

Implications of the COVID
19 crisis for the
communications sector
WACCs in Ireland

April 2020

Europe Economics Chancery House 53-64 Chancery Lane London WC2A IQU

Tel: (+44) (0) 20 7831 4717 Fax: (+44) (0) 20 7831 4515

www.europe-economics.com





Contents

Implications of the COVID-19 crisis for the communications sector WACCs in Ireland	
1.1 Scenarios	
GDP impacts during the scenarios	:
I.2 Implications for the WACC	
I.3 Evidence from the modified EC Notice method	
I.4 Recommendation to Comreg for how to proceed	ı

1 Implications of the COVID-19 crisis for the communications sector WACCs in Ireland

In this note we explain the implications of the ongoing crisis, arising from the spread of the novel coronavirus which causes the disease physicians refer to as COVID-19. The current situation changes very rapidly, so it should be noted that this note is current as of 6 April 2020.

In this note we shall consider four issues.

- 1. We shall sketch a series of three scenarios for the evolution and length of the coronavirus crisis.
- 2. We shall consider, in broad terms, what should be expected to happen to the communications sector WACC under these scenarios.
- 3. We shall set out the latest evidence as to the WACC under the modified version of the European Commission Notice methodology that we have deployed in our Final WACC report for Comreg.
- 4. We shall set out our recommendations to Comreg for the way forward on setting the WACC for the current price control period.

1.1 Scenarios

First, we set out a series of scenarios for the evolution of the COVID-19 crisis and its economic implications.

We shall set out high-level scenarios, including broad sense-of-scale macroeconomic impacts. Other sections of the report will consider impacts in specific areas (such as productivity or real input prices) under these scenarios. In our scenarios it is important to distinguish between the period of the health crisis and the period of economic impacts. In some of the scenarios economic impacts continue long after the initial health crisis is complete.

We consider three scenarios. We shall sometimes refer to them as the "first", "second" and "third" scenarios, reflecting the order in which we present them in later tables, but for explanatory purposes it will be most convenient to set out our first and third scenarios first, then move on to our second (which lies between the first and third).

"Shorter" scenario

In our Shorter scenario, after three months the health crisis is at an end and after 6 months almost all restrictions are lifted. Although there are some enduring social and organisational impacts (e.g. health spending may be a higher proportion of GDP), they are not relevant for the purposes of our analysis of impacts on the communications sector.

If one were producing scenarios for the purposes of pandemic medicines analysis rather than WACC analysis, one might include a further scenario: that governments withdraw Suppression, either by choice or because forced to do so by political or economic pressures, allowing the virus to spread rapidly. We do not consider that a useful scenario to consider for our WACC analysis purposes, because it is so clearly out of line with the policy of governments across the developed world and because the uncertainties associated with that scenario would be so wild as to not be helpful for our considerations here.

There are a range of potential interpretations of this scenario. We do not need to commit to any one interpretation for our purposes here, but some interpretations include:

- When large-scale testing is available, it transpires that a high percentage of the population has already contracted the novel coronavirus with few if any material medical effects.²
- A therapy is developed that allows almost all novel coronavirus patients to recover without entering the "severe" or "critical" phases.³
- Case management, case isolation and case tracking techniques akin to those used in East Asia are successfully deployed across the world.
- Within the next few weeks, in countries in Africa and Central and South America where Suppression4 is not applied (or applied only unsuccessfully) the virus spreads very rapidly and it emerges that fatality rates are much lower than currently thought or that the disease peaks at a much lower percentage of the population than OECD health officials are anticipating.

Under this scenario there is a large drop in GDP in the first three months, but a large portion of that is caught up subsequently once restrictions are lifted. By six months after the crisis began the only enduring impacts are those akin to the enduring impacts of the Hong Kong Flu pandemic of 1968.

"Extended" scenario

In this scenario health crisis restrictions apply over an 18 month period. This is sufficiently extended to create economic "scarring" – i.e. enduring impacts on productivity growth, investment, real input prices, the cost of capital and other parameters potentially relevant to Comreg – that tapers away only gradually even after the health crisis is complete. All scarring is gone by the end of the price control period (i.e. by mid-2025).

There are again a number of potential interpretations of this scenario, but the key feature is that the novel coronavirus continues to be regarded as too dangerous for governments to allow normal economic life to proceed (e.g. evidence from the less-controlled spread of the virus in other parts of the world does not support claims that current concerns about its risk are exaggerated) and successful vaccines or therapies take some time to be developed and ready for widespread use (18 months).

During this 18 month period we assume governments apply the following policy. Strict Suppression rules are applied for periods where the spread of novel coronavirus cases has reached a level where if it continues HSE capacity to treat novel coronavirus patients risk being overwhelmed. When the number of cases falls back sufficiently, Suppression rules are relaxed until the spread accelerates again to a level where, if unchecked, HSE capacity would again be overwhelmed, whereupon Suppression is once again applied. Since under this scenario the number of cases rises up rapidly then falls back before rising rapidly, such that if plotted on a graph they would resemble the teeth of a saw, this policy is referred to as the Sawtooth.5

In the Imperial College paper the Sawtooth is initially expected to take the form of two months Suppression followed by one month of relaxation. However, it is anticipated that over time health system resources will

This would, for example, be consistent with the scenario set out in the widely-reported study published on 25 March 2020, which suggested it is possible that half the UK population has already contracted the novel coronavirus with few ill effects. https://www.ft.com/content/5ff6469a-6dd8-11ea-89df-41bea055720b

For example, the US announced on 25 March that it is engaging in a large-scale trail of a range of novel coronavirus therapies in New York. https://abcnews.go.com/Politics/clinical-trials-coronavirus-treatments-begin-york/story?id=69777957

⁴ Suppression is defined as the government mandating of social distancing and requiring of people to stay in their homes for all non-essential purposes.

