an FSP active on a specific Relevant FVCT Market, Service Providers active on all other Relevant FVCT Markets and Relevant MVCT Markets are subject to SMP regulation, and are therefore more constrained in their CBP strategies. This approach is based on ComReg's findings that each Relevant FVCT Market consists of a single FSP supplying FVCT, and that, accordingly, all other FSPs and MSPs providing WVCT services are active on markets external to the specific Relevant FVCT Market under consideration.

A10.9 For the avoidance of doubt, ComReg similarly considers that, in the case of a specific Relevant MVCT Market, Service Providers active on all other Relevant FVCT Markets and Relevant MVCT Markets are subject to SMP regulation.

SMP regulation in markets other than the Relevant FVCT Market

A10.10 SMP regulation in markets outside the Relevant FVCT Market being examined is considered and, in this regard, the 2006 Expert Report prepared on behalf of the European Commission notes:[942]

> *"..it should also be noted that an operator requiring fixed call termination loses any power to counteract with an increase in its own termination rate if it is subject to SMP regulation and its call termination rate is set by the regulator on an ex ante basis. When applying the modified Greenfield approach to fixed termination, we assume that mobile operators are subject to SMP regulation and their termination rate is set by the regulator."*

[942] "A Review of certain markets included in the Commission's Recommendation on Relevant Markets subject to ex ante Regulation - An independent report", Footnote 161, at page 57.

A10.11 It is clear from the above statement that the bargaining position of a Service Provider will likely be weakened in FTR negotiations with a FVCT supplier if the Service Provider is subject to SMP obligations, and this is the logic of the Modified Greenfield Approach. Under the Modified Greenfield Approach, the SMP Service Provider cannot credibly exert CBP by threatening a retaliatory termination rate price increase.

A10.12 The provision of FVCT services by the 2007 SMP FSPs is subject to a number of regulatory obligations, including an obligation of price control. In these circumstances, the 2007 SMP FSPs, in their termination rate negotiations with other Service Providers, are unable to credibly threaten to retaliate with an increase in their FTRs and their bargaining power relative to other Service Providers is likely to be lessened, compared to a counterfactual in which they are not subject to SMP obligations. ComReg's position is that SMP obligations constrain the bargaining power of SMP FSPs in termination rate negotiations with other Service Providers, given that SMP FSPs are subject to a range of regulatory obligations, including an obligation of price control. As set out below, however, the converse is also the case.

SMP regulation in markets other than the Relevant MVCT Market

A10.13 SMP regulation in markets outside the specific Relevant MVCT Market being examined is considered and, in this regard, when discussing CBP, the Explanatory Note to the 2007 Recommendation notes:[943]

> *"Considerations of relative market power are not limited to networks (of differing size or coverage) serving end users at a fixed location or address but also apply to networks such as mobile cellular networks serving non-fixed locations. In circumstances where a 'fixed' network with Significant Market Power is subject to a regulatory remedy (beyond the basic one to negotiate interconnect) such as regulated prices for call termination, market power relative to mobile networks would be affected."*

[943] Explanatory Note to the 2007 Recommendation, page 25, footnote 28. The Explanatory Note to the 2014 Recommendation refers at page 32 under the heading 'Related aspects of SMP finding' to the CBP discussion set out in the 2007 Recommendation, rather that setting out a CBP analysis in the body of the text.

A10.14 What is clear in the above statement is that the bargaining position of a SMP FSP will likely be weakened in MTR negotiations with a MVCT supplier if its supply of FVCT is subject to SMP price regulation, or other SMP obligations governing the requirement to meet reasonable requests for access and not to discriminate. The provision of FVCT services by the 2007 SMP FSPs is subject to a number of regulatory obligations, including an obligation of price control.

A10.15 In these circumstances, SMP FSPs, in their MTR negotiations with an MSP, are unable to credibly threaten to retaliate with an increase in their FTRs and their bargaining power relative to MVCT suppliers is likely to be lessened, compared to a counterfactual in which they are not subject to SMP obligations. ComReg's position is that SMP obligations constrain the bargaining power of SMP FSPs in MTR negotiations with an MVCT supplier, given that SMP FSPs are subject to regulatory obligations, including an obligation of price control.

Approach to other non-SMP regulatory obligations and the role of dispute resolution

A10.16 ComReg has also considered the role of dispute resolution (and own initiative investigations) in the context of general interconnection obligations, and how this might impact on the bargaining dynamic between parties in termination rate negotiations and CBP. Regulation 31[944] of the Framework Regulations empowers ComReg to resolve disputes between authorised undertakings not only in relation to specific SMP obligations, but also with respect to general obligations, including those governing interconnection. Furthermore, Section 10 of the Communications Regulation Act 2002 (as amended) provides ComReg with the power to carry out investigations into matters relating to the supply of access, either on its own initiative or following a complaint from an undertaking.

A10.17 The question arises as to whether ComReg's ability to actually or potentially exercise its dispute resolution powers (or to commence investigations on its own initiative) is a relevant factor which should be taken into account in the assessment of CBP. If so, the next question is what the impact on the bargaining dynamic of the negotiating parties of such dispute resolution intervention is likely to be, such that the strength of any CBP exercised by a purchaser of WVCT is likely to offset a WVCT supplier's ability to set its termination rates above the competitive level. These questions must also be considered against the backdrop of the 'Modified Greenfield Approach' described in detail at paragraphs 10.4 to 10.11 above.

[944] This transposes Article 20 of the Framework Directive (Directive 2002/21/EC as amended by Directive 2009/140/EC).

A10.18 The European Regulatory Framework provides that SMP obligations may only be imposed on a Service Provider that is designated as holding SMP. Exceptionally, under Regulation 6 of the Access Regulations, such obligations may be imposed on operators that do not have SMP. However, the exception is subject to the proviso set out in Regulation 6(2) that such obligations should only be imposed *"to the extent that it is necessary to ensure end-to-end connectivity"* and to *"ensure interoperability."* Whenever ComReg is exercising its dispute resolution powers or its powers to initiate investigations on its own initiative, it must also do so having regard to its objectives under Section 12 of the Communication Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations.

A10.19 In the event that Service Providers are unable to reach a commercially negotiated arrangement regarding the interconnection of their networks, including in relation to the level of the termination rates levied or proposed to be levied by a WVCT supplier (absent SMP), it would potentially[945] be open to one of the parties to seek to have the matter resolved by ComReg through the dispute resolution process provided for under Regulation 31 of the Framework Regulations.

A10.20 It is also open to ComReg to carry out an investigation in relation to a Service Provider's general obligations to, for example, meet requirements to comply with aspects of the Numbering Conditions of Use,[946] including those relating to the opening up of access to numbers on their networks to ensure their subscribers can access services using such numbers.[947] Compliance with obligations relating to access to numbering contained in Regulation 23 (1) of the Universal Service Regulations[948] could also be taken into consideration.

[945] Having regard to ComReg's statutory functions and objectives in relation to interconnection.

[946] One of the functions of ComReg is to manage the national numbering resource. The Numbering Conditions of Use set out, *inter alia*, the definitions of the various numbering categories available for use in the State. Available online at https://www.comreg.ie/publication/numbering-conditions-of-use-and-applications-process/

[947] See Appendix 8 of the Numbering Conditions of Use.

[948] European Communities (Electronic Communications Networks and Services) (Universal Service and End Users' Rights) Regulations 2011 (S.I. No. 337 of 2011).

A10.21 As has been ComReg's position to date,[949] ComReg does not accept that the existence of its dispute resolution function, and its resulting power to determine termination rates in the context of an interconnection dispute, would negate any WVCT supplier's potential SMP position. Dispute resolution is a regulatory function which operates in parallel to, rather than as a substitute for, market analysis functions. Were ComReg to accept that the potential for regulatory intervention through the exercise of its dispute resolution functions negates the existence of an SMP position, it would then be faced with a scenario whereby no undertaking could ever be designated with SMP.

A10.22 ComReg also does not consider that such a scenario was contemplated in the European Regulatory Framework and this has been borne out in a number of recent decisions by the European Commission under Article 7 of the Framework Directive concerning the imposition by National Regulatory Authorities of both SMP obligations pursuant to findings of SMP following a market analysis and the imposition of SMP-type obligations on non-SMP undertakings pursuant to the exercise of dispute resolution functions. Such European Commission decisions[950] clearly highlight its view that regulatory intervention in relation to the level of termination rates by non-SMP Service Providers through dispute resolution, while appropriate in certain scenarios as a short term measure, is no substitute for the conduct of a market analysis and, where appropriate, the imposition of permanent price control remedies.

A10.23 The UK's Competition Appeal Tribunal ('CAT') 2014 judgement[951] regarding an appeal by six telecommunications providers of a decision by the Office of Communications ('Ofcom') in respect of a dispute resolution process concerning the wholesale prices charged for Ethernet access is also informative. The CAT, in considering the effects of a regulator's dispute resolution role quoted with approval the 2012 Court of Appeal judgment in *Telefónica O2 UK Ltd v BT*,[952] which held that:

[949] See, for example, paragraphs 4.68 to 4.79 of Consultation on Market Analysis relating to wholesale voice call termination on Three's network, ComReg Document 07/01, 11 January 2007; paragraph 6.44 of Market Review Wholesale Voice Call Termination Services Provided at a Fixed Location Consultation and Draft Decision, ComReg 12/96, and paragraph 6.115 of Market Review: Voice Call Termination on Individual Mobile Networks, Response to Consultation and Decision Notice Decision: D11/12

[950] See, for example, Cases PL/2012/1280, PL/2012/1378 and IT/2016/1885.

[951] Case Numbers 1205/3/3/13, 1206/3/3/13, and 1207/3/3/13. Available online at http://www.catribunal.org.uk/238-8608/Judgment.html.

[952] Telefónica O2 UK Ltd v BT [2012] EWCA Civ 1002 (the '08x Numbers case')

> *"The existence side by side of both adjudicatory and regulatory functions follows from the scheme of the Directives, but is particularly clearly spelled out in section 190 of the Communications Act, which I have already quoted."*[953]

A10.24 In further considering the role of dispute resolution and its impact on the assessment of CBP, a regulatory dispute determination governing the termination rates of a non-SMP undertaking may not necessarily result in a form of price control that would prevail in a competitive market. Given that the particular circumstances of each dispute can vary, it is difficult to be definitive as to precisely how ComReg would approach a particular interconnection dispute concerning the level of a non-SMP Service Provider's termination rate. ComReg's view is that the imposition of any price control on non-SMP Service Providers would potentially be such as to ensure end-to-end connectivity or interoperability between networks pursuant to Regulation 6(2) of the Access Regulations.

A10.25 Such an approach is not necessarily equivalent to the imposition of a cost oriented price. Any price control arising from a dispute determination would only be relevant insofar as it applied to the parties to the dispute itself, would not have a general market application, and would not, in ComReg's view be an efficient or effective means of resolving broader competition problems associated with the potential exercise of market power.

A10.26 Overall, for the reasons outlined above, ComReg considers that the actual or potential impact of dispute resolution is not a factor for consideration in terms the bargaining dynamic between parties and, ultimately, CBP.

A10.27 ComReg has not, through its dispute resolution process, to date, imposed non-SMP type price control or other obligations on MSPs pursuant to Section 6(2) of the Access Regulations.

[953] See paragraph 296 of the 2014 CAT Judgement.

Economic Framework for CBP assessment

A10.28 Assessing the presence or absence of effective CBP involves an examination of whether sufficient buyer power may be exercised, such that the WVCT supplier cannot behave independently of its customers or consumers, and is therefore unable to sustain a termination rate above the level that would pertain in a competitive market. As noted earlier, the concept of CBP is not an absolute one,[954] and some degree of CBP may be present in termination rate negotiations between parties. Given that termination rate negotiations are usually bilateral in nature, it is reasonable to assume that the level of any CBP exercised will vary between parties, having regard to their circumstances.

A10.29 While a range of economic models provides a context for the assessment of the exercise of CBP between interconnecting parties,[955] ComReg's review considers a series of bilateral monopoly bargaining scenarios involving one monopolist supplier of WVCT and one monopsonist purchaser of WVCT. ComReg recognises that this may not always be the case, as a number of purchasers of WVCT do so on the basis of interconnection through a transit provider. For example, Eircom, given its position in call origination markets (which continue to be regulated) and transit markets (which were deregulated by ComReg in 2015), purchases WVCT not just on its own behalf, but also on behalf of a number of other Service Providers. Accordingly, when considering a Service Provider's buyer power, ComReg has regard not only to purchases of WVCT on its own behalf, but also those purchases of WVCT on behalf of other parties such as in cases involving transit arrangements.

A10.30 ComReg also considers a number of other factors which are relevant to setting out the economic framework according to which ComReg measures relevant bargaining dynamics and positions in the demand for and supply of WVCT. Such factors include:

(a) The degree to which a purchaser of WVCT represents an important outlet for the seller;

(b) The degree to which a purchaser of WVCT has alternative supply options and is a well-informed and price sensitive buyer; and

[954] The question to be addressed is not whether or not CBP has been exercised, but rather the strength of CBP exercised, and whether this is sufficient to constrain the exercise of SMP, in particular, by preventing a WVCT supplier from pricing termination rates above the competitive level.

[955] See, for example, the discussion in previous ComReg documents such as Market Analysis: Voice Call Termination on Hutchison 3G Ireland's Mobile Network, ComReg Document No. 07/01, January 2007 (paragraphs 4.16 to 4.28).

(c) Evidence of CBP through analysing price-setting behaviour and actual negotiations.

A10.31 The above factors are considered in the CBP assessments of Relevant Termination Markets carried out in Section 6.

Size of the buyer and its relative importance to the seller

A10.32 The strength of CBP can be influenced by the relative size of the buyer, measured according to the buyer's share of total purchases of WVCT from a Service Provider. The degree to which WVCT purchases are concentrated amongst one or more buyers may be relevant.

A10.33 The size of the buyer's subscriber base impacts its buyer power, as it may be important for the WVCT supplier to have interconnection with the buyer to ensure that the WVCT supplier's subscribers can receive calls from and make calls to the buyer's subscribers.[956] However, the same may also be said of the buyer given that it would, for reputational and other reasons, also wish to ensure that its subscribers can receive calls from and make calls to the subscribers of a given WVCT supplier.

A10.34 The size of the buyer and its relative importance to the seller has the potential to be dynamic over time, particularly having regard to the growth in the subscriber bases of the respective parties, and trends in actual or potential termination purchased by a buyer. For example, as a WVCT supplier's customer base grows, it may become somewhat more difficult for a WVCT purchaser to refuse or delay interconnection with that Service Provider (and purchase WVCT), given that it will likely have both an increasing need for its subscribers to be able to contact the Service Provider's subscribers, and an increase in the potential volume of incoming traffic from the Service Provider in question.

A10.35 Arising from the above, it is possible that, relative to an established Service Provider, a new entrant Service Provider would find it more important to ensure that it had obtained interconnection to other Service Providers that have large customer bases. Recognising this asymmetry, the bargaining power of larger networks supplying/purchasing WVCT in interconnection negotiations with new entrant Service Providers could potentially be enhanced.

[956] Such interconnection can occur directly between the respective networks, or indirectly, with the purchaser interconnecting with that WVCT supplier through a third-party transit arrangement.

A10.36 Overall, having regard to the nature of the interconnection arrangements established with Service Providers, to identify the largest buyers of a Service Provider's WVCT service and their relative importance to the Service Provider, ComReg considers the following:

(a) The share of WVCT supplied by a particular Service Provider that is purchased by individual Service Providers directly interconnected with the Service Provider and trends over time;

(b) The size of each of the WVCT buyers' subscriber bases relative to the Service Provider's subscriber base and trends over time; and

(c) The growth in the level of termination traffic exchanged between the parties and trends over time.

Credible alternative sources of WVCT for the buyer

A10.37 The strength of buyer power in WVCT negotiations is influenced by the degree to which a buyer can credibly refuse to purchase, or delay purchasing, WVCT. Such a strategy, in order to be credible, would likely be affected by a number of factors, including whether there are alternative (existing or potential) sources of supply of WVCT, and the degree to which the buyer can switch within a reasonable timeframe to alternative supply sources without incurring unrecoverable (sunk) costs. ComReg has considered these points in Section 5 (dealing with demand and supply-side substitution), and has expressed its position that there are no effective alternative sources of WVCT supply, given that the Relevant Termination Markets are defined at the individual Service Provider level.

A10.38 Were the WVCT supplier to seek to refuse or delay direct interconnection, the buyer may have an alternative means of indirectly[957] interconnecting to the Service Provider through a third-party transit provider that has already interconnected with the Service Provider at an agreed termination rate. For example, Eircom and BT Communications have widespread direct interconnection with other Service Providers and can, through their transit services, provide an indirect means for one Service Provider to achieve termination with another Service Provider.[958]

[957] It may not be commercially viable for all Service Providers to interconnect directly with each other. In the context of establishing direct interconnection with a Service Provider, an undertaking is likely to consider the trade-off between the cost of establishing direct interconnection, the likely current and future volumes of traffic to be exchanged with the Service Provider, the termination rate to be charged under a direct interconnection agreement, the cost of using third-party transit services to provide indirect interconnection, and the termination rates charged by the Provider to this transit provider.

[958] When traffic is handed over by Eircom (or BT) to an MSP, an MSP does not discern Eircom's (or BT's) own traffic from the traffic also being handed over by Eircom (or BT) to the MSP on behalf of another Service Provider as part of a transit arrangement. The same would hold for other FSPs or MSPs handing over traffic directly to MSPs.

A10.39 Similarly, were one Service Provider to refuse to allow an MSP to interconnect to it, the MSP could also potentially avail of indirect interconnection via third-party transit arrangements. Utilisation of such indirect interconnection alternatives is not, however, a cost-free exercise, due to the need to invest in new Interconnection Paths. Given that existing investments in direct interconnection may be sunk and largely irrecoverable, it would somewhat weaken the relative bargaining power of the parties, given that it could undermine the credibility of threats of refusal to supply (or delayed supply).

A10.40 As noted by the European Commission in its expression of serious doubts to the Latvian NRA,[959] in the event that direct interconnection is impeded, Service Providers seeking access to the FVCT service in question would be forced to interconnect, indirectly bearing additional costs resulting from transit services. Thus, the availability of transit services does not solve the problem of a denial of, or delayed, access. It is also important to note that such indirect interconnection options would not necessarily undermine the ability and incentive of the WVCT Service Provider to charge termination rates above the efficient level to those third-party transit providers, which would in turn presumably be passed through (indirectly) to all WVCT purchasers, thereby still impacting on their ability to compete in downstream markets.

Price sensitivity of the buyer

A10.41 Most WVCT buyers will likely be well informed about the price of WVCT, having regard to the existing arrangements for publication of termination rates in Eircom's RIO and the openeir STRPL,[960] as appropriate, as well as by being informed through contractual price notification arrangements.

[959] See case LV/2012/1296: Voice call termination on individual mobile networks, Opening of Phase II investigation pursuant to Article 7a of Directive 2002/21/EC as amended by Directive 2009/140/EC, concerning the non-imposition of an access obligation on Telekom Baltija and 12 MVNOs in the relevant MVCT markets. As noted in the BEREC opinion on the Latvian case, indirect interconnection may raise the costs of access and, thus, transit services are not a substitute for the availability of direct interconnection. See BEREC opinion on European Commission's serious doubts on asymmetric treatment of mobile operators in mobile call termination markets in Latvia: http://www.berec.europa.eu/eng/document_register/subject_matter/berec/download/0/95-berec-opinion-on-phase-ii-investigation-_0.pdf. Ultimately, the Latvian NRA withdrew the draft measures.

[960] The RIO is the Reference Interconnect Offer, which sets out the interconnection services which an FSP or MSP offers to other Service Providers wishing to interconnect with it, and the prices which it charges for these services. The STRPL (Switched Transit Routing and Price List) is a document published by openeir, Eircom's wholesale business. According to page 7 thereof, it *"contains details of the services terminating on the networks of Authorised Operators who have requested openeir to open number ranges that have been granted to them by the National regulator in the Numbering Plan."*

A10.42 Other factors that may impact the degree of price sensitivity of buyers include:

(a) The absolute and relative level of the termination rate, in proportion to the overall cost faced by the originating Service Provider in providing a retail call to a fixed or mobile phone. If the level of the termination rate accounts for a large proportion of a Service Provider's cost in transmitting a call to a number, it is more likely to be sensitive to movements in the level of the termination rates, given the likelihood that such costs would be reflected in retail prices (call prices or other elements of the associated retail service).

(b) The degree of any difference in the level of termination rates charged between interconnecting Service Providers. For example, where termination rates are asymmetric (for reasons other than underlying cost differences), all other things being equal, interconnecting parties face cost differences in exchanging terminating traffic.

(c) The degree to which the volume of traffic exchanged between Service Providers is asymmetric, i.e. if one Service Provider purchases more termination from an alternative Service Provider than the alternative Service Provider purchases from it, all things being equal, its price sensitivity, having regard to objective cost differences, may be higher given the presence of net revenue outflows.

A10.43 In respect of FVCT, ComReg is of the view that, having regard to differences in the relative exchange of termination traffic between individual FSPs, FVCT purchasers could be expected to be somewhat sensitive to FTRs charged by different FSPs. For example, as set out in Table 10.1 below, in the case of Unregulated FSPs such as Vodafone, FTRs represent a maximum of 16% of the cost of a national call, compared to just over 1% in the case of Virgin Media, an SMP FSP:[961]

[961] Vodafone is currently designated with SMP on the MVCT and FVCT relevant markets. Virgin Media is currently designated with SMP on the FVCT and MVCT relevant markets.

Table 10.1: FTRs as a percentage of total call costs

	Vodafone[962]		Virgin Media[963]	
	Cent per min	**FTR as % of call cost**	**Cent per min**	**FTR as % of call cost**
FTR	1.04		0.072	
Call cost	4.5		4.5	
Setup charge	9.80		15	
Cost of 1 minute call	15.34	7%	19.572	0.37%
Cost of 10 minute call	65.21	16%	60.72	1.2%

Source: Vodafone and Virgin Media websites; openeir STRPL

A10.44 In such circumstances, the degree of price sensitivity of FVCT purchasers to FTR levels may vary in practice. ComReg's analysis indicates that, absent regulation, Termination Rates have been significantly higher than regulated SMP Termination Rates (which ComReg considers as a proxy for the termination rates likely to obtain on a competitive market). The higher such termination rates are, the more likely are Service Providers to be sensitive to them.

Evidence of price-setting behaviour and negotiations between operators

A10.45 Eircom publishes its FTRs as part of its RIO. The respective FTRs of other FSPs (some of which are not subject to SMP regulation), and the MTRs of MSPs (some of which are not subject to SMP regulation), are published in the openeir STRPL.[964]

[962] https://n.vodafone.ie/shop/broadband/charges.html

[963] https://www.virginmedia.ie/pdf/standard_call_rates_march_2015.pdf

[964] Openeir Switched Transit Routing and Price List (STRPL), version 152_0 1 July 2018. Available online at https://www.openeir.ie/Reference_Offers/

A10.46 ComReg checks whether there is evidence of price-setting behaviour, and has regard to any such evidence. As part of the 2016 SIRs issued to Service Providers, ComReg sought details of any negotiations that took place regarding the setting of termination rates, as well as any instances of the exercise of CBP in such negotiations. Little evidence was provided which would indicate any effective exercise of CBP in respect of either FVCT or MVCT negotiations: of 28 FSP and MSP respondents, only one [✂ [redacted]] indicated that it had experienced CBP, it specified that it had experienced CBP in the context of termination rates arising in the context of international transit traffic only. No other respondent indicated that it had experienced CBP with respect to the setting of termination rates although, as set out in paragraph 6.109 of the Consultation, [✂ [redacted]] unsuccessfully attempted to exercise its CBP with respect to [✂ [redacted]].

A10.47 The development and extent of competition in a market over time may be observed by reference to pricing behaviour. In an SMP assessment context, the ability of a Service Provider to behave, to an appreciable extent, independently of the pricing behaviour of its competitors may be suggestive (but not determinative in itself) of SMP when considered alongside other factors. ComReg assesses this factor when considering the effectiveness of CBP.

Annex: 11 Summary and Assessment of Respondents' Views

Introduction

A11.1 This Annex provides a summary and assessment of the 11 Submissions received in response to the Consultation. The list of Respondents who provided Submissions is set out in paragraph 1.50 of this Decision.

A11.2 In the Consultation, ComReg invited all interested parties to respond to the various questions set out in the Consultation[965], and to comment on any other aspect of the Consultation.

A11.3 A total of 16 questions were posed throughout the Consultation on which input was sought from interested parties on ComReg's preliminary views in relation to the key themes as set out in the Consultation. The complete list of questions are provided in Annex: 9 of this Decision. Respondents were requested to provide reasoning and factual evidence to support their responses and to clearly indicate relevant paragraph numbers to which their responses referred to.

A11.4 In Eircom's April 2019 letter, Eircom raised concerns regarding the detailed specification of certain cost orientation price control obligations set out in ComReg's Notified Draft Measures as submitted to the EC on 11 March 2019.

A11.5 A summary of the issues raised in Eircom's April 2019 letter and ComReg's assessment thereof is set out in paragraphs A11.348 to A11.366 below. A copy of Eircom's April 2019 and ComReg's response letter is attached at Annex: 15.

A11.6 This Annex is structured as follows, with reference to Respondents' views on relevant sections of the Consultation and ComReg's assessment of Respondents' views:

(a) Retail Fixed Voice and Mobile Voice Market Trends Overview as set out in Section 3 of the Consultation:

(i) Respondents views are considered in paragraphs A11.9 to A11.24 below; and

(ii) ComReg's assessment of Respondents' views are considered in paragraphs A11.25 to A11.43 below.

[965] Consultation questions were set out in Annex 8 of the Consultation.

(b) Assessment of Retail Fixed and Mobile Voice Market Calls as set out in Section 4 of the Consultation:

(i) Respondents views are considered in paragraphs A11.45 to A11.58 below; and

(ii) ComReg's assessment of Respondents' views are considered in paragraphs A11.59 to A11.77 below.

(c) Wholesale Relevant FVCT and MVCT Markets Definitions as set out in Section 5 of the Consultation:

(i) Respondents views are considered in paragraphs A11.80 to A11.95 below; and

(ii) ComReg's assessment of Respondents' views are considered in paragraphs A11.96 to A11.124 below

(d) Competition Analysis and Assessment of Significant Market Power in Relevant FVCT and Relevant MVCT markets as set out in Section 6 of the Consultation:

(i) Respondents views are considered in paragraphs A11.125 to A11.139 below; and

(ii) ComReg's assessment of Respondents' views is considered in paragraphs A11.140 to A11.154 below

(e) Competition Problems and Impacts on Competition and Consumers (FVCT and MVCT) as set out in Section 7 of the Consultation:

(i) Respondents views are considered in paragraphs A11.157 to A11.161 below; and

(ii) ComReg's assessment of Respondents' views are considered in paragraphs A11.162 to A11.168 below

(f) Approach to Specifying and Implementing Remedies in the Relevant Termination Markets as set out in Section 8 of the Consultation:

(i) Respondents views and ComReg's assessment of Respondents' views are considered in paragraphs A11.169 to A11.422.[966]

(g) Regulatory Impact Assessment as set out in Section 9 of the Consultation:

(i) Respondents views are considered in paragraphs A11.430 to A11.434 below; and

[966] Due to the extensive number of comments made in the Submissions in relation to remedies, the structure of the Remedies section of Annex: 11 is different to that of the other sections of the Annex. To aid the readability of this particular section of the Annex, the Respondents' views on a particular theme will be immediately followed by ComReg's assessment of these views.

(ii) ComReg's assessment of Respondents' views are considered in paragraphs A11.435 to A11.438 below

Retail Fixed Voice and Mobile Voice Market Trends Overview

A11.7 In Section 3 of the Consultation (and now in Section 3 of this Decision) ComReg sets out its views on the main retail fixed voice and mobile voice market trends. This included:

(a) Relationship between Wholesale Termination Markets and Retail Markets discussed in paragraphs 3.2 to 3.4 of the Consultation (and now in paragraphs 3.7 to 3.9 of this Decision);

(b) Structure of the Retail Fixed Voice Market discussed in paragraphs 3.5 to 3.17 of the Consultation (and 3.10 to 3.21 of this Decision);

(c) Behavioural Trends in the Retail Fixed Voice Market discussed in paragraphs 3.18 to 3.43 of the Consultation (and 3.22 to 3.65 of this Decision);

(d) Structure of the Retail Mobile Voice Market discussed in paragraphs 3.44 to 3.77 of the Consultation (and 3.66 to 3.99 of this Decision);

(e) Behavioural Trends in the Retail Mobile Voice Market discussed in paragraphs 3.78 to 3.110 of the Consultation (and 3.100 to 3.146 of this Decision)

A11.8 In Question 1[967] of the Consultation ComReg sought views on whether it had identified the main relevant developments in the retail fixed voice and mobile voice markets since the previous reviews of the Relevant FVCT and MVCT Markets.

Respondents' Views on Retail Fixed Voice and Mobile Voice Market Trends

A11.9 Of the 11 Submissions received, 8 Respondents commented on the main trends and developments identified in the Consultation. 3 Respondents (Lycamobile, ALTO, and AT&T) did not comment. Of those Respondents that commented 6 agreed (Eircom, Verizon, Three, Virgin, Vodafone and iD Mobile) while 1 Respondent (TMI) disagreed. Another Respondent (BT), offered comments but did not indicate whether or not they agreed

[967] Question 1 on page 77 of the Consultation asked "Do you agree that this Section identifies the main relevant developments in the retail fixed voice and mobile voice markets since the previous reviews of the Relevant FVCT and MVCT Markets? Please explain the reason for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views."

A11.10 ComReg has summarised the Respondents' main views below, grouping the key issues raised into the following identified themes:

(a) ComReg underestimated the prevalence of OTT services and their impact on the development of retail fixed and mobile markets (discussed in paragraphs A11.11 to A11.21);

(b) ComReg did not adequately deal with the role of MVNOs and changes in the market impacting MVNOs (discussed in paragraph A11.22); and

(c) Other issues raised (discussed in paragraphs A11.23 and A11.24).

ComReg underestimated the prevalence of OTT services and their impact on the development of retail fixed and mobile markets

A11.11 **3** of the **11** Respondents, namely Eircom, TMI, and Vodafone, considered that Section 3 of the Consultation did not adequately address the significance of OTT services in changing the competitive dynamics in retail fixed and mobile markets. Three and BT raised no objections but submitted comments regarding OTT services.

A11.12 **Eircom** agreed that the Consultation identified the main relevant developments in the retail fixed voice and mobile voice markets since the previous reviews of the Relevant Termination Markets. However, Eircom was of the view that ComReg had significantly underestimated the prevalence of OTT communication services.

A11.13 In its Submission[968] Eircom gave examples of the growth in the number of monthly active WhatsApp users worldwide, the growth in the number of monthly active Facebook Messenger users, the number of OTT messaging active users worldwide, take up of telephony or video call services over the Internet in Ireland and the EU, and the total number of active users of OTT VoIP services in Ireland.

A11.14 Eircom noted that the total size of the digital communications market in Ireland (including OTT calls) is currently unknown as data is not available on all voice and video chat minutes. Eircom noted that it is therefore difficult to calculate the actual size of the retail market and the position that each operator finds itself in terms of market share when OTT providers are included.

[968] See paragraphs 3 to 10 on pages 4 to 8 of Eircom's Submission.

A11.15 With reference to the decline in fixed voice traffic, Eircom noted that ComReg's observation that a majority of households (73%) continue to have retail voice connections at a fixed location for Q1 2017[969] is not indicative of consumer preferences with regard to fixed voice services. Rather, according to Eircom, this is more likely attributable to the fact that fixed voice is increasingly sold in a bundle with broadband services.

A11.16 Eircom submitted that it cannot be inferred from the number of fixed line connections alone that fixed voice services are important to consumers or that its inclusion in a bundle drives demand. Rather, according to Eircom, this inclusion of fixed voice services in bundles arises from the historical configuration of the market with bundles emerging because consumers who already had a fixed line have progressively adopted fixed broadband. Eircom submits that it follows that an assessment of usage rather than subscription volumes is the more appropriate indicator of consumer preferences. In this regard, Eircom referred to internal usage and revenue data which suggests that there is a significant cohort of end-users for which voice services over mobile and OTT platforms are substitutable for traditional RFVC services.

A11.17 Eircom urged ComReg to review its market monitoring programme with a view to extending its scope to ensure that accurate data is collected in respect of all elements of the Irish communications markets, including OTT services.

A11.18 **Three** agreed in general with the analysis presented in the Consultation. It set out its view that the use of VoIP is nearing an inflection point, a trend which is already apparent with the decline in the number of traditional fixed-line telephony products. Three submitted that the roll-out of ubiquitous broadband (through the National Broadband Plan in addition to investment by network operators) means that this trend will continue.

A11.19 Three submitted that the last full review of the voice call termination markets was completed in 2012 and that decisions made on the basis of this current review would apply for four years or more. Three were therefore of the view that ComReg should be adaptable to respond within this period to any changes arising from the trends indicated above.

[969] See paragraph 3.40 of the Consultation.

A11.20 While agreeing in general with the developments highlighted by ComReg, **Vodafone** considered that the development of OTT services is more significant than recognised in the Consultation[970]. Vodafone did not comment specifically in response to Q1 of the Consultation but referred rather to the details provided in Vodafone's Submission in response to Q3, Q5, and Q7 of the Consultation. Vodafone's views in this regard are detailed in paragraphs A11.50 to A11.54 in this Annex.

A11.21 **TMI** submitted that ComReg had conducted an insufficient forward looking analysis with respect to the impact of OTT services. In this regard, TMI submitted that subscribers are increasingly availing of OTT services to avoid making traditional calls thus depriving MSPs of revenue that would be generated from charging a MTR. Further, TMI submitted that it believes that OTT services are substitutable for traditional voice and SMS services and usage is increasing daily. In support of this TMI referred to paragraph 3.84 of the Consultation which referenced Figure 16 of the Consultation showing Voice, SMS and Other Data Volumes per quarter from Q4 2013, with this showing an increase on call minutes, while SMS volumes were declining, MMS volumes were shown as having remained steady, with the 'Other Data' category showing a significant increase.

ComReg did not adequately deal with the role of MVNOs and changes in the market impacting MVNOs

A11.22 **TMI** considered that the Consultation did not adequately deal with the role of MVNOs and changes in the retail market impacting MVNOs[971]. TMI submitted that:

[970] Vodafone noted its observation that changes to the retail market structures are an indicator of the challenging business case for investment in the Irish market, referencing the exit of Telefonica and iD Mobile, and pointed to the need for ComReg to consider the ongoing demand for network investment required to improve network coverage and ensure rollout of enhanced voice features such as VOLTE and WiFi calling (See page 1, paragraph 2 of Vodafone's Submission).

[971] See page 16 to 19 of TMI's Submission.

(a) ComReg did not place sufficient weight on the impact of developments in the retail market on whether or not TMI is constrained in exercising market power with respect to the setting of termination rates. In this regard TMI referred to the role of OTT services (discussed above), the decrease in the number of MVNOs, MVNOs' relatively small share of total mobile retail revenues[972], as well as the exit of MVNOs like iD Mobile. TMI echoed these comments in its Question 17 Price Control Submission; and

(b) MVNOs have been disproportionately impacted by 'Roam like at Home' ('RLAH')[973] regulation[974]. TMI submitted that in order to compete and retain its subscriber base it had to extend its retail plans to include EU roaming usage. However, TMI submitted that as an MVNO they do not benefit from revenue earned from inbound roamers whereas other MNOs do. According to TMI this disproportionately impacts them as an MVNO as they have not been able to offset revenue losses associated with having to implement RLAH in the same manner as MNOs with their own networks (and therefore their own wholesale roaming agreements) have been able to.

[972] TMI referenced ComReg's Q3 2017 QKDR: https://www.comreg.ie/publication/quarterly-key-data-report-q3-2017.

[973] Regulation 6c of Regulation (EU) No 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union ("Roaming III Regulation") and Commission Implementing Regulation (EU) 2016/2286 of 15 December 2016 laying down detailed rules on the application of fair use policy and on the methodology for assessing the sustainability of the abolition of retail roaming surcharges and on the application to be submitted by a roaming provider for the purposes of that assessment. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R2286#ntr1-L_2016344EN.01004601-E0001 ('**RLAH Regulation**').

[974] The RLAH rules means that when a user of a retail service within the EU uses a mobile phone while travelling outside their home country in any EU country (as well as Norway, Iceland and Liechtenstein) that user will not have to pay any additional roaming charges. The user benefits from these rules when calling (to mobile and fixed phones), sending text messages (SMS) and using data *services while abroad. These rules also apply when receiving calls or texts while roaming even if the person being called is* using a different service provider. The user pays the same price for these services when travelling in the EU as they would if they were at home. In practice, the local operator simply charges or takes the roaming consumption from the volumes in the users' domestic mobile tariff plan / bundle. https://europa.eu/youreurope/citizens/consumers/internet-telecoms/mobile-roaming-costs/index_en.htm

Other issues raised

A11.23 **Verizon** agreed in general with the analysis but expressed disappointment that the Consultation focussed on the domestic customer and small to medium enterprise ('**SME**') market, without a full understanding of the large business communications market. However, they noted that this concern does not ultimately affect the outcome of the review.

A11.24 **Lycamobile**, **ALTO** and **AT&T** did not provide any specific comments on the assessment of retail trends and developments.

ComReg's Assessment of Respondents' Views on the Retail Fixed Voice and Mobile Voice Market Trends.

A11.25 In paragraphs A11.11 to A11.24 above ComReg has summarised the key issues raised by Respondents in relation to the analysis of trends and developments in the retail fixed voice and mobile voice markets as set out in the Consultation and now in Section 3 of this Decision.

A11.26 Below, ComReg assesses Respondents' views under each of the key themes identified in paragraph A11.10 above, in particular:

(a) ComReg underestimated the prevalence of OTT services and their impact on the development of retail fixed and mobile markets (discussed below in paragraphs A11.28 to A11.36);

(b) ComReg did not adequately deal with the role of MVNOs and changes in the market impacting MVNOs (discussed below in paragraphs A11.37 to A11.42); and

(c) Other issues raised (discussed below in paragraph A11.43).

A11.27 Prior to doing so, having refreshed a variety of information sources, ComReg notes that it has, in Section 3 of this Decision, updated its analysis of the trends and main developments originally presented in Section 3 of the Consultation. As noted in paragraph 3.2 of this Decision the analysis of the trends and main developments originally presented in Section 3 of the Consultation has been updated to take account of the most recently available QKDR data as at Q3 2018, the 2017 Ireland Communicates Survey and other sources cited. These updates also inform ComReg's stated positions as set out throughout this Decision, including within Section 3.

ComReg underestimated the prevalence of OTT services and their impact on the development of retail fixed and mobile markets

A11.28 Contrary to the views of Eircom, Three, Vodafone and TMI as summarised in paragraphs A11.11 to A11.21 above, ComReg does not agree that it has underestimated the prevalence of OTT and any impact on retail fixed and mobile markets (or indeed on Relevant Termination Markets).

A11.29 In Section 3 of the Consultation ComReg set out its preliminary views on the main structural and behavioural trends that have occurred in the retail fixed voice and retail mobile voice markets. Having considered Respondents' views in paragraphs A11.11 to A11.21 ComReg considers that its presentation and analysis of such developments (coupled with the additional analysis in this Decision) and their relevance to the subsequent analysis of the Relevant Termination Markets in Section 5 and the assessment of SMP in Section 6 remains valid.

A11.30 ComReg notes Eircom's submission that the inclusion of fixed voice services in bundles means that consumers who already had a fixed line have progressively adopted fixed broadband and, therefore, usage rather than subscription volumes is the more appropriate indicator of consumer preferences[975]. In this regard, ComReg notes that the 2017 Ireland Communicates Consumer Survey found that the vast majority of those with a fixed line use it for making/receiving calls - 84% and 87% respectively - and less than half (45%) say that they have the landline service in order to access broadband. As discussed between 3.43 and 3.47, according to the 2017 Ireland Communicates Survey, less than half of consumers and SMEs use unmanaged VoIP-to-VoIP calls. Moreover, only 1.8% of the total consumer sample and 0.7% of the total SME sample have ceased making traditional fixed line calls due to the impact of unmanaged VoIP-to-VoIP calls, while 5.5% of the total consumer survey sample and 13% of the total SME sample make fewer traditional fixed line calls, due to the impact of unmanaged VoIP-to-VoIP calls. These results suggest that OTT voice applications are being used in conjunction with traditional voice services rather than replacing them.

A11.31 Eircom stated in its Submission[976] that:

[975] As noted in paragraph A11.16 Eircom referred to internal usage and revenue data which suggests that there is a significant cohort of end-users for which voice services over mobile and OTT platforms are substitutable for traditional RFVC services.

[976] See paragraph 1(iv) of Eircom's Submission.

"although eir recognises at this particular juncture that it is unlikely that OTT services will effectively constrain pricing and market power at the wholesale level of the fixed and mobile termination markets, OTT services and all-IP networks will in time become a sufficient competitive constraint on traditional voice services at the wholesale level"

A11.32 Similarly, while pointing to the possible future impact of OTT services, Three submitted that there is currently no supply-side or demand-side substitution effects that could adequately constrain price increases for a hypothetical monopolist supplier of wholesale call termination and, further, that OTT services might not yet have reached sufficient market penetration to warrant inclusion in the relevant wholesale markets. In this regard Three submitted that underlying conditions are developing rapidly such that this is likely to change within the lifetime of the current review and that it would be important for ComReg to respond accordingly[977]. In a similar vein Eircom urged ComReg to review its market monitoring programme (see A11.17) to enable it to account for developments with regards to OTT services.

A11.33 ComReg agrees with both Eircom and Three that recent developments with OTT services do not suggest supply-side or demand-side substitution effects that would effectively constrain price increases for WVCT or that would warrant changes to the definition of the Relevant Termination Markets as proposed in Section 5 of the Consultation and now defined in Section 5 of this Decision. Nor does ComReg consider that there have been any significant changes since December 2017 that would change ComReg's position in this regard[978]. With reference to the 2017 Ireland Communicates Consumer Survey, and having regard to the analysis set out in paragraphs 3.41 to 3.50 and 3.132 to 3.142, ComReg notes that:

(a) Only 5.5% of the total sample surveyed make fewer traditional fixed line calls and 1.8% of the total sample have ceased making traditional fixed line voice calls;

(b) The vast majority of those with a fixed line use it for making/receiving calls - 84% and 87% respectively - and less than half (45%) say that they have the landline service in order to access broadband.

(c) 43% of those using voice calling through a smartphone app said that it has had no impact on the number of traditional voice calls that they make, with

(d) 36% claiming they now make less traditional mobile calls while 3% claiming they have ceased making traditional mobile calls; and

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[977] See page 4 and page 7 of Three's Submission.

[978] See paragraphs 3.43 to 3.50 and 3.134 to 3.139 regarding updated information and data.

(e) Only 16.7% of the total sample make fewer traditional voice calls over a mobile phone and 1.4% of the total sample have ceased making traditional voice calls over a mobile phone.

A11.34 Paragraphs 4.147 to 4.167 of this Decision addresses whether a HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making an unmanaged VoIP-to-VoIP call instead of a traditional call to a RFVC subscriber such that it would make the FTR increase unprofitable.

A11.35 ComReg notes the comments made by TMI regarding increased usage of OTT services to avoid making traditional calls and thus depriving MSPs of revenue that would be generated from charging a MTR. In addition to the points raised above in paragraph A11.33 ComReg notes that the total volume of mobile-to-mobile voice minutes has increased by 18.9% and mobile-to-fixed minutes has increased by 23.8% over the period Q1 2010 to Q3 2018[979]. Contrary to TMI's assertions this suggests strongly that OTT voice applications are being used in conjunction with traditional voice services rather than replacing them.

A11.36 Regarding future developments with OTT services, ComReg maintains that its analysis as reflected in the Consultation and now in this Decision is sufficiently forward looking. With regards to ongoing monitoring and responding to any changes in the market ComReg will continue to monitor developments. However, it is important to note that ComReg can only act within the legal parameters of the existing regulatory framework. ComReg does not currently have legal powers to request information from all categories of OTT service providers. Any further intervention in this area would depend on a regulatory framework review that would give ComReg sufficient tools to assess the impact of OTTs and intervene where required, with BEREC also noting this issue in general[980]. In this regard, ComReg noted that at an EU level, the new European Electronic Communications Code is expected to provide NRAs with additional information gathering powers, including with respect to certain categories of OTT SPs, thereby enabling ComReg to gather information for the discharge of its regulatory functions in relation to this category of SPs.

[979] See paragraph 3.129 of this Decision.

[980] BEREC, 2016. "Report on OTT Services", BoR (16) 35.

ComReg did not adequately deal with the role of MVNOs and changes in the market impacting MVNOs

A11.37 ComReg takes note of TMI's Submission regarding changes in the retail markets purportedly impacting MVNOs and TMI's assertion regarding the consequent inability of MVNO's like TMI to behave anti-competitively vis-à-vis termination rates. ComReg does not accept this assertion nor does it accept TMI's view that it failed to undertake an adequate analysis of the retail market.

A11.38 Retail markets are considered to the extent that they inform the subsequent analysis of the MVCT Markets, in particular, whether retail behaviours (through demand-side and supply-side substitution) are likely to indirectly constrain wholesale MTR setting behaviour.

A11.39 Given that wholesale demand for MVCT is largely derived from retail demand associated with the ability to make calls to mobile subscribers, it is necessary to consider the dynamics of the retail market and whether and how these dynamics impact at the wholesale level. ComReg has examined the retail market to consider whether any competitive constraints arising at the retail level are sufficiently strong to effectively offset any potential market power at the wholesale level. This analysis is set out in detail in:

(a) Section 3 of this Decision in paragraphs 3.79 to 3.99 with reference to market structure considerations pertaining to MVNOs and paragraphs 3.100 to 3.144 with reference to behavioural trends; and

(b) Section 4 in paragraphs 4.10 to 4.107 with reference to factors effecting responsiveness of end users to changes in price and paragraphs 4.118 to 4.274 with reference to retail demand side and retail supply side substitution.

(c) Section 6 with reference to the assessment of SMP and, in particular, paragraphs 6.146 to 6.161 with reference to whether a sufficient level of CBP exists such that TMI as a MVNO supplier of MVCT would be unable to sustain termination rates that are above the competitive level.

A11.40 ComReg's position is that, having considered overall retail calling party and called party consumer behaviours and having considered demand-side and supply side substitutability at the retail level, indirect constraints from the retail markets were unlikely to be sufficiently strong or effective such that they would prevent a HM supplier of MVCT from profitably increasing its MTRs by a small but significant amount.

A11.41 Regarding the concerns raised by TMI of the impact of RLAH Regulations, ComReg reiterates that the objective of the retail assessment in this review is to ascertain whether any competitive constraints arising at the retail level are sufficiently strong to effectively offset any potential market power at the wholesale level. Having regard to the analysis in Sections 5 and 6 of this Decision (concerning the Definition of the Relevant MVCT Markets and the assessment of SMP within them) ComReg has not been presented with any material evidence that TMI would be so constrained as a consequence of the impact of RLAH on its revenue generating ability relative to its competitors. Rather, TMI have suggested that MVNOs being allegedly disproportionately impacted by RLAH regulations provides another reason why MVNOs should be treated differently from other MNOs (see paragraph A11.22(b)). ComReg notes that the RLAH regulations are designed to address retail concerns and, in any event, apply independently of any wholesale regulation of the Relevant MVCT Markets. ComReg considers that, having regard to its analysis in this Decision, it has identified a specific set of competition problems arising from MSPs ability and incentives to engage in identified anti-competitive behaviours with respect to the supply of MVCT (including excessive pricing), with ComReg imposing targeted and specific regulatory obligation to address this.

A11.42 ComReg also notes that the RLAH Regulations provide that, in specific and exceptional circumstances, a roaming provider may apply to its national regulatory authority for an authorisation to apply a surcharge on its roaming customers. Any such request for authorisation is to be accompanied by all the information necessary to demonstrate that, in the absence of any retail roaming surcharges, the provider is unable to recover its costs of providing regulated retail roaming services, so that the sustainability of its domestic charging model is undermined.

Other issues raised

A11.43 ComReg notes the comments made by Verizon regarding the large business communications market. However, as Verizon themselves have noted, this will not impact on the outcome of this market review and so ComReg does not comment further on this point.

Assessment of Retail Fixed and Mobile Voice Market Calls

A11.44 In Section 4 of the Consultation (and now in Section 4 of this Decision) ComReg set out its preliminary views on its assessment of RFVC and RMVC markets to the extent that they informed the analysis of the Relevant termination Markets. These were discussed as follows in the Consultation:

(a) Assessment of Retail Fixed and Mobile Voice Calls discussed in paragraphs 4.1 to 4.4 of the Consultation (and 4.1 to 4.7 of this Decision);

(b) Possible effective substitutes for an off-net RFVC or RMVC discussed in paragraphs 4.5 to 4.98 of the Consultation (and 4.8 to 4.107 of this Decision);

(c) Assessing the impact of retail consumer behaviour on the Relevant FVCT and MVCT Markets discussed in paragraphs 4.105 to 4.248 of the Consultation (and 4.108 to 4.273 of this Decision), and

(d) Overall Preliminary Conclusions on the RFVC and RMVC Assessment discussed in paragraph 4.249 of the Consultation (and 4.274 of this Decision).

Respondents' Views on the Assessment of Retail Fixed and Mobile Voice Calls

A11.45 Of the 11 Submissions received, Eircom, Three, TMI and Vodafone made specific comments on ComReg's assessment of Retail Fixed and Mobile Voice Calls in the Consultation. While Three agreed with ComReg's preliminary findings (with comments), Vodafone and Eircom disagreed on specific points. TMI raised no objections in relation to the assessment in Section 4 of the Consultation but reiterated its concerns regarding MVNOs[981].

A11.46 In Question 1 and Question 2 of the Consultation, ComReg sought views on its retail product and geographic market assessment to the extent to which this assessment informed the analysis of the Relevant FVCT Markets and Relevant MVCT Markets respectively[982].

A11.47 ComReg has summarised the Respondents' main views below, grouping the key issues raised into the following identified themes:

(a) Exclusion of number ranges and impact on consumer behaviour (discussed in paragraph A11.48 and A11.49 below);

[981] See paragraph A11.22 above.

[982] Question 2 on page 160 of the Consultation asked "Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant FVCT Markets?"

Question 3 on page 160 of the Consultation asked "Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant MVCT Markets?"

(b) ComReg's underestimation of the importance of OTT as a competitive constraint (discussed in paragraphs A11.50 to A11.56 below); and

(c) Other issues raised (discussed in paragraphs A11.57 to A11.58 below).

Exclusion of number ranges and impact on consumer behaviour

A11.48 **Three** raised no objections to ComReg's assessment of the retail product and geographic markets, but made some observations regarding the use of numbers for making calls and the impact on the assessment of voice calls. In its Submission, Three noted that ComReg has defined the relevant markets for both FVCT and MVCT by reference to the ITU-T E.164 number range used to make calls. In this regard Three submitted that they did not believe that ComReg should tie the definition of the Relevant Termination Markets to the number ranges used. Three's comments in this regard, in relation to the definition of the Relevant Termination Markets, are summarised in paragraphs A11.82 to A11.84.

A11.49 Three also set out its view that an increase in the charge for termination for one number type alone is unlikely on its own to influence consumer behaviour, even in cases where it can be passed through to the caller by the originating network as a retail price increase. Several terminating SPs will provide the service behind any one number range, so if one terminating operator increases the price while others don't, then originating operators must decide whether to increase the retail price for all calls to those numbers or to none.

ComReg's underestimation of the importance of OTT as a competitive constraint

A11.50 **Vodafone** argued that while ComReg identified the significant influence of OTT services on the way mobile consumers are using their phones, the Consultation nevertheless failed to acknowledge the constraint that OTT services have placed on the prices operators charge for originating and terminating calls.

A11.51 In addressing this issue Vodafone provided a combined response to Question 3, Question 5 and Question 7 as set out in of the Consultation[983].

[983] Question 3 on page 160 of the Consultation asked "Do you agree with ComReg's preliminary conclusions on the retail product and geographic market assessment to the extent that it informs the analysis of the Relevant MVCT Markets?"

Question 5 on page 225 of the Consultation asked: "Do you agree with ComReg's preliminary conclusions on the wholesale MVCT product market and geographic market definition assessment?"

Question 7 on page 294 of the Consultation asked: "Do you agree with ComReg's assessment of SMP in the Relevant MVCT Markets?"

A11.52 In this regard Vodafone referenced the findings of 2016 Consumer MVCT Market Research which, in Vodafone's view, shows evidence of significant usage of OTT services. Vodafone considered that such usage meant that OTT services placed a constraint on MSPs with respect to the charges for originating and terminating calls and that ComReg had failed to adequately account for this. Further, Vodafone drew parallels with developments in the SMS market setting out its view that the decline in traditional SMS traffic was related to increased usage of OTT applications over a longer period of time.

A11.53 Vodafone noted that the presence of a broad range of OTT players will constrain retail charges and that any increase in retail charges is highly likely to drive a reduction in call volumes.

A11.54 Further, Vodafone did not agree with ComReg that a driver of the reduction in MTRs has been regulation, rather it considered that such reductions arose from constraints posed by unmanaged VoIP[984]. In this regard, Vodafone submitted that ComReg did not take into account the fact that the price control imposed is based on pure LRIC. Therefore, according to Vodafone, when obligations were imposed, SPs were constrained to charge the marginal network cost of call minutes for traffic terminating on mobile networks. Vodafone argue that any attempt by an operator to further reduce prices below this regulated level would be loss making and contrary to the principle of cost orientation as it would force operators to subsidize part of the cost of termination from other services. Vodafone submitted that if they had been allowed a reasonable cost basis for setting MTRs (e.g., LRAIC+) there would have been room for operators to manoeuvre.

A11.55 **Eircom** acknowledged that ComReg is not required to conclude on the precise product and geographic scope of the retail markets. However, Eircom submitted that it does not agree with ComReg's inferred preliminary conclusions on the retail product markets, arguing that the retail voice call market should include all voice and video call services, whether fixed, mobile or OTT services.

[984] In paragraph 4.217 of the Consultation ComReg noted that "While MTRs have reduced over time, data suggest that the driver of this reduction has been regulation rather than the competitive constraint posed by unmanaged VoIP".

A11.56 In this regard Eircom reiterated its view that the Consultation did not adequately capture the competitive constraints arising from mobile and OTT competition on traditional retail markets for fixed voice calls and that the retail voice call market should include all voice and video call services. Referencing the 2016 Consumer FVCT Market Research, Eircom also noted the percentage of RFVC standalone and bundle customers stating that they would change their behaviour in response to a 1 cent SSNIP of RFVC by a magnitude that is not insignificant in the context of what would be considered an acceptable loss for a hypothetical monopolist.

Other issues raised

A11.57 Eircom also noted that the market review in respect of Retail Access to the Public Telephone Network at a Fixed Location for Residential and Non Residential Customers ('**Retail Access at a Fixed Location**' or '**RAFL**')[985] and Fixed Access and Call Origination ('**FACO**')[986] market reviews are overdue[987].

A11.58 **TMI** expressed no view on FVCT related issues and reiterated that the Consultation does not pay enough attention to the MVNO sector.

ComReg's Assessment of the Respondents' Views on Retail Fixed and Mobile Voice Calls

A11.59 In paragraphs A11.45 to A11.58 ComReg has summarised the key issues raised by the Respondents in relation to the assessment of RFVC and RMVC markets.

A11.60 Below ComReg considers Respondents' views on:

(a) Exclusion of number ranges and impact on consumer behaviour (discussed in paragraphs A11.61 to A11.64 below);

(b) ComReg's underestimation of the importance of OTT as a competitive constraint (discussed in paragraphs A11.65 to A11.71 below); and

(c) Other issues raised (discussed in paragraphs A11.72 to A11.77 below).

[985] https://www.comreg.ie/publication/market-review-retail-access-to-the-public-telephone-network-at-a-fixed-location-for-residential-and-non-residential-customers-2/.

[986] See paragraph 3.12.

[987] See para 18, page 11, 12 of Eircom's Submission.

Exclusion of number ranges and impact on consumer behaviour

A11.61 ComReg notes the comments made by Three. ComReg does not agree that an increase in the termination price for one number type is unlikely on its own to influence consumer behaviour, although we accept that for some consumers, behavioural changes, including switching decisions, can be based on a range of factors (particularly where it involves multiple services being bought in a bundle).

A11.62 However, if one accepts Three's view, it suggests that increases in termination rates as passed through into retail call prices, are not likely to result in sufficient indirect constraints being placed on the terminating rate setting behaviour of a hypothetical monopolist and the non-profitability of a SSNIP.

A11.63 With respect to Three's comments regarding the embedding of calls to specific number ranges within the definition of the Relevant Termination Markets, in the Consultation, both in the context of the Relevant FVCT Markets and Relevant MVCT Markets, ComReg carefully considered and analysed whether it was appropriate to do so[988]. Having regard to the Calling Party Network Pays ('**CPNP**') principle at the wholesale level and the Calling Party Pays ('**CPP**') at the retail level, ComReg's approach was to take the relevant number range most frequently associated with the provision of termination services and to analyse whether other specific number ranges should be included. ComReg considers this analysis is robust. ComReg further considers this issue in Section 5 of this Decision in paragraphs 5.40 to 5.81, to take account of numbering developments since the issue of the Consultation.

A11.64 ComReg does not agree with Three's view that the 0818 number range should fall within the definition of the Relevant FVCT Market, for the reasons set out in paragraphs 5.55 to 5.65 of this Decision, with these reasons relating to the sufficiently different competitive conditions regarding termination to 0818 numbers relative to those associated with Geographic Numbers.

[988] See paragraphs 5.36 to 5.73 of the Consultation with respect to the Relevant FVCT Markets and paragraphs 5.171 to 5.179 of the Consultation with respect to the Relevant MVCT Markets.

ComReg's underestimation of the importance of OTT as a competitive constraint

A11.65 ComReg notes the comments made by Vodafone and Eircom on this issue. Whether VoIP and other OTT services are an effective competitive constraint in the RFVC and RMVC markets is discussed in Section 4[989] of this Decision. For the reasons set out therein, within the period considered for this market analysis, ComReg does not consider that a VoIP-to-VoIP call or the use of OTT services are or would be an effective retail demand side substitute for an off-net RFVC or RMVC. ComReg also does not consider that OTT services would place a sufficiently effective indirect constraint on a Hypothetical Monopolist ('**HM**') supplier of FVCT or MVCT such that it would prevent an increase in FTRs/MTRs above the level that would pertain in a competitive market outcome.

A11.66 Firstly, as noted in the Consultation, ComReg is not required to conclude on the precise definition of retail telephony service markets. Rather the assessment in Section 4 of the Consultation (and now in Section 4 of this Decision) is to inform ComReg's subsequent assessment of the Relevant Termination Markets.

A11.67 The concerns raised by Eircom with respect to RFVC are addressed as follows:

(a) Paragraphs 4.147 to 4.167 of this Decision address whether a HM might be constrained in setting its FTR above the competitive level if, in response to the FTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making an unmanaged VoIP-to-VoIP call instead of a traditional call to a RFVC subscriber such that it would make the FTR increase unprofitable; and

(b) Paragraphs 4.195 to 4.197 of this Decision which sets out ComReg's overall conclusions on fixed retail demand-side substitution.

[989] See paragraphs 4.147 to 4.167 and 4.224 to 4.243 of this Decision.

A11.68 ComReg has addressed the point raised by Eircom regarding the need for ongoing monitoring of market developments in paragraph A11.36 above. In this regard ComReg reiterates that its analysis as reflected in the Consultation, and now in this Decision, is sufficiently forward looking. With regards to ongoing monitoring and responding to any changes in the market ComReg will continue to monitor developments. However, it is important to note that ComReg can only act within the legal parameters of the existing regulatory framework. The new European Electronic Communications Code is expected to provide NRAs with additional information gathering powers, including with respect to certain categories of OTT SPs, thereby enabling ComReg to gather information from these SPs for the discharge of it regulatory functions.

A11.69 The concerns raised by Vodafone with respect to RMVC are addressed in:

(a) Paragraphs 4.224 to 4.243 of this Decision which addresses whether a HM might be constrained in setting its MTR above the competitive level if, in response to the MTR increase being passed through to the retail price, a sufficient number of consumers were to switch to making an unmanaged VoIP-to-VoIP call instead of a traditional call to a RMVC subscriber such that it would make the MTR increase unprofitable; and

(b) Paragraphs 4.268 to 4.270 of this Decision which sets out ComReg's overall conclusions on mobile retail demand-side substitution.

A11.70 With regard to Vodafone's submission on the impact of the price control (see paragraph A11.54 above) on MTRs charged by MSPs, ComReg notes that the extent of discretion afforded to SPs under a LRAIC plus as opposed to a LRIC obligation raises a hypothetical scenario that does not, in ComReg's view, undermine the factual position that reductions in MTRs have been driven by regulation. Nor does it add anything in terms of evidence that the presence of unmanaged VoIP, rather than regulation, would act as a sufficiently effective indirect competitive constraint on MTRs. There is no material evidence to suggest that either FSPs or MSPs have reduced their termination rates in circumstances other than as a direct consequence of regulatory intervention (in the form of price controls). Indeed, as has been shown in the assessment of SMP in Section 6[990], SPs that have not been subject to regulation (or non-cost based regulation) have charged termination rates at levels significantly above cost based levels[991].

[990] See Table 17, Table 18, Table 19, Table 20 and Table 21.

[991] See paragraphs 6.67 to 6.96 regarding FVCT and assessment CBP and paragraphs 6.97 to 6.211 regarding MVCT and assessment of CBP.

A11.71 ComReg refers to Tables 19 and 20 in the Consultation (and now Table 18, Table 19 and Table 21 in this Decision), in this regard. These tables also show, particularly for MSPs that have been subject to regulation (including in the timeframe when non-Pure LRIC cost oriented MTRs were not applied), that MSPs priced at the regulated level only, notwithstanding MSPs having scope to go below such regulated rates (Table 21). ComReg also notes that Table 19 in this Decision shows that Vodafone's peak MTRs have ranged from 12.26 cent down to 0.79 cent in the period H2 2007 to 1 January 2018. Additionally, following an appeal by Vodafone against the 2012 MTRs Decision, the High Court set a maximum non-cost based MTR rate of 2.6 cent, which Vodafone continued to price at up to the point of ComReg's 2016 Pricing Decision[992], which only then established Pure LRIC MTRs.

Other issues raised

A11.72 ComReg notes the concerns raised by Eircom regarding the suggested delays in market reviews for the RAFL and FACO markets. ComReg is mindful of the need to carry out such reviews in a timely manner, having regard to its available resources.

A11.73 ComReg notes that, pursuant to Article 16(6)(a) of the Framework Directive[993], it wrote to the European Commission on 25 April 2018[994] notifying it of a reasoned extension of the timeframe for the conduct a market analysis for the FACO markets. The European Commission did not object to this proposed extension and, in view of this, the timeframe under Article 16(6) of the Framework Directive for the conduct of a market analysis for the FACO markets has been extended to July 2020.

A11.74 Despite the above, ComReg intends to shortly commence its preparatory work on the review of the RAFL and FACO markets and will update its public work programme in due course.

A11.75 In any event, the timing of the market reviews for these markets does not have a material bearing on the reviews of the market analyses for the Relevant Termination Markets.

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[992] ComReg document 'Mobile Termination Rates: Response to Consultation 14/29 and Supplementary Consultation 15/19 and Decision Document D02/16.'

[993] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, as amended (the "**Framework Directive**")

[994] See https://circabc.europa.eu/sd/a/9efa7d40-0488-4ac4-a49c-f901833473f0/NON-CONFIDENTIAL%20Article%2016%20-%20Extension%20of%20Time%20for%20Market%20Analysis%20-%20Stefan%20Kraemer%20-%2025%20April%202018.pdf

A11.76 With respect to TMI's views[995], TMI have not provided material evidence that any of the developments in the retail markets pertaining to MVNOs are such that ComReg would have grounds to change its assessment regarding the competitive constraints faced by MVNOs (such as TMI) that have the ability to set their own MTRs. As noted in paragraph 6.21 of this Decision each of the service providers setting their own MTRs have a 100% market share in the relevant markets and the evidence in the SMP assessment in Section 6 also shows that each MSP (including the identified MVNOs) is, absent regulation, likely to have the ability to behave, to an appreciable extent, independently of its competitors, customers and ultimately of its consumers.

A11.77 In ComReg's view no material evidence has been submitted which would suggest that MVNOs setting MTRs are likely to be subject to effective indirect retail constraints or CBP that would pose an effective constraint.

Wholesale Relevant FVCT and MVCT Markets Definitions

A11.78 In Section 5 of the Consultation (and now in Section 5 of this Decision) ComReg set out its preliminary views on the definition of the Relevant Termination Markets. These were discussed as follows in the Consultation:

(a) Defining the Relevant FVCT Market(s) discussed in paragraphs 5.4 to 5.154 of the Consultation (and 5.8 to 5.170 of this Decision);

(b) Overall preliminary conclusion on the Relevant FVCT Markets discussed in paragraphs 5.155 to 5.158 of the Consultation (and 5.171 to 5.174 of this Decision);

(c) Defined the Relevant MVCT Market(s) discussed in paragraphs 5.159 to 5.242 of the Consultation (and 5.175 to 5.262 of this Decision);and

(d) Overall preliminary conclusion on the Relevant MVCT Markets discussed in paragraphs 5.243 to 5.247 of the Consultation (and 5.263 to 5.267 of this Decision).

A11.79 In Q 4 and Q 5 of the Consultation[996] ComReg sought views on its preliminary conclusions on the definition of the Relevant Termination Markets from both product and geographic perspectives.

[995] Including those in its Consultation Submission and its Question 17 Price Control Submission.

[996] Question 4 on page 205 of the Consultation asked: "Do you agree with ComReg's preliminary conclusions on the wholesale FVCT product market and geographic market definition assessment?"

Question 5 on page 224 of the Consultation asked: "Do you agree with ComReg's preliminary conclusions on the wholesale MVCT product market and geographic market definition assessment?"

Respondents' Views on the Definition of the Relevant Termination Markets

A11.80 Of the 11 Submissions received, Three, Eircom, Vodafone, Virgin, BT and TMI provided specific comments. Three's submissions were focussed primarily on points of disagreement with ComReg's assessment of the Relevant FVCT Market(s). However, Three noted that some of the principle points it raised in relation to ComReg's assessment of the Relevant FVCT markets also applies to ComReg's assessment of the Relevant MVCT Markets. Vodafone and TMI disagreed with ComReg's assessment of the Relevant MVCT Markets but did not comment on ComReg's assessment of the Relevant FVCT Markets. Virgin disagreed with ComReg that the Relevant WVCT Markets should include the provision of FVCT and MVCT to all undertakings regardless of whether these undertakings are located in Ireland or abroad. The other Respondent's either agreed or offered no comment on the definition of the Relevant WVCT markets.

A11.81 ComReg has summarised the Respondents main views below, grouping the key issues raised into the following identified themes:

(a) Whether or not to include 0818, 076 and emergency numbers within the Relevant FVCT Markets (discussed in paragraphs A11.82 to A11.85 below);

(b) Impact of OTT competition on the definition of Relevant Termination Markets (discussed in paragraphs A11.86 to A11.89 below);

(c) Whether or not provision of call termination to SPs in non-EEA countries are separate Relevant Termination Markets (discussed in paragraphs A11.90 to A11.92 below); and

(d) Whether MVCT supplied by each MVNO constitutes its own separate market (discussed in paragraphs A11.93 to A11.95 below).

Whether or not to include 0818, 076 and emergency numbers within the Relevant FVCT Market

A11.82 Three submitted that by identifying products with reference to the number range used to terminate the call ComReg's final decision will be based on a static reference to the use of numbers and will not allow for adaptability as the use of numbers changes.

A11.83 Three noted ComReg's preliminary view in paragraph 5.88 of the Consultation that calls terminated on an OTT unmanaged VoIP Service Provider are excluded from the Relevant FVCT market as they do not require the use of a Fixed Number. In this regard Three submitted that WVCT can be delivered with numbers other than geographic numbers or without numbers at all. Three submitted that whether or not services are included in the Relevant WVCT markets should be based on functional and economic conditions and not limited to the means of identification used.

A11.84 Three submitted that they do not agree with ComReg that 0818 numbers should not be included in the Relevant FVCT Market. According to Three the economic and functional characteristics of 0818 numbers are similar to Geographic or 076 numbers and as such calls terminating to 0818 numbers should be included within the Relevant FVCT market.

A11.85 Eircom queried why calls terminating to nomadic (076 numbers) and emergency numbers are included in the Relevant FVCT Market and suggested that FVCT to those numbers be excluded from the Relevant FVCT Market. According to Eircom, the 076 number range is being addressed in the context of a separate ongoing consultation[997]. With respect to emergency numbers, Eircom questioned why these should be included in the definition of the Relevant FVCT Market, as they are already subject to a separate Call Handling Fee[998].

Impact of OTT competition on the Definition of Relevant Termination Markets

A11.86 **Vodafone** did not express any views on the Relevant FVCT Market Definition, but with respect to the Relevant MVCT Market Definition it considered that while ComReg had identified the significant influence of OTT services on the way mobile consumers are using their phones, the Consultation nevertheless failed to acknowledge the real constraint that OTT services have placed on the retail prices operators charge for making calls, as well as with respect to MTRs.

[997] See paragraph 5.62 and footnote 532 regarding ComReg's *Response to Consultation - Review of Non-Geographic Numbers.*

[998] See paragraph 5.74.

A11.87 Vodafone submitted that they were providing a combined response to Q 3, 5 and 7 of the Consultation. However, with regards to Q5 and the assessment of the wholesale MVCT market definition, Vodafone did not make any direct reference to Section 5 of the Consultation. Rather, Vodafone's submission was focussed on points of disagreement with ComReg's assessment of retail mobile market trends in Section 3 and the assessment of the key structural and behavioural characteristics in the provision of RMVC in Section 4. In particular, Vodafone set out reasons why it disagrees with ComReg that OTT does not constitute a significant indirect constraint on wholesale MVCT and on MTRs[999].

A11.88 **Three** submitted that both fixed and mobile broadband coverage and quality are developing rapidly and to the extent that VoIP will soon reach a point where it will become a substitute for managed and traditional circuit switched voice and where VoIP will act as a constraint on the pricing of traditional FVCT and MVCT. Three noted that while OTT SPs might not yet have reached sufficient market penetration to warrant inclusion in the Relevant Termination Markets, underlying conditions are developing such that this may change within the lifetime of the review. Consequently, Three was of the view that ComReg should maintain the ability to bring VoIP and OTT services within the definition of the Relevant Termination Markets during the lifetime of the review as an "add-on", i.e., without having to carry out the full market review again.

A11.89 **BT** raised no objections but suggested refinements of technical aspects of ComReg's discussion of OTT bypass:

(a) BT indicated that it had experience of calls which it had transited to another European country for termination on a mobile platform being unexpectedly diverted to OTT termination. With reference to 5.229 in the Consultation, BT submitted that they were not aware of any signalling that would allow customers a choice of "carrier" versus OTT termination. BT noted that they only became aware of calls being diverted to OTT termination when customers complained of poor quality when they were expecting a carrier quality service;

[999] See paragraphs A11.50 to A11.54

(b) In paragraph 5.92 of the Consultation ComReg noted that OTT bypass of fixed FVCT is not generally technically feasible as the fixed handsets to which RFVC are generally transmitted do not support OTT applications (e.g., Viber and Skype), thus preventing OTT bypass from occurring. In this regard BT submitted that ComReg had failed to consider that fixed line calls could just as easily terminate on an application, on a mobile phone, tablet or PC. BT submitted that its experience of OTT bypass is that calls can be handed over long before entering Ireland and hence do not pass through traditional operators in Ireland. BT submitted that they are aware of one very large multinational organisation using OTT to terminate traditional carrier calls in some other European countries; and

(c) BT proposed that a dynamic approach to regulation is needed that would allow for a case-by-case assessment of whether specific services should be included in the relevant wholesale markets. In this regard BT considered OTT operators that engage in terminating carrier calls should, by their action, be deemed to be operating in the relevant wholesale markets.

Whether or not provision of call termination to SPs in non-EEA countries are separate Relevant Termination Markets

A11.90 Virgin Media disagreed with ComReg that the Relevant Termination Markets should include the provision of FVCT and MVCT to all undertakings regardless of whether these undertakings are located in Ireland or abroad. Virgin “disagrees with ComReg’s view that the same competition problem arises in the provision of call termination to non-EEA Service Providers”[1000]

A11.91 Virgin claimed that there are a number of reasons to consider the provision of FVCT/MVCT to non-EEA Service Providers in a separate market to the supply of FVCT/MVCT to Irish Service Providers, including:

(a) The international market may differ given that transit providers and non-EEA Service Providers have different bargaining positions with Irish Service Providers, relative to other Service Providers.

(b) Non-EEA Service Providers are not obliged to offer access to fixed and mobile numbers in Ireland, and so may “walk away” from negotiations with Irish Service Providers, whereas other Irish Service Providers are unable to do so;

(c) Transit providers tend to aggregate large volumes of traffic on behalf of a large number of International call providers;

[1000] See page 3 of Virgin Media’s Submission.

(d) International Service Providers are not competing in the Irish retail calls market

(e) Transit Providers provide bundles of international transit with call termination; and

(f) Transit Providers can offer Irish Service Providers access to favourable international call rates in return for lower termination rates

(g) The retail price of international calls is typically higher than the price of domestic calls and may lead to a higher price elasticity of demand for international calls at the retail level. Virgin claim that OTT users are more likely to use OTT apps to make international than domestic calls.1001 For this reason, Virgin claim this is suggestive of more elastic demand for retail international calls. Moreover, this is most likely to translate into increased price elasticity in the upstream call termination markets.

(h) Virgin also note that the market for the supply of call termination to non-EEA Service Providers is an export market. By definition, EEA end-users are not involved in this market and thus, there is no reason for regulatory intervention.

A11.92 No other Respondents commented on whether the provision of WVCT to Service Providers in non-EEA countries constitutes a separate market.

Whether MVCT supplied by each MVNO constitutes its own separate Relevant MVCT Market.

A11.93 TMI disagreed[1002] with the preliminary finding in paragraph 5.245 of the Consultation that MVCT supplied by TMI is a separate market in and of itself. TMI submitted that it is "*wholly unrealistic that wholesale MVCT supplied by each MNO and MVNO constitutes its own separate market*"[1003].

A11.94 TMI submitted that, [✂ [redacted]].

[1001] Virgin Media argue that the 2016 Consumer FVCT Market Research shows that amongst OTT app users surveyed, on average, 54% of their international calls are made via internet apps while 46% of these calls are made using fixed line. Whereas for calls made within Ireland, these same consumers make only 41% of these calls through OTT Apps, while 59% are still made using traditional fixed line. See 2016 Consumer FVCT Market Research, slide 38.

[1002] TMI echoes similar views in its Question 17 Price Control Submission.

[1003] See TMI Submission in Response to Q5 page 21 paragraph 69.

[1004] See paragraphs 3.91 to 3.93.

A11.95 TMI expressed no view on the definition of the Relevant FVCT Markets.

ComReg's Assessment of the Respondents' Views on the Definition of the Relevant Termination Markets

A11.96 In paragraphs A11.80 to A11.95 ComReg has summarised the key issues raised by the Respondents in relation to the assessment of Wholesale Relevant FVCT and MVCT Markets Definitions.

A11.97 Below, ComReg assesses Respondents' views under each of the key themes identified:

(a) Whether or not to include 0818, 076 and emergency numbers within the Relevant FVCT Markets (discussed in paragraphs A11.98 to A11.102 below).

(b) Impact of OTT competition on the Definition of Relevant Termination Markets (discussed in paragraphs A11.103 to A11.106 below).

(c) Whether or not provision of call termination to SPs in non-EEA countries is a separate Relevant Termination Markets (discussed in paragraphs A11.107 to A11.119 below); and

(d) Whether MVCT supplied by each MVNO constitutes its own separate market (discussed in paragraphs A11.120 to A11.124 below).

Whether or not to include 0818, 076 and emergency numbers within the Relevant FVCT Markets

A11.98 ComReg notes Three's comments regarding the identification of products with reference to the number range used to terminate calls. ComReg acknowledges that innovation may serve to weaken the connection between numbering and call termination and that call transmission may take place by means of new technologies. Nevertheless, numbering remains a key feature of FVCT, given current practice and technology[1005]. ComReg may, as market circumstances warrant, and, should the need arise, revisit the issue in future market reviews. ComReg notes further the ongoing review processes with regards to the *Response to Consultation - Review of Non-Geographic Numbers*[1006] as well as amendments from time to time of the *Numbering Conditions of Use*[1007].

[1005] See paragraph 5.28

[1006] See footnote 532 regarding the *Response to Consultation - Review of Non-Geographic Numbers*

[1007] See footnote 521 regarding the Numbering Conditions of Use and Application Process

A11.99 ComReg does not agree with Three that FVCT to 0818 numbers are sufficiently similar to Geographic Numbers such that they should form part of the Relevant FVCT Market(s). ComReg's assessment of which range of numbers should be included in the Relevant FVCT Market(s) is set out in detail in this Decision in paragraphs 5.40 to 5.81. With regard to 0818 numbers, ComReg's detailed analysis and assessment of Three's views is set out in paragraphs 5.57 to 5.65. In summary, ComReg maintains its view that:

(a) Geographic and 0818 numbers have sufficiently different competitive characteristics at the wholesale level. These characteristics include differences in end user awareness and incentives in respect of the level of the FTRs applied, as well as differences in the revenue opportunities which accrue to terminating FSPs in respect of calls incoming to such numbers;

(b) Most 0818 numbers are used for calls to VASPS. As noted in paragraph 5.53 of this Decision VASPS are more likely to be sensitive to the termination charge applied by their terminating FSP and have incentives to look for the platform operator which charges the lowest FTRs1008;

(c) FVCT to 0818 numbers exhibit distinct competitive characteristics when compared to Geographic Numbers and, as such, should be excluded from the Relevant FCVT market.

A11.100 As noted in paragraph 5.70 of this Decision, ComReg's analysis has not yielded material evidence that there are any demand or supply-side substitutes for call termination to 076 numbers, or that technical alternatives exist by which a call to a 076 number could be successfully terminated without the co-operation of the terminating FSP. This is reinforced by the fact that the CPP principle applies for calls to 076 numbers and the called parties (who choose the terminating FSP) thus have fewer incentives to react to the cost of FVCT. While the *Numbering Conditions of Use* limit the retail cost of a call to 076 numbers, they cannot extend to the wholesale FTRs charged by the terminating FSP, as there is no legal basis to do so.

A11.101 On this basis, it is ComReg's position that FVCT to 076 numbers is subject to sufficiently similar competitive characteristics as FVCT to Geographic Numbers and should be included in the same Relevant FVCT Market(s) as call termination to end users with Geographic Numbers.

[1008] VASP's use phone numbers as a sales or payment generation opportunity from its calling parties (e.g. bank customers wishing to pay a bill, or consumers wishing to buy a ticket to a concert).

A11.102 ComReg is of the view that FVCT to emergency numbers shares sufficiently similar competitive conditions to FVCT to Geographic Numbers, since there are currently no effective demand-side or supply-side substitutes for FVCT to emergency numbers, for the reasons set out at Section 5[1009] above in respect of FVCT. This suggests that FVCT to emergency numbers should be included in the same relevant market as FVCT to Geographic Numbers. Further, ComReg does not consider that FVCT to emergency numbers has any distinctive competitive conditions which might cause it to be excluded from the relevant market[1010].

Impact of OTT competition on the definition of the Relevant Termination Markets

A11.103 ComReg notes the Submissions made by the Respondents concerning the suggested impact of OTT services on the definition of the Relevant Termination Markets. In evaluating these Submissions ComReg considers that it has not received any material evidence that would change the preliminary conclusions set out in the Consultation.

A11.104 Vodafone did not comment directly on ComReg's assessment in Section 5 of the Consultation regarding whether MVCT delivered over VoIP technology is in the same relevant MVCT market as MVCT using traditional voice technology. Vodafone have therefore not established on the basis of any new analysis or evidence that calls made on Managed, Partially-Managed or Unmanaged VoIP services should be included in the relevant wholesale MVCT market where no MVCT service is required, and no MTR is levied[1011].

[1009] See paragraphs 5.72 to 5.81 of this Decision.

[1010] See paragraphs 5.79 of this Decision.

[1011] See paragraph 5.194 of the Consultation.

A11.105 ComReg notes Three's submissions regarding the development of fixed and mobile broadband and the possibility of competitive constraints from OTT impacting on the definition of the Relevant Termination Markets in the future. ComReg does not comment further as no evidence has been presented that such developments are relevant within the timeframe of this market review. With regards to ComReg's obligations to monitor developments and respond to any changes ComReg reiterates its position (as set out in paragraph A11.36 above) that it can only act within the legal parameters of the existing regulatory framework. ComReg does not currently have legal competence to request information from all categories of OTT service providers. Any further intervention in this area would depend on a regulatory framework review that would give ComReg sufficient tools to assess the impact of OTTs and intervene where required. In Section 4 of this Decision, in paragraphs 4.224 to 4.243, ComReg assessed possible substitution between making an unmanaged VoIP call instead of an off-net mobile call and concluded that insufficient numbers of consumers are likely to switch to making an unmanaged VoIP-to-VoIP call instead of an off-net mobile call in response to an increase in MTRs such that it would make an increase in the MTR unprofitable.

A11.106 Regarding BT's comments on OTT bypass, ComReg disagrees with BT that it failed to consider the possibility of RFVC calls terminating on alternative OTT platforms. ComReg noted in paragraph 5.128 of the Consultation that the fixed handsets to which RFVC are generally terminated do not currently support OTT applications. However, ComReg acknowledged that the development and commercialisation of such applications in future may require ComReg to revisit these views. ComReg maintains its position that it remains the case that fixed handsets do not support OTT applications and that such handsets are still widely used in residential and business settings. Further, ComReg has not been presented with any material evidence that technological developments in this area have been such that any instances of OTT bypass in itself would effectively constrain the profitability of a HM's FTR setting behaviour in the lifetime of this review.

Whether or not provision of call termination to SPs in non-EEA countries are in separate Relevant Termination Markets

A11.107 Virgin Media claim that the same competition problem does not arise in the case of the provision of call termination to non-EEA Service Providers as does in the case of the provision of call termination to Irish Service Providers. ComReg notes that making such a claim would not have a bearing on whether or not the provision of call termination to non-EEA Service Providers should be considered within the market definition, rather, it would appear to challenge whether or not a competition problem exists in the provision of termination services to non-EEA Service Providers.

A11.108 ComReg considers that the arguments raised by Virgin Media in A11.91 all relate to the bargaining position between Irish Service Providers and transit or non-EEA Service Providers. Each argument raised by Virgin appears to suggest that transit providers and non-EEA Service Providers may have countervailing buyer power over Irish Service Providers. In paragraph 6.71 ComReg also notes that one FSP indicated in its 2016 SIR response that it had experienced CBP in the context of its FTR setting behaviour for inbound international transit traffic.

A11.109 A suggestion that transit providers or non-EEA Service Providers have CBP would tend to challenge the designation of SMP of Irish Service Providers in the setting of termination rates for non-EEA calls, rather than challenge the inclusion of non-EEA originated calls within the market definition. Thus, ComReg disagrees that the reasons set out in A11.91 are justification to consider the termination of non-EEA originated traffic to be in a separate market.

A11.110 ComReg considers that insufficient evidence has been provided by Virgin Media to suggest that international calls at the retail level face a higher elasticity of demand than domestic calls.

A11.111 ComReg has demonstrated in paragraphs 4.147 to 4.167 of this Decision (in the case of RFVCs) and in paragraphs 4.224 to 4.243 of this Decision (in the case of RMVC) that a SSNIP in the termination rate for domestic calls is not, having regard to its impact at the retail level, likely to place a sufficiently effective indirect competitive constraint on FVCT/MVCT such that it would make a SSNIP unprofitable.

A11.112 If it is true that the retail price of international calls is greater than that of domestic calls (which can be the case),[1012] then a SSNIP in termination rates, will necessarily have a smaller relative impact when fed through into the prices of international calls[1013].

A11.113 Given that there is insufficient evidence that international calls at the retail level face a higher elasticity of demand, it seems unlikely that a SSNIP in the termination rate for international calls would sufficiently reduce demand to make an increase in price unprofitable.

[1012] Virgin Media do not provide evidence that international calls are more expensive than domestic calls.

[1013] For example, under the assumption of pass-through, a SSNIP in WVCT will translate into a smaller relative retail price increase, the higher the retail price.

A11.114 ComReg notes that only those consumers who use OTT apps were included in slide 38 of the 2016 Consumer FVCT Market Research (which Virgin relies on in its argumentation). The base size (n=372) is significantly smaller than the overall consumer sample size (n=1,018) and the overall number of consumers in the sample which have a fixed line phone (n=625). Among those (n=372) who have a fixed line and use OTT apps for making voice calls, 54% of international calls are made via internet apps while 41% of domestic calls are made via internet apps. Although those that use OTT Apps have a higher propensity to use OTT Apps when making international calls versus when making domestic calls, this group still only represents a proportion of the overall consumer sample. When accounting for the remaining segment of the sample which do not make any international calls using internet apps, the percentage of overall international calls which are made via internet apps is likely to be notably reduced.

A11.115 In any case, Irish Service Providers purchase significantly more traffic from other Irish Service Providers than transit providers, and yet, those purchasing Service Providers do not have sufficient CBP to constrain the termination rate setting of other Irish Service Providers. If Irish Service Providers cannot constrain the price setting behaviour of other Irish Service Providers, then it seems unlikely that transit or non-EEA providers (who purchase less traffic) could impose CBP. Moreover, the FSP which had indicated in its 2016 SIR response that it had experienced CBP in the context of its FTR setting behaviour for inbound international transit traffic did not raise this issue in its Submission or question whether the provision of call termination to SPs in non-EEA countries are in separate Relevant Termination Markets.

A11.116 Moreover, unregulated Irish Service Providers as shown in Table 17 and Table 18 (in relation to MTRs) and Table 21 (in relation to MTRs) have set termination rates in excess of the regulated Irish rates. If transit providers or non-EEA Service Providers could constrain the termination rate setting behaviour of unregulated Service Providers, the unregulated Irish Service Providers would be unable to set a termination rate higher than the regulated rate. Thus, ComReg disagrees with the points raised by Virgin in A11.91.

A11.117 ComReg disagrees with Virgin that EEA end-users are not involved in this market, the welfare of Irish consumers may be affected by the termination rate setting behaviour of both EEA and non-EEA Service Providers (as discussed extensively in Annex: 11, inter alia, in paragraphs A11.192 to A11.207 and A11.240 to A11.255 of this Decision). ComReg also notes that Virgin Media's argument that regulatory intervention is not required would appear to challenge the need for remedies in relation to non-EEA originated traffic, rather than the inclusion of non-EEA originated traffic within the market definition.

A11.118 ComReg also notes that Virgin raises the above arguments in relation to "international" traffic, but then subsequently argues that non-EEA traffic alone should be in a separate market. It is not clear to ComReg based on the arguments made by Virgin Media, why Virgin Media argues that non-EEA traffic should be treated differently to other international traffic. Virgin Media provided no evidence to suggest that intra-EU originated international traffic differs to non-EEA originated traffic. Similarly, the 2016 SIR response which suggested the existence of CBP in the context of its FTR setting behaviour for inbound international transit traffic did not distinguish between non-EEA and international traffic.

A11.119 As noted in 5.169 (in the context of FVCT) and 5.260 (in the context of MVCT), ComReg's position is that the service is, from a functional and technical perspective, the same irrespective of which undertaking it is provided to (and regardless of the geographic location of the purchaser). ComReg's position is that the Relevant Markets include termination irrespective of the source of the origination of the call.

Whether MVCT supplied by each MVNO constitutes its own separate market

A11.120 ComReg does not agree with TMI's assertion that ComReg is incorrect in concluding that wholesale MVCT supplied by TMI is in a separate market[1014].The Relevant MVCT Market within which TMI operates has been defined by ComReg having regard to TMI's particular circumstances within both the retail market and the wholesale Relevant MVCT Market within which TMI operates. ComReg has analysed the extent to which retail consumer behaviour (both called and calling parties) might impact upon all MSPs (including TMI's) position within the Relevant MVCT Markets and ComReg found that indirect constraints were unlikely to effectively constrain a HM supplier's ability to profitably sustain a small but substantial increase in MTRs above the competitive level.

A11.121 In order to provide call termination services a MVCT supplier must be interconnected with at least one other network. Absent this, all calls would effectively be on-net and no external MVCT service would be provided. Given that MVCT is essentially a wholesale interconnection type service, it follows that the supplier of MVCT should have the ability to set the associated MTRs for the relevant service. While traditional MNOs (i.e. those MSPs allocated with spectrum providing mobile services) have the ability to set the level of the MTR, the ability of an MVNO to do so will depend on the commercial relationship with its host MNO.

[1014] See paragraph 5.245 in the Consultation.

A11.122 Whether or not MVNOs provide MVCT services that fall within the parameters of the Relevant MVCT product market has been assessed according to the criteria set out in paragraph 5.180 (and elsewhere) of this Decision, including whether:

(a) it involves interconnection between networks;

(b) it involves call termination for the purpose of completing voice calls to subscribers/mobile numbers assigned to an individual MSP, which implies that control of the subscriber's mobile number has been assigned (or transferred) to an individual MSP; and

(c) the supplier of MVCT should have the ability to set and control the associated charges (MTRs) for the relevant MVCT service

A11.123 ComReg also considered a range of other demand-side and supply side considerations, as well as any impact of indirect constraints coming from the retail market.

A11.124 ComReg notes TMI's submission [✂ [redacted]], therefore, ComReg's conclusion that TMI's supply of MVCT constitutes a separate Relevant MVCT Market in its own right. In particular, as a supplier of wholesale MVCT, TMI continues to set associated charges for its MVCT service. TMI, Lycamobile and Virgin Media (all hosted on Three's network) determine their own MTR, whereas Postmobile (hosted on Vodafone's network) does not determine its own MTR.

Competition Analysis and Assessment of Significant Market Power

A11.125 In Section 6 of the Consultation (and now in Section 6 of this Decision) ComReg set out its preliminary views on its competition analysis and assessment of Significant Market Power (SMP) in the relevant FVCT markets and the relevant MVCT markets:

(a) Framework for Assessing SMP discussed in paragraphs 6.1 to 6.7 of the Consultation (and 6.4 to 6.10 of this Decision);

(b) Approach to Assessing SMP in the Relevant Termination Markets discussed in paragraphs 6.8 to 6.224 of the Consultation (and 6.11 to 6.211 of this Decision); and

[1015] See paragraph 3.92 of this Decision.

[1016] Including the criteria set out at paragraphs 5.29 of this Decision.

(c) SMP Designation discussed in paragraphs 6.225 to 6.232 of the Consultation (and 6.212 to 6.218 of this Decision).

A11.126 In Q.6 and Q.7 of the Consultation[1017] ComReg sought views on its preliminary competition analysis and assessment of SMP in the Relevant FVCT Markets and Relevant MVCT Markets.

Respondents' Views on the Competition Analysis and SMP assessment.

A11.127 Of the 11 Submissions received, ALTO, Eircom, iD Mobile, TMI, Verizon, and Vodafone submitted comments in response to the analysis set out in Section 6 of the Consultation. ALTO, Eircom and Verizon submitted comments with respect to both the SMP assessments for the Relevant FVCT Markets and Relevant MVCT Markets. iD Mobile, TMI and Vodafone's provided comments in their Submissions with respect to the SMP assessments for the Relevant MVCT Markets.

A11.128 The specific comments made by Respondents on the competition analysis and SMP assessment are summarised below, grouping the key issues raised into the following identified themes:

(a) Impact of OTT on the competition and the SMP assessment in the Relevant Termination Markets (discussed in paragraphs A11.129 to A11.130 below);

(b) Designation of additional SMP SPs in the Relevant Termination Markets (discussed in paragraphs A11.131 to A11.136 below); and

(c) Whether or not MVNOs should be designated with SMP (discussed in paragraphs A11.137 to A11.139 below).

[1017] Question 6 on page 292 of the Consultation asked: "Do you agree with ComReg's assessment of SMP in the Relevant FVCT Markets?"

Question 7 on page 292 of the Consultation asked: "Do you agree with ComReg's assessment of SMP in the Relevant MVCT Markets?"

Impact of OTT on competition and the SMP assessment in the Relevant Termination Markets

A11.129 **Eircom** raised no objections to ComReg's SMP assessment with respect to the Relevant FVCT and MVCT Markets. Eircom acknowledged that it is unlikely that OTT services provide an effective indirect constraint on pricing and SMP at the wholesale level at this time, but argued that "OTT services and all-IP networks will, from a regulatory perspective and at a future point in time, become a sufficient competitive constraint on traditional voice services at the wholesale level."[1018]

A11.130 In general, Vodafone considered, contrary to ComReg's preliminary view set out in the Consultation, that SPs are sufficiently indirectly constrained in their provision of MVCT given retail competition from OTT services. As noted in paragraph A11.50, Vodafone provided a combined response to Questions 3 (retail trends), 5 (definition of the Relevant Termination Markets) and 7 (SMP assessment) as set out in the Consultation. In its Submission, Vodafone addressed arguments and evidence presented by ComReg in Section 4 of the Consultation (covering the assessment of RFVCs and MFVCs), setting out its view that ComReg had underestimated the importance and impact of OTTs as an indirect constraint on MVCT. For a summary of Vodafone's main submissions in this regard see paragraphs A11.50 to A11.54 above, with ComReg's assessment of these set out in paragraphs A11.69 to A11.71.

Designation of additional SMP SPs in the Relevant Termination Markets

A11.131 **Verizon** agreed with the SMP assessment in the Relevant Termination Markets and urged ComReg to find a way to ensure that new entrants to the Relevant Termination Markets "*fall to be regulated in the scope of SMP conditions to ensure a level playing field for all*"[1019].

A11.132 Echoing Verizon's views **ALTO** also indicated that ComReg should consider how it should apply the framework for assessing SMP (as proposed in Section 6 of the Consultation) to new entrants and currently unregulated SPs (including OTT SPs) to ensure a level playing field for all.

[1018] See paragraph 25 on page 13 of Eircom's Submission in relation to FVCT. Eircom argue similarly in paragraph 28 on page 14 of their Submission, in relation to MVCT.

[1019] Verizon Submission paragraphs 14 and 16.

A11.133 ALTO indicated its general support for what it termed "*the enhanced scope found in the Market Review*". ALTO submitted that as a consequence of this enhanced scope more SPs meet the SMP criteria (as set out in Section 6 of the Consultation) utilised to assess whether they should be designated as having SMP in the Relevant Termination markets[1020].

A11.134 ALTO referred to Tables 18 and 22 in Section 6 of the Consultation[1021] pointing out that these showed that some unregulated SPs currently have FTRs at over 2000% higher than regulated FTRs and MTRs over 300% higher than regulated MTRs. ALTO submitted that, given this, it is clear that regulation is the only constraint.

A11.135 Eircom contended that SMP designations in the Relevant FVCT Markets FVCT had not been properly reviewed since 2007, and given that the 2012 FVCT Draft Decision[1022] was not adopted, it had effectively allowed 10 purported SMP SPs to enjoy a 'regulatory holiday'. According to Eircom legal challenges pertaining to separate decisions on MTRs[1023] is not an appropriate justification for the delays in conducting the updated assessments.

A11.136 Eircom also noted that the SP 'PhonePulse' should be designated as having SMP given that it supplies wholesale FVCT. Eircom also sought clarity regarding whether Vodafone includes all its subsidiary companies, such as Cable & Wireless, and similarly whether Viatel includes Digiweb and Smart[1024].

[1020] See paragraphs 2.1 to 2.4 of ALTO's submission in response to the Consultation, dated 10 January 2018.

[1021] See pages 250 and 257 of the Consultation respectively.

[1022] See paragraph 1.35 of this Decision.

[1023] See paragraph 1.34 of this Decision.

[1024] See paragraph 26 and 27, page 14 of Eircom's Submission.

Whether or not MVNOs should be designated with SMP

A11.137 iD Mobile did not comment on the SMP assessment for the Relevant FVCT Markets and considered that ComReg's SMP assessments for the Relevant MVCT Markets was reasonable. iD Mobile submitted that ComReg's comments in para 6.103 of the Consultation regarding differences between MNO and MVNO MTRs did not fairly consider the challenges of an MVNO versus an established MNO. In this regard ComReg had noted that that both Virgin Media's and iD Mobile's MTRs are greater than those of its host network, Three, which provides the underlying radio access network and other arrangements to support Virgin Media's and iD Mobile's MVNO based services. ComReg had noted that these major differences arise despite the fact that, as MVNOs, neither undertaking has invested to the same degree as Three in mobile network infrastructure and associated facilities. ComReg noted that it is unclear as to what, if any, objective justifications for such cost differences arise[1025].

A11.138 **TMI** expressed no view on the SMP assessment for the Relevant FVCT Markets. TMI stated, however, that it did not agree with the SMP assessment and preliminary conclusions with respect to the Relevant MVCT Markets, in particular, with ComReg's assessment that CBP is unlikely to effectively constrain TMI's ability to set its MTRs above a level consistent with a competitive market outcome[1026]. TMI were of the view that its small size and position in the "overall market" was sufficiently small that it should not be considered to have SMP[1027].

A11.139 TMI also submitted that MNOs and MVNOs should be treated differently as they are not on an equal footing and referred to the EC's then examination of the merger between Three and O2[1028]. In this regard TMI referred to concerns expressed by the EC that, with fewer MNOs in the market, MVNOs would have less choice of host networks and hence weaker negotiating power to obtain favourable wholesale access terms.

[1025] See paragraph 6.103 of the Consultation.

[1026] TMI made similar comments in its Consultation Submission and its Question 17 Price Control Submission,

[1027] In paragraph 73, page 21 of their submission TMI indicate, with reference to their position in the "overall market", that they have a market share of [✂ [redacted] of the mobile revenue market.

[1028] Merger Case M.6992, see http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_6992.

ComReg's Assessment of the Respondents' Views on the Competition Analysis and SMP Assessment

A11.140 In paragraphs A11.129 to A11.139 ComReg has summarised the key issues raised by the Respondents in relation to the competition analysis and SMP assessment in the Relevant Termination Markets.

A11.141 Below, ComReg assesses Respondents' views under each of the key themes identified:

(a) Impact of OTT on competition and the SMP assessment in the Relevant Termination Markets (discussed in paragraphs A11.142 to A11.145 below);

(b) Designation of additional SMP SPs in the Relevant Termination Markets (discussed in paragraph A11.146 to A11.151); and

(c) Whether or not MVNOs should be designated with SMP (discussed in paragraphs A11.152 to A11.153).

Impact of OTT on competition and the SMP assessment in the Relevant Termination Markets

A11.142 As noted in paragraph 6.21, given the relevant market definitions set out in Section 5, each SP has a 100% market share in the Relevant Termination Market within which they operate. These high market shares have been maintained over time. There are currently no effective competitors to the Service Providers operating in each of the Relevant Termination Markets, and ComReg's position is that this is likely to persist over at least the medium term. Further, ComReg does not consider that OTT constitutes an effective competitive constraint on the setting of termination rates by SPs designated with SMP in the relevant termination markets. ComReg's assessment of existing and potential competition with regards to FVCT and MVCT respectively is as follows:

Assessment with regard to the Relevant FVCT Markets

A11.143 With reference to OTT services like Unmanaged VoIP and other social media services, for the reasons set out in Sections 4 and 5 ComReg does not consider that, at the retail level, these are or would be an effective demand side substitute[1029] for a call to a RFVC subscriber or that it would place an effective indirect constraint[1030] on HM supplier of FVCT such that it would prevent it from profitably increasing its FTR by a small but significant amount above the level that would pertain in a competitive market outcome.

[1029] As set out in paragraphs 5.116 to 5.120 of this Decision.

[1030] As set out in paragraphs 4.147 to 4.167 of this Decision.

Assessment with regard to the Relevant MVCT Markets

A11.144 With reference to OTT services like Unmanaged VoIP and other social media services ComReg does not consider that these are or would be an effective demand side substitute[1031] for a call to a RMVC subscriber or that it would place an effective indirect constraint[1032] on a Hypothetical Monopolist (HM) supplier of MVCT such that it would prevent it from profitably increasing its MTR by a small but significant amount above the level that would pertain in a competitive market outcome.

A11.145 ComReg does not agree with Vodafone that it has understated the importance of OTT as a competitive constraint such that Vodafone would be effectively constrained in exercising SMP. ComReg's response to the points made by Vodafone have been addressed primarily in Section 4 in paragraphs 4.226 to 4.243 of this Decision.[1033] In this regard, ComReg reiterates its analysis and findings in which ComReg has found that the strength of any indirect constraints from the retail markets (including from OTTs) were not likely to be to sufficiently effective to prevent Vodafone (and indeed any other SP) from behaving, to an appreciable extent, independently from customers or consumers in Relevant Termination Markets within which it operates.[1034] ComReg considers that these conditions are likely to persist over the period covered by this market review.

[1031] As set out in paragraphs 5.221 to 5.224 of this Decision.

[1032] As set out in paragraphs 4.224 to 4.243 of this Decision.

[1033] ComReg also responds to the points raised by Vodafone in Annex: 11 at paragraphs A11.69 to A11.71, A11.104 and A11.142 to A11.145.

[1034] Ibid.

Designation of additional SMP SPs

A11.146 With regard to the development of OTT services, ComReg maintains that its analysis is sufficiently forward looking[1035]. With regards to ongoing monitoring and responding to any changes in the market ComReg will continue to monitor developments. ComReg can only act within the legal parameters of the existing regulatory framework and currently does not have legal powers to request information from all categories of OTT service providers. Any further intervention in this area would depend on a regulatory framework review that would give ComReg sufficient tools to assess the impact of OTTs and intervene where required[1036]. In this regard, ComReg noted that the ongoing discussions at an EU level regarding the new European Electronic Communications Code[1037], which it is expected will provide NRAs with additional information gathering powers.

A11.147 ComReg notes Respondents' views regarding the need to consider whether any new entrants have SMP and to do so promptly. ComReg notes that it is required, to consult with respect to any designation of a SP with SMP, including with respect to the imposition of any regulatory obligations upon them, as appropriate. It is not possible, therefore, to automatically include any new providers of WVCT within the gambit of the SMP framework. As noted in paragraphs 5.33 of this Decision, in a dynamic sector it is recognised that the FSPs that supply WVCT may vary further over the lifetime of the market review. ComReg intends to monitor any such developments and to consider those changes on a case-by-case basis where they arise. In doing so, ComReg intends to rely substantively on the current detailed assessment to identify whether any new-entrant WVCT suppliers meet the criteria, as set out in this Decision, for consideration as falling within the Relevant Termination Market(s), and thus whether a competition assessment should accordingly be carried out.

[1035] With regard to FVCT: as set out in paragraphs 4.147 to 4.167 and paragraphs 5.116 to 5.118. With regard to MVCT: as set out in paragraphs 4.224 to 4.243 and in paragraphs 5.221 to 5.224.

[1036] BEREC, 2016. "Report on OTT Services", BoR (16) 35

[1037] See http://europa.eu/rapid/press-release_IP-18-4070_en.htm.

A11.148 ComReg notes Eircom's comments regarding delays in the review of FVCT markets and designation of SMP players. ComReg does not intend to justify delays (although ComReg considers there have been good reasons for them). ComReg has simply stated the facts regarding the various legal processes and challenges with respect to the 2012 Pricing Decision. As noted in paragraphs 1.32 to 1.38 of this Decision, the regulation of the Relevant FVCT Markets was, until this current Decision, anchored to the 2007 FVCT Decision. While the subsequent FVCT Draft Decision was notified to the European Commission,[1038] a final decision was not adopted by ComReg. The decision not to adopt a final decision was in the light of the then Mobile Termination Rates Appeal of the 2012 Pricing Decision insofar as it related to the then MVCT Markets, which, amongst other things, sought to impugn a pricing methodology that was also utilised in the FVCT Draft Decision. With respect to Eircom's comments on the purported regulatory holiday provided to certain SPs given the delays in updating the FVCT market review, these are now addressed in the current Decision and, therefore, ComReg does not comment further.

A11.149 With regard to Eircom's comments regarding Vodafone and its subsidiary companies, ComReg confirms that, as set out in the Decision Instrument, **"Vodafone"** means Vodafone Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns[1039].

A11.150 Further, ComReg confirms that **"Viatel"** means Viatel Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns[1040].

A11.151 ComReg notes Eircom's submission regarding PhonePulse. Consistent with the approach adopted in the Consultation and this Decision ComReg intends to conduct a consultation within six months of the effective date of this Decision in order to determine whether PhonePulse should be designated with SMP. As noted above, in doing so, ComReg intends to rely substantively on the current detailed assessment as set out in this Decision, albeit having regard to any relevant differences with respect to PhonePulse.

[1038] Case Reference Number IE/2012/1372.

[1039] See the Definitions in paragraph 2.1 of the Decision Instrument, Annex: 16

[1040] See the Definitions in paragraph 2.1 of the Decision Instrument, Annex: 16

Whether MVNOs should be designated SMP

A11.152 ComReg does not accept TMI's view that it does not have SMP. ComReg considers that the evidence shows that, amongst other things, TMI is, absent regulation, likely to in a position to set its own MTRs independently of competitors, customers and consumers. Furthermore, the CBP analysis with respect to TMI in Section 6[1041] of this Decision remains valid and TMI has not presented any evidence to suggest that any CBP has been or would be effective in terms of its ability to constrain TMI in setting its MTRs above the level consistent with a competitive market outcome. ComReg therefore maintains its position that TMI should be designated as having SMP in the Relevant MVCT Market within which it operates.

A11.153 ComReg does not agree with TMI's view that its size means that it does not have the ability to set its MTRs independently. ComReg has noted in Table 21 that prior to being subject to SMP regulation, TMI's MTRs ranged from between 694% to 324% higher than regulated MTRs, this also being at a time when TMI's size was smaller than it currently is.

A11.154 ComReg notes TMI's comments regarding [✂ [redacted]]. As noted above, TMI has 100% market share and does not face existing or potential competition in the Relevant MVCT Market.

Competition Problems and Impacts on Competition and Consumers in the Relevant Termination Markets

A11.155 In Section 7 of the Consultation (and now in Section 7 of this Decision) ComReg set out its preliminary views on competition problems and impacts on competition and consumers which could arise in the Relevant Termination Markets, absent regulation. In this context, ComReg set out:

(a) Types of Competition Problems discussed in paragraphs 7.7 to 7.80 of the Consultation (and 7.9 to 7.83 of this Decision);

[1041] See paragraphs 6.146 to 6.161 of this Decision.

(b) Impacts of Competition Problems on Competition and Consumers discussed in paragraphs 7.81 to 7.101 of the Consultation (and 7.84 to 7.103); and

(c) Overall conclusion on competition problems discussed in paragraph 7.102 of the Consultation (and 7.104 to 7.106 of this Decision).

A11.156 In Q.8 and Q.9 of the Consultation[1042] ComReg sought views on its preliminary identification of competition problems and associated impacts on competition and consumers in the Relevant Termination Markets.

Respondents' Views on Competition Problems and Impacts on Competition and Consumers in the Relevant Termination Markets

A11.157 With the exception of TMI there was either general agreement with the competition problems identified or no objections were made.

A11.158 While expressing no view on the competition problems identified with respect to the Relevant FVCT Markets, TMI submitted that, with respect to the Relevant MVCT Markets, the competition problems identified were theoretical and did not apply to it. TMI argued that it did not have SMP and therefore could not engage in anti-competitive conduct such as refusal to supply and excessive pricing.

A11.159 **Verizon** generally agreed with ComReg's assessment of competition problems. Verizon noted that its comments were relevant to both the FVCT and MVCT Termination Markets. Verizon commented on the issue of termination supplied with respect to calls originated outside the EEA[1043] and whether or not there is a wealth transfer outside of Ireland due to different termination rates applying in different countries with this depending on the volume of traffic and the relevant rates. As an example, Verizon pointed to the possibility of there being a wealth transfer from the US to Ireland given large amount of traffic is originated within the US destined for Ireland while there also being very low regulated termination rates in the US (with Irish originating SPs being the beneficiaries).

[1042] Question 8 on page 320 of the Consultation asked: "Do you agree that the competition problems and the associated impacts on competition and consumers which are identified in this Section are those which could potentially arise in the Relevant FVCT Markets?"

Question 9 on page 320 of the Consultation asked: "Do you agree that the competition problems and the associated impacts on competition and consumers which are identified in this Section are those which could potentially arise in the Relevant MVCT Markets?"

[1043] Including those in its Consultation Submission and its Question 17 Price Control Submission.

A11.160 With reference to comments by ComReg in paragraph 7.94 of the Consultation regarding the negative impact of inconsistent regulation across the EU, Verizon submitted that this principle of consistency should also extend to global service providers outside of the EU. In particular, in relation to the regulation of non-EEA originated traffic, Verizon suggest that global service providers who originate and terminate, national, European and non-EEA traffic would benefit from a clear and simple price control which applies to all calls, regardless of country of origin.

A11.161 **Eircom** agreed that the competition problems identified by ComReg could arise in the Relevant Termination Markets, but raised a concern regarding excessive pricing practices by SPs not designated as having SMP. Eircom also reiterated earlier comments (summarised in paragraphs A11.135 and A11.136 above) regarding delays in conducting an updated market analysis. Eircom called on ComReg to ensure that all SPs providing FVCT services, as well as those providing MVCT services, are subject to the same regulatory controls.

ComReg's Assessment of Respondents' Views on Competition Problems and Impacts on Competition and Consumers in the Relevant Termination Markets

A11.162 In response to Verizon's comments regarding potential wealth transfers from Ireland to non-EEA countries, ComReg acknowledges that in some cases, where termination rates in non-EEA countries are equivalent to, or below regulated Irish termination rates and when a majority of traffic between Ireland and the non-EEA country is terminated in Ireland, there may be a net inflow of revenue to Irish Service Providers. Similarly, if non-EEA termination rates are in excess of the Irish termination rates or a majority of traffic between the two countries is terminated in the non-EEA country, Irish Service Provider's may face a net outflow of revenue (i.e. pay more for termination provided by the non-EEA Service Provider than it charges the same non-EEA Service Provider for its termination services) to the non-EEA Service Provider.

A11.163 ComReg's position is that such revenue inflows or outflows are not a concern in and of themselves. Indeed, in the absence of symmetric termination rates and symmetric traffic flows, there is likely to be a revenue outflow in one direction or the other. This applies equally to EEA and non-EEA traffic.

A11.164 However, as discussed in paragraphs A11.192 to A11.207, ComReg notes that some non-EEA SPs may set termination rates which are excessively high (and may not be related to cost). This creates outflows of revenue for Irish Service Providers which are not justified by relative flows of traffic or cost differences between Irish and non-EEA Service Providers.

A11.165 Therefore, ComReg attempts to distinguish between the termination rates set by non-EEA SPs which appear to relate to the cost of termination and those that do not. Revenue outflows which may be justified by differences in costs or relative traffic flows are not deemed to cause a competition concern. However, revenue outflows which arise due to non-EEA SPs setting termination rates above the cost of supplying FVCT/MVCT are deemed to be instances where Irish SPs are cross-subsidising non-EEA SPs. This is discussed in detail in paragraphs A11.192 to A11.207.

A11.166 ComReg notes Verizon's comments on the importance of regulatory consistency and certainty. ComReg addresses the issues of regulatory consistency and regulatory certainty in its assessment of remedies in paragraphs A11.256 to A11.272 and A11.288 to A11.296, respectively.

A11.167 ComReg notes Eircom's comments regarding possible excessive pricing by SPs not designated with SMP to date and Eircom's view that all SPs providing FVCT and MVCT services should be subject to the same regulatory controls. Consistent with the approach adopted in the Consultation and this Decision ComReg intends to conduct a consultation within six months of the effective date of this Decision in order to determine whether PhonePulse should be designated with SMP (see A11.151). Eircom's concerns regarding delays in the designation of SMP SPs is addressed in paragraph A11.148 above. ComReg has, through this Decision, designated 22 FSPs and 6 MSPs as having SMP on the basis that they are capable of behaving, to an appreciable extent independently of their competitors and customers with respect to their respective FTR and MTR pricing behaviour. The imposition by ComReg of *ex ante* remedies on SMP SPs is intended to address possible excessive pricing by such SPs, as well as the other competition problems identified in this Decision.

A11.168 ComReg rejects TMI's assertions that it does not have SMP (with this considered in Section 5 and Section 6 of this Decision). Neither does ComReg accept that that the competition problems identified are theoretical and do not apply to TMI. TMI have not provided material evidence that any of the developments in the retail markets pertaining to MVNOs are such that ComReg would have grounds to change its assessment regarding the competitive constraints faced by MVNOs (such as TMI) in the Relevant MVCT Markets within which they operate. As noted in paragraph 6.21 of this Decision, each of the SPs operating within a Relevant Termination Market have the ability to set their own MTRs, have a 100% market share. The evidence in Section 6 shows that MVNOs such as TMI, absent regulation, are likely to have the ability to behave, to an appreciable extent, independently of its competitors, customers and ultimately of its consumers. Data set out at Table 21 indicates that, prior to its SMP designation in 2012, TMI charged MTRs far in excess of the SMP-based MTRs (with TMI's MTRs ranging between 694% to 324% of regulated MTRs). ComReg has set out in Section 7, paragraphs 7.39 to 7.49 and paragraphs 7.79 to 7.83 the ability and incentives for MSPs such as TMI to engage in the range of identified competition problems.

Approach to Specifying and Implementing Remedies in the Relevant Termination Markets

A11.169 In section 8 of the Consultation (and now in Section 8 of this Decision) ComReg set out its preliminary views on the approach to specifying remedies in the Relevant Termination Markets. These are discussed as follows in the Consultation:

(a) Option of no Regulation discussed in paragraphs 8.8 to 8.11 of the Consultation (and in paragraphs 8.15 to 8.18 in this Decision);

(b) Existing Remedies for the Relevant FVCT Markets discussed in paragraphs 8.12 to 8.183 of the Consultation (and in paragraphs 8.19 to 8.34 of this Decision);

(c) Overall Preliminary Conclusions on Remedies in the Relevant FVCT Markets discussed in paragraphs 8.184 to 8.203 of the Consultation (and ComReg's overall Position on the Imposition of Remedies in the Relevant FVCT discussed at paragraphs 8.221 to 8.234 of this Decision);

(d) Existing Remedies for the Relevant MVCT Markets discussed in paragraphs 8.204 to 8.297 of the Consultation (and in paragraphs 8.236 to 8.243 of this Decision); and

(e) Overall Preliminary Conclusions of Remedies in the Relevant MVCT Markets discussed in paragraphs 8.298 to 8.309 of the Consultation (and ComReg's overall Position on the Imposition of Remedies in the Relevant MVCT market discussed at paragraphs 8.359 to 8.365 of this Decision).

A11.170 Alto, BT, Eircom, iD Mobile, Three, TMI and Verizon responded to questions 10[1044], 11[1045], 12[1046], and 13[1047] and AT&T, BT, Eir, Lycamobile, Three Ireland, TMI, Verizon, Virgin Media, Vodafone responded to Q14[1048]. Verizon noted that its comments applied to both the Relevant FVCT and Relevant MVCT markets.

A11.171 The Respondent's views in both the Relevant FVCT and Relevant MVCT markets were predominantly focussed on the price control obligations on the application of WVCT to calls originated outside the EEA[1049] (Question 14). Respondents also had views on the proposed requirement of a 60-day advance notification to ComReg of termination rate changes, use of the RIO, inclusion of certain number ranges as part of the market definition and other comments specific to each Respondent.

A11.172 In Eircom's April 2019 Letter, Eircom raised concerns regarding the detailed specification of certain cost orientation price control obligations set out in ComReg's Notified Draft Measure as submitted to the EC on 11 March 2019.

A11.173 A summary of the issues raised in Eircom's April 2019 letter and ComReg's assessment thereof is set out in paragraphs A11.348 to A11.366 below.

[1044] Question 10 on page 373 of the Consultation asked: "Do you agree with ComReg's approach to imposing remedies in each of the Relevant FVCT Markets? Are there other approaches that would better address the identified competition problems?"

[1045] Question 11 on page 373 of the Consultation asked: "Do you agree with ComReg's draft FVCT Decision Instrument set out in Appendix 5? Do you agree with ComReg's definitions and interpretations as set out in this draft Decision Instrument?"

[1046] Question 12 on page 398 of the Consultation asked: "Do you agree with ComReg's approach to imposing remedies in the Relevant MVCT Markets? Are there other approaches that would better address the identified competition problems?"

[1047] Question 13 on page 398 of the Consultation asked: "Do you agree with ComReg's draft MVCT Decision Instrument set out in Appendix 7? Do you agree with ComReg's definitions and interpretations as set out in this draft Decision Instrument?"

[1048] Question 14 on page 398 of the Consultation asked: "In respect of the potential alternative approaches for price control obligations on the application of WVCT to calls originated outside the EEA, please indicate which approach would better address the identified competition problems".

[1049] Including Verizon's Question 17 Price Control Submission.

Remedies in the Relevant FVCT markets

A11.174 ComReg has summarised the Respondents main views below, grouping the key issues raised into the following identified themes:

(a) Transparency requirement for 60-day advance pre-notification to ComReg for termination rate changes (discussed in paragraphs A11.175 to A11.179 below);

(b) Transparency requirement to publish a RIO (discussed in paragraphs A11.180 to A11.187 below);

(c) Price control remedies in the Relevant FVCT Markets - EEA and non-EEA countries (discussed in paragraphs A11.188 to A11.347 below);

(d) Other comments on remedies in the Relevant FVCT Markets (discussed in paragraphs A11.367 to A11.403 below); and

(e) Other amendments to the Draft FVCT Decision Instrument (discussed in paragraphs A11.404 to A11.406 below).

Transparency requirement for 60-day advance pre-notification to ComReg for termination rate changes

A11.175 In Section 8 of the Consultation[1050], ComReg had proposed that the Proposed SMP FSPs provide ComReg with 60 (sixty) calendar days advance pre-notification of any changes to FTRs (and likewise for any changes to MTRs[1051]). Alto and Verizon commented on this. This Section is structured as follows:

(a) Respondents' Views (discussed at paragraphs A11.176 to A11.178 below).

(b) ComReg's Assessment of Respondents' Views (discussed in paragraph A11.179 below).

Respondents' Views

A11.176 **Verizon and Alto** both disagreed on the proposed requirement for a 60 day advance pre-notification to ComReg with respect to any changes to termination rates.

[1050] See paragraph 8.35 of the Consultation.

[1051] See paragraph 8.218 of the Consultation.

A11.177 Verizon considered this to be unnecessarily interventionist as it would restrict SPs flexibility in responding to competition[1052] and the ability to pass savings from lower termination rates to consumers in a timely manner.

A11.178 Alto also objected to ComReg's proposal arguing that this is disproportionate and burdensome and reduces flexibility for SPs.

ComReg's Assessment of Respondents' Views

A11.179 Having considered Respondents' views, ComReg is amending the advance pre-notification period such that the 2019 Designated SMP FSPs will be required to provide 30 (thirty) calendar days' notification in advance of the date on which any such termination rate amendments come into effect. This is addressed in Section 8 of this Decision in paragraphs 8.41 to 8.46 with respect to FTRs.

Transparency requirement to publish a RIO

A11.180 Verizon and Alto commented on the proposal in the Consultation that the Proposed SMP FSPs be required to publish a RIO. Verizon and Alto's comments are applicable to both proposed 2019 Designated SMP FSPs and 2019 Designated SMP MSPs[1053]:

(a) Respondents Views (discussed in paragraph A11.181 below); and

(b) ComReg's Assessment of Respondents Views (discussed in paragraphs A11.182 to A11.187 below).

Respondents' Views

A11.181 Verizon and Alto submitted that the proposed requirement to publish a RIO is prescriptive. Verizon could not see the rationale for the publication of a RIO being a necessary requirement for alternative operators other than Eircom given that the similar terms and conditions requirement imposed in 2007 currently functions well. According to Verizon the requirement to publish a RIO only serves to create an administrative burden in terms of time and resources for alternative operators. Alto expressed similar views.

[1052] ComReg has assumed that Verizon were referring to competition at the retail level given ComReg had identified that there is no effective competition each of the Relevant Termination Markets.

[1053] See paragraph 8.32 to paragraph 8.40 of the Consultation with regards to proposed transparency remedies for the Relevant FVCT Markets and paragraphs 8.216 to 8.224 of the Consultation regarding proposed transparency remedies in the Relevant MVCT Markets.

ComReg's Assessment of Respondents' Views

A11.182 ComReg notes the concerns raised by Verizon and Alto. While ComReg recognises that such an obligation can involve some cost (whether financial or administrative), it is considered appropriate having regard to the competition problems identified in Section 7 of this Decision.

A11.183 ComReg does not consider that the implementation of the above obligations would place a disproportionate burden on the 2019 Designated SMP service providers. ComReg recognises that the obligation to publish a RIO requires some greater level of implementation than, for example, publication of prices on websites. However, any additional implementation costs are not disproportionate given the competition problems that are likely to arise as a consequence of the exercise of SMP.

A11.184 These competition problems include that the 2019 Designated SMP Service Providers have the ability and incentive to refuse or constructively refuse access either through informational asymmetries, delaying tactics such as protracted negotiations in respect of the provision of access to WVCT or associated facilities and/or seeking unreasonable terms and conditions associated with such access.

A11.185 In this regard, advance visibility to WVCT purchasers of the terms and conditions according to which WVCT is to be provided minimises the scope for such anti-competitive behaviour and promotes effective competition in downstream markets. It also provides predictability and certainty to existing or potential WVCT purchasers, thereby contributing to the aim of ensuring that investment incentives are not undermined. Openness and transparency of technical interfaces can also be particularly important in ensuring interoperability.

A11.186 As noted in the Consultation, transparency obligations support other obligations and, in this regard, the publication of a RIO will allow existing or potential WVCT purchasers visibility of terms and conditions and should provide them with assurances that they are being treated in a non-discriminatory manner.

A11.187 ComReg's position is that it will maintain its position with respect to the requirement for all 2019 Designated SMP service providers to publish a RIO. ComReg's position (and supporting considerations) regarding the transparency remedies and the requirement to publish a RIO is set out in this Decision in paragraphs 8.38 to 8.56 (with respect to the Relevant FVCT Markets) and paragraphs 8.245 to 8.257 (with respect to the Relevant MVCT Markets).

Price Control Remedies in the Relevant FVCT Markets – EEA and non-EEA countries

A11.188 In the Consultation, ComReg considered alternative Candidate Approaches to the application of price control remedies with respect to calls originating within the European Economic Area ('**EEA**') on the one hand, and call originating in non-EEA countries on the other. These Candidate Approaches are set out in paragraph 8.139 of this Decision.

A11.189 The Consultation set out the advantages and disadvantages of these two Candidate Approaches and sought the views of interested parties in determining which approach is likely to be better able to remedy the identified competition problem in a proportionate manner. In response, ComReg received 9 Submissions. Two Respondents (AT&T and Verizon[1054]) indicated a preference for Candidate Approach 1 - Retain the status quo, while six respondents (Eircom, iD Mobile, Lycamobile, Three, Virgin Media, and Vodafone) indicated a preference for the Candidate Approach 2 - Allow differentiated approaches to calls originated within and outside the EEA. One Respondent (BT) to this question did not note a preference for either approach.

A11.190 The key issues raised by the Respondents are grouped into 11 identified themes as well as an additional grouping setting out 'other comments raised' not falling under any particular theme. Respondent's views and ComReg's assessment of Respondent's views will be addressed together under each theme as set out below. As noted in paragraph 8.309 the analysis in respect of the Relevant FVCT Markets, as well as ComReg's views and position on the matter, applies equally with regards to the Relevant MVCT Markets. Therefore, the overview of Respondents' views and ComReg's assessment thereof under each of the identified themes below applies to both the application of price controls in the Relevant FVCT Markets and the Relevant MVCT Markets:

(a) Cross-subsidisation of non-EEA SPs

(i) Respondents Views (discussed in paragraphs A11.192 to A11.197 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.198 to A11.207 below);

(b) The Likelihood of 2019 Designated SMP SPs Increasing Termination Rates

(i) Respondents' Views (discussed in paragraphs A11.208 to A11.215 below);

[1054] Including those in its Consultation Submission and its Question 17 Price Control Submission.

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.216 to A11.221 below);

(c) The Risk of a 'Race to the Top'

(i) Respondents' Views (discussed in paragraphs A11.222 to A11.227 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.228 to A11.239 below);

(d) A Reduction in Incoming non-EEA Call Volumes

(i) Respondents' Views (discussed in paragraphs A11.240 to A11.248 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.249 to A11.255 below);

(e) A Differentiated Approach as Emerging Regulatory Practice

(i) Respondents' Views (discussed in paragraphs A11.256 to A11.263 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.264 to A11.272 below);

(f) Disguising Origins of Traffic

(i) Respondents' Views (discussed in paragraphs A11.273 to A11.279 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.280 to A11.287 below);

(g) Regulatory Certainty

(i) Respondents' Views (discussed in paragraphs A11.288 to A11.292 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.293 to A11.296 below);

(h) Potential Legal Issues

(i) Respondents' Views (discussed in paragraphs A11.297 to A11.300 below);

(ii) ComReg's Assessment of Respondents' Views (paragraphs A11.301 to A11.303 below);

(i) Price control Application to Roaming Subscribers

(i) Respondents' Views (discussed in paragraphs A11.304 to A11.307 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.308 to A11.315 below);

(j) Methods of Differentiated Regulation

(i) Respondents' Views (discussed in paragraphs A11.316 to A11.320 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.321 to A11.328 below);

(k) Burdensome commercial negotiations

(i) Respondents' Views (discussed in paragraphs A11.329 to A11.332 below);

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.333 to A11.340 below);

(l) Other comments raised regarding the non-EEA Price Control remedy

(i) Respondents' Views (discussed in paragraphs A11.341 to A11.343 below); and

(ii) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.344 to A11.347 below).

A11.191 Below, ComReg considers the above themes.

Cross-subsidisation of non-EEA SPs

Respondents' Views

A11.192 Eircom, Three, Virgin Media and Vodafone each suggested that Irish SPs are cross-subsidising[1055] non-EEA SPs as a consequence of being charged high termination rates by non-EEA SPs relative to what Irish SPs are required to charge non-EEA SPs.

A11.193 Eircom submitted that Irish SPs are currently cross-subsidising non-EEA SPs and emphasised that Irish SPs should be allowed flexibility in the termination rates they charge to non-EEA SPs, to avoid further distortion of competition and ensure that consumers don't face higher costs.

A11.194 Three provided examples of non-EEA countries significantly increasing the termination rates they charged to Irish SPs and alluded to excessively high termination rates being charged by SPs in a number of countries. Three submitted that this was resulting in a cross-subsidisation of non-EEA SPs by Irish SPs, and by extension, Irish subscribers.

[1055] ComReg understands cross-subsidisation in this context to refer to wealth transfers from Irish SPs to SPs in non-EEA countries which arise primarily due to non-EEA SPs setting termination rates which may not be justified by differences in costs and/or asymmetries in traffic flows. See paragraph 8.142 in this Decision and Paragraph A11.202 in this Annex for further clarification.

A11.195 Three submitted that a differentiated approach would enable Irish SPs to respond to non-EEA SPs who levy such high termination rates, eliminating the cross-subsidy and restoring balance to the negotiation of international termination rates.

A11.196 Virgin Media submitted that the Candidate Approach 1 results in an effective wealth transfer from Irish SPs to non-EEA SPs. The transfer of wealth is ultimately funded by subscribers in the EEA and benefits firms and subscribers outside of the EEA, whose welfare should not be of relevance in ComReg's cost benefit analysis.

A11.197 Vodafone submitted that the status quo results in considerable transfers of wealth out of Ireland and provided summary and country specific statistics of the termination rates they are typically charged by non-EEA countries and their traffic with non-EEA countries. Vodafone claimed that this issue may arise in respect of smaller non-EEA countries with relatively low traffic volumes, but can also arise with some non-EEA countries with which it has high levels of traffic volumes. Vodafone claimed that it can also be subject to *ad hoc* and unjustified termination rate increases from some non-EEA countries which limits their ability to offer lower prices at the retail level.[1056]

ComReg's Assessment of Respondents' Views

A11.198 ComReg notes the concerns of Respondents that some non-EEA SPs may charge Irish SPs unreasonably high FTRs and MTRs that cannot be justified on the basis of differences in cost. For example, in November 2017 [✂ [redacted]] SPs imposed a termination rate increase from below [✂ [redacted]] to over [✂ [redacted]]. See paragraphs 8.152 to 8.157 of this Decision in this regard.

A11.199 ComReg notes that Irish SPs may face net revenue outflows to non-EEA SPs (i.e. termination out-payments for Irish originating traffic terminated by non-EEA SPs in excess of the revenue earned from supplying termination to traffic originated by non-EEA SPs). These net revenue outflows may be exacerbated by the unreasonably high FTRs/MTRs set by some non-EEA SPs.

[1056] ComReg notes that Vodafone's additional Submission appeared to provide evidence inconsistent with that supplied in the summary statistics of its Response to the Consultation. On 14 May 2018 ComReg queried Vodafone regarding inconsistencies with the statistics provided in its Response to Consultation in light of the evidence available in its Additional Submission. Vodafone responded via email on 16 May 2018 with figures consistent with Additional Submission. Therefore, ComReg places a greater degree of emphasis in its analysis on the figures provided by Vodafone in its Additional Submission rather than the summary statistics provided in its Response to Consultation.

A11.200 Based on analysis of the Additional Submissions, it is estimated that Irish SPs face annual net revenue outflows to non-EEA SPs of between €5m and €8.3m.[1057] Considering that an estimated 82% to 92% of these annual net revenue outflows are to non-EEA SPs charging a termination rate higher than 10c (which is likely to be in excess of the efficient cost of supplying FVCT or MVCT) it follows that it is possible that a significant portion of these net revenue outflows constitutes a cross subsidy of non-EEA SPs by Irish SPs. ComReg notes that the net revenue outflows referred to above are estimates based on limited information.[1058] The full extent of any cross subsidisation of non-EEA SPs by Irish SPs is not known.

A11.201 Unreasonably high termination rates set by some non-EEA SPs do not appear to be related to the efficient cost of supplying FVCT/MVCT and may lead to net outflows of revenue which are not justified by relative traffic flows or cost differences between Irish and non-EEA SPs.

A11.202 Therefore, ComReg distinguishes between the termination rates set by non-EEA SPs which relate to the cost of termination and those that do not. Revenue outflows which may be justified by differences in costs or relative traffic flows are not considered to cause a competition concern. However, net revenue outflows which arise due to non-EEA SPs setting termination rates above the efficient cost of supplying FVCT/MVCT are deemed to be instances where Irish SPs are likely to be cross-subsidising non-EEA SPs.

A11.203 Given the lack of available information regarding the costs faced by non-EEA SPs, ComReg notes that it may be difficult to distinguish between non-EEA SPs which set termination rates above the cost of supplying termination (and give rise to cross-subsidisation concerns) and those which set termination rates at or below the cost of supplying termination (and therefore do not give rise to cross-subsidisation concerns).

A11.204 Therefore, ComReg's best estimate of the highest efficient cost of termination is the highest known Pure BU-LRIC termination rate set by EEA SPs. This is the highest known regulated and efficient cost of termination which takes account of the EC's recommended methodology.[1059] Any termination rate set by a non-EEA SP which is equal to or below this rate may reasonably be a reflection of the cost of termination faced by the non-EEA SPs.

[1057] Net revenue outflows for FSPs are estimated to range between €1.3m and €2.2m per annum. Net revenue outflows for MSPs are estimated to range between €3.7m to €6.1m per annum.

[1058] See footnote 786.

[1059] The 2009 Termination Rate Recommendation notes that the efficient cost of termination should be calculated on a pure BU-LRIC basis.

A11.205 ComReg notes that it is possible that a non-EEA SP who sets cost based termination rates may face somewhat higher efficient costs of termination than any EEA SP, however, ComReg has incomplete information and makes an estimate based on the information available to it. ComReg also notes that – under the conditions set out in 8.175 and 8.316 – where a non-EEA SP charges a 2019 Designated SMP SP a TR above the Threshold EEA TR, the 2019 Designated SMP SP in return, may charge a TR above the Irish Regulated TR but no higher than the Applicable Maximum Allowable TR (which takes account of potential estimated cost differences between Irish SPs and non-EEA SPs). Recognising differences between FTR and MTR levels, non-EEA SPs would be charged at a rate that reflects differences between their termination rates and the Threshold EEA TR.

A11.206 The principal advantage of Candidate Approach 2 is that Irish SPs will be enabled to respond to non-EEA SPs who levy high termination rates. If Irish SPs were able to raise their rates in response to the rates they are being charged by non-EEA SPs, this would mean that Irish SPs could reduce the net outflow of revenues they currently face (assuming non-EEA SPs do not retaliate by increasing their own FTRs/MTRs). Analysis of one Additional Submission suggests that annual net revenue outflows for one Irish MSP could be reduced [✂ [redacted]] by matching the high termination rates set by non-EEA SPs. Again, ComReg notes that this information is based on incomplete information and should only be viewed as an estimate. The full extent of possible reductions in net revenue outflows currently faced by Irish SPs under Candidate Approach 2 is not known.

A11.207 Although likely constituting a relatively small proportion of retail revenues in Ireland at present[1060], ComReg notes that the extent of cross-subsidisation may increase over time in the face of unfettered pricing by non-EEA SPs. In particular, if the Candidate Approach 1 is retained, Irish SPs will be prevented from responding to the levying by non-EEA SPs of high termination rates. Irish SPs would be forced to continue to either absorb the costs of cross subsidisation, or pass these costs on to their retail subscribers. Ultimately, Irish subscribers may continue to cross-subsidise non-EEA SPs. To the extent that they continue to cross-subsidise non-EEA SPs, and the higher termination costs feed into higher outgoing international call prices (or other aspects of the services offered), Irish subscribers could be dis-incentivised from calling subscribers of those non-EEA networks, potentially leading to a reduction in the utility of both Irish and non-EEA subscribers, due to the impact on call externalities.

[1060] See paragraph 8.161

The Likelihood of Irish SPs Increasing Termination Rates

Respondents' Views

A11.208 Three argued that the Candidate Approach 2 could give Irish SPs leverage in negotiations with non-EEA SPs, allowing them to exert downward pressure on the termination rates set by non-EEA SPs.

A11.209 Similarly, Virgin Media noted that the commercial bargaining position of Irish SPs is undermined in any situation where price controls are unevenly applied (in the sense that they are applied to EEA SPs only).

A11.210 Virgin Media also considered that OTT services act as a constraint on the price setting of international retail call prices, and therefore, Irish SPs and transit providers will have an incentive to negotiate low call termination and transit rates.

A11.211 Virgin Media noted that Irish SPs may also take account of the importance of offering 'competitive' termination rates in negotiating favourable international interconnect agreements.

A11.212 Verizon provided evidence which it suggested that termination rates set by EEA SPs typically increase when the price control for non-EEA originated traffic is lifted. Verizon noted that in as many as 20 EU countries where price controls for non-EEA originated traffic have been removed, EEA SPs have increased the termination rates charged to non-EEA SPs with an average surcharge on mobile termination rates of [✂ [redacted]] and on fixed termination rates of [✂ [redacted]].

A11.213 Verizon highlighted the research and findings of Ofcom in the context of its MVCT and FVCT market reviews, noting that MTRs and FTRs have increased in EEA countries where the price control has been lifted.

A11.214 Verizon claimed that Irish SPs may have an incentive, if the price control is lifted, to increase the termination rates they charge both to non-EEA SPs charging high termination rates and non-EEA SPs charging low termination rates (even though those instances of non-EEA SPs charging low termination rates do not give rise to cross-subsidisation concerns). Moreover, some non-EEA SPs may be unable (due to regulation) to retaliate to increases in termination rates applied by Irish SPs. For this reason, termination rates ought to be cost-orientated, irrespective of the country of origin.

A11.215 Verizon urged that, if ComReg lifted the price control for non-EEA originated calls, it should be restricted to the traffic that is originated by SPs charging high termination rates only, thereby protecting non-EEA SPs charging low termination rates[1061].

ComReg's Assessment of Respondents' Views

A11.216 ComReg agrees with Three and Virgin Media that the bargaining position of Irish SPs may improve in the absence of a price control. However, ComReg acknowledges that if Irish SPs have a net inflow of traffic, it may be in their interest to raise, rather than lower symmetric termination rates, as it may lead to an increase in the net revenue inflow received from non-EEA SPs.

A11.217 Based on the BEREC Questionnaire Responses in Annex: 12, a majority of NRAs that responded (6 of 11 NRAs in the case of FVCT and 8 of 14 NRAs in the case of MVCT) noted that there has been an increase in the termination rates set by domestic EEA SPs to non-EEA SPs following the adoption of a differentiated approach to the price control. By contrast, one NRA noted that decreases in domestic SP termination rates had occurred.

A11.218 Retaining the Candidate Approach 1 would ensure that termination rates set by Designated SMP SPs would not increase (to either high or low termination rate SPs). However, it would fail to address concerns regarding cross-subsidisation highlighted above at paragraphs A11.198 to A11.207. Based on the Respondents' views' and the BEREC Questionnaire Responses, ComReg acknowledges that it is possible that lifting the price control may lead to increases in termination rates set by SPs for the supply of termination of non-EEA originated traffic.

A11.219 ComReg also notes the concerns raised by Verizon that Irish SPs may have an incentive to increase the termination rates charged to non-EEA SPs charging low termination rates, even though they do not currently raise cross-subsidisation concerns. In order to address these concerns raised by Verizon in relation to those non-EEA SPs which currently set cost-orientated or 'low' FTRs and MTRs, ComReg include a condition on the application of the price control with respect to non-EEA originated calls. As noted in 8.175 above, the price control will remain in place for the supply of termination of traffic originated by non-EEA SPs who themselves, charge termination rates for traffic originated by Irish SPs that do not exceed the Threshold EEA TRs.

[1061] Including those in its Consultation Submission and its Question 17 Price Control Submission.

A11.220 Based on analysis of one of the Additional Submissions, an estimated [✄ [redacted]] of non-EEA call volumes terminated by one Irish SP are originated by non-EEA SPs who themselves, set termination rates at or below the Threshold EEA TRs. Although this is an estimate based on imperfect information provided by one Irish SP, it suggests that a not insignificant proportion of traffic which is originated by non-EEA SPs and terminated by Irish SPs may still be subject to the price control under a differentiated approach.

A11.221 ComReg disagrees with Virgin Media's suggestion that OTT services could provide an incentive to negotiate low call termination and transit rates. ComReg notes that it concluded at paragraph 4.147 to 4.167 (in the case of RFVC) and 4.224 to 4.243 (in the case of RMVC) that an unmanaged VoIP-to-VoIP call is not likely to pose an effective indirect competitive constraint on M/FTRs (i.e. that OTT substitution would not be sufficient to prevent an increase in MTRs above competitive levels being profitable). It is ComReg's view that this likely applies to international as well as domestic calls.

The risk of a 'race to the top'

Respondents' Views

A11.222 AT&T, Three, Verizon, Virgin Media and Vodafone submitted comments on the risk of a 'race to the top' (i.e. high-high termination rates in both EEA and non-EEA countries). Three, Virgin Media, and Vodafone submitted that removing the price control could give Irish SPs leverage in negotiations to encourage non-EEA SPs to lower their termination rates. By contrast, AT&T and Verizon argued that Candidate Approach 2 may lead to a 'race to the top', with Verizon adding that this may have negative consequences for consumers.

A11.223 Verizon disagreed that freedom to negotiate for Irish SPs would lead to lower termination rates being charged by non-EEA SPs to Irish SPs. Verizon argued that this is particularly true where high termination rates in non-EEA countries are set by regulation (such as Ghana – where regulation sets a minimum termination rate which may be charged by Ghanaian SPs for the termination of international traffic[1062]).

[1062] Parliament of Ghana, Electronic Communications (Amendment) Act 2009 http://www.nca.org.gh/assets/Uploads/Ghana-Electronic-Communications-Amendment-Act-Act-787.pdf

A11.224 Three claimed that the incentive for the “race to the top” would quickly disappear as it becomes apparent to negotiators that further increases will simply net-off against each other. According to Three, SPs also do not change termination rates often, and they also do not maintain country bespoke termination rates. It is more likely that Irish SPs who choose to have a different termination rate for non-EEA countries will implement a small number of price bands rather than have a bespoke price per country.

A11.225 Three also argued that if Candidate Approach 2 is adopted, Irish SPs may also take account of the fact that if termination rates rise by a significant amount, this could be reflected in standard international retail call prices in non-EEA countries, potentially reducing incoming call minutes for Irish SPs. Therefore, Three argued that excessive increases in termination rates may be unlikely.

A11.226 Vodafone argued that in order to avoid a ‘race to the top’, ComReg should allow Irish SPs to refuse MVCT to non-EEA SPs that discriminate between national and international calls by setting different termination rates.

A11.227 Virgin Media considered that it is in the interest of Irish SPs and international transit providers to negotiate call termination and transit rates that enable competitive retail pricing for international calls, given consumers’ increased willingness to use OTT services when making international calls.

ComReg’s Assessment of Respondents’ Views

A11.228 As noted in the Consultation[1063] and highlighted by two Respondents’ (AT&T and Verizon), a potential disadvantage of Candidate Approach 2 is that it may lead to an increase in the termination rates charged by both Irish SPs and non-EEA SPs, ultimately leading to higher, rather than lower retail charges for Irish subscribers (depending on the intensity of competition in the affected retail markets). This possibility could arise where an Irish SP increases the termination rates it charges to a high-termination rate charging non-EEA SP, leading to a retaliatory response from that SP and so on, resulting in a ‘race to the top’. If these higher termination rates do not cancel each other out (for instance, because of asymmetric traffic flows), there is a risk that retail prices could increase, as SPs pass the increased costs of termination onto their own subscribers (depending on the intensity of competition in the affected retail markets).

[1063] At paragraph 8.159

A11.229 If non-EEA SPs are bound by regulation to set minimum[1064] termination rates for the termination of internationally originated traffic, this may reduce the likelihood that Irish SPs could use their freedom under Candidate Approach 2 to exert downward pressure on the termination rates set by non-EEA SPs.

A11.230 As noted in Annex: 12, ComReg asked NRAs whether termination rates charged by non-EEA SPs to domestic EEA SPs had changed since adopting an approach that permitted different termination rates to be charged. Most NRAs - 8 of 10 in the case of FVCT and 10 of 13 in the case of MVCT - were unable to provide the relevant information. One NRA noted that there had been no change in TRs, another NRA noted that there had been an increase and another NRA noted that there had been decreases in termination rates charged by non-EEA SPs. Based on the BEREC Questionnaire Responses, limited inferences can be made as to the likelihood of retaliation.

A11.231 ComReg notes the point raised by Three that SPs currently do not change their termination rates frequently. However, Irish SPs termination rates are currently subject to a price control. It remains possible that Irish SPs may be willing to increase termination rates more frequently in the absence of a price control.

A11.232 Three also argued that under Candidate Approach 2 SMP SPs may be unlikely to set country specific termination rates. In Three's view, it may be more likely that Designated SMP SPs would implement a small number of price bands when setting termination rates to non-EEA countries. To do this, Designated SMP SPs would group non-EEA SPs or non-EEA countries according to the termination rates charged, and then charge a single termination rate to all of the non-EEA SPs or non-EEA countries in each group. Although country specific termination rates may not be set, this does not preclude the possibility of a 'race to the top' emerging. For example, if non-EEA SPs from one non-EEA country increase the termination rate they charge to a Designated SMP SP, the Designated SMP SP may respond by moving the non-EEA country into another (higher) price band and thereby increase the termination rate it charges to non-EEA SPs from that non-EEA country. In this way, a 'race to the top' may emerge even if Designated SMP SPs used price bands when setting termination rates.

[1064] See A11.223 re: Ghana

A11.233 ComReg disagrees with Three that the incentive to increase termination rates would disappear when SPs are aware that increases in termination rates may be matched. If one SP receives a net inflow of revenue in the presence of symmetric termination rates, it may have an incentive to increase the symmetric termination rate, in order to increase its net revenue inflow (depending on the expected impact on retail prices and call volumes). Moreover, increases in termination rates may also be used by SPs as a justification for increased retail prices to subscribers.

A11.234 ComReg notes the points raised by Three and Virgin Media that Irish SPs may take account of international interconnect agreements and incoming call volumes when setting termination rates, however, it is possible that the revenue earned from increases in termination rates could exceed the revenue losses associated with these factors.

A11.235 Although these factors may impact upon the likelihood of a 'race to the top' occurring, the possibility of a 'race to the top' occurring under the Candidate Approach 2 remains. Moreover, the consequences to consumers of a 'race to the top' are likely to be negative.

A11.236 In order to minimise the risk of a 'race to the top' emerging between an EEA country and a non-EEA country, some EU NRAs have included a reciprocal condition in the application of price controls (i.e. a limit on the termination rate which can be charged by national EEA SPs is set equivalent to the termination rate charged by the originating non-EEA SP). Four of the NRAs that adopted a differentiated approach to charging termination rates indicated in their BEREC Questionnaire Responses that they had included such a reciprocal condition. Vodafone also suggested that allowing Irish SPs to refuse WVCT to non-EEA SPs that discriminate between termination rates charged for national and international calls could reduce the risk of a 'race to the top'. ComReg notes that a similar approach is applied in Germany. However, ComReg does not agree with the approach suggested by Vodafone as it raises the risk of disputes being raised, could unnecessarily prolong interconnection negotiations and not promote sufficient regulatory certainty.

A11.237 Taking account of these approaches, ComReg now includes a further condition (see paragraph 8.175 and 8.316) on the application of the price control to non-EEA originated calls. In ComReg's view, this approach is less complex and more appropriate than refusal of access. ComReg's view is that this condition allows 2019 Designated SMP Service Providers to minimise the cross-subsidisation of non-EEA Service Providers, while also limiting the ability of Irish Service Providers to set termination rates in excess of the rates required to achieve this aim. By contrast, the refusal of access to WVCT services remedy suggested by Vodafone would place no upper bound on the termination rates which may be charged by 2019 Designated SMP Service Providers to non-EEA SPs.

A11.238 When terminating traffic originated by non-EEA SPs who themselves, charge termination rates to Irish SPs above the Threshold EEA TRs (See paragraph 8.175 with respect to FVCT and 8.316 with respect to MVCT), 2019 Designated SMP SPs will have an ability to set termination rates above the Irish Regulated TR, but no higher than, the Applicable Maximum Allowable FTR/MTR as set out at paragraph 8.175 and 8.316.

A11.239 ComReg notes that this condition does not remove the possibility of a 'race to the top' emerging. If Irish SPs follow this condition and increase their own termination rates for non-EEA originated calls up to, but no higher than, the Applicable Maximum Allowable FTR/MTR, some non-EEA SPs may have an ability and incentive to retaliate.[1065] If non-EEA SPs increase the termination rates they charge to Irish SPs over time, Irish SPs will have the freedom to further increase the rates they charge in return. However, the proposed condition provides a partial solution insofar as it prevents Designated SMP SPs from triggering a retaliatory response that may arise in instances where the Designated SMP SP sets its TR at a level significantly above the existing TR of the non-EEA SP.

A Reduction in Incoming Non-EEA Call Volumes

Respondents' Views

A11.240 AT&T, Three, Virgin Media and Verizon commented on likelihood of a reduction in incoming non-EEA call volumes. AT&T and Verizon believed that Candidate Approach 2 would lead to an increase in international retail call prices in non-EEA countries and a subsequent decrease in incoming call volumes. Three argued it is not clear and unlikely that non-EEA SPs will increase international call charges. Virgin Media also argued that it is not clear that a reduction in Incoming non-EEA call volumes would occur, or that this would cause harm.

A11.241 AT&T agreed with the argument made in the Consultation that the Candidate Approach 2 may lead to an increase in retail prices of calling Ireland from non-EEA countries (if Irish SPs increase termination rate on non-EEA originated traffic, non-EEA SPs may pass on cost increases to consumers), leading to a potential reduction of incoming voice calls from non-EEA countries, to the detriment of Irish consumer welfare.

[1065] Depending on the regulatory environment in the non-EEA country, relative traffic flows between the non-EEA and Irish SP and the level of competition in the retail market in the non-EEA country.

A11.242 Verizon argued that Candidate Approach 2 may lead to cost increases for non-EEA SPs (as Irish SPs may increase termination rates for non-EEA originated traffic). Verizon estimated based on average TR increases by national SPs in the EU following the adoption of a differentiated approach and its average level of call volumes with Irish SPs, that the adoption of Candidate Approach 2 would cost their US business [✂ [redacted]] per year.

A11.243 Verizon claimed that a reduction in incoming non-EEA call volumes would not only reduce the revenues for Irish SPs, but could also have a greater impact on the wider economy if there were a reduction in the calls from US business consumers to businesses in Ireland. Verizon note that the U.S. Trade Representative has already identified “differential regulation” for termination rates as a “foreign trade barrier”.

A11.244 Additionally, Verizon argued it is possible that an increase in termination rates under Candidate Approach 2 would have a disproportionate negative impact on Black, Asian, Minority and Ethnic (‘**BAME**’) communities whose relatives and contacts may be located in non-EEA countries, either through increased cost or a reduction in calls between such consumers.

A11.245 Virgin Media argued that it is not clear that a reduction in traditional incoming international calls to Irish subscribers from outside the EEA would occur, or cause harm to subscribers in the single market. To show harm, Virgin argued that ComReg would need to demonstrate that:

(a) Irish operators would increase average termination rates for non-EEA originated traffic if the price control was removed.

(b) Non-EEA SPs would pass this price increase onto their customers through a substantial increase in the price of retail calls to Ireland.

(c) This price increase would result in a reduction in call volumes to Irish consumers and businesses.

(d) The reduction in “traditional” calls would harm subscribers in the Single Market.

A11.246 Virgin Media claimed that ComReg’s market research has provided evidence that consumers are willing to use OTT services instead of traditional voice services when making international calls. Thus, it is not clear that a differentiated approach would lead to a risk of consumer harm.

A11.247 Three argued that it is not clear that termination rate increases set by Irish SPs would feed through to price increases at the retail level in non-EEA countries. Three also claimed that the price elasticity of these calls is unclear.

A11.248 Further, Three argued that Irish SPs are unlikely to implement extreme termination rate increases as a reduction in volume would be counter-productive for Irish SPs themselves. Thus, Three viewed it as unlikely that incoming call volumes would decrease under Candidate Approach 2.

ComReg's Assessment of Respondents' Views

A11.249 ComReg acknowledges concerns raised by Verizon that the adoption of Candidate Approach 2 could increase costs for their US business if Irish SPs were to increase termination rates on non-EEA originated traffic. The costs faced by non-EEA SPs is beyond the remit of ComReg, however, increases in prices at the retail level in non-EEA countries may have implications for the welfare of Irish consumers.

A11.250 The costs of increases in retail prices for international calls to Ireland from non-EEA countries are not borne directly by Irish subscribers[1066]. However, such an increase may still have negative consequences for Irish consumers' welfare – for instance, by reducing the volume of calls they receive from friends, family and business contacts overseas (to the extent that Irish subscribers value such calls), and/or as a result of Irish subscribers switching from receiving calls from non-EEA counterparts to making calls to their non-EEA counterparts.

A11.251 Virgin Media claims that due to the willingness of Irish consumers to use OTT services instead of traditional voice services when making international calls, a reduction in incoming non-EEA call volumes may not harm Irish consumer welfare. ComReg notes that it concluded between paragraphs 4.147 to 4.167 (in the case of RFVC) and 4.224 to 4.243 (in the case of RMVC) that an unmanaged VoIP-to-VoIP call is not likely to pose an effective indirect competitive constraint on the setting of MTRs or FTRs (i.e. that OTT substitution would not be sufficient to prevent an increase in MTRs or FTRs above competitive levels being profitable).[1067] ComReg also noted in paragraphs A11.107 to A11.119 that the Relevant Markets includes termination irrespective of the source of the origination of the call.

[1066] As noted in Section 4 of the Consultation, the 2016 Market Research also suggests that called parties tend to have a low sensitivity to the cost of the calls faced by calling parties, although this did not distinguish the origin of the called party.

[1067] Moreover, if it were the case that OTT voice calls constrained termination rate setting behaviour of Irish Service Providers for calls originated in non-EEA countries, it may be expected that a similar constraint would limit the termination rate setting behaviour on Irish originated calls in the relevant non-EEA countries. However, it is clear that termination rates in many non-EEA countries are set far in excess of the competitive termination rate, thus, OTT voice calls from Ireland do not appear to be constraining the termination rate setting behaviour of non-EEA Service Providers.

A11.252 Based on the above analysis, if incoming call volumes from non-EEA countries were to decrease, Irish subscribers' welfare may decrease to the extent that they value incoming calls which are no longer made. Moreover, Irish end users may be required to make a higher proportion of calls to non-EEA countries, thus, increasing the costs faced by Irish subscribers' to engage with their contacts outside the EEA.

A11.253 By contrast, Three argued that it is not clear that termination rate increases set by Irish SPs would feed through to price increases at the retail level in non-EEA countries and that the price elasticity of these calls is unclear. ComReg notes that Irish terminated calls are likely to amount to a very small proportion of all, or of international, calls originated by any given non-EEA SP, such that, as a proportion of overall expenditure on termination fees by that non-EEA SP, increases in Irish termination rates may not be sufficiently significant to warrant, on their own, an increase in retail charges to the non-EEA SP's subscribers.[1068] However, ComReg cannot discount this possibility.

A11.254 Three also argued that Irish SPs are unlikely to implement extreme termination rate increases as it may be counter-productive for Irish SPs themselves, given that it could lead to a reduction in inbound call volumes from non-EEA countries. ComReg noted in A11.235 that a 'race to the top' cannot be ruled out. In ComReg's view it is uncertain if Irish SPs would actually increase termination rates on non-EEA originated traffic under Candidate Approach 2. It is also ComReg's view that the amount of such a potential increase in termination rates is also uncertain. The possibility of an increase may lower termination rates charged by non-EEA countries, however, this would depend on the relative trade-offs having regard to relative traffic flows.

A11.255 ComReg also notes that as set out at paragraphs 8.170 to 8.175, Designated SMP SPs will be unable to increase termination rates to non-EEA SPs who set termination rates at below the Threshold EEA TRs. Based on analysis of one of the Additional Submissions, it is estimated these SPs account for [✂ [redacted]] of non-EEA originated call volumes terminated by one Irish SP. Increases in retail prices and subsequent reductions in incoming call volumes may be less likely to occur for this proportion of non-EEA SPs. Although this figure is an estimate based on imperfect information provided by one Irish SP, it suggests that a significant proportion of non-EEA originated call volumes which are terminated by Irish SPs may remain subject to the price control under a differentiated approach.

[1068] Moreover, if retail call prices to Ireland are more expensive than domestic calls in the non-EEA country, any pass through in termination rate increases would represent a smaller percentage increase in the retail call price. As a result, this may be less likely than an increase in the price of domestic calls to result in a reduction of call volumes.

A Differentiated Approach as Emerging Regulatory Practice

Respondents' Views

A11.256 AT&T, Eircom, Three, Virgin Media, Verizon and Vodafone commented on a differentiated approach as the emerging regulatory approach across the EU. Eircom, Three, Vodafone and Virgin Media commented on the need to maintain consistent regulatory practice across the EU. By contrast, AT&T and Verizon highlighted that other NRAs have recently completed market reviews and decided to maintain the price control on calls, regardless of origin.

A11.257 Eircom emphasised that an increasing number of EU NRAs have implemented a differentiated approach and highlighted that choosing a differentiated approach would contribute to the development of the internal market and ensure the development of consistent regulatory practice across the EU.

A11.258 Three and Vodafone similarly emphasised that Candidate Approach 1 would put Ireland at odds with the emerging regulatory practice across the EU.

A11.259 Virgin Media noted that the recent shift in thinking across European NRAs reflects an acknowledgement that imposing a price control on non-EEA originated traffic is not beneficial to end-users in the Single Market. Virgin Media argued that remedies imposed on the termination of non-EEA originated traffic across Europe in the past have been done so implicitly, based on a "catch-all" market definition, rather than considering the non-EEA issue explicitly.

A11.260 Verizon noted that ComReg should adopt the appropriate remedy to address the identified competition problems, in light of the available evidence, rather than an approach that could potentially cause consumer harm and increase costs for providers.

A11.261 Verizon claimed that ComReg should not try to counter-balance the regulatory or legislative decisions of other non-EEA countries through its regulation for the Irish markets. Rather, Service Providers that feel that high termination rates of other countries are impacting their business should lobby the relevant regulators, governments or operators to change that situation, and should not use Irish consumers and businesses as leverage.

A11.262 Verizon acknowledged that since the publication of the Consultation, Ofcom published its Final Decision Statement on the Narrowband Market Review, enforcing a price control on all calls, regardless of country of origin.

A11.263 AT&T also noted Ofcom's recent decision and mentioned that PTS, the Swedish NRA, chose not to proceed with its earlier proposal to allow Swedish operators to charge rates that are higher than cost-oriented levels to terminate calls originating in non-EEA countries.

ComReg's Assessment of Respondents' Views

A11.264 EU NRAs have taken different approaches to the treatment of the issue of termination charges levied on SPs originating calls in non-EEA countries. While some NRAs continue to require the same FTRs/MTRs to be charged without regard to the origin of the call, an increasing number of other EU NRAs have altered their approaches to allow national SPs some latitude in charging FTRs/MTRs for calls originated in non-EEA countries.

A11.265 As noted in Table 38 below, of the 27 EEA NRAs analysed (excluding Ireland), the most common approach taken by EU NRAs is to apply different price control remedies to non-EEA originated calls, permitting SMP SPs to set their own FTRs/MTRs, either at any price level, or up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling). Separately, in Germany, a different approach is taken, whereby SMP SPs are not entitled to apply different price control remedies, but may refuse to provide access to FVCT/MVCT to those non-EEA countries that discriminate in the termination rates they charge for terminating nationally originated calls on the one hand and internationally originated calls on the other.

Table 38: EEA NRA approaches to calls originated outside the EEA[1069]

Approach	Number of NRAs Adopting Approach	
	FVCT	MVCT
Price Control not applicable to non-EEA originated Calls	15	12

1069 The data in Table 38 is sourced from the BEREC Questionnaire Responses, relevant NRA websites, and the Market Analysis database held by Cullen International, a provider of regulatory intelligence across various utility industries (http://www.cullen-international.com/product/applications/MarketAnalysis/intro.html) on 29th November 2018.

Reciprocal termination rate price ceiling on non-EEA originated calls	3	4
Price Control applies to all calls	9	11

A11.266 Based on analysis of the BEREC Questionnaire Responses set out in Annex: 12, a majority of decisions taken since 2015 in relation to both FVCT and MVCT markets have lifted or amended the price control on non-EEA originated traffic. Since 2015, 12 of 16 FVCT decisions and 12 of 16 MVCT decisions taken by NRA respondents to the ComReg BEREC Questionnaire indicated that they adopted a differentiated termination rate charging approach.

A11.267 ComReg also notes that some NRAs within the EEA which have not adopted differential approaches have not completed market reviews recently (e.g. Slovakia[1070], Poland). Therefore, it is possible that further NRAs will remove price controls on non-EEA originated traffic over the lifetime of this market review.

A11.268 ComReg agrees with Eircom, Three, Virgin Media and Vodafone that adopting a differentiated approach would ensure greater consistency with contemporary regulatory practice across the EU, while retaining the current approach would mean Ireland is inconsistent with the emerging regulatory approach across the EU. However, this, in and of itself, is not the overriding factor in deciding on an approach for Irish Relevant Termination Markets.

A11.269 As noted by AT&T and Verizon, ComReg acknowledges that, since the publication of the Consultation, Ofcom (UK NRA) concluded its decision on its FVCT market review, applying the price control to the termination of all calls, regardless of origin.

A11.270 ComReg also notes that since the publication of the Consultation:

[1070] As noted in Annex: 12, Slovakia have consulted on adopting a differentiated approach in MVCT markets and adopted a differentiated approach in FVCT markets in 2018.

(a) Nkom (Norwegian NRA) adopted regulation with respect to its relevant MVCT markets, with the price control applying only to calls originated within the EEA;[1071]

(b) CNMC (Spanish NRA) adopted a decision with respect to its relevant MVCT markets in which it applies a differentiated approach in Spain. Calls from outside the EEA may be subject to higher commercial MTRs, up to the MTR applied by the operator in its country of origin (i.e. a reciprocal approach);[1072]

(c) Ofcom (UK NRA) also concluded a decision on MVCT market review, applying the price control to the termination of all calls, regardless of origin;[1073]

(d) ANCOM (Romania NRA) adopted a decision on both its FVCT and MVCT market reviews, applying the price control to the termination of all calls, regardless of origin;[1074]

(e) RÚ (Slovakian NRA) adopted a decision on its FVCT market review, with the price control applying only to calls originated within the EEA.[1075]

A11.271 ComReg has reviewed the approaches adopted by each of the NRAs noted in A11.270 above and considered their analysis in relation to the application of price control on non-EEA originated traffic. However, ComReg also notes that the extent of the issue faced by national SPs may differ across countries and that ComReg must focus specifically on the circumstances in Ireland.

[1071] Nkom, 2017. Available at: https://www.nkom.no/marked/markedsregulering-smp/anbefaling-2016/marked-2

[1072] CNMC, 2018. Available at: https://www.cnmc.es/sites/default/files/editor_contenidos/Telecomunicaciones/Mercado/Resolucion_ANME-DTSA-002-17-M2-2014_VP.pdf

[1073] FVCT: Ofcom, 2017. Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0020/108353/final-statement-narrowband-market-review.pdf

MVCT: Ofcom, 2018. Available at: https://www.ofcom.org.uk/consultations-and-statements/category-1/mobile-call-termination-market-review

[1074] Ancom, 2018. Available at: http://www.ancom.org.ro/uploads/forms_files/Decizie_Piata_2_Vodafone1519286799.pdf andhttp://www.ancom.org.ro/uploads/forms_files/Decizie_Piata_1_Vodafone1518774687.pdf

[1075] https://www.cullen-international.com/product/binarydocs/20409

A11.272 In consideration of the views raised by Verizon, ComReg notes that it does not adopt a differentiated approach for the purposes of being consistent with contemporary regulatory practice across the EU. Rather, ComReg identifies a remedy which is appropriate, proportionate and justified in light of the competition problem identified and having regard to its statutory objectives. ComReg notes that consistency with contemporary regulatory practice across the EU is desirable provided that remedies are appropriate, proportionate and justified.

Disguising Origins of Traffic

Respondents' Views

A11.273 AT&T, BT**,** Eircom, Verizon and Virgin Media commented on the issue of presentation Calling Line Identification masking ('**CLI masking**') or the practice of SPs disguising the geographic origins of traffic.

A11.274 AT&T and Verizon argued that under the Candidate Approach 2, where Irish SPs increase FTRs and MTRs to non-EEA originated traffic, non-EEA SPs may attempt to disguise the country of origin of the traffic (thereby avoiding these higher termination rates) through inefficient routing of traffic via multiple countries or CLI masking. As a result of CLI masking, parties receiving calls may not be able to see the CLI and thus not be able to identify the calling party, or indeed to call the party back. Thus, the removal of the price control introduces risk of "inefficiency and consumer harm".[1076]

A11.275 Eircom noted that a number of EU NRAs have stipulated that the price control obligation does not apply to traffic which either does not contain information on the origin of the call or for which such information cannot be determined.

A11.276 BT noted its concern at the absence of strong CLI integrity rules.

A11.277 Virgin Media argued that ComReg has provided no evidence that non-EEA SPs would consider disguising the origins of their traffic or the extent of the damage which could be caused as a result of this risk.

A11.278 Virgin Media further considered that any risk of non-EEA SPs disguising origins of traffic, if it were to arise, would represent a commercial risk for Irish operators rather than for subscribers. Virgin Media considered that it is not ComReg's role to protect Irish SPs against this type of commercial risk. Rather, it would fall upon Irish SPs to put appropriate measures in place to protect themselves against potential revenue losses.

[1076] See paragraph 55 on page 13 of Verizon's Submission

A11.279 Given that no evidence of inefficient call routing was provided in the Consultation, Virgin Media disagreed that this should factor into ComReg's assessment.

ComReg's Assessment of Respondents' Views

A11.280 The presentation CLI is a number that can identify the telephone number of the calling party which can, in turn, be used by end users to make a return call.[1077] ComReg notes that under the Candidate Approach 2, if Irish SPs are to be permitted to differentiate the termination rates they charge to EEA and non-EEA SPs, they would need to be in a position to analyse the CLI of incoming calls to assess the country of origin of the call (and thus charge any differentiated termination rate accordingly).[1078]

A11.281 CLI masking results in the manipulation of the CLI of a call in order to attempt to disguise where the call originates from. ComReg notes the concerns raised by Verizon that, under Candidate Approach 2, where Irish SPs charge higher termination rates for the supply of termination for traffic originated outside the EEA, non-EEA SPs may be more incentivised to engage in CLI masking, in order to avoid these higher termination rate charges. ComReg also notes that, in another jurisdiction, a differentiated approach has also led to a domestic operator - while transiting incoming international traffic - attempting to manipulate the CLI of calls in order to disguise their country of origin.[1079]

A11.282 CLI masking may impact the ability of Irish SPs to apply different termination rates to non-EEA originated calls, potentially reducing the effectiveness of Candidate Approach 2.

[1077] 'Numbering Conditions of Use and Application Process', ComReg Document, 15/136, p. 72 Available at: https://www.comreg.ie/media/dlm_uploads/2015/12/ComReg15136.pdf

[1078] This may require Irish SPs to update billing systems. If the cost of implementing these updates to billing systems is sufficiently high, Irish Service Providers may choose not to update their systems and simply apply the regulated termination rate to all calls terminating on their network.

[1079] UKE, 2019. 'Prezes UKE nałożył kary na 4Carriers sp. z o.o. za podmianę numerów telefonicznych zagranicznych na krajowe' Press release. Available at: https://uke.gov.pl/akt/prezes-uke-nalozyl-kary-na-4carriers-sp-z-o-o-za-podmiane-numerow-telefonicznych-zagranicznych-na-krajowe,164.html

A11.283 Ofcom cited the risk of incentivising CLI masking as one of the reasons why it chose to maintain the price control on the termination of calls in its recent MVCT Market Review.[1080] Moreover, several NRAs have indicated to ComReg that there appears to have been an increase in cases of non-EEA SPs attempting to mask the CLI of calls have increased following the adoption of a differentiated approach.

A11.284 Given this, ComReg disagrees with Virgin Media that no evidence exists to suggest that non-EEA SPs would consider disguising the origins of their traffic under Candidate Approach 2. ComReg accepts that no evidence has been presented that this has occurred in Ireland, however, this may be due to the fact that there has been no ability for SMP SPs to differentiate their termination rates to date. ComReg must nonetheless consider what effects might happen in the event of a differentiated approach. ComReg also does not agree with Virgin Media that end users do not face risks arising from CLI masking – for example, parties receiving calls may not be able to see the CLI and thus not be able to identify the calling party, or indeed to call the party back. CLI masking may undermine End-User confidence in their ability to utilise CLI presentation leading to fewer calls being answered or made (in the case of a call back). ComReg cannot however, quantify this.

A11.285 BT raised concerns about what it saw as the absence of strong CLI integrity rules. In this respect ComReg notes that its “Numbering Conditions of Use and Application Process” sets out the conditions which apply for those Irish SPs which have been assigned numbers by ComReg, in respect of presentation of CLI for numbers on Irish networks.[1081]

A11.286 Whilst national CLI rules exist, ComReg nevertheless recognises that operators sometimes have difficulty in ensuring the validity of a CLI across international networks, where jurisdiction is sometimes also a challenge. ComReg monitors ongoing work at international level by the ITU and CEPT to investigate fraud and misuse scenarios and to recommend actions to tackle these. ComReg will continue to monitor international developments and encourages operators to do likewise.

[1080] Ofcom, 2018. ‘Mobile Call Termination Market Review 2018-2021 Final Statement’ Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0021/112458/Final-Statement-Mobile-Call-Termination-Market-Review-2018-2021.pdf

[1081] ‘Numbering Conditions of Use and Application Process’, ComReg Document, 15/136, p. 8-9 (See 3.1.5) Available at: https://www.comreg.ie/media/dlm_uploads/2015/12/ComReg15136.pdf

A11.287 ComReg notes the views of Virgin Media that it should not be ComReg's role to protect Irish SPs against this type of commercial risk but rather it would fall upon Irish SPs to put appropriate measures in place to protect themselves against the actions of their commercial partners. ComReg understands that there may be actions which 2019 Designated SMP Service Providers could take. As BEREC noted, EEA SPs may be able to cope with CLI masking by incorporating appropriate provisions in their interconnection agreements.[1082] As noted in paragraphs 8.191 to 8.192, ComReg accepts that allowing the 2019 Designated SMP SPs to differentiate their termination rates is a finely balanced issue and that there may be risks associated with adopting a differentiated approach. However, on balance ComReg considers that a differentiated approach should be permitted. However, ComReg reserves the right to revisit this issue, collect information from the 2019 Designated SMP SPs and assess whether the identified remedy is operating as intended and any consequences arising from this operation.

Regulatory Certainty

<u>Respondents' Views</u>

A11.288 AT&T, Verizon, Virgin Media and Vodafone commented on regulatory certainty.

A11.289 Virgin Media disagreed that the Candidate Approach 1 implied regulatory certainty. Virgin Media considered that ComReg could provide equivalent regulatory certainty by signalling that it no longer intends to intervene in the termination of non-EEA traffic.

A11.290 Furthermore, Virgin Media argued that ComReg's methodology should not assign preference to the status quo, since doing so leads to the risk of unjustified perpetual regulation.

A11.291 Verizon and AT&T noted their agreement that Candidate Approach 1 would ensure that there is regulatory certainty to both buyers and providers of FVCT and MVCT. According to Verizon, Candidate Approach 2 would also bring additional costs to Irish SPs due to the need to make systems changes. Requiring Irish SPs to modify systems in order to accommodate differential regulation, could potentially have a negative effect on consumers through higher prices.

[1082] BEREC, 2016. "Overview of the regulatory treatments of termination rates for voice calls originated outside the EEA and their impacts on cross-border traffic and settlements" BoR (16) 164

A11.292 Vodafone did not consider regulatory certainty to be an advantage of Candidate Approach 1, as Irish SPs would retain the choice of not making investments in system upgrades and charging the regulated termination rate to all calls, regardless of origin.

ComReg's Assessment of Respondents' Views

A11.293 Although Virgin Media argued that ComReg could provide regulatory certainty by signalling it no longer intends to intervene in the termination of non-EEA traffic, ComReg disagrees with this, given that non-EEA traffic is included within the market definition and that Irish SPs have SMP over the termination of such calls. ComReg also disagrees that it is assigning a preference to the status quo. Rather, ComReg highlighted that one of the advantages of the retaining the status quo was that it provides regulatory certainty relative to the current position.

A11.294 As noted by AT&T and Verizon, a benefit of Candidate Approach 1 is that it ensures regulatory certainty for Irish SPs and purchasers of termination services, as it largely amounts to a 'no change' scenario. This would mean that Irish SPs may avoid the risk of a 'race to the top', or the costs associated with potentially upgrading their traffic identification and billing systems to identify the call origin at a national or, indeed, a SP, level. However, the termination rates set by non-EEA SPs could still increase over time.

A11.295 Vodafone disagreed that regulatory certainty is an advantage of Candidate Approach 1, arguing that under Candidate Approach 2, Irish SPs will retain the choice of not making investments in billing system upgrades and charging the regulated termination rate to all calls, regardless of origin.

A11.296 ComReg notes that Irish SPs retain the option of avoiding cost increases by avoiding investments in billing system upgrades (maintaining their current billing systems and charging the regulated termination rate on all traffic, regardless of origin). However, given the uncertainty surrounding the termination rate setting behaviour of non-EEA SPs, it is possible that non-EEA SPs may increase termination rates levied on Irish SPs (including those Irish SPs which charge regulated MTRs/FTRs) over time and increase the costs faced by Irish SPs. Accounting for this, ComReg reserves the right to monitor the effects of adopting a differentiated approach to assess whether the identified remedy is operating as intended.

Potential Legal issues

Respondents' Views

A11.297 AT&T, Verizon and Vodafone commented on potential legal issues. Both AT&T and Verizon commented on the General Agreement on Trade in Services ('**GATS'**) and the potential for there to be a violation of such agreements while Vodafone stated that the issue of international trade agreements has never been raised by any party during negotiation of international termination rates.

A11.298 AT&T and Verizon argued that the adoption of Candidate Approach 2 could violate the GATS as it could lead to termination rates which are discriminatory and not cost-orientated. The Respondent's argued that discriminatory and non-cost-orientated termination rates may violate Article 5(a) of the Annex of Telecommunications, the Most Favoured Nation ('**MFN**') principle of the GATS agreement and The Telecommunications Services Reference Paper respectively.

A11.299 Verizon also argued that 'differential regulation' could lead to a violation of EU competition law principles as it could allow an undertaking with significant market power to charge termination rates above competitive levels to non-EEA SPs, a potential abuse of dominance in the form of excessive or discriminatory pricing.

A11.300 Vodafone noted that issues of international trade agreements have never been raised by any parties in their experience of negotiation of international termination rates.

ComReg's Assessment of Respondents Views

A11.301 In the Consultation, ComReg noted that an approach whereby NRAs allow differentiated termination rates for non-EEA traffic (or indeed other non-EEA countries which implement similar approaches) could, depending on the particular circumstances of each case, be of relevance to international trade agreements.[1083]

A11.302 Having considered Respondents views, ComReg would like to stress that all undertakings remain obliged to ensure that they comply with all of their legal obligations, including their competition law obligations. Any alleged competition law violations would have to be assessed *ex post* on a case by case basis by the relevant authorities in the applicable jurisdictions. In coming to its final decision on this issue, ComReg has taken the appropriate account of all of the relevant obligations.

[1083] BEREC, 2015. "Regulatory treatment of termination rate for voice calls originated outside the European Economic Area", BoR (15) 78

A11.303 ComReg also notes that the unreasonably high FTRs and MTRs set by some non-EEA SPs noted in Figure 68 may not be cost-orientated given their high levels.

Price Control Application to Roaming Subscribers

Respondents' Views

A11.304 Although Eircom preferred the removal of the price control on non-EEA originated traffic, Eircom did not agree with ComReg's proposals to limit this in terms of roaming subscribers of EEA and non-EEA MSPs. Eircom did not agree that calls originated by subscribers of EEA MSPs while roaming in non-EEA countries ('**EEA Roaming Calls**') which are terminated by a Designated SMP FSP/MSP should be subject to the FTR/MTR price control. [✂ [redacted]

A11.305 [redacted]]

A11.306 BT also noted its concern regarding the Consultation's proposed treatment of EEA Roaming Calls, in particular, given the absence of strong CLI integrity rules.

A11.307 Lycamobile noted that it would need to investigate the technical practicality of determining whether or not the non-EEA MSP subscriber is roaming or not.

ComReg's Assessment of Respondents' Views

A11.308 In the Consultation, ComReg set out its view with respect to the application of the proposed FTR and MTR price control obligation to mobile roaming calls, in particular, calls of subscribers of EEA MSPs while roaming in non-EEA countries ('**EEA Roaming Calls'**).

A11.309 Termination markets are regulated on an *ex ante* basis in Europe to promote the interests of users within the European Union. ComReg's position is that this equally applies to European subscribers who are roaming outside the EEA. For this reason, the Consultation noted that EEA Roaming Calls are, for the purposes of the FTR and MTR price control obligations, considered to be calls originating within the EEA. Therefore, under Candidate Approach 2, 2019 Designated SMP SPs would be required to charge cost oriented FTRs/MTRs when supplying FVCT/MVCT to EEA MSPs with respect to such EEA Roaming Calls.

A11.310 Conversely, calls of subscribers of non-EEA MSPs while roaming in EEA countries would be, for the purposes of the FTR/MTR price control obligations, considered to be calls originating outside the EEA. Therefore, under Candidate Approach 2, 2019 Designated SMP SPs would not be required to charge cost oriented FTRs/MTRs when supplying FVCT/MVCT to non-EEA MSPs with respect to such calls.

A11.311 [✂ [redacted]

A11.312 [redacted]] If the costs of upgrading traffic identification and billing systems is deemed by Irish SPs to be too high, Irish SPs retain the option of not updating their systems and charging the regulated termination rate to all calls, regardless of origin.

A11.313 With regard to BT's concern over the absence of strong CLI integrity rules, ComReg notes that this issue is considered above in paragraph A11.285 and A11.286.

A11.314 As a result, ComReg maintains its view as set out in the Consultation, that termination markets are regulated on an *ex ante* basis in Europe to promote the interests of users within the European Union. ComReg's position is that this equally applies to European subscribers who are roaming outside the EEA. Thus, EEA Roaming Calls are considered to be calls originating within the EEA, and are therefore subject to the price control.

A11.315 Moreover, calls made by subscribers of non-EEA MSPs while roaming in EEA countries are considered to be calls originating outside the EEA. Therefore, under a differentiated approach, 2019 Designated SMP SPs would not be required to charge cost oriented FTRs/MTRs when supplying FVCT/MVCT to non-EEA MSPs with respect to such calls. They may, however, wish to do so having regard to billing and other complexities. ComReg notes that if a Designated SMP Service Provider chose to set differentiated termination rates for the termination of such calls, it would be subject to the conditions set out at paragraphs 8.175 (in the case of a FSP) or 8.316 (in the case of a MSP) above.

Methods of Differentiated Regulation

Respondents Views

A11.316 Lycamobile believed it necessary to impose a transparency obligation upon transit operators (whether this be the host mobile network operator or a third party operator) with regard to the agreed/unilaterally imposed mobile terminating rate charged by the Irish operator on the non-EU/EEA SP pursuant to their interconnection agreement.

A11.317 Lycamobile also suggested a tiered approach, outlining that in Portugal, Anacom (Portuguese NRA) adopted a differentiated approach for calls originating outside the EU/EEA, that MSPs may charge a higher MTR to non-EEA SPs which themselves, set MTRs in excess of the Portuguese regulated MTR. Lycamobile claim that Anacom later modified its approach to include a tiered mobile terminating rate depending upon the country from which the call originated. In Austria, RTR (Austrian NRA) has also permitted MSPs to adopt a tiered approach.

A11.318 Three noted that in Germany, operators are not entitled to apply different price control remedies, but may refuse to carry calls for those non-EEA countries that discriminate between national and international calls by setting different termination rates. Three urged ComReg not to take this approach as it may lead to customer disruption and loss of welfare.

A11.319 By contrast, Vodafone argued that refusal of access may be an appropriate remedy to avoid a 'race to the top'. According to Vodafone, allowing a differential approach to price regulation would incentivise non-EEA SPs to reduce their termination rates from their previously high level, allowing Irish SPs to pass cost reductions onto Irish subscribers.

A11.320 Verizon argued that if ComReg were to allow differentiation, it must restrict this to traffic originating in countries that themselves apply high termination rates. This would ensure that Irish SPs could not charge higher rates for traffic originating in countries, such as the US, where regulated termination rates are comparable with Irish regulated termination rates.

ComReg's Assessment of Respondents' Views

A11.321 ComReg has considered the various methods of differential regulation that the Respondents' commented on. ComReg's view is that the identified condition (see paragraph 8.175 and 8.316) is appropriate, proportionate and justified.

A11.322 In relation to the transparency obligation proposed by Lycamobile, ComReg notes that the transit market in Ireland was deregulated under the 2015 FACO and Transit Decision and that the 2014 EC Recommendation has not identified transit markets as being susceptible to *ex ante* regulation.

A11.323 As a result, no obligations can or are to be imposed on the transit market. It is up to each Irish SP to agree terms and conditions with their transit providers with respect to termination rates.

A11.324 With regard to the tiered pricing approach recommended by Lycamobile, ComReg's position is that the identified approach is a more appropriate remedy for resolving the identified competition problems than a tiered approach to termination rate setting. In particular, it requires a lower level of monitoring and compliance.

A11.325 The additional conditions (set out at paragraphs 8.175 and 8.316) are put in place to allow Designated SMP SPs to minimise the cross-subsidisation of non-EEA SPs, while also limiting the ability of Designated SMP SPs to set termination rates in excess of the rates required to achieve this aim.

A11.326 Designated SMP SPs retain the option of adopting a tiered approach in terms of their own termination rate setting behaviour, so long as it complies with the additional conditions (set out at paragraphs 8.175 and 8.316).

A11.327 ComReg agrees with Three that allowing Irish SPs refusal of access to non-EEA SPs that discriminate between national and international termination rates is an inappropriate remedy. Therefore, ComReg disagrees with Vodafone that this is an appropriate approach. ComReg's position is that the conditions set out in paragraph 8.175 (with respect to FVCT) and 8.316 (with respect to MVCT) is a more appropriate method for resolving the identified competition problem. In ComReg's view, this approach allows Irish SPs to minimise the cross-subsidisation of non-EEA SPs, while also limiting the ability of Irish SPs to set termination rates in excess of the rates required to achieve this aim.

A11.328 ComReg notes the concerns raised by Verizon that Irish SPs under the Candidate Approach 2 may increase the termination rates charged to non-EEA SPs who themselves set low termination rates. Therefore, ComReg has taken account of this concern by modifying the approach. When terminating traffic originated by non-EEA SPs who set termination rates at or below the Threshold EEA TRs, the price control remains in place and Designated SMP SPs will be obliged to charge the regulated termination rate. This is further explained in paragraph 8.175 and 8.316.

Burdensome Commercial Negotiation

Respondents' Views

A11.329 AT&T submitted that:

> *"….monitoring compliance with a differentiated approach model for termination rates would be challenging, especially in view of the high number of potential international routes between Ireland and non-EEA countries."*[1084]

A11.330 Verizon argued that allowing commercial negotiation of termination rates would be very burdensome, inefficient, and costly, as individual rates negotiations with each SMP provider would need to take place.

A11.331 The costs of these negotiations would ultimately be passed on to consumers in the form of higher prices, most likely with little benefit (or negative impact) in terms of reduced rates given the monopoly power of both Irish and non-EEA SPs.

A11.332 Verizon claimed that ComReg should not try to counter-balance the regulatory or legislative decisions of other countries through its regulation for the Irish markets. Verizon argued that Designated SMP SPs that consider that high termination rates of other countries are impacting their business should raise this with the relevant authority in the country in question

ComReg's Assessment of Respondents' Views

A11.333 ComReg notes that AT&T raise a similar concern to that raised by Verizon regarding the challenges that 2019 Designated SMP SPs would face when implementing a differentiated approach, in particular having to negotiate termination rates with a large number of non-EEA SPs.

A11.334 ComReg disagrees with AT&T and Verizon that the use of commercial negotiations would be excessively burdensome for 2019 Designated SMP SPs without providing benefits for Irish SPs or consumers, however, ComReg recognises that it will involve change relative to the current scenario.

[1084] AT&T Response, paragraph 5, page 3.

A11.335 If 2019 Designated SMP SPs deem negotiations with non-EEA SPs to be burdensome, they can avoid negotiations by continuing to charge regulated termination rates for the termination of all traffic, regardless of country of origin (see paragraph 8.175 and 8.316). i.e., such SPs are permitted to differentiate their termination rates (having regard to meeting the relevant conditions in doing so), but are not required to do so.

A11.336 Verizon noted that negotiations may not lead to lower termination rates. However, ComReg notes that termination rates do not necessarily need to be negotiated down in order for Irish SPs to become 'better off'. Symmetrical but higher rates may reduce the outflow of revenue for Irish SPs, as the transfer is limited to the excess of outgoing over incoming calls, and not the value of the termination rates themselves. Analysis of one of the Additional Submissions suggests that one Respondent could reduce its net revenue outflows by [✂ [redacted]] by matching the termination rates it is charged. Again, ComReg notes that this information is based on incomplete information and should only be viewed as an estimate. The full extent of possible reductions in net revenue outflows currently faced by Irish SPs under Candidate Approach 2 is not known.

A11.337 As also noted by BEREC:

> *"As a result, it seems that, under these specific circumstances, more symmetric but higher rates are likely to be better than very asymmetric rates."*[1085]

A11.338 Moreover, in economic terms, the setting of termination rates for international calls is a two-way access pricing problem in the absence of competition for customers. High-high termination rates will occur if the two sides negotiated but failed to reach an agreement or if at least one party preferred high rates. However, if there are mutual gains to be made from negotiation, lower rates than the current high non-EEA rate may result.[1086]

[1085] BEREC, 2016, "Overview of the regulatory treatments of termination rates for voice calls originated outside the EEA". BoR(16) 164, at p.14.

[1086] ComReg notes that termination rate negotiations have resulted in low-low outcomes in some instances However, it is more common that high-high termination rates result from the lifting of the price control. See Vodafone's response to Ofcom's Mobile Call Termination Consultation for an example of low-low termination rate outcome. https://www.ofcom.org.uk/__data/assets/pdf_file/0027/106893/Vodafone.pdf pp.22-24

A11.339 Finally, BEREC has highlighted – as did Lycamobile[1087] and Three[1088] in their Submissions - a method which some EEA SPs have adopted in the presence of commercial negotiation to limit the burden of negotiations. EEA SPs analyse the termination rates they are charged for the termination of traffic in each non-EEA country. Then, non-EEA countries are categorised into groups based on the termination rate charged. EEA SPs then apply the same termination rate for all the countries in each group.[1089]

A11.340 With regard to Verizon's claim that ComReg should not try to counter-balance the regulatory or legislative decisions of other countries through its regulation for the Irish markets, ComReg has identified a competition problem which is likely to be detrimental to Irish consumer welfare and, as such, has identified a remedy which is appropriate, proportionate and justified in order to alleviate this competition concern.

Other comments raised regarding the non-EEA Price Control Remedy

Respondents' Views

A11.341 Vodafone noted that, as a result of blended termination and transit fees, ComReg has incomplete information about the actual termination rates levied by non-EEA SPs in some non-EEA countries. However, Vodafone noted that if non-EEA termination rates can be reduced, this would also feed into such blended rates.

A11.342 Virgin Media argued that since ComReg is unable to intervene in the provision of call termination by non-EEA SPs, and the market involves the supply of services in both directions, ComReg should refrain from intervening in the market altogether.

A11.343 Virgin Media argued that if ComReg deem the volumes of this type of traffic to be inconsequentially small, the appropriate approach for ComReg to take would be regulatory forbearance – since the benefit of intervention would be so small.

1087 See paragraph A11.317

1088 See paragraph A11.224

1089 BEREC, 2016, "Overview of the regulatory treatments of termination rates for voice calls originated outside the EEA". BoR(16) 164,

ComReg's Assessment of Respondents' Views

A11.344 Vodafone commented on incomplete information arising from termination rates and transit fees being bundled. ComReg notes in this regard that transit fees typically account for a small proportion of the blended rate from non-EEA SPs which charge a high overall blended rate (i.e. where the competition concern lies). Thus, ComReg considers that the incomplete information does not have a material impact on the outcome of its analysis.

A11.345 ComReg notes the possibility that this incomplete information could present a difficulty for Irish SPs when assessing whether a non-EEA SP's termination rate exceeds the highest EEA BU-LRIC termination rate or whether any permissible differentiated termination rate it sets exceeds the non-EEA termination rate.

A11.346 Nonetheless, Designated SMP SPs must ensure that they comply with the conditions set out in paragraph 8.175 and 8.316 above.Therefore, it may be incumbent upon Designated SMP SPs to ascertain from non-EEA SPs or transit operators, the termination rates set by terminating operators, for the purposes of adhering to the conditions set out in paragraph 8.175 and 8.316.

A11.347 ComReg notes Virgin Media's comments in paragraph A11.343 above that ComReg should refrain from intervening in the market altogether. ComReg notes that it would regard this as an inappropriate response, given that the supply of termination with respect to non-EEA originated traffic is included within the definition of the Relevant Termination Markets and having regard to the issues identified. As such, ComReg deems it appropriate to identify an appropriate, proportionate and justified remedy. ComReg's position on the price control for the termination of non-EEA originated traffic is set out in paragraphs 8.139 to 8.196.

Eircom's April 2019 Letter

Eircom's Views

A11.348 A summary of the main issues raised in Eircom's April 2019 Letter is set out below in paragraphs A11.349 to A11.355. ComReg's response to the issues raised follows in paragraphs A11.356 to A11.366. Note that the analysis in respect of the Relevant FVCT Markets, as well as ComReg's views and position on the matter, applies equally with regards to the Relevant MVCT Markets. Therefore, the issues raised in Eircom's April 2019 Letter and ComReg's assessment thereof applies to both the application of price controls in the Relevant FVCT Markets and the Relevant MVCT Markets.

Over-specification of the associated charging conditions

A11.349 According to Eircom, the conditions proposed by ComReg with respect to the application of price control obligations to the termination of non-EEA originated calls should be amended. Eircom stated that the obligations do not allow sufficient flexibility to fully address termination rate asymmetries arising from non-EEA countries where termination rates are much higher than the regulated Irish rates. Rather, Eircom instead proposed a reciprocal rate price ceiling which, in its view, would increase the bargaining ability of Irish SPs vis-à-vis non-EEA SPs, with this also mitigating the risk of negative outcomes for consumers.

A11.350 Eircom suggested (with reference to the approach adopted by some other NRAs) that a reciprocal rate price ceiling is an established approach for NRAs that have adopted a differentiated approach with respect to termination rates to be levied on non-EEA SPs.

Decline in bargaining power over the period of the decision

A11.351 Eircom submitted that ComReg's formulation of a Maximum Allowable FTR/MTR would mean that, given the envisaged glide path and downward trajectory of Irish regulated FTRs and MTRs, the ability of Irish SPs to negotiate with non-EEA SPs will decline over the designation period.

A11.352 In particular, Eircom noted that with a declining Maximum Allowable FTR/MTR, its ability to 'defend' itself from excessive non-EEA rates would decline. According to Eircom this is contrary to the logic of the initial intent of a differentiated approach to counter any existing asymmetry arising from the charging of excessively high FTRs/MTRs by non-EEA SPs.

Review of threshold rates

A11.353 Eircom noted ComReg's intention to monitor market developments and review the Threshold EEA FTR/MTR if necessary. However, Eircom expressed concern that the conditions by which ComReg would undertake such a review were unclear, thus creating regulatory uncertainty. Further, Eircom noted that it is possible that the introduction of the single maximum EU wide fixed and mobile termination rates ('Eurorates') will result in a decrease of the regulated rate in a number of member states therefore calling into question whether the Threshold EEA FTR/MTR is an appropriate proxy for efficient costs.

Potential effects of the adoption of Eurorates

A11.354 Related to the above concern regarding review of threshold rates, Eircom sought clarity on the implications of Eurorates for the differentiated EEA/Non-EEA Termination rate charging regime, as envisaged by ComReg.

A11.355 Further, Eircom sought clarity regarding the implications of the possible removal of the FVCT and MVCT markets (Markets 1 and 2) from the EC's list of recommended markets, with such a review currently underway by the EC, and due to be completed in advance of the transposition deadline for the European Electronic Communications Code ('**EECC**'). In this regard, Eircom asked whether it is ComReg's intention to review these Termination markets soon thereafter or if it considered that this Decision is subject to the 5 year timeframe for review envisaged in the EECC. Eircom further recommended the inclusion of a sunset clause in ComReg's final Decision.

ComReg's Assessment of Respondents' Views

A11.356 Given the linkages and overlaps between the various concerns raised by Eircom, ComReg provides a consolidated response rather than addressing each point separately.

A11.357 ComReg does not agree with Eircom that there has been an over-specification of the conditions attached to the price control obligations permitting the application a differentiated approach in respect of the charging for termination of calls originated outside the EEA. For the avoidance of doubt the flexibility permitted by ComReg is only in relation to non-EEA countries and is not part of any broader flexibility to address asymmetries in the market. ComReg has sought to adopt a balanced and pragmatic solution (see paragraph 8.175 of this Decision) that takes account of the risks of a differentiated approach as well as the competing yet valid concerns of both Irish SPs and non-EEA SPs. Further, regarding Eircom's reference to established practice among NRAs in adopting a reciprocal price ceiling, ComReg notes that while this approach may have been adopted by a number of the NRAs that have allowed a differentiated approach, this is by no means an established approach across all NRAs and reflects the particularities of the challenges faced by all NRAs in finding a pragmatic yet balanced solution given the prevailing and expected national circumstances in these countries.

A11.358 As noted in paragraphs 8.170 (and 8.311) of this Decision, EEA SPs may face justified termination rate cost differences relative to Irish SPs. In this respect, ComReg notes Irish SPs face a range of Termination Rate ('**TR**') charges as levied by EEA SPs, despite such charges being based on a pure BU-LRIC costing methodology (recognising there may be some justified cost differences having regard to national circumstances). Notwithstanding the EC's movement towards a Eurorate, non EEA SPs may nonetheless also exhibit different levels of Termination Rates in circumstances where they are based on efficient costs.

A11.359 Although the Irish 2019 Designated SMP SPs face a range of pure BU-LRIC based TR charges as levied by EEA SPs, these 2019 Designated SMP SPs are obliged to charge the Irish regulated BU-LRIC TR to each of these EEA SPs.

A11.360 With regard to non-EEA originated calls, ComReg considers it appropriate to attach conditions in respect of a Maximum Allowable TR to the application of differentiated pricing, as it accounts for the possibility that non-EEA SPs may, depending on national circumstance, similarly face justified cost differences in their TRs.

A11.361 As noted in paragraph 8.170 of this Decision, ComReg is not in a position to examine whether non-EEA SPs TRs are reasonable and, in these circumstances, is of the view that the highest pure BU-LRIC TR in the EEA provides a reasonable indication of the cost of voice call termination. ComReg has therefore set the Threshold EEA TRs (being the highest EEA pure BU-LRIC TR, as appropriate), as the level of TR set by a non-EEA SP, above which, an SMP SP can charge a differentiated TR to a non-EEA SP.

A11.362 As discussed in paragraph 8.170 of this Decision, non-EEA SPs may set TRs at 'unreasonably high' levels (in general referring to a scenario where TRs bear no reasonable relationship to efficient costs). The TRs charged by non-EEA SPs to 2019 Designated SMP SPs that exceed the Threshold EEA TRs act as a proxy for what constitutes an unreasonably high level.

A11.363 ComReg does not agree with Eircom that the formulation of a 'Maximum Allowable FTR/MTR' in the context of declining regulated rates will necessarily result in a decline in the bargaining power of Irish SPs in negotiating with non-EEA SPs. As noted in 8.186 and 8.327 of this Decision, ComReg's overall approach allows the SMP FSPs/MSPs to minimise the cross-subsidisation arising from non-EEA SPs charging unreasonably high TRs, while also limiting the ability of SMP SPs to set termination rates in excess of the rates required to achieve this aim. Given the level from which such unreasonably high termination rates charged by non-EEA SPs would be reduced upon application of the Maximum Allowable FTR/MTR, ComReg considers that Irish SPs would likely be afforded a significant improvement in their bargaining position vis-à-vis non-EEA SPs. In this regard ComReg refers to paragraph 8.153 of this Decision in which it is noted that (based on the information available to ComReg) 50% of non-EEA SPs set a termination rate at or below 15c/min, meaning that half of non-EEA SPs set a termination rate above 15c/min (a rate which is 1800% of the current Irish regulated MTR and 20,000% of the Irish regulated FTR). Similarly, 75% of non-EEA SPs set termination rates at or below 30c/min, meaning that a quarter of non-EEA SPs charge Irish SPs termination rates greater than 30c/min.

A11.364 As noted in paragraph 2.22 of the Separate Pricing Decision, in order to reduce the possibility of FTRs being lowered pursuant to this Decision and then raised by operators when the Eurorates come into effect, and also in order to set maximum FTRs in a manner consistent with the approach to setting maximum MTRs, ComReg has decided to implement FTRs/MTRs using a glide path. This will bring reductions in TRs. However, such reductions will be to levels that are reflective of the efficiently incurred costs of termination. ComReg notes that the glide path for TRs as indicated in the Pricing Decision extended to 2022 as that was the time period that was used for purposes for showing the basis upon which the glide path TRs were calculated and, further, to provide for a sufficient period to allow for any unexpected delays in the implementation of Eurorates.

A11.365 When Eurorates come into effect in Ireland they will replace those specified by ComReg in the Separate Pricing Decision. ComReg notes Eircom's concerns regarding the conditions under which ComReg would undertake a review of Threshold EEA FTRs/MTRs. However, the level of Eurorates and the manner of their implementation with respect to non-EEA calls is not definitively known at this point in time. ComReg will review developments in this regard and will consider whether any review is required once the Eurorates regime has come into effect. Further, as noted in paragraph 8.174 ComReg reserves the right to revise Threshold TRs should the need arise, including in the interim period before the Eurorates regime comes into effect. Any review of Threshold EEA FTRs/MTRs will have due regard to the impact of the currently prescribed approach to the treatment of non-EEA originated calls on the part of Irish ISPs (for example, whether 'gains' under the new regime would be passed through to lower retail prices, as a consequence of their ability to eliminate or reduce cross-subsidies to non-EEA SPs). In the event of a review, ComReg will seek evidence from Irish SPs in this regard.

A11.366 ComReg notes, as highlighted by Eircom, that the EC has commenced a review of its current list of recommended markets ('**EC review**'), and has sought views on a range of issues, including the impact of OTTs on traditional services and whether the MVCT and FVCT markets should be removed from the future list of recommended markets, in particular, given the potential impact of the setting of Eurorates in the EU by 31 December 2020. The EC notes that the setting of Eurorates will avoid excessive wholesale termination prices. In view of this, the EC has asked whether continued regulation of termination markets is warranted at an EU level. ComReg awaits the outcome of the EC's review and will take full account of it. Given this, ComReg does not consider it appropriate to set a sunset clause in this Decision, as proposed by Eircom. This Decision will apply until such time as a further review is completed and having regard to the positions adopted at that time.

Other Comments on Remedies in the Relevant FVCT Markets

A11.367 Verizon, Eircom and BT commented on various aspects of the Remedies. A summary of these comments and ComReg's assessment thereof is outlined below as follows:

(a) Respondents' Views (discussed in paragraphs A11.368 to A11.382 below); and

(b) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.383 to A11.403 below).

Respondents' Views

A11.368 Verizon agreed with ComReg's approach in respect of the majority of remedies proposed, with the exception of certain remedies which Verizon considered require further clarification and/or where Verizon do not consider that they are proportionate. In this respect, Verizon commented on the non-discrimination obligation, expressing the view that the requirement to ensure equivalence in the services and information provided even where same have not been requested is unclear, burdensome and difficult to comply with. Verizon therefore requested that the proposed obligation be removed.

A11.369 Eircom did not agree with ComReg's approach to imposing remedies in the Relevant FVCT Markets, in particular, raising specific points regarding cost accounting and accounting separation obligations, as well as transparency and the access obligations.

A11.370 Eircom objected to the proposal to impose cost accounting and accounting separation obligations solely on it, namely that only Eircom will be subject to the cost accounting obligations set out in the 2010 Accounting Separation Decision (as may be amended from time to time). Eircom alleged that ComReg did not provide sufficient reasoning as to why Eircom should be subject to more burdensome regulatory remedies than other operators that have been designated with SMP.

A11.371 Eircom queried whether it should be obliged to continue to publish the Switched Transit Routing Price List ('**STRPL**'). Eircom argued that

> *"Since it is proposed that each SMP FSP and MSP make publically available on its website a Reference Interconnect Offer (RIO), the obligation on Eircom to maintain the Switched Transit Routing Price List (STRPL) should also be removed"*[1090].

[1090] Eircom's 10 January Submission in Response to Consultation 17/90, page 17, paragraph 34.

A11.372 Eircom disagreed with part of the transparency obligation whereby it is stated that "*Eir will be obliged to continue to publish the STRPL*".

A11.373 Eircom disagreed with ComReg's proposed transparency requirement for Eircom to publish details on its wholesale Switchless Voice ('**SV**') service. Eircom stated that:

> **"***Regarding ComReg's proposal that eir should have a specific transparency obligation that forms part of any offer or provision of a Switchless Voice (SV) Service to any other Undertaking. This obligation should be removed from the FVCT remedies. The provision of SV is related to the FACO market".*

A11.374 Eircom submitted that it is inappropriate and discriminatory that it should be subject to specific obligations regarding the provision of interconnect products[1091] when other SMP operators (the 2019 Designated Alternative SMP FSPs) are not subject to specific obligations. In this regard, Eircom stated that:

> *"eir does not consider ComReg's stated position to be sufficient justification for the proposed three forms of interconnection to be imposed on eir".*

A11.375 According to Eircom all SMP operators should either have specific obligations to facilitate/support CSH, ISH, and IBH forms of interconnect, or be subject to the generic obligation that is enshrined in the FVCT definition[1092].

A11.376 Eircom also raised additional comments on the draft text in the Draft FVCT Decision Instrument in the Consultation:

A11.377 With reference to section 1.4 of the Draft FVCT Decision Instrument [1093] regarding conflicts between the Decision Instrument and other obligations imposed by ComReg, Eircom submitted that the wording in section 1.4 represents a departure from previous practice whereby the most recent obligation takes precedence. Eircom objected to this stating that ComReg's amended approach which serves to reduce regulatory certainty and is contrary to Regulation 8(6) of the Access Regulations.

[1091] As set out in paragraph 8.89 of this Decision.

[1092] Paragraph 8.87 to 8.92 of this Decision outlines in detail ComReg's position regarding the three interconnection services that should be made available by Eircom as part of its general obligation to provide Interconnection services.

[1093] Section 1.4 in the Draft FVCT Decision Instrument (Annex 4 of the Consultation) stated that "If a conflict arises between this Decision Instrument, and any other obligation imposed by ComReg (including as hereby amended), the most restrictive obligation or provision shall apply."

A11.378 As noted in paragraph A11.373 above, Eircom disagreed with ComReg's proposed transparency requirement for Eircom to publish details on its wholesale Switchless Voice ('**SV**') service. In this regard Eircom submitted that section 11.7 should be deleted from the Draft FVCT Decision Instrument as section 11.4 of the Draft FVCT Decision Instrument already set out what should be contained in the RIO.

A11.379 Finally, Eircom noted two typographical errors in section 6.1 of the Draft FVCT Decision Instrument noting that the two references in paragraph 6.1 to section 4 in the Draft FVCT Decision Instrument were incorrect and should be corrected to reflect references to section 5 in the Draft FVCT Decision Instrument.

A11.380 BT submitted (with reference to OTT SPs) that if SPs are set up to terminate calls then they should be obligated to accept direct requests for interconnection, they also stated that:

> *"although transit is not part of this decision, the termination of calls is part of the market and it should therefore be possible for all operators to provide direct interconnect when requested so that other operators can avail of the termination rate rather than paying termination plus transit".*

A11.381 BT agreed with ComReg that SPs should have an obligation to accept interconnect requests when they terminate calls.

A11.382 While not disputing the principle of cost orientation BT submitted that with falling call volumes, costs are rising and fixed line prices should be corrected upwards.

ComReg's Assessment of Respondents' Views

A11.383 In response to **Verizon's** comment about lack of clarity in the application of the non-discrimination obligation, ComReg would refer Verizon to paragraph 8.63 of the Consultation which stated that:

> *"Additionally, and for the avoidance of doubt, the non-discrimination obligations above are to apply irrespective of whether or not a specific request for services or information has been made by an undertaking to the relevant SMP FSP. For example, if information or a service is provided by a SMP FSP following a request from one undertaking, the SMP FSP is obliged to offer the same information or service to other undertakings, notwithstanding that such other undertakings have not made a request for it. This is to ensure fair treatment of all Service Providers."*

A11.384 As noted above, the requirement is to ensure that the same information is provided by the 2019 Designated SMP SP to all undertakings, irrespective of whether or not they have requested it. I.e. it is not sufficient to provide the information only to the SP that requested it. In this respect, if a 2019 Designated SMP SP provides information to one undertaking regarding its WVCT service, it must also provide this information to other undertakings, irrespective of whether or not they have requested it.

A11.385 ComReg has considered **Eircom's** comments as outlined above regarding cost accounting and accounting separation obligations, the transparency obligations and the access obligations.

A11.386 ComReg assessed the price control and cost accounting remedies (in paragraphs 8.110 to 8.208 of this Decision), the transparency remedies (in paragraphs 8.36 to 8.56 of this Decision), the access remedies (in paragraphs 8.71 to 8.109 of this Decision), and the accounting separation remedies (in paragraphs 8.209 to 8.220 of this Decision) and further in 8 of this Decision, with the analysis including a consideration of why the proposed remedies are justified and proportionate.

A11.387 ComReg's 2010 Accounting Separation Decision, sets out cost accounting obligations which include maintaining appropriate cost accounting systems which generally support the price control obligations, the 2010 Accounting Separation Decision also details a requirement to product separated accounts. As discussed in paragraphs 8.209 to 8.220 above, ComReg has considered Eircom's integrated position across several upstream and downstream markets (and noting its SMP designations in a number of these markets). The scope for Eircom to leverage its position and the potential need to ensure sufficient visibility of how costs are allocated across FVCT and other horizontally and vertically-related input services, supported the reasoning for the proposed imposition of obligations in the 2010 Accounting Separation Decision. However after further consideration of Eircom's views and current market considerations, ComReg has decided not to continue to apply an obligation of cost accounting on Eircom.

A11.388 In addition and with consideration of the 2019 Designated Alternative SMP FSPs, ComReg notes that each such FSP would only be subject to regulation in one fixed wholesale market. This raises proportionality considerations with respect to such alternative FSPs. The relevant network information may not be available from these other 2019 Designated Alternative SMP FSPs and it may be disproportionate for ComReg to require cost models from them, given the scale of their operations and the likely burden involved. Hence, ComReg maintains its view that it is not appropriate of justified to impose cost accounting obligations on the 2019 Designated Alternative SMP FSPs.

A11.389 In the Consultation it was noted that, if specific price control obligations are to be meaningful, it is generally necessary to have a clear and comprehensive understanding of the costs associated with the provision of FVCT by an SMP FSP, namely Eircom. Obligations to maintain appropriate cost accounting systems generally support obligations of price control, and can also assist ComReg in monitoring the obligation of non-discrimination. However, at this time a cost accounting obligation is not deemed necessary. Therefore none of the 2019 Designated SMP FSPs or the 2019 Designated SMP MSPs will have additional cost accounting obligations imposed on them (see paragraphs 8.201 to 8.204 above).

A11.390 ComReg notes Eircom's Submissions regarding the STRPL. ComReg notes that ComReg did not propose in the Consultation that Eircom should be required to publish the STRPL.

A11.391 ComReg disagrees with Eircom that the specific transparency obligations in relation to Wholesale SV services should be removed. ComReg's position is that, absent regulation, Eircom would have the ability and incentive to price key inputs at successive levels of the value chain (which includes FVCT) in such a way as to dissuade market participants from making efficient infrastructural investments in interconnection.

A11.392 This could, as set out at paragraph 7.61 of this Decision, be achieved through setting an insufficient space between the relative prices for FVCT when sold on a stand-alone basis to interconnected operators and FVCT when sold as part of (end-to-end) Wholesale SV Services to non-interconnected operators.

A11.393 Therefore, ComReg maintains its view that the existing transparency obligation should continue in order to ensure visibility of Eircom's non-price behaviour in respect of the FVCT component of its Wholesale SV Service, and to safeguard against possible discrimination on non-price parameters, which was also identified as a competition risk in Section 7 in paragraphs 7.52 to 7.78 of this Decision. Insofar as the other wholesale elements of Eircom Wholesale SV Service are concerned, in particular, the access and FVCO components, these are currently regulated pursuant to the 2015 FACO and Transit Decision[1094]. However, in this Decision ComReg captures the FVCT components.

[1094] See footnote 97.

A11.394 ComReg maintains its position in the Consultation regarding the requirement to provide Interconnection Services under the Access Remedies as an associated facility. ComReg considers that it is appropriate to place an obligation on Eircom (and Eircom alone) to grant access to certain associated facilities for the purpose of interconnection associated with Eircom's FVCT service.

A11.395 The reasoning for doing so is that it is appropriate to oblige Eircom to facilitate interconnection when terminating calls on its network, having regard to Eircom's network hierarchy and the resulting multiple and deep levels of interconnection required by Service Providers handing over such calls to Eircom.

A11.396 This obligation is needed because Eircom could otherwise potentially impede/raise the costs of effective handover of calls for termination on its network, thus undermining the effectiveness of the general access obligation.

A11.397 As Eircom has ubiquitous network coverage, the provision of Interconnection Services (including Interconnection Paths) by Eircom is required to provide other FSPs with a mechanism for reaching all points on the Eircom network to which they need to interconnect in order to use the FVCT services provided by Eircom in the most efficient fashion possible. As other FSPs do not have the same network scale or hierarchy, ComReg does not propose to expressly require any other FSPs to provide Interconnection Services to other Service Providers under the current market review.

A11.398 Recognising the differing levels of infrastructure deployment by Service Providers availing of FVCT, ComReg considers that Interconnection Services above should be made available by Eircom as part of its general obligation (see paragraphs 8.71 to 8.109) to provide Interconnection Services.

A11.399 Regarding Eircom's concerns with section 1.4 of the Draft FVCT Decision Instrument regarding conflicts with other obligations, ComReg does not accept Eircom's argument in this regard. However, ComReg has revised the wording for the Decision Instruments at Annex: 16 and Annex: 17. The revised wording reflects Eircom's suggested change, in so far as is relates to decisions adopted before the Effective Date of the FVCT Decision Instrument. However, ComReg has retained the obligation that the most restrictive obligation shall prevail between the FVCT Decision Instrument and the Separate Pricing Decision.

A11.400 With regards to Eircom's proposal to delete section 11.4, ComReg maintains its position on the Wholesale SV Service as stated above in paragraph A11.391. For the avoidance of any doubt, this section will remain in the FVCT Decision Instrument.

A11.401 ComReg notes the typographical errors pointed out in section 6.1 of the Draft FVCT Decision Instrument, as pointed out by Eircom. ComReg has amended section 6.1 accordingly so as to reflect the correct references.

A11.402 ComReg notes BT's comments regarding the Access obligation, i.e., that if any FSP is set up to terminate calls then it should be obligated to accept requests for direct interconnection. ComReg has taken a different approach from Eircom relative to the 2019 Alternative SMP FSPs for the reasons set out above. It is open for a request for access to FVCT (including interconnection as an associated facility) to be made by an undertaking to a 2019 Alternative SMP FSPs, and such a request would have to be considered in light of its SMP obligations, including the obligation to meet reasonable requests for access and the requirements to negotiate in good faith.

A11.403 While BT did not dispute the principle of cost orientation it expressed concern that in a market of falling call volumes fixed line prices should be correcting upwards and not downwards. Matters pertaining to changes in volumes and costs and the detailed specification of the price control obligation of cost orientation for FVCT is addressed in the Separate Pricing Consultation and the Separate Pricing Decision. ComReg notes further that in the Separate Pricing Consultation the determination of FTRs factored in, among other things, changes in expected call volumes and associated costs. Furthermore, whether fixed line prices change will also be subject to the conditions of competition in the relevant retail market.

Other Amendments to the Draft FVCT Decision Instrument

A11.404 Having considered Respondents' views, ComReg has made amendments to the language of the draft FVCT Decision Instrument now contained in Annex: 16 of this Decision document, for the purpose of clarifying certain obligations contained therein.

A11.405 Any substantive changes to obligations contained in the final FVCT DI are described above as well as in the relevant Chapters throughout the Decision document. In summary, the other substantive changes to the draft FVCT DI include the following:

(a) The additions and amendments to the FVCT DI required to give effect to ComReg's decision to allow 2019 Designated SMP FSPs to apply a differentiated approach to the application of the price control to the termination of calls originated within and outside the EEA, subject to the conditions set out in paragraph 8.175;

(b) In order to address Eircom's concerns with section 1.4 of the Draft FVCT Decision Instrument regarding conflicts with other obligations, ComReg has revised the wording accordingly. Please see paragraph A11.399 above and paragraph 41(I), page 19 of Eircom's Submission in response to Consultation 17/90);

(c) The description of the market definition in the FVCT DI has been amended to ensure consistency with the wording in the main body of this Decision (see paragraph 4.2 of the FVCT DI in Annex: 16);

(d) ComReg has added text to the obligation of non-discrimination in the FVCT DI in order to clarify that the obligation does not apply to termination rates for the self-supply of FVCT as against termination rates applicable to other operators (see paragraph 10.2 (iii) in Annex: 16);

(e) As noted in paragraph A11.179, ComReg is amending the advance pre-notification period such that the 2019 Designated SMP FSPs will be required to provide 30 (thirty) calendar days' notification in advance of the date on which termination rate amendments come into effect (see paragraph 11.6 (i) of the FVCT DI in Annex: 16);

(f) Section 6.1 of the draft FVCT DI has been amended to correct typographical errors pointed out by Eircom (see paragraph 41(v), page 20 of Eircom's Submission in response to Consultation 17/90); and

(g) There have been some further minor language tweaks to ensure consistency and some further minor corrections.

A11.406 The final FVCT DI is set out in Annex: 16 of this Decision document.

Remedies in the Relevant MVCT Markets

A11.407 ComReg has summarised the Respondents main views below, grouping the key issues raised into the following identified themes:

(a) Transparency requirement for 60-day advance pre-notification to ComReg for termination rate changes (discussed in paragraphs A11.408 to A11.410 below);

(c) Transparency requirement to publish a RIO (discussed in paragraphs A11.411 to A11.413 below);

(d) Price control remedies in the Relevant MVCT Markets - EEA and non-EEA countries (discussed in paragraphs A11.414 below);

(e) Other comments on remedies in the Relevant MVCT Markets (discussed in paragraphs A11.415 to A11.422 below);

(f) Other amendments to the Draft MVCT Decision Instrument (discussed in paragraphs A11.423 to A11.425 below).

Transparency requirement for 60-day advance pre-notification to ComReg for termination rate changes

A11.408 As outlined above in the relevant FVCT Section (paragraph A11.176 to A11.178), Alto and Verizon commented on ComReg's proposal in the Consultation that the Proposed SMP MSPs provide ComReg with 60 (sixty) calendar days advance pre-notification of any changes to MTRs[1095]. This Section is structured as follows:

(a) Respondents' Views (discussed in paragraph A11.409 below); and

(b) ComReg's assessment of Respondents Views to the Submissions regarding the 60-day advance notification to ComReg of termination rate changes (discussed in paragraph A11.410 below).

Respondents' Views

A11.409 As stated in relation to the relevant FVCT market, **Verizon and Alto** both disagreed on the proposed requirement for a 60 day advance pre-notification to ComReg with respect to any changes to termination rates. Those comments are also applicable to the MVCT market. (see paragraphs A11.176 to A11.178 above)

ComReg's Assessment of Respondents Views

A11.410 Also outlined in the FVCT Section above (paragraph A11.179) ComReg is amending the advance pre-notification period such that the 2019 Designated SMP MSPs will be required to provide 30 (thirty) calendar days' notification in advance of the date on which any such termination rate amendments come into effect. This is addressed in Section 8 of this Decision in paragraphs 8.251 to 8.254 with respect to MTRs.

Transparency requirement to publish a RIO

A11.411 As stated in relation to the in the Relevant FVCT Market, Verizon and Alto commented on the proposal in the Consultation that the proposed 2019 Designated SMP service providers be required to publish a RIO. These Respondents submitted that the requirement to publish a RIO is burdensome and prescriptive. Their comments are applicable to both 2019 Designated SMP MSPs and 2019 Designated SMP MSPs[1096]:This Section of the Annex is outlined as follows;

(a) Respondents Views (discussed in paragraph A11.412 below); and

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[1095] See paragraph 8.218 of the Consultation.

[1096] See paragraph 8.32 to paragraph 8.40 of the Consultation with regards to proposed transparency remedies for the Relevant FVCT Markets and paragraphs 8.216 to 8.224 of the Consultation regarding proposed transparency remedies in the Relevant MVCT Markets.

(b) ComReg's Assessment of Respondents' Views (discussed in paragraph A11.413 below).

Respondents' Views

A11.412 As stated in the FVCT paragraphs A11.181 above, Verizon and Alto submitted that the proposed requirement to publish a RIO is prescriptive. Verizon and Alto have noted that their views on the requirement to publish a RIO in relation to the Relevant FVCT Market also applies to the Relevant MVCT market.

ComReg's Assessment of Respondents' Views

A11.413 ComReg notes the concerns raised by Verizon and Alto. While ComReg recognises that such an obligation can involve some cost (whether financial or administrative), it is considered appropriate having regard to the competition problems identified in Section 7 of this Decision. ComReg's assessment of Respondents' views set out in paragraphs A11.182 to A11.187 in relation to FVCT applies equally to the requirement to publish a RIO in the Relevant MVCT Markets.

Price Control Remedies in the Relevant MVCT Markets – EEA and non-EEA countries

A11.414 ComReg notes that Submissions were made in response to Q.14 of the Consultation in which submissions were invited regarding the application of WVCT to calls originated outside the EEA, i.e., in respect of both FVCT and MVCT. Further, ComReg notes Eircom's April 2019 Letter in which Eircom raised certain concerns (see paragraph A11.348). In this regard Respondents' views and ComReg's assessment thereof as set out in paragraphs A11.188 to A11.347 above in relation to FVCT applies equally to considerations regarding MVCT.

Other Comments on Remedies proposed in the Relevant MVCT Markets

A11.415 iD Mobile and TMI submitted comments on various other aspects of the remedies not falling under any particular theme. A summary of these comments and ComReg's assessment thereof is outlined below as follows:

(a) Respondents' Views (discussed in paragraphs A11.416 to A11.419 below); and

(b) ComReg's Assessment of Respondents' Views (discussed in paragraphs A11.420 to A11.422 below).

Respondents' Views

A11.416 While iD Mobile agreed in general with ComReg's proposed approach to Remedies they argued for the application of an asymmetrical MTR to provide iD Mobile with an additional wholesale revenue stream.

A11.417 Similarly, TMI argued for asymmetric MTRs in favour of MVNOs with a price control glide path towards cost orientation:

> *"…….ComReg should amend the price control obligation proposed on MVNOs and replace this with a price control glide path towards cost orientation, taking into account the significant differences between MNOs and MVNOs. It is worth noting that glide paths that were made available to Vodafone, Meteor and Three following ComReg Decisions D11/05 and D05/08…….."*[1097]

A11.418 TMI submitted that remedies in respect of the relevant MVCT markets should not apply to them (including the Access, Transparency, Non-Discrimination and Price Controls remedies), as they have argued that they do not have market power and thus should not be designated as a SMP service provider.

A11.419 TMI submitted that ComReg should impose additional conditions on MNOs that mandate that they provide non-discriminatory wholesale access options to MVNOs. In this regard TMI recommend that there should be a remedy compelling MNOs to grant access to MVNOs (either new entrants or incumbents) on access on a Fair, Reasonable and Non-Discriminatory (i.e., FRAND) terms – terms which would facilitate sustainable competition. If, for example, a MNO does not grant access to an MVNO on FRAND terms (including on pricing) then ComReg should have the ability to determine the price and terms of such access.

ComReg's Assessment of Respondents' Views

A11.420 ComReg disagrees with TMI and iD Mobile's Submissions regarding asymmetric MTRs in favour of MVNOs. ComReg maintains its view that a consistent approach to price control in the form of cost orientation for each SMP service provider will ensure that efficient price and investment signals are provided to all market players.

[1097] Paragraph 104 page 29 of TMI's Response to Consultation dated 10 January 2018

A11.421 This approach also provides regulatory certainty to each party, as well as to buyers of MVCT who purchase this service from several service providers. As has been observed in the past (see ComReg's assessment of CBP in the Relevant MVCT Markets in paragraphs 6.97 to 6.207), MSPs, including MVNOs such as TMI (paragraphs 6.146 to 6.161), notwithstanding their size or the duration of their operations in retail and MVCT markets, have priced their MVCT services persistently above the level which would pertain in a competitive market. Given the impact of such behaviour on competition and consumers, ComReg sees no objective reason to distinguish its approach in setting a price control for any service provider that has been designated as an SMP MSP.

A11.422 ComReg does not agree with TMI's submission that a specific obligation should be imposed on MNOs to provide access to MVNOs on a non-discriminatory basis:

(a) Firstly; FRAND agreements do not fall within the scope of this market review. This market review is undertaken by ComReg in accordance with the obligation set out in the Framework Directive (transposed into Irish law as the Framework Regulations) that NRAs should analyse relevant markets, taking utmost account of the European Commission's ('**EC's**') 2014 Recommendation and the 2018 SMP Guidelines.

(b) Secondly; ComReg considers that the imposition of non-discrimination remedies (set out in paragraphs 8.258 to 8.266) as well as the access remedies (set out in paragraph 8.267 to 8.289) of the Consultation are proportionate and justified, having regard to the competition problems identified.

Other amendments to the Draft MVCT Decision Instrument

A11.423 Having considered Respondents' views, ComReg has made amendments to the language of the draft MVCT Decision Instrument now contained in Annex: 17 of this Decision document, for the purpose of clarifying the nature of certain obligations contained therein.

A11.424 Any substantive changes to obligations contained in the final MVCT Decision Instrument are described above as well as in the relevant Chapters throughout the Decision document. In summary, the main substantive changes to the draft MVCT Decision Instrument include the following:

(a) The additions and amendments to the MVCT DI required to give effect to ComReg's decision to allow 2019 Designated SMP MSPs to apply a differentiated approach to the application of the price control to the termination of calls originated within and outside the EEA, subject to the conditions set out in paragraph 8.316;

(b) In order to address Eircom's concerns with section 1.4 of the Draft MVCT Decision Instrument regarding conflicts with other obligations, ComReg has revised the wording accordingly. Please see paragraph A11.376 above and paragraph 44(i), page 21, 22 of Eircom's Submission in response to Consultation 17/90).

(c) ComReg has added text to the obligation of non-discrimination in the MVCT DI in order to clarify that the obligation does not apply to termination rates for the self-supply of MVCT as against termination rates applicable to other operators (see paragraph 10.2 (iii) in Annex: 17);

(d) As noted in paragraph A11.410, ComReg is amending the advance pre-notification period such that the 2019 Designated SMP MSPs will be required to provide 30 (thirty) calendar days' notification in advance of the date on which termination rate amendments come into effect (see paragraph 11.6(i) of the MVCT DI in Annex: 17); and

(e) There have been some further minor language tweaks to ensure consistency and some further minor corrections.

A11.425 The final MVCT DI is set out in Annex: 17 of this Decision.

Regulatory Impact Assessment

A11.426 In Section 9 of the Consultation (and now in Section 9 of this Decision) ComReg set out its preliminary views on the Regulatory Impact Assessment ('**RIA**'). These were discussed as follows in the Consultation and subsequently in this Decision:

(a) FVCT Regulatory Impact Assessment discussed at paragraphs 9.18 to 9.65 of the Consultation and (discussed in paragraphs 9.20 to 9.68 of this Decision)

(b) MVCT Regulatory Impact Assessment discussed at paragraphs 9.66 to 9.112 of the Consultation and (discussed in paragraphs 9.69 to 9.116 of this Decision)

A11.427 Respondents' Submissions on the regulatory impact assessment were made in response to Q15[1098] and Q16[1099] of the Consultation.

A11.428 Of the 11 Submissions received, only Eircom and TMI offered specific detailed comments on the RIA. Verizon and Three stated that they agreed with ComReg's preliminary conclusions, in the RIA. iD Mobile did not comment on the RIA assessment in respect of FVCT but stated that they found ComReg's preliminary conclusions on the RIA in respect of MVCT to be reasonable.

A11.429 ComReg has summarised Respondents' views below, followed by its assessment of those views.

Respondents Views on the RIA

A11.430 **Eircom** considered that, in respect of the Relevant FVCT Markets, ComReg conducted insufficient analysis of the impact of proposals to impose obligations on Eircom, with Eircom considering such obligations to be more burdensome than those imposed on all other 2019 Alternative SMP FSPs., Eircom also state that;

> *"at no point does ComReg give consideration to the cost and benefit of the additional detailed requirements within each obligation."*

[1098] Question 15 on page 426 of the Consultation asked "*Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment, in respect of FVCT?*"

[1099] Question 16 on page 426 of the Consultation asked. "*Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment, in respect of MVCT*?"

A11.431 According to Eircom the RIA does not address relevant costs and benefits in a manner that ensures that the costs associated with any additional burden on Eircom is not too onerous when weighed against the benefit to the market. In this regard Eircom reiterate that measures to address the issues identified should be applied equally to all 2019 Designated SMP SPs.

A11.432 In its Submission Eircom stated that ComReg's concerns regarding the vertically integrated nature of Eircom and its ability to leverage market power across markets are purely theoretical. Eircom contend that this creates an uneven playing field, particularly in the face of competition from well-resourced international players who do not have the same regulatory constraints.

A11.433 In the case of MVCT, Eircom submitted that the outcome of the RIA is acceptable to the extent that remedies are applied equally to all operators. However, Eircom are of the view that the RIA in respect of MVCT also suffers from a lack of sufficient analysis of the related costs and benefits of remedies imposed.

A11.434 TMI did not comment on RIA in respect of the Relevant FVCT Markets but commented on the RIA for the Relevant MVCT Markets. With respect to MVNOs, TMI noted that it was unfortunate that the RIA does not address the implications of the regime for MVNOs.

ComReg's Assessment of the Respondents' views on the RIA

A11.435 ComReg does not agree with Eircom that insufficient analysis was conducted regarding the impact of obligations imposed on Eircom. Further, ComReg does not agree that insufficient consideration was given to whether the additional burden on Eircom is not too onerous when weighed against the benefit to the market.

A11.436 In this regard ComReg reiterates the position set out in paragraphs 8.197 to 8.204 and 9.46 to 9.68 of this Decision. Importantly, it remains the case that Eircom holds an integrated position across several upstream and downstream markets. Further, and noting its SMP designations in a number of these markets, there is scope for Eircom to leverage its position. ComReg's analysis regarding leveraging and exclusionary practices is set out in paragraphs 7.50 to 7.78 in relation to the Relevant FVCT Markets. It follows that it remains important to continue to ensure sufficient visibility of how costs are allocated across FVCT and other horizontally and vertically-related input services. ComReg further notes that it has decided not to proceed with the imposition of cost accounting obligations on Eircom, thus reducing the burden further. Additionally, ComReg notes that all obligations that ComReg is imposing do not place any additional burden on Eircom relative to its existing obligations.

A11.437 ComReg further notes that the Consultation and this Decision both explore, in detail, the suitability of different regulatory approaches for the Relevant Termination Markets. As such, the overall analysis considers the likely and potential impacts of various regulatory options, taking account of the specific characteristics of each of the Relevant Termination Markets. Therefore, the RIA forms part of a broader regulatory impact assessment which extends throughout a number of Sections in the Consultation and this Decision.

A11.438 ComReg notes TMI's submission regarding the impact of the regulatory regime on MVNOs. As noted in paragraph A11.168, TMI have not provided material evidence that any of the developments in the retail markets pertaining to MVNOs are such that ComReg would have grounds to change its assessment regarding the competitive constraints faced by MVNOs (such as TMI) in the Relevant MVCT Markets within which they operate. Importantly, the evidence in Section 6 shows that MVNOs such as TMI, absent regulation, are likely to have the ability to behave, to an appreciable extent, independently of its competitors, customers and ultimately of its consumers. In this regard, ComReg reiterates its RIA and position (as set out in paragraphs 9.69 to 9.116 above) with respect to the obligations as set out in paragraph 9.85 to 9.99 (Transparency, Non-Discrimination, Access and a Price Control.)

Annex: 12 Summary of NRA Responses

Introduction

A12.1 In March 2018 ComReg issued a survey to NRAs. The survey asked 9 questions related to the application of the price control to non-EEA countries. ComReg received 25 responses, 23 of which are summarised in the below tables. Two questionnaires were submitted confidentially and are therefore not included. ComReg has used this information as part of its analysis of the EEA/Non-EEA price control analysis.

Table 39 NRA Summary response to Q2.

Country	Q2. Does your NRA currently (under an adopted decision) differentiate its approach to the application of price control remedies for calls for the supply of Termination for calls originating within EEA countries on the one hand and originating outside non-EEA countries on the other?	
	(a) For FVCT	(b) For MVCT
Austria	Yes, differentiated price control approach	Yes, differentiated approach
Croatia	Yes, differentiated price control approach	Yes, differentiated approach
Czech Republic	Yes, differentiated price control approach	Yes, differentiated approach
Denmark	Yes, differentiated price control approach	Yes, differentiated approach
Estonia	Yes, differentiated price control approach	Yes, differentiated approach
Finland	No, same price control. However, operators are not according to law obliged to accept unreasonably termination fees. They do not have to apply the same price if the other party's fees are unreasonable. Ficora has not prohibited higher termination fees if a non-EEA-country has unreasonably higher termination fees.	No, same price control However, operators are not according to law obliged to accept unreasonably termination fees. They do not have to apply the same price if the other party's fees are unreasonable. Ficora has not prohibited higher termination fees if a non-EEA-country has unreasonably higher termination fees.
France	Yes, differentiated price control approach	Yes, differentiated approach

Greece		Yes, differentiated approach
Hungary	Yes, differentiated price control approach	Yes, differentiated approach
Italy	Yes, differentiated price control approach	Yes, differentiated approach
Lithuania	Yes, differentiated price control approach	Yes, differentiated approach
Luxembourg	Yes, differentiated price control approach	Yes, differentiated approach
Malta	[✂ [redacted]]	[✂ [redacted]]
Netherlands	Yes, differentiated price control approach	Yes, differentiated approach
Norway	Yes, differentiated price control approach	Yes, differentiated approach
Portugal	Yes, differentiated price control approach	Yes, differentiated approach
Romania	No, same price control	No, same price control
Serbia	Yes, differentiated price control approach	Yes, differentiated approach
Slovakia[1100]	Yes, differentiated price control approach	No, same price control

[1100] Note that RÚ's (Slovakian NRA) initial response noted that the same price control applied to non-EEA originated calls in both FVCT and MVCT Markets. However, RÚ informed ComReg on 1 October 2018 that it had adopted a differentiated approach in FVCT markets. As requested by RÚ, its response has been updated to account for this change.

Slovenia	Yes, differentiated price control approach	Yes, differentiated approach
Spain	No, same price control	Yes, differentiated approach
Sweden	No, same price control	No, same price control
UK	No, same price control	No, same price control

Table 40 NRA Summary response to Q3

Country	**Q3. If in Q2(a) or (b) above you answered 'No, same price control approach', has your NRA proposed via public consultation (but not yet adopted a decision) to adopt a differentiated price control approach**	
	(a) For FVCT	(b) For MVCT
Austria		
Croatia		
Czech Republic		
Denmark		
Estonia		
Finland	No	No
France		
Greece		
Hungary		

Italy		
Lithuania		
Luxembourg		
Malta	[✂ [redacted]	[✂ [redacted]]
Netherlands		
Norway		
Portugal		
Romania	No	No
Serbia		
Slovakia		Yes
Slovenia	Yes	Yes
Spain	No	No
Sweden	No	No
UK	No	No

Table 41 NRA Summary response to Q4

Country	Q4. Having regard to your responses to Q2 above, please provide the following:	
	(a) For MVCT, the date the relevant decision was adopted and a weblink to the relevant decision.	(b) For FVCT, the date the relevant decision was adopted and a weblink to the relevant decision.
Austria	21.12.2015	21.12.2015
Croatia	31.03.2015	31.03.2015
Czech Republic	June 2014, the regulation was imposed on 4 MNOs in individual decisions	May 2014 the regulation was imposed on 24 SMPs in individual decisions
Denmark	28.10.2016	02.06.2017
Estonia		
Finland		
France	19.12.2017 See 6.1.3 b) page 42 of the current decision published last December 2017 : Those principles entered in force in 2014 (see the ARCEP 2014 decision : https://www.arcep.fr/uploads/tx_gsavis/14-1485.pdf)	
Greece	22/6/2017	10/04/2014
Hungary	2015	The final decision was published in April 2018. The link to the draft decision:

		http://nmhh.hu/cikk/190891/A_PC2717492017_szamu_hatarozattervezet
Italy	2015 decision n. 497/15/CONS. This decision came in force beginning from 30 September 2015. Currently, AGCOM is reviewing mobile termination market analysis and with decision n. 481/17/CONS has proposed to confirm the above-mentioned differentiation. The national public consultation is expired on 9 March 2018.[1101] (https://www.agcom.it/documentazione/documento?p_p_auth=fLw7zRht&p_p_id=101_INSTANCE_2fsZcpGr12AO&p_p_lifecycle=0&p_p_col_id=column-1&p_p_col_count=1&_101_INSTANCE_2fsZcpGr12AO_struts_action=%2Fasset_publisher%2Fview_content&_101_INSTANCE_2fsZcpGr12AO_assetEntryId=9206693&_101_INSTANCE_2fsZcpGr12AO_type=document)	2016 (decision n. 425/16/CONS) in force from 14 October 2016.
Lithuania	23.11.2015	23.11.2015
Luxembourg	2014 decision: http://legilux.public.lu/eli/etat/leg/rilr/2016/11/28/n1/jo explanatory note:https://assets.ilr.lu/_layouts/Redir/Doc.aspx?ID=ILRLU-1461723625-481 Further information regarding • market analyses : https://web.ilr.lu/FR/Professionnels/Communications-electroniques/Analyse-des-marches/Tableau-synthetique-des-consultations-publiques-menees-par-lInstitut • price setting : https://web.ilr.lu/FR/Professionnels/Communications-electroniques/Acces-au-marche/Encadrement-tarifaire/Plafonds-tarifaires/Pages/default.aspx	2014 decision: http://legilux.public.lu/eli/etat/leg/rilr/2017/06/09/a561/jo explanatory note : https://assets.ilr.lu/_layouts/Redir/Doc.aspx?ID=ILRLU-1461723625-481

[1101] Note that AGCOM notified its decision in this regard to the European Commission on 16th October 2018.

Malta	[[redacted]]	[✂ [redacted]]
Netherlands	02.06.2017 Adopted by 2 Jun 2017, respective price control initially effective by 1 July 2017. The effective date of the price caps on termination was postponed till 12 July, awaiting a court ruling. Formally decided on 20 June 2017. https://www.acm.nl/nl/publicaties/publicatie/17359/ACM-stelt-inwerkingtreding-nieuwe-gespreksafgiftetarieven-uit	
Norway	27.11.2017	22.01.2016[1102]
Portugal	06.08.2015 Please note that by decision of 18.01.2018, ANACOM has approved draft decisions on the wholesale market for voice call termination on individual mobile networks in which the price control approach is also differentiated between calls originating in EEA countries and originating in non-EEA countries. However, in this draft decision, it is also proposed that national MCPs shall not charge MTRs higher than the regulated termination rate to Service Providers on non-EEA countries that charge to national MCPs prices equivalent or below the national regulated rate. Please note that by decision of 18.01.2018, ANACOM has approved draft decisions on the wholesale market for voice call termination on individual mobile networks in which the price control approach is also differentiated between calls originating in EEA countries and originating in non-EEA	21.12.2016 ANACOM approved the final decision regarding wholesale markets for call termination on the public telephone network at a fixed location, along with the fixed termination costing model for the specification of the price control obligation. In the aforementioned decision, it was decided that the calls delivered to national providers from countries outside the EEA shall not be subject to the price control obligation and, consequently, neither subject to the non-discrimination obligation nor to the requirement for prior publication of rates of termination for this type of calls.

[1102] Nkom notified a draft FVCT decision to the European Commission in February 2019. This draft decision reaffirms Nkom's approach to the termination of fixed voice calls originated outside the EEA, as outlined in this Annex. This draft decision is available at http://www.eftasurv.int/da/DocumentDirectAction/outputDocument?docId=4778

	countries. However, in this draft decision, it is also proposed that national MCPs shall not charge MTRs higher than the regulated termination rate to Service Providers on non-EEA countries that charge to national MCPs prices equivalent or below the national regulated rate. These draft decisions can be found at: https://www.anacom.pt/render.jsp?contentId=1428409&languageId=1.	
Romania	January, 2018 (art 22) http://www.ancom.org.ro/uploads/forms_files/Decizia_2017_1085_referat_mobil1518777021.pdf Previous tariff decision adopted in February, 2014. Same approach – single MTR applicable irrespective of origin of calls.	January, 2018 http://www.ancom.org.ro/uploads/forms_files/Decizia_2017_1085_referat_fix1518774687.pdf Previous tariff decision adopted in February, 2014. Same approach – single FTR applicable irrespective of origin of calls.
Serbia		
Slovakia	RU issued a Decision on price regulation on Market 1 on July 23, 2018 effective as of September 1, 2018.	26.08.2013
Slovenia	08.04.2016	08.04.2016
Spain	18.01.2018	23.09.2014
Sweden	13.09.2016	20.02.2018.
UK	23.02.2018 (page 5)	30.11.2017 (page 322)

Table 42 NRA Summary response to Q5

Country	Q5. Having regard to your responses to Q3 above, please provide the date the relevant Consultation was published, a weblink to the relevant consultation and, if known, the date when a decision is expected to be adopted.	
	(a) For MVCT, the date the relevant Consultation was published, a weblink to the relevant consultation and, if known, the date when a decision is expected to be adopted.	(b) For FVCT, the date the relevant Consultation was published, a weblink to the relevant consultation and, if known, the date when a decision is expected to be adopted.
Austria		
Croatia		
Czech Republic		
Denmark	N/A	N/A
Estonia		
Finland		
France	Consultation: 25.04.2017 Decision: 19.12.2017 A similar procedure took place for the 2014 decision.	
Greece		
Hungary		
Italy	Not applicable	Not applicable

Lithuania		
Luxembourg		
Malta	[✄ [redacted]].	[✄ [redacted]]
Netherlands		
Norway		
Portugal	Please see answer to Q4a.	Please see answer to Q4b.
Romania		
Serbia		
Slovakia	Date Consultation: November 2016	Date Consultation: November 2016 Date decision: Not known, EC expressed serious doubts and opened a phase II investigation.
Slovenia	03.02.2016	03.02.2016
Spain		
Sweden		
UK	27.06.2017 -05.09.2017	01.12.2016 - 28.02.17

Table 43 NRA Summary response to Q6

Country	Q6. Having regard to your responses to Q2 and Q3 above, in relation to whether your NRA already adopted or is consulting on an approach to price control for the supply of Termination for calls originating outside non-EEA countries, please describe which, if any, of the following approaches apply:	
	(a) For FVCT	(b) For MVCT
Austria	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Croatia	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Czech Republic	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Denmark	Other (DBA: Calls originated outside of EEA is not described in the market decision for fixed termination.)	Calls from outside the EEA excluded from the market definition and, therefore, the price control
Estonia		
Finland	Other Ficora has not prohibited higher termination fees if a non-EEA-country has unreasonably higher termination fees.	Other Ficora has not prohibited higher termination fees if a non-EEA-country has unreasonably higher termination fees.

France	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)
Greece		Calls from outside the EEA exempted from the price control
Hungary	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Italy	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Lithuania	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Luxembourg	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)
Malta	[✂ [redacted] [redacted].]	[✂ [redacted] [redacted].]
Netherlands	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)
Norway	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Portugal	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control

Romania	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of country of origin)	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of country of origin)
Serbia	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Slovakia	Calls from outside the EEA exempted from the price control	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of country of origin) In the process of Consultation:(Calls from outside the EEA exempted from the price control)
Slovenia	Calls from outside the EEA exempted from the price control	Calls from outside the EEA exempted from the price control
Spain	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of country of origin)	Allow service providers to set their own termination rates for terminating incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA Service Provider (i.e. a reciprocal termination rate price ceiling)
Sweden	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of county of origin)	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of county of origin)
UK	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of country of origin)	Impose a single termination rate cap for all calls regardless of where calls are originated (i.e. same price control approach irrespective of country of origin)

Table 44 NRA Summary response to Q7

Country	**Q7. Having regard to your responses to Q2 above, if your NRA already allows a differentiated price control approach for the supply of Termination for calls originating outside non-EEA countries (i.e. having regard to Q.6. above if your NRA has adopted one of options B, C, or some other differentiated approach); post the effective date of your NRA's decision what has been the effect on the following:**					
	(a) Have the Termination rates charged by Service Providers in your country for calls originating in non-EEA countries increased or decreased and what has been the magnitude of these changes?	(b) Have the Termination rates charged by Service Providers on non-EEA countries to Service Providers in your country for calls originating in your country increased or decreased and what has been the magnitude of these changes?	(c) What has been the impact, if any, on retail prices for calls originating in your country destined for non-EEA countries?	(d) What has been the impact, if any, on the volume of calls originating in your country destined for non-EEA EEA countries?	(e) What has been the impact, if any, on retail prices for calls originating in non-EEA countries destined for your country?	(f) What has been the impact, if any, on the volume of calls originating in non-EEA countries destined for your country?
Austria	The decisions to exclude non-EEA countries from price regulation have been taken in December 2015 and came effective in January 2016. As far as we know Austrian operators started in April/Mai 2016 with a differentiating pricing regime in a sense that all countries have been classified in four different price classes. As far as we know termination rates of the Austrian fixed and mobile operators for calls originating in non-EEA countries increased Unfortunately we do not have detailed and secure information on the impact of this measure.					

Croatia	HAKOM collected some of the data in October 2015. HAKOM intends to collect these data again soon, and as soon as we have new information, we can inform you on the most recent data. Termination rates for calls originated from A numbers belonging to the operators outside EU/EEA area increased.	Termination rates charged by Service Providers in non-EEA countries to Service Providers in our country increased.	No impact.	HAKOM does not have this data.	HAKOM does not have this information.	The volume of calls originating in non-EEA countries decreased.
Czech Republic	Increased, the level of increase was individual by individual service providers.	No evidence.	There has been no significant impact on prices so far, in some cases retail prices for calls to non-EEA countries have decreased by placing selected non-EEA countries into different (more favourable) group of countries for which a uniform price is applied.	No evidence, as prior to the lifting price control on non-EEA incoming calls there was no systematic data collection in distinction to EEA and non-EEA countries.	No evidence in this regard.	No evidence, as prior to the lifting price control on non-EEA incoming calls there was no systematic data collection in distinction to EEA and non-EEA countries.

Denmark	DBA: As neither fixed nor mobile calls are included in the relevant market for Denmark, we have not monitored the changes.					
Estonia						
Finland	Some operators have increased the termination rates to certain countries with high rates. The regulated rate for mobile termination is 0.93 cent/min. The rate for non-EEA countries (excluding some countries) is 25 cent.	Not to our knowledge	No change	No data available	No data available	No data availabl e
France	We noticed that for some countries of origination (for example the USA and Canada) the MTRs decreased, whereas for the rest of non-EEA countries the MTRs increased. In practice, MCPs group together different countries of origination (according to the level of MTR charged in these countries) and establish different lists of non EEA-countries, to which they apply different tariffs for mobile termination.	We have no feed-back on that matter but it seems independent.	We have no feed-back on that matter, it is independent.		We have no feed-back on that matter	
Greece						
Hungary	In case of mobile calls the Termination rates increased. The final decision for FVCT is not published yet.	We haven't gathered information about termination rates set by SPs of non-EEA countries.	We haven't found any significant changes in retail prices.	We have no information.	We have no information.	We have no informat ion.
Italy	Following the decision n. 497/15/CONS all the notified operators (MNOs and full MVNOs) have raised MTRs for calls originated in non-EEA countries for 2015; the operators defined different rates each other and the magnitudes are between 3 and 18 times the regulated rate. More recent prices are not available now.	Some non-EEA operators have decreased their MTRs for terminating calls originated in Italy.	AGCOM has not yet monitored impact on retail tariffs of calls destined for non-EEA countries.	Between 2012 (first year of monitoring non-EEA calls) and 2016 (last available data), volume of	AGCOM has not data on this issue.	Betwee n 2012 (first year of monitori ng non-EEA calls) and 2016

				calls originated in Italy destined for non-EEA countries are globally decreased (-37%) in a context of general decrease of international mobile calls originated in Italy (-29%).		(last available data), volume of calls originated in non-EEA countries destined for Italy are globally increased (+286%) in a context of general increase of international mobile calls terminated in Italy (+116%).
Lithuania	Information not available					

Luxembourg	Information not available					
Malta	[✂ [redacted]]					
Netherlands	Increased significantly	So far we have no indication of any changes	So far we have no indication of any changes	So far we have no indication of any changes	So far we have no indication of any changes	So far we have no indicati on of any change s
Norway	Information not available	Information not available	Information not available	Information not available	Information not available	Informa tion not availabl e
Portugal	ANACOM does not have updated information about MTR and FTR charged to non-EEA countries. However, we know that after the 2015 Decision MTR's charged by MCPs to calls originated outside the EEA have increased and were significantly above the national pure-LRIC termination price, nevertheless, they were lower than the vast majority of non-EEA countries termination rates charged for calls originated in Portugal. At that time, despite residual, it was in fact observed a number of operators outside the EEA that fix prices below the national regulated pure-LRIC and, consequently, substantially below the current rates charged by operators active in Portugal, which generated some complaints from Service Providers on non-EEA countries. For that reason, the MTR decision under consultation	For the time being, ANACOM does not have information on the regard of questions (b) to (f).				

	proposes a reciprocal approached for Service Providers on non-EEA countries that charge equivalent prices to the regulated pure-LRIC price.					
Romania						
Serbia						
Slovakia	The FVCT Decision is effective as of 1 September 2018. Therefore, RU has no data in this regard. See Q9 answer.					
Slovenia	We do not collect that data.	We do not collect that data.	We do not collect that data.	We do not collect that data.	We do not collect that data.	We do not collect this data.
Spain	Regarding MVCT Markets, since CNMC's Decision was approved two months ago, by the time being we do not have enough data to support any relevant developments in the market.					
Sweden						
UK						

Table 45 NRA Summary response to Q8

Country	**Q8. Having regard to your responses to Q2 above, if your NRA applies the same price control approach to the supply of Termination for calls originating outside non-EEA countries as it does to Termination of calls originating within the EEA (i.e. having regard to Q.6. if option A is currently applicable); what has been the effect on the following?**				
	(a) Have the Termination rates charged by Service Providers in non-EEA countries to Service Providers in your country for calls originating in your country increased or decreased in the last two years (2016 and 2017) and what has been the magnitude of these changes?	(b) What has been the impact, if any, on retail prices for calls originating in your country destined for non-EEA countries?	(c) What has been the impact, if any, on the volume of calls originating in your country destined for non-EEA EEA countries?	(d) What has been the impact, if any, on retail prices for calls originating in non-EEA countries destined for your country?	(e) What has been the impact, if any, on the volume of calls originating in non-EEA countries destined for your country?
Austria					
Croatia					
Czech Republic					
Denmark	DBA: As neither fixed nor mobile calls are included in the relevant market for Denmark, we have not monitored the changes.				
Estonia					

Finland					
France					
Greece					
Hungary					
Italy	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.
Lithuania					
Luxembourg					
Malta	[✂ [redacted]]	[✂ [redacted]]	[✂ [redacted]]	[✂ [redacted]]	[✂ [redacted]]
Netherlands					
Norway					
Portugal					
Romania	No information available for 2016 and 2017.	Tariffs for international calls are grouped in tariff zones – zone zero: Europe (fixed), USA and Canada, zone 1: Europe (mobile) and Israel, zone 2: rest of the world.	No direct impact observed. The general trend (2013-2015) is an increase of traffic originated in RO and terminated in non EEA countries. More recent data not available.	No direct impact observed.	No direct impact observed. The traffic terminated in RO and originated in non EEA countries has been rather stable (2013-2015). More recent data not available.

Serbia					
Slovakia	No information available. RÚ only monitored international calls without differentiating between EEA and non-EEA countries.				
Slovenia					
Spain	We have just begun our analysis on FVCT Markets to launch a public consultation within the following months. However, we still do not have conclusive data about the impact that the former Decision had on prices and volumes.				
Sweden	We lack the relevant data required to answer the questions below.				
UK	At an aggregate level the termination rates charged by service providers in non-EEA countries appear to have remained fairly stable (see Table A7.3 of our MCT Draft Statement). We are aware that South African operators increased their termination rates in October 2017 from around 1-2ppm to around 9-11ppm.	We do not have this information.	We estimate that the volume of calls originating in the UK to non-EEA countries remained fairly constant between 2016 and 2017 (see Table A7.2 of our MCT Draft Statement).	We do not have this information.	

Table 46 NRA Summary to Q9

Country	Q9. Please provide any other information you feel may be relevant.
Austria	Unfortunately we do not have detailed and secure information on the impact of this measure.
Croatia	
Czech Republic	
Denmark	
Estonia	The Termination rates for calls originating outside non-EEA countries are not regulated in Estonia.
Finland	
France	
Greece	
Hungary	
Italy	
Lithuania	
Luxembourg	
Malta	
Netherlands	The most important (if not only) way of distinguishing traffic by originating country is based on the A-number. Our incumbent argues in court that ACM should have taken measures that allows operators to charge differently from operators that manipulate the CLI.
Norway	
Portugal	

Romania	ANCOM based its decision not to apply different price remedy for non EEA calls on an economic and legal analysis detailed in the documents provided for at Q4 above. For further details, please see chapter 5.4.5.2 of the explanatory memorandum (http://www.ancom.org.ro/uploads/forms_files/Decizia_2017_1085_referat_mobil1518777021.pdf), detailing the context and the findings of the economic and legal analysis (in brief, 71% of the negative balance of payments is with operators within EEA; 96% of the international traffic volumes is towards EEA destinations. Regarding non-EEA destinations, the operators are not directly interconnected with non-EEA operators (with very few exceptions), hence they are paying not only termination, but also international transit (which is not regulated). Non EEA countries with most significant traffic are: Republic of Moldova, Ukraine, Serbia, Turkey Secondly, for the legal analysis ANCOM has requested the opinion of the Ministry of External Affairs (to interpret the provisions of the treaties), that has concluded that GATS – telecom annex and Reference Paper do not allow for such tariff differentiation.
Serbia	National market is the market of the Republic of Serbia. International fixed voice call termination rates and international mobile voice call termination rates are not regulated in the Republic of Serbia and are not subject to price control. However, the ongoing market analysis of wholesale mobile call termination market and wholesale fixed call termination market will introduce the obligation for SMP operators to publish international fixed voice call termination rates and international mobile voice call termination rates in reference offers.
Slovakia	Analyses were under the consultation process but the SMP decision in MVCT have not been adopted. MTR price draft decision was withdrawn and RÚ is preparing new national consultations. FTR price draft decision was consulted in national consultations and the EC expressed their serious doubts and opened a phase II investigation. FVCT Decision was adopted on 23 July 2018 and is effective as of 1 September 2018.
Slovenia	
Spain	
Sweden	Via the second round of public consultation, for the current decision on MVCT, PTS proposed a differentiated price regulation (reciprocity). However, in the third public consultation PTS decided to retrieve the proposition and instead proposed to keep a single termination rate cap for all calls regardless of origination. Consequently in the final decision PTS decided to keep a single termination rate cap for all calls. You can find the consultation rounds 1-3 here: Current decisions (overview): http://pts.se/sv/bransch/telefoni/konkurrensreglering-smp/smp-beslut-2015-20162/ MVCT: Public Consultation 1: http://pts.se/sv/dokument/remisser/telefoni--internet/2015/samrad-om-forslag-till-beslut-for-marknaderna-for-fast-och-mobil-samtalsterminering/ Public Consultation 2: http://pts.se/sv/dokument/remisser/telefoni--internet/2016/andra-samrad-om-forslag-till-beslut-marknaden-mobil-samtalsterminering-och-reviderad-kalkylmodell2/ Public Consultation 3: http://pts.se/sv/dokument/remisser/telefoni--internet/2016/tredje-samrad-om-forslag-till-beslut-angaende-marknaden-mobil-samtalsterminering-samt-reviderad-kalkylmodell/

UK	

Annex: 13 Glossary of Terms

Acronym	Full Title
BAME	Black, Asian, and Minority ethnic
BEREC	Body of European Regulators for Electronic Communications
BU-LRIC	Bottom-up Long-Run Incremental Cost
CATI	Computer Aided Telephone Interview
CBP	Countervailing Buyer Power
CO	Call Origination
CPP	Calling Party Pays
CSH	Customer-Sited Handover
DSL	Digital Subscriber Line
EC	European Commission
EEA	European Economic Area
EECC	European Electronic Communications Code
EU	European Union
FA	Fixed Access
FACO	Fixed Access and Call Origination
FSP	Fixed Service Provider
FTR	Fixed Termination Rate
FTTP	Fibre to the Premises
FTTx	Fibre to the ……
FVCO	Fixed Voice Call Origination
FVCT	Fixed Voice Call Termination
FWA	Fixed Wireless Access
FWALA	Fixed Wireless Access Local Area
GGSN	Gateway GPRS Support Node
GHz	Gigahertz
GMSC	Gateway Mobile Switching Centre
GPRS	General Packet Radio Service
HLR	Home Location Register

HM	Hypothetical Monopolist
HMT	Hypothetical Monopolist Test
IBH	In Building Handover
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISH	In-Span Handover
LRIC	Long Run Incremental Cost
M2M	Mobile-to-Mobile (call)
MNAC	Mobile Network Access Code
MNO	Mobile Network Operator
MNP	Mobile Number Portability
MNPCD	Mobile Number Porting Centralised Database
MoU	Minutes of Use
MSP	Mobile Service Provider
MTR	Mobile Termination Rate
MVCT	Mobile Voice Call Termination
MVNE	Mobile Virtual Network Enabler
MVNO	Mobile Virtual Network Operator
NEH	Near-End Handover
NGA	Next Generation Access
NTP	Network Termination Point
OAO	Other Authorised Operator
OTT	Over the Top
PBX	Private Branch Exchange
PSTN	Public Switched Telephone Network
RFTS	Retail Fixed Telephony Service
RFVC	Retail Fixed Voice Call
RIA	Regulatory Impact Assessment
RIO	Reference Interconnect Offer
RMTS	Retail Mobile Telephony Service
RMVC	Retail Mobile Voice Call

RPP	Receiving Party Pays
SABB	Standalone Broadband
SB-WLR	Single-Billing via Wholesale Line Rental
SEO	Similarly Efficient Operator
SIM	Subscriber Identity Module
SIP	Session Initiation Protocol
SLA	Service Level Agreement
SME	Small-to-Medium-size Enterprise
SMP	Significant Market Power
SMS	Short Message Service
SSNIP	Small but Significant Non-transitory Increase in Price
STRPL	Switched Transit and Routing Price List
SV	Switchless Voice
TDM	Time Division Multiplexing
TFEU	Treaty on the Functioning of the European Union
VASP	Value-Added Service Provider
VDSL	Very-high-bit-rate Digital Subscriber Line
VOB	Voice over Broadband
VoIP	Voice over Internet Protocol
VUA	Virtual Unbundled Access
WACC	Weighted Average Cost of Capital
WDMDS	Wideband Digital Mobile Data Service
WLR	Wholesale Line Rental
WVCT	Wholesale Voice Call Termination

Annex: 14 Non-Confidential Submissions to the Consultation

A14.1 Please see the ComReg document entitled "Fixed Voice Call Termination and Mobile Voice Termination: Non-Confidential Submissions to Consultation 17/90, ComReg Document 19/47s", 23 May 2019, which is available on www.comreg.ie.

Annex: 15 Eircom letter 2 April 2019 and ComReg's reponse.

A15.1 A copy of Eircom's non – confidential letter is included below followed by ComReg's response to Eircom's letter.

A15.2 ComReg has addressed points raised by Eircom , in the letter, in Annex 11 (Please see A11.348 to A11.366 in Annex 11)

Eircom letter to ComReg 2 April 2019.

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eir.ie

Donal Leavy
Director of Finance and Wholesale,
Commission for Communications Regulation,
Dockland Central, 1 Guild St, North Dock,
Dublin, D01 E4X0

2 April 2019

Re: ComReg's Review of the Fixed and Mobile Termination Markets

Dear Donal

I am writing with regard to ComReg's ongoing review of the Fixed Voice Call Termination (FVCT) Market and the Mobile Voice Call Termination (MVCT) Market. eir notes that ComReg has, as of 11 March 2019, notified the European Commission of its draft Decision as well as draft measures concerning the further detailed specification of certain cost orientation price control obligations set out in the Draft Decision.

In its initial market review consultation (ComReg 17/90), ComReg considered two alternative candidate approaches to the termination of calls originated outside the European Economic Area (EEA).

- Candidate Approach 1: Retain the existing methodology, whereby all remedies imposed on 2019 Designated Service Providers (SPs) apply to all calls without distinction as to the call's origin
- Candidate Approach 2: Allow differentiated approaches with respect to prices charged for termination supplied for calls originated within and outside the EEA. Where a call originated outside the EEA, SPs would not be obliged to charge the regulated termination rate, and would be <u>free to commercially negotiate a termination rate, or indeed to unilaterally set a termination rate, for such calls</u>.

Directors: Carolan Lennon, Stephen Tighe

eir is a trading name of eircom Limited,
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Incorporated in Jersey Number 116389

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ComReg's current position is that the designated Fixed Service Providers (FSPs) and Mobile Service Providers (MSPs) may apply a differentiated approach to the termination of calls originated outside the EEA, subject to conditions as follows;

- The regulated rate must be applied where non-EEA FSPs/MSPs charge termination rates that do not exceed the 'Threshold EEA FTR/MTR'.
- Where non-EEA FSPs/MSPs charge termination rates that are above the threshold rates, designated Irish FSPs/MSPs can charge a higher rate but this higher rate (the 'Maximum Allowable FTR/MTR') must not exceed the Irish regulated rate plus the difference between the rate charged by the non-EEA FSP/MSP and the threshold EEA FTR/MTR.

The threshold rates have been set using the highest BU LRIC FTR and MTR in the EEA, namely the regulated FTR of Romania and the regulated MTR of Slovakia, at 0.14 c/min and 1.2260 c/min respectively.

The prescriptive nature of the current proposal is surprising to eir, given the candidate approach originally consulted on as well as established practice in other Member States. While eir welcomes ComReg's decision to allow a differentiated approach to termination charging for calls originating outside the EEA and recognises that this does allow some additional flexibility as opposed to the current regime, there are a number of concerns we would like to highlight with regard to the proposal.

<u>Over-specification of the associated charging conditions</u>

On the basis of the conditions attached to the differentiated approach, ComReg has specified the 'Maximum Allowable FTR/MTR' as follows;

- Fixed to fixed: Maximum Allowable FTR A = Irish Regulated FTR + [non-EEA FTR – Threshold EEA FTR]
- Mobile to fixed: Maximum Allowable FTR B = Maximum Allowable FTR B = Irish Regulated FTR + [non-EEA MTR – Threshold EEA MTR]
- Mobile to Mobile: Maximum Allowable MTR A: Irish Regulated MTR + [non-EEA MTR – Threshold EEA MTR]
- Fixed to mobile: Maximum Allowable MTR B = Irish Regulated MTR + [non-EEA FTR – Threshold EEA FTR]

The rationale for allowing a differentiated approach is to allow Irish service providers (SPs) the flexibility to address asymmetries in the market, particularly in the case of non-EEA countries where the termination rates are much higher than the regulated Irish rates. While Irish SPs are limited to recovering efficient costs, this is not necessarily the case for non-EEA SPs, that do not face similar restrictions. Irish SPs are currently constrained in their ability to respond to high termination rates leading to a potential revenue transfer to non-EEA SPs. In this manner, Irish SPs and therefore their subscribers are cross-subsidising non-EEA SPs.

However, the conditions as currently designed, do not allow sufficient flexibility to fully address such asymmetries. Although eir notes ComReg's concerns in relation to a potential 'race to the top' and the associated disbenefit for consumers, eir is of the view that the conditions could be amended in a manner which increases the bargaining ability of Irish SPs vis-à-vis operators in non-EEA countries, that are not subject to similar conditions, while mitigating the risk of negative outcomes for consumers.

eir is of the view that the associated conditions could be amended as follows;

- The regulated rate must be applied where non-EEA FSPs/MSPs charge termination rates that do not exceed the Irish regulated FTR/MTR
- Where non-EEA FSPs/MSPs charge termination rates that are above the Irish regulated rates, designated Irish FSPs/MSPs can charge a higher rate but this higher rate must not exceed the rate charged by the non-EEA FSP/MSP

eir considers that the proposed conditions would still address ComReg's concerns in relation to a potential race to the top in that it would limit retaliatory responses that may arise in instances where Irish FSP/MSPs had the ability to set termination rates at a level significantly above the existing termination rate of the non-EEA FSP/MSP. This would also appear to be more in line with the current practice of National Regulatory Authorities (NRAs) that have adopted a differentiated approach to the termination of calls originating outside the EEA and have further specified conditions in relation to the differentiated approach.

eir notes that of the 27 EEA NRAs assessed by ComReg, 15 indicated that termination rate price controls are not applicable to FVCT for calls originationing in non-EEA countries, while 12 indicated the same with respect to MVCT. Of these NRAs, France, Luxembourg and the Netherlands have specified a price ceiling for FVCT and MVCT, while Spain has specified a price ceiling for MVCT only. In each of these instances, the NRA allows SPs to set their own termination rates for incoming non-EEA originated calls up to the price level of the termination rate set by the originating non-EEA SP i.e. a **reciprocal** termination rate price ceiling.

Decline in bargining power over the period of the Decision

In addition, the current forumulation of the 'Maximum Allowable FTR/MTR' would suggest that, given the envisaged glidepath and downward trajectory of regulated FTRs and MTRs, the ability of Irish operators to negotiate with non-EEA operators will in fact once again decline over the designation period.

For example, in the case of an Irish MSP charging a non-EEA MSP for MVCT, the maximum allowable MTR is the Irish Regulated MTR plus the difference between the non-EEA MTR and the Threshold EEA MTR. If the non-EEA MTR is 2 c/min, then the maximum allowable MTR that an Irish SP can set in 2019 is 1.444 c/min (0.67+2.00-1.226). However, the maximum allowable MTR declines to 1.074 c/min by 2022 (0.30+2.00-1.226). It does not seem logical that an operator's ability to 'defend' itself from excessive non-EEA rates declines as a consequence of the national price control. This would also appear counter-intuitive given that the initial intent of a differentiated approach is to counter the existing asymmetry.

Review of the threshold rates

If ComReg is to maintain the conditions as designed, eir considers that there is also an issue with regard to the threshold rates. It would appear that it is not necessarily ComReg's intention to revise the threshold rates for the duration of the Decision, although ComReg has stated that it will monitor market developments in this regard and reserves the right to revise the rates if the need arises. However, the conditions by which ComReg would undertake such a review are entirely unclear and it is eir's view that this creates regulatory uncertainty.

eir notes ComReg's use of the threshold rates as potentially indicative of the upper limit of the efficient cost of supplying FVCT/MVCT. However, it is possible that the introduction of the single maximum EU wide fixed and mobile termination rates ('Eurorates'), will result in a decrease of the regulated rate in a number of member states and as such eir is not convinced that the suggested threshold rates are the most suitable proxy.

Potential effects of the adoption of Eurorates

Finally, eir would like to seek a number of clarifications with regards to the potential effects of the introduction of Eurorates. ComReg has noted that if Eurorate FTRs and MTRs were to be close to the current EU averages, then it may be the case that FTRs and MTRs might rise in Ireland in 2021 when Eurorates come into effect. ComReg has also stated that "*it is likely that Article 75 will result in consequential changes to the application of price control obligations in Relevant Termination Markets, as well as implications for differentiated pricing in respect of termination of non-EEA originated calls*".

eir would like to understand, if possible, the interaction between this Decision and the implementing Act of the European Commission. ComReg has, in its notified measures, specified maximum regulated rates for the period 2019 to 2022. However, if the pan-European rates introduced are different, will Irish SPs be subject to the Eurorates or those specified by ComReg? eir would also like to further understand the implications of Eurorates for the differentiated EEA/Non-EEA regime, as envisaged by ComReg.

In addition, it is eir's understanding that there is a possibility that the termination markets (Markets 1 and 2) may be removed from the Commission's list of recommended markets in the current review, which is due to be completed in advance of the transpostion deadline for the European Electronic Communications Code (EECC). eir would like to understand if it is therefore ComReg's intention to review these markets soon thereafter or if it considers this Decision subject to the newly introduced 5 year timeframe for review? In any event, given eir's experience to date with the timing of market reviews[1], eir would suggest that it may be prudent to consider the inclusion of a sunset clause in ComReg's final Decision.

[1] As also identified by the EC, including most recently in comments to Case IE 2018/2115

I look forward to hearing from you on these matters.

Yours sincerely,

Gary Healy
Director of Regulatory and Public Policy

ComReg's response to Eircom's letter of 2 April 2019.

An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

Mr. Gary Healy
Director of Regulatory and Public Policy
Eir
2022 Bianconi Avenue
Citywest Business Campus
Dublin 24
D24 HX03

9 April 2019

Re: ComReg's Review of Fixed and Mobile Termination Markets

Dear Gary

I refer to your letter dated 2 April 2019 to Donal Leavy regarding ComReg's ongoing review of the Fixed Voice Call Termination (FVCT) market and Mobile Voice Call Termination (MVCT) market.

ComReg will consider the points raised in the above mentioned letter and address these as appropriate in any final decision to be published upon completion of the Article 7 procedure with the European Commission.

ComReg considers that your letter does not contain confidential information and intends to publish it within any final decision. If you consider that your letter contains confidential information, please provide us with a redacted non-confidential version of your letter, along with the reasons why you consider any information is confidential, by COB 15 April.

Should you have any queries please contact me.

Yours Sincerely

Eric Tomkins

Eric Tomkins
Senior Market Analysis Manager

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Annex: 16 FVCT Decision Instrument

1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

1.1 This Decision Instrument ("Decision Instrument") is made by the Commission for Communications Regulation ("ComReg") and relates to the market for wholesale call termination on individual public telephone networks provided at a fixed location identified by the European Commission in the 2014 Recommendation and as defined by ComReg in the Response to Consultation and Decision document entitled Market Review, Fixed Voice Call Termination and Mobile Voice Call Termination, Response to Consultation and Decision, ComReg Document 19/47, ComReg Decision D10/19.

1.2 This Decision Instrument is made:

(i) Pursuant to, and having regard to, the functions and objectives of ComReg as set out in Sections 10 and 12 of the Communications Regulation Act 2002, as amended, and Regulation 6(1) of the Access Regulations, and Regulation 16 of the Framework Regulations;

(ii) Having taken the utmost account of the 2014 Recommendation, the Explanatory Note and the SMP Guidelines;

(iii) Having, where appropriate, pursuant to Section 13 of the Communications Regulation Act 2002, as amended, complied with Ministerial Policy Directions;

(iv) Having taken the utmost account of the Termination Rates Recommendation;

(v) Having taken the utmost account of the 2005 Accounting Separation and Cost Accounting Recommendation;

(vi) Having taken account of the submissions received from interested parties in relation to ComReg Document 17/90 following a public consultation pursuant to Regulation 12 of the Framework Regulations;

(vii) Having consulted with the Competition and Consumer Protection Commission further to Regulation 27 of the Framework Regulations;

(viii) Having notified the draft measure and the reasoning on which same is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Regulation 13 and 14 of the Framework Regulations and having taken utmost account of any comments made by these parties;

(ix) Pursuant to Regulations 25, 26 and 27 of the Framework Regulations and Regulations 8, 9, 10, 12, 13 and 18 of the Access Regulations;

(x) Having had regard to the market definition, market analysis and reasoning set out in ComReg Decision D10/19; and

(xi) Having taken account of the submissions received from interested parties in relation to ComReg Document 18/19 following a public consultation pursuant to Regulation 12 of the Framework Regulations.

1.3 The provisions of ComReg Document 17/90 and ComReg Decision D10/19 shall, where appropriate, be construed with this Decision Instrument, however, if a conflict arises between the text of this Decision Instrument and/or ComReg Decision D10/19, the text of this Decision Instrument shall prevail.

1.4 For the avoidance of doubt, to the extent that there is any conflict between a Decision Instrument dated prior to the Effective Date and obligations set out herein, it is the latter which shall prevail. However, the provisions of the decision instrument at Annex 1 of ComReg Decision D11/19 shall be construed with this Decision Instrument and in the event of a conflict between this Decision Instrument and the decision instrument at Annex 1 of ComReg Decision D11/19 the most restrictive provision or obligation shall apply.

PART I - GENERAL PROVISIONS (SECTIONS 2 TO 5 OF THE DECISION INSTRUMENT)

2 DEFINITIONS AND INTERPRETATION

2.1 In this Decision Instrument:

"Access" shall have the same meaning as under the Access Regulations; for the purposes of this Decision Instrument it shall include (but shall not be limited to) Access to FVCT and Associated Facilities where appropriate;

"Access Regulations" means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No 334 of 2011), as may be amended from time to time or replaced with equivalent effect;

"Airspeed Communications" means Airspeed Communications Unlimited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Associated Facilities" shall have the same meaning as under the Framework Regulations, and for the purpose of this Decision Instrument shall include information on call routing, which assists and/or has the ability to assist in the provision of Access to FVCT;

"Authorisation Regulations" means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I.

No 335 of 2011), as may be amended from time to time or replaced with equivalent effect;

"BEREC" means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 (OJ L337, 18.12.2009, p.1);

"Blueface" means Blue Face Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"BT Communications" means BT Communications Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"BU-LRIC" means bottom up ("BU") long run incremental costs and refers to the methodology used to estimate the pure long run incremental costs ("LRIC") of an efficient operator which is derived from an economic/engineering model of an efficient network;

"Colt Technology Services" means Colt Technology Services Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Communications Regulation Act 2002 (as amended)" means the Communications Regulation Act 2002 (No. 20 of 2002) (as amended);

"ComReg" means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002 (as amended);

"ComReg Decision D06/07" means ComReg Document 07/109 entitled "Decision Notice & Decision Instrument – Designation of SMP & SMP Obligations Market Analysis – Interconnection Market Review Fixed Wholesale Call Termination Services", dated 21 December 2007;

"ComReg Decision D07/11" means ComReg Document 11/67 entitled "Wholesale Call Origination and Wholesale Call Termination Markets Response to Consultation Document No. 10/76 and decisions amending price control obligations and withdrawing and further specifying transparency obligations", dated 15 September 2011;

"ComReg Decision D12/12" means ComReg Document 12/125 entitled "Mobile and Fixed Voice Call Termination Rates in Ireland, Response to Consultations, Decisions and Decision Instruments", dated 21 November 2012;

"ComReg Decision D10/19" means "Market Review, Fixed Voice Call Termination and Mobile Voice Call Termination, Response to Consultation and Decision, ComReg Document 19/47, ComReg Decision D10/19", dated 23 May 2019;

"ComReg Decision D11/19" means "Price Control Obligations for Fixed and Mobile Call Termination Rates: Response to Consultation and Decision, Response to Consultation and Decision, ComReg Document 19/48, ComReg Decision D11/19", dated 23 May 2019;

"ComReg Document 17/90" means ComReg Document 17/90 entitled "Market Review - Fixed Voice Call Termination and Mobile Voice Call Termination, Consultation and Draft Decision", dated 27 October 2017;

"ComReg Document 18/19" means ComReg Document 18/90 entitled "Price Consultation Further Specification of Proposed Price Control Obligations for Fixed and Mobile Call Termination Rates", dated 13 March 2018;

"Customer-Sited Handover" or **"CSH"** means the connection from the Eircom network to the alternative Undertaking's equipment in the alternative Undertaking's premises, which includes the installation of an Eircom network termination unit at the alternative Undertaking's premises;

"Dialoga Servicios Interactivos" means Dialoga Servicios Interactivos, SA and its subsidiaries, and any Undertakings which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Effective Date" means the date set out in Section 16 of this Decision Instrument;

"Eircom" means Eircom Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Electronic Communications Network(s)" or **"ECN(s)"** shall have the same meaning as under Regulation 2 of the Framework Regulations;

"Electronic Communications Service(s)" or **"ECS(s)"** shall have the same meaning as under Regulation 2 of the Framework Regulations;

"End-User" shall have the same meaning as under Regulation 2 of the Framework Regulations;

"Equant Network Systems" means Equant Network Systems Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"European Economic Area countries" or **"EEA countries"** means countries who have ratified the Agreement on the European Economic Area, which entered into force on 1 January 1994**;**

"EEA Mobile Service Provider(s)" means an undertaking operating within the EEA that provides mobile voice telephony services to its Subscribers in the EEA;

"(the) Explanatory Note" means the Commission Staff Working Document: Explanatory Note accompanying the 2014 Recommendation (9 October 2014, SWD (2014) 298);

"Finarea" means Finarea SA and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Fixed Number" means a number from the Irish national numbering scheme as set out in the Numbering Conditions of Use, which, within the meaning of this Decision Instrument, is terminated at a fixed location and means a Geographic Number, a Nomadic Number, or an emergency access number (112 or 999);

"Fixed Service Provider(s)" or **"FSP(s)"** means an Undertaking providing End-Users with publicly available voice telephony services using a Fixed Number at a fixed location, irrespective of the underlying technology over which such services are delivered;

"Fixed Termination Rate(s)" or **"FTR(s)"** means the wholesale charge(s) levied by a Fixed Service Provider for the supply of Fixed Voice Call Termination;

"Fixed Voice Call Termination" or **"FVCT"** means the provision by a Fixed Service Provider of a wholesale call termination service to other Undertakings from the nearest point to the End User or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers in respect of which that Fixed Service Provider is able to set the Fixed Termination Rate;

"Framework Regulations" means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No 333 of 2011), as may be amended from time to time or replaced with equivalent effect;

"Geographic Number" shall have the same meaning as set out in the Numbering Conditions of Use;

"Imagine Communications" means Imagine Communications Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"In-Building Handover" or **"IBH"** means the connection from the Eircom network to the alternative Undertaking's equipment within the Eircom exchange, or equivalent facility;

"In-Span Handover" or **"ISH"** means the connection between the Eircom exchange and the alternative Undertaking's nominated point of handover;

"Intellicom" means Intellicom Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Interconnection" shall have the same meaning as under the Access Regulations;

“Interconnection Path(s)” means the physical transmission connection(s) between the Electronic Communications Networks of two Undertakings which allows for the carriage of calls between the respective networks;

“Interconnection Services” means Interconnection used for services including FVCT supplied by Eircom and includes CSH, IBH, ISH, and Interconnection Paths;

“In2com” means In2com Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“IP Telecom” means Internet Protocol Telecom Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“Irish Regulated FTR” means the maximum Fixed Termination Rate that FSPs are permitted to charge for terminating calls originated within the EEA (unless such calls are originated inside the EEA where the caller is a Subscriber of a non-EEA MSP who is roaming in the EEA);

“Magnet Networks” means Magnet Networks Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“Magrathea Telecommunications” means Magrathea Telecommunications (Ireland) Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“Maximum Allowable FTR A” means the FTR which is the Irish Regulated FTR plus the differential between the FTR charged by the non-EEA FSP and the Threshold EEA FTR. Which can be expressed as: Maximum Allowable FTR A = Irish Regulated FTR + [non-EEA FTR – Threshold EEA FTR];

“Maximum Allowable FTR B” means the FTR which is the Irish Regulated FTR plus the differential between the MTR charged by the non-EEA MSP and the Threshold EEA MTR. Which can be expressed as: Maximum Allowable FTR B = Irish Regulated FTR + [non-EEA MTR – Threshold EEA MTR];

“Ministerial Policy Directions” for the purposes of this Decision Instrument means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

“Mobile Service Provider(s)” or **“MSP(s)”** means an Undertaking providing End-Users with land based/terrestrial publicly available mobile voice telephony services using a mobile network;

"Mobile Termination Rate(s)" or **"MTR(s)"** means the wholesale charge(s) levied by a Mobile Service Provider for the supply of Mobile Voice Call Termination;

"Mobile Voice Call Termination" or **"MVCT"** means the provision by a Mobile Service Provider of a wholesale call termination service to other Undertakings for the purpose of terminating incoming voice calls to a mobile number in respect of which that Mobile Service Provider is able to set the Mobile Termination Rate;

"Modeva Networks" means Modeva Networks Unlimited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Nomadic Number" has the same meaning as under the Numbering Conditions of Use;

"Non-Geographic Number" has the same meaning under the Numbering Conditions of Use;

"Numbering Conditions of Use" means the set of rules under which the Irish national numbering scheme is managed and administered as set out in the document entitled *Numbering Conditions of Use and Application Process, ComReg 15/136R1,* as may be amended by ComReg from time to time or replaced with equivalent effect;

"PlanNet 21 Communications" means PlanNet 21 Communications Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes 3Play Plus Limited;

"Reference Interconnect Offer" or **"RIO"** means the offer of contract by a Fixed Service Provider to another Undertaking in respect of FVCT (and Associated Facilities) in accordance with the requirements of this Decision Instrument. The RIO sets out products, services and facilities including, but not limited to, service descriptions, associated terms and conditions and standards to be offered in accordance with the requirements of this Decision Instrument. To the extent that there is any conflict between the RIO and the obligations now set out herein, the latter shall prevail;

"Relevant Market" means, in the context of a particular SMP Fixed Service Provider, the specific market relating to that SMP Fixed Service Provider's supply of FVCT as identified in Section 4.2(i) to 4.2(xxii) and 4.3 below;

"Relevant Markets" means all of the markets defined in Section 4 below;

"Service Level Agreement(s)" or **"SLA(s)"** means a legally binding contract between Eircom and OAOs in relation to the service levels which Eircom commits to from time to time, as more particularly set out in the RIO. For the avoidance of doubt, however, to the extent that there is any conflict between the RIO, the SLAs and Eircom's obligations set out herein, it is the obligations set out here that will prevail;

"Significant Market Power (SMP) Fixed Service Provider" or **"SMP FSP"** means a Fixed Service Provider designated with SMP in Section 5 below as may be amended from time to time;

"Significant Market Power Obligations" or **"SMP Obligations"** are those obligations as more particularly described in Part II below as may be amended from time to time;

"(the) SMP Guidelines" means the European Commission guidelines of 11 July 2002 on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03) (OJ C 165, 11.7.2002, p.6), as replaced by the European Commission guidelines of 7 May 2018 on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (2018/C 159/01) (OJ C 159, 7.5.2018, p.1);

"Subscriber" shall have the same meaning as under Regulation 2 of the Framework Regulations;

"Switchless Voice Service" or **"SV Service"** means a switchless voice service which allows an operator to purchase end-to-end call conveyance services without the need to have its own Interconnection infrastructure;

"Telcom" means Telcom Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes Agility Communications Limited;

"**(the) Termination Rates Recommendation"** means the European Commission Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/396/EC) (OJ L124/67).

"Threshold EEA FTR" is, unless otherwise specified by ComReg, 0.14 euro cent/minute. This figure is the highest pure BU-LRIC FTR from BEREC's report, "Termination Rates at a European Level – July 2018", (BoR (18) 218) published December 2018;

"Threshold EEA MTR" is, unless otherwise specified by ComReg, 1.2260 euro cent/minute. This figure is the highest pure BU-LRIC MTR from BEREC's report, "Termination Rates at a European Level – July 2018", (BoR (18) 218) published December 2018;

"Undertaking(s)" shall have the same meaning as under Regulation 2 of the Framework Regulations;

“Verizon” means Verizon Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“Viatel” means Viatel Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes Digiweb Telecom Ireland Limited;

“Virgin Media” means Virgin Media Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“Vodafone” means Vodafone Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

“Voxbone” means Voxbone SA and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns.

“(the) 2005 Accounting Separation and Cost Accounting Recommendation” means the European Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications;

“(the) 2014 Recommendation” means the European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79).

3 SCOPE AND APPLICATION

3.1 This Decision Instrument applies to each of the following Undertakings in respect of activities falling within the scope of the Relevant Markets defined in Section 4 of this Decision Instrument. Furthermore, this Decision Instrument is binding upon each such Undertaking in the manner now set out below and each such Undertaking shall comply with this Decision Instrument to the extent that it applies to that Undertaking.

(i) Airspeed Communications;

(ii) Blueface;

(iii) BT Communications;

(iv) Colt Technology Services;

(v) Dialoga Servicios Interactivos;

(vi) Eircom;

(vii) Equant Network Systems;

(viii) Finarea;

(ix) Imagine Communications;

(x) Intellicom;

(xi) In2com;

(xii) IP Telecom;

(xiii) Magnet Networks;

(xiv) Magrathea Telecommunications;

(xv) Modeva Networks;

(xvi) PlanNet 21 Communications;

(xvii) Telcom;

(xviii) Verizon;

(xix) Viatel;

(xx) Virgin Media;

(xxi) Vodafone;

(xxii) Voxbone.

3.2 This Decision Instrument, pursuant to Regulations 8, 9, 10, 12, 13 and 18 of the Access Regulations imposes certain obligations on Undertakings, as more particularly set out in Sections 6 to 12 of this Decision Instrument.

3.3 This Decision Instrument, pursuant to Regulations 8, 9, 10, 12 and 13 of the Access Regulations also withdraws certain obligations previously imposed, as more particularly set out in Section 14 of this Decision Instrument.

4 MARKET DEFINITION

4.1 This Decision Instrument relates to the market for wholesale call termination on individual public telephone networks provided at a fixed location, as identified in the 2014 Recommendation and as analysed by ComReg in ComReg Decision D10/19. For the purposes of this Decision Instrument, ComReg identifies twenty-two (22) separate markets as defined in Section 4.2 below (referred to in this Decision Instrument as the Relevant Market(s)).

4.2 Pursuant to Regulation 26 of the Framework Regulations and in accordance with the 2014 Recommendation and the Explanatory Note, taking the utmost account of the SMP Guidelines and in accordance with the principles of competition law, the twenty-two (22) separate Relevant Markets defined in this Decision Instrument are the markets for the provision, by each of those Fixed Service Providers listed below, of wholesale fixed voice call termination services in Ireland to other Undertakings, for the purpose of terminating incoming voice calls to Fixed Numbers in respect of which that Fixed Service Provider is able to set the Fixed Termination Rate, as more particularly described:

(i) The provision by Airspeed Communications of a wholesale service to other Undertakings from the nearest point to the End User or level on Airspeed Communications' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Airspeed Communications is able to set the FTR;

(ii) The provision by Blueface of a wholesale service to other Undertakings from the nearest point to the End User or level on Blueface's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Blueface is able to set the FTR;

(iii) The provision by BT Communications of a wholesale service to other Undertakings from the nearest point to the End User or level on BT Communications' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which BT Communications is able to set the FTR;

(iv) The provision by Colt Technology Services of a wholesale service to other Undertakings from the nearest point to the End User or level on Colt Technology Services' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Colt Technology Services is able to set the FTR;

(v) The provision by Dialoga Servicios Interactivos of a wholesale service to other Undertakings from the nearest point to the End User or level on Dialoga Servicios Interactivos' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Dialoga Servicios Interactivos is able to set the FTR;

(vi) The provision by Eircom of a wholesale service to other Undertakings from the nearest point to the End User or level on Eircom's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Eircom is able to set the FTR;

(vii) The provision by Equant Network Systems of a wholesale service to other Undertakings from the nearest point to the End User or level on Equant Network Systems' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Equant Network Systems is able to set the FTR;

(viii) The provision by Finarea of a wholesale service to other Undertakings from the nearest point to the End User or level on Finarea's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Finarea is able to set the FTR;

(ix) The provision by Imagine Communications of a wholesale service to other Undertakings from the nearest point to the End User or level on Imagine Communications' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Imagine Communications is able to set the FTR;

(x) The provision by Intellicom of a wholesale service to other Undertakings from the nearest point to the End User or level on Intellicom's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Intellicom is able to set the FTR;

(xi) The provision by In2com of a wholesale service to other Undertakings from the nearest point to the End User or level on In2com's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which In2com is able to set the FTR;

(xii) The provision by IP Telecom of a wholesale service to other Undertakings from the nearest point to the End User or level on IP Telcom's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which IP Telecom is able to set the FTR;

(xiii) The provision by Magnet Networks of a wholesale service to other Undertakings from the nearest point to the End User or level on Magnet Networks' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Magnet Networks is able to set the FTR;

(xiv) The provision by Magrathea Telecommunications of a wholesale service to other Undertakings from the nearest point to the End User or level on Magrathea Telecommunications' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Magrathea Telecommunications is able to set the FTR;

(xv) The provision by Modeva Networks of a wholesale service to other Undertakings from the nearest point to the End User or level on Modeva Networks' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Modeva Networks is able to set the FTR;

(xvi) The provision by PlanNet 21 Communications of a wholesale service to other Undertakings from the nearest point to the End User or level on PlanNet 21 Communications' network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which PlanNet 21 Communications is able to set the FTR;

(xvii) The provision by Telcom of a wholesale service to other Undertakings from the nearest point to the End User or level on Telcom's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Telcom is able to set the FTR;

(xviii) The provision by Verizon of a wholesale service to other Undertakings from the nearest point to the End User or level on Verizon's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Verizon is able to set the FTR;

(xix) The provision by Viatel of a wholesale service to other Undertakings from the nearest point to the End User or level on Viatel's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Viatel is able to set the FTR;

(xx) The provision by Virgin Media of a wholesale service to other Undertakings from the nearest point to the End User or level on Virgin Media's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Virgin Media is able to set the FTR;

(xxi) The provision by Vodafone of a wholesale service to other Undertakings from the nearest point to the End User or level on Vodafone's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Vodafone is able to set the FTR;

(xxii) The provision by Voxbone of a wholesale service to other Undertakings from the nearest point to the End User or level on Voxbone's network at which incoming voice calls can be handed over for termination to Fixed Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Voxbone is able to set the FTR.

4.3 The relevant geographic market for each of the individual product markets defined at 4.2(i) to 4.2(xxii) is the geographic area covered by the network of each Fixed Service Provider within the State.

4.4 The Relevant Markets are more particularly described in Section 5 of ComReg Decision D10/19.

5 DESIGNATION OF FIXED SERVICE PROVIDERS WITH SIGNIFICANT MARKET POWER ("SMP")

5.1 Pursuant to Regulation 25 and Regulation 27 of the Framework Regulations and taking the utmost account of the SMP Guidelines, having determined that the Relevant Markets are not effectively competitive, each of the following Fixed Service Providers is individually (and not collectively) designated as having SMP in relation to the Relevant Market on which that Fixed Service Provider operates:

(i) Airspeed Communications;

(ii) Blueface;

(iii) BT Communications;

(iv) Colt Technology Services;

(v) Dialoga Servicios Interactivos;

(vi) Eircom;

(vii) Equant Network Systems;

(viii) Finarea;

(ix) Imagine Communications;

(x) Intellicom;

(xi) In2com;

(xii) IP Telecom;

(xiii) Magnet Networks;

(xiv) Magrathea Telecommunications;

(xv) Modeva Networks;

(xvi) PlanNet 21 Communications;

(xvii) Telcom;

(xviii) Verizon;

(xix) Viatel;

(xx) Virgin Media;

(xxi) Vodafone;

(xxii) Voxbone.

PART II – SMP OBLIGATIONS IN RELATION TO SMP FIXED SERVICE PROVIDERS (SECTIONS 6 TO 12 OF THE DECISION INSTRUMENT)

6 GENERAL PROVISIONS REGARDING SMP OBLIGATIONS

6.1 For the purposes of Part II of this Decision Instrument, each of the Fixed Service Providers identified at Sections 5.1(i) to 5.1(xxii) above are referred to individually as the "SMP Fixed Service Provider" and collectively as the "SMP Fixed Service Providers".

6.2 For the purposes of this Decision Instrument, an SMP Obligation applies to an SMP Fixed Service Provider only insofar as, and to the extent that, such SMP Fixed Service Provider is operating on its Relevant Market.

7 SMP OBLIGATIONS IN RELATION TO FVCT

7.1 ComReg is imposing certain SMP Obligations on SMP Fixed Service Providers in accordance with and pursuant to Regulations 8, 9, 10, 12, and 13 of the Access Regulations, as detailed further in Sections 8 to 12 below.

8 OBLIGATIONS TO PROVIDE ACCESS

8.1 Pursuant to Regulation 12(1) of the Access Regulations, each SMP Fixed Service Provider shall meet all reasonable requests from other Undertakings for the provision of Access.

8.2 Without prejudice to the generality of the obligation in Section 8.1 of this Decision Instrument and pursuant to Regulation 12(2) of the Access Regulations, each SMP Fixed Service Provider shall provide and grant Access to Undertakings to the following particular products, services and facilities:

(i) FVCT; and

(ii) Associated Facilities.

8.3 Without prejudice to the generality of the obligations in Sections 8.1 and 8.2 of this Decision Instrument, Eircom shall provide and grant Access to Undertakings to Interconnection Services, as a form of Associated Facility.

8.4 Without prejudice to the generality of the obligations in Sections 8.1 and 8.2 of this Decision Instrument each SMP Fixed Service Provider shall:

(i) Pursuant to Regulation 12(2)(b) of the Access Regulations, negotiate in good faith with Undertakings requesting Access (including Access to FVCT and Associated Facilities);

(ii) Pursuant to Regulation 12(2)(c) of the Access Regulations, not withdraw Access (including Access to FVCT and Associated Facilities) to facilities already granted, without prior approval of ComReg and in accordance with terms and conditions as may be determined by ComReg; and

(iii) Pursuant to Regulation 12(2)(e) of the Access Regulations, grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services (including Access to FVCT and Associated Facilities).

9 CONDITIONS ATTACHED TO THE ACCESS OBLIGATIONS

9.1 Pursuant to Regulation 12(3) of the Access Regulations, each SMP Fixed Service Provider shall, in relation to the obligations set out under Section 8 above, grant Undertakings Access (including Access to FVCT and Associated Facilities) in a fair, reasonable and timely manner.

9.2 Where a request by an Undertaking for provision of Access (including Access to FVCT and Associated Facilities), or a request by an Undertaking for the provision of information in relation to such Access is refused or granted only in part by an SMP Fixed Service Provider, the SMP Fixed Service Provider shall, at the time of the refusal or partial grant, provide in detail to the Undertaking each of the objective reasons for such refusal or partial grant. A response to a request for Access (including Access to FVCT and Associated Facilities) shall be provided in a timely manner.

9.3 Without prejudice to the generality of the obligation in Section 9.1 of this Decision Instrument, pursuant to Regulation 12(3) of the Access Regulations, Eircom shall conclude, maintain or update as appropriate, legally binding and fit-for-purpose SLAs in respect of its provision of Interconnection Services.

10 OBLIGATION OF NON-DISCRIMINATION

10.1 Pursuant to Regulation 10 of the Access Regulations, each SMP Fixed Service Provider shall have an obligation of non-discrimination in respect of the provision of Access (including Access to FVCT and Associated Facilities).

10.2 Without prejudice to the generality of Section 10.1 of this Decision Instrument, each SMP Fixed Service Provider shall:

(i) Apply equivalent conditions, including in respect of FTRs or other charges, in equivalent circumstances to other Undertakings requesting or being provided with Access (including Access to FVCT and Associated Facilities), or requesting or being provided with information in relation to such Access; and

(ii) Subject to the provisions of (iii) below, provide Access (including Access to FVCT and Associated Facilities) and information relating to Access to all other Undertakings under the same conditions and of the same quality as the SMP Fixed Service Provider provides to itself or to its subsidiaries, affiliates or partners.

(iii) The obligation of non-discrimination outlined at (ii) above does not apply between termination rates for the self-supply of FVCT and termination rates charged for FVCT to other Undertakings. For the avoidance of doubt, in the case of self-supply, the non-discrimination obligations outlined at (ii) above apply to all other conditions other than price.

10.3 For the avoidance of any doubt, the obligations set out in this section, Section 10, apply irrespective of whether or not a specific request for Access (including Access to FVCT and Associated Facilities) or information in relation to such Access has been made by an Undertaking to the relevant SMP Fixed Service Provider.

11 OBLIGATION OF TRANSPARENCY

11.1 Each SMP Fixed Service Provider shall have an obligation of transparency as provided for by Regulation 9 of the Access Regulations in relation to Access, (including Access to FVCT and Associated Facilities).

11.2 Without prejudice to the generality of the obligation in Section 11.1 of this Decision Instrument, pursuant to Regulation 9(2) of the Access Regulations, each SMP Fixed Service Provider shall make publicly available, and keep updated on its website, a RIO.

11.3 The RIO shall be sufficiently unbundled so as to ensure that Undertakings availing of Access (including Access to FVCT and Associated Facilities) are not required to pay for services or facilities which are not necessary for the Access requested.

11.4 Without prejudice to the generality of the obligations in Sections 11.1 and 11.2 of this Decision Instrument and in accordance with the obligations specified elsewhere in ComReg Decision D10/19, each SMP Fixed Service Provider shall ensure that its RIO includes at least the following:

(i) A description of the offer of contract for Access (including Access to FVCT and Associated Facilities) broken down into components according to market needs;

(ii) A description of any associated contractual or other terms and conditions for Access (including Access to FVCT and Associated Facilities) and use, including FTRs and other prices and charges; and

(iii) A description of the technical specifications and network characteristics of the Access (including Access to FVCT and Associated Facilities) being offered.

11.5 Each SMP Fixed Service Provider, other than Eircom, shall publish its RIO within 90 (ninety) calendar days of the Effective Date.

11.6 Without prejudice to the generality of the obligations in Section 11.1 to 11.4 of this Decision Instrument, pursuant to Regulation 9(1) and 9(4) of the Access Regulations, each SMP Fixed Service Provider shall make its FTRs publicly available and shall publish such FTRs in an easily accessible manner on its publicly available website. Each SMP Fixed Service Provider shall, unless otherwise agreed with ComReg:

(i) Publish a notice of its intention to amend its FTR(s) not less than 30 (thirty) calendar days in advance of the date on which any such amendment comes into effect. Such notice shall, at least, include a statement of the existing FTR(s), a description of the proposed new FTR(s) and the date on which such new FTR(s) are proposed to come into effect;

(ii) Provide Undertakings with which it has entered into a contract in respect of Access, written notification of its intention to amend its FTR(s) not less than 30 (thirty) calendar days in advance of the date on which any such amendment comes into effect. Such notification shall at least include a statement of the existing FTR(s), a description of the proposed new FTR(s) and the date on which such new FTR(s) are proposed to come into effect; and

(iii) Provide ComReg with written notification of its intention to amend its FTR(s) not less than 30 (thirty) calendar days in advance of the date on which any such amendments come into effect. At the time of such notification each SMP Fixed Service Provider shall furnish to ComReg a statement confirming that its proposed amended FTR(s) comply with Section 12 of this Decision Instrument.

11.7 Pursuant to Regulation 9 of the Access Regulations, Eircom shall make publicly available and publish within its RIO the non-price terms, conditions, Service Level Agreements, guarantees and other product related assurances associated with those services and facilities described in Sections 8 and 9 of this Decision Instrument which form part of any offer or provision of an SV Service to any other Undertaking.

11.8 Pursuant to Regulation 9(3) of the Access Regulations, ComReg may issue directions requiring an SMP Fixed Service Provider to make amendments to the RIO to give effect to obligations imposed in this Decision Instrument and to publish the RIO with such amendments, with or without complying with the applicable transparency timelines as ComReg may agree. In accordance with Regulation 18 of the Access Regulations, ComReg may issue directions to an SMP Fixed Service Provider from time to time requiring it to publish specified information, such as accounting information, technical specifications, network characteristics, prices, and terms and conditions for supply and use, including any conditions limiting access to or use of services and applications where such conditions are permitted by law.

12 OBLIGATION RELATING TO PRICE CONTROL

12.1 Pursuant to Regulation 13(1) of the Access Regulations, and subject to Section 12.2 and 12.3 of this Decision Instrument, each SMP Fixed Service Provider is subject to a cost-orientation obligation as regards FTRs and prices charged by that SMP Fixed Service Provider to any other Undertaking for Access to or use of those products, services or facilities referred to in Section 8 of this Decision Instrument.

12.2 The cost-orientation obligation imposed at Section 12.1 of this Decision Instrument, to the extent that it applies to FTRs, does not apply to calls originated outside of the EEA, unless the call is originated by a Subscriber of an EEA Mobile Service Provider while roaming in non-EEA countries. Furthermore, the cost-orientation obligation imposed at Section 12.1 of this Decision Instrument, to the extent that it applies to FTRs, does not apply to calls originated inside of the EEA where the caller is a Subscriber of a non-EEA MSP who is roaming in the EEA.

12.3 Pursuant to Regulation 13(1) of the Access Regulations, the price control obligations set out at Sections (i) to (iv) below, shall apply to FTRs in the Relevant Markets for calls originated outside of the EEA, unless the call is originated by a Subscriber of an EEA Mobile Service Provider while roaming in non-EEA countries. Furthermore, pursuant to Regulation 13(1) of the Access Regulations the price control obligations set out at Sections (i) to (iv) below, shall apply to calls originated inside of the EEA where the caller is a Subscriber of a non-EEA MSP who is roaming in the EEA.

(i) Where the FTR charged by a non-EEA FSP is less than or equal to the Threshold EEA FTR, the SMP FSP shall not charge more than the Irish Regulated FTR to that non-EEA FSP as an FTR for the calls outlined in this section, Section 12.3.

(ii) Where the MTR charged by a non-EEA MSP is less than or equal to the Threshold EEA MTR, the SMP FSP shall not charge more than the Irish Regulated FTR to that non-EEA MSP as a FTR for the calls outlined in this section, Section 12.3.

(iii) Where the FTR charged by a non-EEA FSP is greater than the Threshold EEA FTR, an SMP FSP shall not charge more than the Maximum Allowable FTR A to that non-EEA FSP as an FTR for the calls outlined in this section, Section 12.3.

(iv) Where the MTR charged by a non-EEA MSP is greater than the Threshold EEA MTR, an SMP FSP shall not charge more than the Maximum Allowable FTR B to that non-EEA MSP as an FTR for the calls outlined in this section, Section 12.3.

PART III - OBLIGATIONS AND EFFECTIVE DATE (SECTIONS 13 TO 16 OF THE DECISION INSTRUMENT)

13 STATUTORY POWERS NOT AFFECTED

13.1 Nothing in this Decision Instrument shall operate to limit ComReg in the exercise and performance of its statutory powers or duties conferred on it from time to time under any applicable law (in force prior to or after the Effective Date of this Decision Instrument).

14 WITHDRAWAL OF SMP OBLIGATIONS

14.1 Pursuant to Regulations 8, 9, 10, 12 and 13 of the Access Regulations, the following Decision Instruments, and/or ComReg Documents and/or Decisions shall be withdrawn when Sections 4 to 13 (inclusive) of this Decision Instrument come into effect :

(i) ComReg Decision D06/07;

(ii) ComReg Decision D07/11; and

(iii) The Decision Instrument entitled, “Annex: 1 Decision Instrument: Fixed Voice Call Termination” of ComReg Decision D12/12.

15 MAINTENANCE OF OBLIGATIONS

15.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in decision instruments, decision notices and directions made by ComReg applying to each SMP Fixed Service Provider and in force immediately prior to the Effective Date of this Decision Instrument, are continued in force by this Decision Instrument and each SMP Fixed Service Provider shall comply with same.

15.2 If any section, clause or provision or portion thereof contained in this Decision Instrument is found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that section, clause or provision or portion thereof shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining section(s), clause(s) or provision(s) or portion thereof of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument.

16 EFFECTIVE DATE

16.1 The Effective Date of this Decision Instrument shall be the date of its publication and notification to the SMP Fixed Service Provider and it shall remain in force until further notice by ComReg.

GARRETT BLANEY

CHAIRPERSON

THE COMMISSION FOR COMMUNICATIONS REGULATION

THE 23 DAY OF MAY 2019

Annex: 17 MVCT Decision Instrument

1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

1.1 This Decision Instrument ("Decision Instrument") is made by the Commission for Communications Regulation ("ComReg") and relates to the market for voice call termination on individual mobile networks as identified by the European Commission in the 2014 Recommendation and as defined by ComReg in the Response to Consultation and Decision document entitled Market Review, Fixed Voice Call Termination and Mobile Voice Call Termination, Response to Consultation and Decision, ComReg Document 19/47, ComReg Decision D10/19.

1.2 This Decision Instrument is made:

(i) Pursuant to, and having regard to, the functions and objectives of ComReg as set out in Sections 10 and 12 of the Communications Regulation Act 2002, as amended, and Regulation 6(1) of the Access Regulations and Regulation 16 of the Framework Regulations;

(ii) Having taken the utmost account of the 2014 Recommendation, the Explanatory Note and the SMP Guidelines;

(iii) Having, where appropriate, pursuant to Section 13 of the Communications Regulation Act 2002, as amended, complied with Ministerial Policy Directions;

(iv) Having taken the utmost account of the Termination Rates Recommendation;

(v) Having taken the utmost account of the 2005 Accounting Separation and Cost Accounting Recommendation;

(vi) Having taken account of the submissions received from interested parties in relation to ComReg Document 17/90 following a public consultation pursuant to Regulation 12 of the Framework Regulations;

(vii) Having consulted with the Competition and Consumer Protection Commission further to Regulation 27 of the Framework Regulations;

(viii) Having notified the draft measure and the reasoning on which same is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Regulation 13 and 14 of the Framework Regulations and having taken utmost account of any comments made by these parties;

(ix) Pursuant to Regulations 25, 26 and 27 of the Framework Regulations and Regulations 8, 9, 10, 12, 13 and 18 of the Access Regulations;

(x) Having had regard to the market definition, market analysis and reasoning set out in ComReg Decision D10/19; and

(xi) Having taken account of the submissions received from interested parties in relation to ComReg Document 18/19 following a public consultation pursuant to Regulation 12 of the Framework Regulations.

1.3 The provisions of ComReg Document No. 17/90, and ComReg Decision D10/19 shall, where appropriate, be construed with this Decision Instrument, however, if a conflict arises between the text of this Decision Instrument and ComReg Decision D10/19, the text of this Decision Instrument shall prevail.

1.4 For the avoidance of doubt, to the extent that there is any conflict between a Decision Instrument dated prior to the Effective Date and obligations set out herein, it is the latter which shall prevail. However, the provisions of the decision instrument at Annex 2 of ComReg Decision D11/19 shall be construed with this Decision Instrument and in the event of a conflict between this Decision Instrument and the decision instrument at Annex 2 of ComReg Decision D11/19 the most restrictive provision or obligation shall apply.

PART I - GENERAL PROVISIONS (SECTIONS 2 TO 5 OF THE DECISION INSTRUMENT)

2 DEFINITIONS AND INTERPRETATION

2.1 In this Decision Instrument:

"Access" shall have the same meaning as under the Access Regulations; for the purposes of this Decision Instrument it shall include (but shall not be limited to) Access to MVCT and Associated Facilities where appropriate;

"Access Regulations" means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No 334 of 2011), as may be amended from time to time or replaced with equivalent effect;

"Associated Facilities" shall have the same meaning as under the Framework Regulations and for the purpose of this Decision Instrument shall include information on call routing, which assists and/or has the ability to assist in the provision of Access to MVCT;

"Authorisation Regulations" means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No 335 of 2011), as may be amended from time to time or replaced with equivalent effect;

"BEREC" means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 (OJ L337, 18.12.2009, p.1);

"BU-LRIC" means bottom up ("BU") long run incremental costs and refers to the methodology used to estimate the pure long run incremental costs ("LRIC") of an efficient operator which is derived from an economic/engineering model of an efficient network;

"Communications Regulation Act 2002 (as amended)" means the Communications Regulation Act 2002 (No. 20 of 2002) (as amended);

"ComReg" means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002 (as amended);

"ComReg Decision D11/12" means ComReg Document 12/124 entitled "Market Review: Voice Call Termination on Individual Mobile Networks, Response to Consultation and Decision Notice", dated 21 November 2012;

"ComReg Decision D12/12" means ComReg Document 12/125 entitled "Mobile and Fixed Voice Call Termination Rates in Ireland, Response to Consultations, Decisions and Decision Instruments", dated 21 November 2012;

"ComReg Decision D02/16" means ComReg Document 16/09 entitled "Mobile Termination Rates Response to Consultation 14/29 and Supplementary Consultation 15/19 and Decision Document", dated 12 February 2016;

"ComReg Decision D10/19" means "Market Review, Fixed Voice Call Termination and Mobile Voice Call Termination, Response to Consultation and Decision, ComReg Document 19/47, ComReg Decision D10/19", dated 23 May 2019;

"ComReg Decision D11/19" means "Price Control Obligations for Fixed and Mobile Call Termination Rates: Response to Consultation and Decision, Response to Consultation and Decision, ComReg Document 19/48, ComReg Decision D11/19", dated 23 May 2019;

"ComReg Document 17/90" means ComReg Document 17/90 entitled "Market Review - Fixed Voice Call Termination and Mobile Voice Call Termination, Consultation and Draft Decision", dated 27 October 2017;

"ComReg Document 18/19" means ComReg Document 18/90 entitled "Price Consultation Further Specification of Proposed Price Control Obligations for Fixed and Mobile Call Termination Rates", dated 13 March 2018;

"Effective Date" means the date set out in Section 16 of this Decision Instrument;

"Electronic Communications Network(s)" or **"ECN(s)"** shall have the same meaning as under Regulation 2 of the Framework Regulations;

"Electronic Communications Service(s)" or **"ECS(s)"** shall have the same meaning as under Regulation 2 of the Framework Regulations;

"End-User" shall have the same meaning as under the Framework Regulations;

"European Economic Area countries" or **"EEA countries"** means countries who have ratified the Agreement on the European Economic Area, which entered into force on 1 January 1994**;**

"EEA Mobile Service Provider(s)" means an Undertaking operating within the EEA that provides mobile voice telephony services to its Subscribers in the EEA;

"(the) Explanatory Note" means the Commission Staff Working Document: Explanatory Note accompanying the 2014 Recommendation (9 October 2014, SWD (2014) 298);

"Fixed Service Provider(s)" or **"FSP(s)"** means an Undertaking providing End-Users with publicly available voice telephony services using a Fixed Number at a fixed location, irrespective of the underlying technology over which such services are delivered;

"Fixed Termination Rate(s)" or **"FTR(s)"** means the wholesale charge(s) levied by a Fixed Service Provider for the supply of Fixed Voice Call Termination;

"Fixed Voice Call Termination" or **"FVCT"** means the provision by a Fixed Service Provider of a wholesale call termination service to other Undertakings from the nearest point to the End User or level on that terminating FSP's network at which incoming voice calls can be handed over for termination to Fixed Numbers in respect of which that Fixed Service Provider is able to set the Fixed Termination Rate;

"Framework Regulations" means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No 333 of 2011), as may be amended from time to time or replaced with equivalent effect;

"Interconnection" shall have the same meaning as under Regulation 2 of the Access Regulations;

"Irish Regulated MTR" means the maximum Mobile Termination Rate that MSPs are permitted to charge for terminating calls originated within the EEA (unless such calls are originated inside the EEA where the caller is a Subscriber of a non-EEA MSP who is roaming in the EEA);

"Lycamobile" means Lycamobile Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Maximum Allowable MTR A" means the MTR which is the Irish Regulated MTR plus the differential between the MTR charged by the non-EEA MSP and the Threshold EEA MTR. Which can also be expressed as: Maximum Allowable MTR A = Irish Regulated MTR + [non-EEA MTR – Threshold EEA MTR];

"Maximum Allowable MTR B" means the MTR which is the Irish Regulated MTR plus the differential between the FTR charged by the non-EEA FSP and the

Threshold EEA FTR. Which can be expressed as: Maximum Allowable MTR B = Irish Regulated MTR + [non-EEA FTR – Threshold EEA FTR];

"Meteor" means Meteor Mobile Communications Limited, which is the mobile arm of the eir Group (which includes Eircom Limited and Eircom Holdings (Ireland) Limited), trading under the business name eir Mobile, and for the purpose of this Decision Instrument includes its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns[1103];

"Ministerial Policy Directions" for the purposes of this Decision Instrument means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

"Mobile Network" means a 2nd, 3rd, 4th, or 5th Generation digital wireless network, or any intermediate evolution of those, using Mobile Numbers, in which seamless handover and roaming features are provided;

"Mobile Number(s)" shall have the same meaning as set out in the Numbering Conditions of Use;

"Mobile Service Provider(s)" or **"MSP(s)"** means an Undertaking providing End-Users with land based/terrestrial publicly available mobile voice telephony services using a Mobile Network;

"Mobile Termination Rate(s)" or **"MTR(s)"** means the wholesale charge(s) levied by a Mobile Service Provider for the supply of Mobile Voice Call Termination;

"Mobile Voice Call Termination" or **"MVCT"** means the provision by a Mobile Service Provider of a wholesale call termination service to other Undertakings for the purpose of terminating incoming voice calls to a Mobile Number in respect of which that Mobile Service Provider is able to set the Mobile Termination Rate. For the avoidance of doubt, the provision of Mobile Voice Call Termination involves the provision of Interconnection;

"Numbering Conditions of Use" means the set of rules under which the Irish national numbering scheme is managed and administered as set out in the document entitled *Numbering Conditions of Use and Application Process,*

[1103] Meteor announced in July 2017 that its branding would be retired and replaced with Eircom branding from September 2017. At present Meteor is the licensed Mobile Service Provider and so for the purposes of this Decision Instrument, ComReg has continued to refer to Meteor, however this position should be understood to apply to Eircom Limited, or some other Undertaking, should it become a successor or assign of Meteor or in any other way the appropriate Undertaking to be designated with SMP.

ComReg 15/136R1, as may be amended by ComReg from time to time or replaced with equivalent effect;

"Reference Interconnect Offer" or **"RIO"** means the offer of contract by a Mobile Service Provider to another Undertaking in respect of MVCT (and Associated Facilities) in accordance with the requirements of this Decision Instrument. The RIO sets out products, services and facilities including, but not limited to, service descriptions, associated terms and conditions and standards to be offered in accordance with the requirements of this Decision Instrument. To the extent that there is any conflict between the RIO and the obligations now set out herein, the latter shall prevail;

"Relevant Market" means, in the context of a particular SMP Mobile Service Provider, the specific market relating to that SMP Mobile Service Provider's supply of MVCT as identified in Sections 4.2(i) to 4.2(v) and 4.3 below;

"Relevant Markets" means all of the markets defined in Section 4 below;

"Significant Market Power (SMP) Mobile Service Provider" or **"SMP MSP"** refers to a Mobile Service Provider designated with SMP in Section 5 below as may be amended from time to time;

"Significant Market Power Obligations" or **"SMP Obligations"** are those obligations as more particularly described in Part II below as may be amended from time to time;

"(the) SMP Guidelines" means the European Commission guidelines of 11 July 2002 on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03) (OJ C 165, 11.7.2002, p.6), as replaced by the European Commission guidelines of 7 May 2018 on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (2018/C 159/01) (OJ C 159, 7.5.2018, p.1);

"Subscriber(s)" shall have the same meaning as under Regulation 2 of the Framework Regulations;

"**(the) Termination Rates Recommendation"** means the European Commission Recommendation of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/396/EC) (OJ L124/67).

"Tesco Mobile" means Tesco Mobile Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Three" means Three Ireland (Hutchison) Limited and its subsidiaries, and any Undertaking which it owns or controls and any undertaking which owns or controls it, and its successors, affiliates and assigns, which for the avoidance of doubt includes Three Ireland Services (Hutchison) Limited;

"Threshold EEA FTR" is, unless otherwise specified by ComReg, 0.14 euro cent/minute. This figure is the highest pure BU-LRIC FTR from BEREC's report, "Termination Rates at a European Level – July 2018", (BoR (18) 218) published December 2018;

"Threshold EEA MTR" is, unless otherwise specified by ComReg, 1.2260 euro cent/minute. This figure is the highest pure BU-LRIC MTR from BEREC's report, "Termination Rates at a European Level – July 2018", (BoR (18) 218) published December 2018;

"Undertaking(s)" shall have the same meaning as under Regulation 2 of the Framework Regulations;

"Virgin Media" means Virgin Media Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns;

"Vodafone" means Vodafone Ireland Limited and its subsidiaries, and any Undertaking which it owns or controls and any Undertaking which owns or controls it, and its successors, affiliates and assigns.

"(the) 2005 Accounting Separation and Cost Accounting Recommendation" means the European Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications;

"(the) 2014 Recommendation" means the European Commission Recommendation of 9 October 2014 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79).

3 SCOPE AND APPLICATION

3.1 This Decision Instrument applies to each of the following Undertakings in respect of activities falling within the scope of the Relevant Markets defined in Section 4 of this Decision Instrument. Furthermore, this Decision Instrument is binding upon each such Undertaking in the manner now set out below and each such Undertaking shall comply with this Decision Instrument to the extent that it applies to that Undertaking.

(i) Lycamobile;

(ii) Meteor;

(iii) Tesco Mobile;

(iv) Three;

(v) Virgin Media; and

(vi) Vodafone.

3.2 This Decision Instrument, pursuant to Regulations 8, 9, 10, 12, 13 and 18 of the Access Regulations imposes certain obligations on Undertakings, as more particularly set out in Sections 6 to 12 of this Decision Instrument.

3.3 This Decision Instrument, pursuant to Regulations 8, 9, 10, 12 and 13 of the Access Regulations also withdraws certain obligations previously imposed, as more particularly set out in Section 14 of this Decision Instrument.

4 MARKET DEFINITION

4.1 This Decision Instrument relates to the market for wholesale voice call termination on individual mobile networks, as identified in the 2014 Recommendation and as analysed by ComReg in ComReg Decision D10/19. For the purposes of this Decision Instrument, ComReg identifies six (6) separate markets as defined in Section 4.2 below (referred to in this Decision Instrument as the Relevant Market(s)).

4.2 Pursuant to Regulation 26 of the Framework Regulations and in accordance with the 2014 Recommendation and the Explanatory Note, taking the utmost account of the SMP Guidelines and in accordance with the principles of competition law, the six (6) separate Relevant Markets defined in this Decision Instrument are the markets for the provision, by each of those Mobile Service Providers below, of wholesale mobile voice call termination services in Ireland (in so far as each Mobile Service Provider's network covers) to other Undertakings, for the purpose of terminating incoming voice calls to Mobile Numbers, and in respect of which that Mobile Service Provider is able to set the Mobile Termination Rate, as more particularly described as:

(i) The provision by Lycamobile of a wholesale service to other Undertakings for the purpose of terminating incoming voice calls to Mobile Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Lycamobile is able to set the MTR; and

(ii) The provision by Meteor of a wholesale service to other Undertakings for the purpose of terminating incoming voice calls to Mobile Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Meteor is able to set the MTR; and

(iii) The provision by Tesco Mobile of a wholesale service to other Undertakings for the purpose of terminating incoming voice calls to Mobile Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Tesco Mobile is able to set the MTR; and

(iv) The provision by Three of a wholesale service to other Undertakings for the purpose of terminating incoming voice calls to Mobile Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Three is able to set the MTR; and

(v) The provision by Virgin Media of a wholesale service to other Undertakings for the purpose of terminating incoming voice calls to Mobile Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Virgin Media is able to set the MTR; and

(vi) The provision by Vodafone of a wholesale service to other Undertakings for the purpose of terminating incoming voice calls to Mobile Numbers (for which the rights of use have been granted by ComReg, or transferred from another Undertaking, in accordance with the stipulations set out in the Numbering Conditions of Use) in respect of which Vodafone is able to set the MTR.

4.3 The relevant geographic market for each of the 6 (six) product markets defined in section 4.2 above, corresponds to the geographic coverage of each individual Mobile Service Provider's network, which is national.

4.4 The Relevant Markets are more particularly described in Section 5 of ComReg Decision D10/19.

5 DESIGNATION OF MOBILE SERVICE PROVIDERS WITH SIGNIFICANT MARKET POWER ("SMP")

5.1 Pursuant to Regulation 25 and Regulation 27 of the Framework Regulations and taking the utmost account of the SMP Guidelines, having determined that the Relevant Markets are not effectively competitive, each of the following Mobile Service Providers is individually (and not collectively) designated as having SMP in relation to the Relevant Market on which that Mobile Service Provider operates:

(i) Lycamobile;

(ii) Meteor;

(iii) Tesco Mobile;

(iv) Three;

(v) Virgin Media; and

(vi) Vodafone.

PART II - SMP OBLIGATIONS IN RELATION TO SMP MOBILE SERVICE PROVIDERS (SECTIONS 6 TO 12 OF THE DECISION INSTRUMENT)

6 GENERAL PROVISIONS REGARDING SMP OBLIGATIONS

6.1 For the purposes of Part II of this Decision Instrument, each of the Mobile Service Providers identified at Sections 5.1(i) to 5.1(vi) above are referred to individually as the "SMP Mobile Service Provider" and collectively as the "SMP Mobile Service Providers".

6.2 For the purposes of this Decision Instrument, an SMP Obligation applies to an SMP Mobile Service Provider only insofar as, and to the extent that, such SMP Mobile Service Provider is operating on its Relevant Market.

7 SMP OBLIGATIONS IN RELATION TO MVCT

7.1 ComReg is imposing certain SMP Obligations on SMP Mobile Service Providers in accordance with and pursuant to Regulations 8, 9, 10, 12, and 13 of the Access Regulations, as detailed further in Sections 8 to 12 below.

8 OBLIGATIONS TO PROVIDE ACCESS

8.1 Pursuant to Regulation 12(1) of the Access Regulations, each SMP Mobile Service Provider shall meet all reasonable requests from other Undertakings for the provision of Access.

8.2 Without prejudice to the generality of the obligation in Section 8.1 and pursuant to Regulation 12(2) of the Access Regulations, each SMP Mobile Service Provider shall provide and grant Access to Undertakings to the following particular products, services and facilities:

(i) MVCT;

(ii) Associated Facilities.

8.3 Without prejudice to the generality of Sections 8.1 and 8.2, each SMP Mobile Service Provider shall:

(i) Pursuant to Regulation 12(2)(b) of the Access Regulations, negotiate in good faith with Undertakings requesting Access (including Access to MVCT and Associated Facilities);

(ii) Pursuant to Regulation 12(2)(c) of the Access Regulations, not withdraw Access (including Access to MVCT and Associated Facilities) already granted, without prior approval of ComReg and in accordance with terms and conditions as may be determined by ComReg; and

(iii) Pursuant to Regulation 12(2)(e) of the Access Regulations, grant open access to technical interfaces, protocols and other key technologies that are indispensable for the interoperability of services or virtual network services (including Access to MVCT and Associated Facilities).

9 CONDITIONS ATTACHED TO THE ACCESS OBLIGATIONS

9.1 Pursuant to Regulation 12(3) of the Access Regulations, each SMP Mobile Service Provider shall, in relation to the obligations set out under Section 8 above, grant Undertakings Access (including Access to MVCT and Associated Facilities) in a fair, reasonable and timely manner.

9.2 Where a request by an Undertaking for provision of Access (including Access to MVCT and Associated Facilities), or a request by an Undertaking for the provision of information in relation to such Access is refused or granted only in part by an SMP Mobile Service Provider, the SMP Mobile Service Provider shall, at the time of the refusal or partial grant, provide in detail to the Undertaking each of the objective reasons for such refusal or partial grant. A response to a request for Access (including Access to MVCT and Associated Facilities) shall be provided in a timely manner.

10 OBLIGATION OF NON-DISCRIMINATION

10.1 Pursuant to Regulation 10 of the Access Regulations, each SMP Mobile Service Provider shall have an obligation of non-discrimination in respect of the provision of Access (including Access to MVCT and Associated Facilities).

10.2 Without prejudice to the generality of Section 10.1, each SMP Mobile Service Provider shall:

(i) Apply equivalent conditions, including in respect of MTRs or other charges, in equivalent circumstances to other Undertakings requesting or being provided with Access (including Access to MVCT and Associated Facilities) or requesting or being provided with information in relation to such Access; and

(ii) Subject to the provisions of (iii) below, provide Access (including Access to MVCT and Associated Facilities) and information relating to such Access to all other Undertakings under the same conditions and of the same quality as the SMP Mobile Service Provider provides to itself or to its subsidiaries, affiliates or partners.

(iii) The obligation of non-discrimination outlined at (ii) above does not apply between termination rates for the self-supply of MVCT and termination rates charged for MVCT to other Undertakings. For the avoidance of doubt, in the case of self-supply, the non-discrimination obligations outlined at (ii) above apply to all other conditions other than price.

10.3 For the avoidance of any doubt, the obligations set out in this section, Section 10, apply irrespective of whether or not a specific request for Access (including Access to MVCT and Associated Facilities) or information in relation to such Access has been made by an Undertaking to the relevant SMP Mobile Service Provider.

11 OBLIGATION OF TRANSPARENCY

11.1 Each SMP Mobile Service Provider shall have an obligation of transparency as provided for by Regulation 9 of the Access Regulations in relation to Access (including Access to MVCT and Associated Facilities).

11.2 Without prejudice to the generality of the obligation in Section 11.1 of this Decision Instrument, pursuant to Regulation 9(2) of the Access Regulations, each SMP Mobile Service Provider shall make publicly available, and keep updated on its website, a RIO.

11.3 The RIO shall be sufficiently unbundled so as to ensure that Undertakings availing of Access (including Access to MVCT and Associated Facilities) are not required to pay for services or facilities which are not necessary for the Access requested.

11.4 Without prejudice to the generality of the obligations in Sections 11.1 and 11.2 of this Decision Instrument and in accordance with the obligations specified elsewhere in ComReg Decision D10/19, each SMP Mobile Service Provider shall ensure that its RIO includes at least the following:

(i) A description of the offer of contract for Access (including Access to MVCT and Associated Facilities) broken down into components according to market needs; and

(ii) A description of any associated contractual or other terms and conditions for Access (including Access to MVCT and Associated Facilities) including MTRs and other prices and charges; and

(iii) A description of the technical specifications and network characteristics of the Access (including Access to MVCT and Associated Facilities) being offered.

11.5 Virgin Media shall publish its RIO within 90 (ninety) calendar days of the Effective Date.

11.6 Without prejudice to the generality of the obligations in Section 11.1 to 11.4 of this Decision Instrument, pursuant to Regulation 9(1) and 9(4) of the Access Regulations, each SMP Mobile Service Provider shall make its MTRs publicly available and shall publish such MTRs in an easily accessible manner on its publicly available website. Each SMP Mobile Service Provider shall, unless otherwise agreed with ComReg:

(i) Publish a notice of its intention to amend its MTR(s) not less than 30 (thirty) calendar days in advance of the date on which any such amendment comes into effect. Such notice shall at least include a statement of the existing MTR(s), a description of the proposed new MTR(s) and the date on which such new MTR(s) are proposed to come into effect; and

(ii) Provide Undertakings with which it has entered into a contract in respect of Access, written notification of its intention to amend its MTR(s) not less than 30 (thirty) calendar days in advance of the date on which any such amendment comes into effect. Such notification shall at least include a statement of the existing MTR(s), a description of the proposed new MTR(s) and the date on which such new MTR(s) are proposed to come into effect.

(iii) Provide ComReg with written notification of its intention to amend its MTR(s) not less than 30 (thirty) calendar days in advance of the date on which any such amendments come into effect. At the time of such notification each SMP Mobile Service Provider shall furnish to ComReg a statement confirming that its proposed amended MTR(s) comply with Section 12 of this Decision Instrument.

11.7 Pursuant to Regulation 9(3) of the Access Regulations, ComReg may issue directions requiring an SMP Mobile Service Provider to make amendments to the RIO to give effect to obligations imposed in this Decision Instrument and to publish the RIO with such amendments, with or without complying with the applicable transparency timelines as ComReg may agree. In accordance with Regulation 18 of the Access Regulations, ComReg may issue directions to an SMP Mobile Service Provider from time to time requiring it to publish specified information, such as accounting information, technical specifications, network characteristics, prices, and terms and conditions for supply and use, including any conditions limiting access to or use of services and applications where such conditions are permitted by law.

12 OBLIGATION RELATING TO PRICE CONTROL

12.1 Pursuant to Regulation 13(1) of the Access Regulations, and subject to Section 12.2 and 12.3 of this Decision Instrument, each SMP Mobile Service Provider is subject to a cost-orientation obligation as regards MTRs and prices charged by that SMP Mobile Service Provider to any other Undertaking for Access to or use of those products, services or facilities referred to in Section 8 of this Decision Instrument.

12.2 The cost-orientation obligation imposed at Section 12.1 of this Decision Instrument, to the extent that it applies to MTRs, does not apply to calls originated outside of the EEA, unless the call is originated by a Subscriber of EEA Mobile Service Provider while roaming in non-EEA countries. Furthermore, the cost-orientation obligation imposed at Section 12.1 of this Decision Instrument, to the extent that it applies to MTRs, does not apply to calls originated inside of the EEA where the caller is a Subscriber of a non-EEA MSP who is roaming in the EEA.

12.3 Pursuant to Regulation 13(1) of the Access Regulations, the price control obligations, set out at Sections (i) to (iv) below, shall apply to MTRs in the Relevant Markets for calls originated outside of the EEA, unless the call is originated by a Subscriber of an EEA Mobile Service Provider while roaming in non-EEA countries. Furthermore, pursuant to Regulation 13(1) of the Access Regulations the price control obligations, set out at Sections (i) to (iv) below, shall apply to calls originated inside of the EEA where the caller is a Subscriber of a non-EEA MSP who is roaming in the EEA:

(i) Where the MTR charged by an non-EEA MSP is less than or equal to the Threshold EEA MTR, the SMP MSP shall not charge more than the Irish Regulated MTR to that non-EEA MSP as a MTR for the calls outlined in this section, Section 12.3.

(ii) Where the FTR charged by an non-EEA FSP is less than or equal to the Threshold EEA MTR, the SMP MSP shall not charge more than the Irish Regulated MTR to that non-EEA FSP as a MTR for the calls outlined in this section, Section 12.3.

(iii) Where the MTR charged by a non-EEA MSP is greater than the Threshold EEA MTR, an SMP MSP shall not charge more than the Maximum Allowable MTR A, to that non-EEA MSP for the calls outlined in Section 12.3.

(iv) Where the FTR charged by a non-EEA FSP is greater than the Threshold EEA FTR, an SMP MSP shall not charge more than the Maximum Allowable MTR B, to that non-EEA FSP for the calls outlined in Section 12.3.

PART III - OBLIGATIONS AND EFFECTIVE DATE (SECTIONS 13 TO 16 OF THE DECISION INSTRUMENT)

13 STATUTORY POWERS NOT AFFECTED

13.1 Nothing in this Decision Instrument shall operate to limit ComReg in the exercise and performance of its statutory powers or duties conferred on it from time to time under any applicable law (in force prior to or after the Effective Date of this Decision Instrument).

14 WITHDRAWAL OF SMP OBLIGATIONS

14.1 Pursuant to Regulations 8, 9, 10, 12 and 13 of the Access Regulations, the following Decision Instruments, and/or ComReg Documents and/or Decisions shall be withdrawn when Sections 4 to 13 (inclusive) of this Decision Instrument come into effect:

(i) ComReg Decision D11/12;

(ii) The Decision Instrument entitled, “Annex: 2 Decision Instrument: Mobile Voice Call Termination” of ComReg Decision D12/12 and the remainder of ComReg Decision D12/12;

(iii) ComReg Decision D02/16.

15 MAINTENANCE OF OBLIGATIONS

15.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in decision instruments, decision notices and directions made by ComReg applying to each SMP Mobile Service Provider and in force immediately prior to the Effective Date of this Decision Instrument, are continued in force by this Decision Instrument and each SMP Mobile Service Provider shall comply with same.

15.2 If any section, clause or provision or portion thereof contained in this Decision Instrument is found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that section, clause or provision or portion thereof shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining section(s), clause(s) or provision(s) or portion thereof of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument.

16 EFFECTIVE DATE

16.1 The Effective Date of this Decision Instrument shall be the date of its publication and notification to the SMP Mobile Service Provider and it shall remain in force until further notice by ComReg.

GARRETT BLANEY

CHAIRPERSON

THE COMMISSION FOR COMMUNICATIONS REGULATION

THE 23 DAY OF MAY 2019