We note that as of 6 April, Denmark has announced that its first easing of lockdown restrictions will occur on the 13th of April and Austria plans to ease restrictions on the 14th. Both countries say they will tighten restrictions again in the event there is further spread. This suggests a Sawtooth process is already under way.

increase to allow relaxation periods to be extended. It is also possible that, over time, case management and some limited therapies may allow a lower proportion of cases to require the most intensive hospital care.

Accordingly, we assume that for the first nine months the Sawtooth takes the form of two months on, one month off, then for the following nine months it takes the form of one month on, one month off.

"Medium" scenario

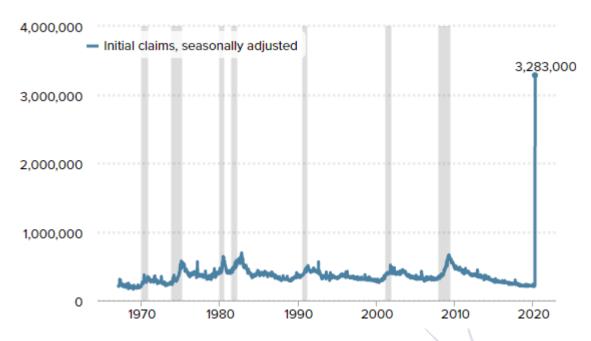
The Medium scenario is a shorter and more moderate version of the Extended scenario. In this case the health crisis (and thus Sawtooth) lasts for one year, and economic scarring is less and fades away more rapidly, with all effects relevant to the communications sector fully dissipated by the end of March 2023.

The Sawtooth in this scenario is again two months on, one month off for the first nine months, then one month on one month off for the final three months. That final three months would therefore include two months of Suppression and one month of relaxation. However, we assume that the month following the end of the health crisis is like a relaxation month during the health crisis (see below for the implications of this).

GDP impacts during the scenarios

GDP impacts during the period of shutdown are expected to be extremely large – indeed unprecedentedly so. The very earliest data supports this. On 26 March 2020 the US published its latest jobs data.

Figure 1: Initial weekly US unemployment claims



Source: US Employment and Training Administration, ICSA, 26 March 2020 Note: Gray periods are recessions

- 3 -

A week later the additional impact was twice this -6.6m. That means 10m Americans filed for unemployment in a period of two weeks.

A rough figure being widely used in casual commentary is a 20 per cent contraction in GDP in the first quarter. Some go further. For example, JP Morgan forecast 14 per cent in the second quarter in the US, 22 per cent contraction in the Eurozone, and 30 per cent for the UK.⁶

Europe Economics has analysed data on the economic sectors most affected in the UK (e.g. restaurants and aviation affected negatively, but communications and medical devices affected positively) and considered scenarios for their likely level of contraction or expansion. We estimate first-round effects to equate to a contraction of GDP of around 11 per cent of GDP.

The next question is what indirect and induced effects there could be upon the broader economy from lost output in these sectors. The usual techniques for analysing this would be either to use whole-economy multipliers or to use input-output modelling. If the period of Suppression were short (e.g. three months, as in our Shorter scenario), such input-output modelling might give a greater exaggerated indication of impacts, since input-output tables reflect the full pass-through of effects over time and in a shortened health crisis there might be some catch-up after the crisis was complete. Furthermore, in a shortened crisis the spillover effects into other sectors could also be reduced by factors such as rent payments or fixed cost payments for services such as electricity or cleaning contracts being kept in place. In a more extended crisis we should therefore expect that multiplier effects will be larger.

An extended crisis might also involve larger impacts through international effects on trade. Sovereign defaults in countries very seriously affected by death and sickness or by the economic impacts of Suppression could trigger banking sector problems and wider economic turmoil. Domestically there could also be discontinuities in an extended crisis (e.g. a large domestic financial institution going bankrupt).

In our view, the uncertainties here are sufficiently high that attempts at a very exact estimate are not likely to be robust and would involve false precision. Further, for our purposes it would not be proportionate to attempt highly precise estimates in any event. Accordingly, we shall assume that effects of Suppression are as follows.

- Under the Shorter scenario, a loss of GDP equivalent to 10 per cent over three months, made up of a loss larger than this during those three months followed by some catch-up later.
- Under the Medium and Extended scenarios, a loss of GDP of 10 to 20 per cent during periods of Suppression.

In the periods of the Sawtooth in which Suppression is relaxed, we assume assets are used more intensively than would have been normal in the past, so as to catch up with lost output and demand. For example, manufacturing operations that had been mothballed during Suppression might be run on double or triple shifts. Coffee shops and luxury retailers that had had to shut down during Suppression might put on extra staff and have very high demand from people taking the opportunity to go out whilst they can do so.

We assume that the net effect of this more intensive use of otherwise-idle assets is that the 10 to 20 per cent of the economy that becomes unused during Suppression parts of the Sawtooth runs, instead, at an additional one third of output during relaxation months.⁷

https://edition.cnn.com/2020/03/19/investing/premarket-stocks/index.html
It is perhaps worth remarking that the JP Morgan prediction for the US already looks far too optimistic. It forecast unemployment would reach 6.5 per cent in the second quarter, but it already exceeded 13 per cent after two weeks.

There is an imperfect parallel, but for a highly indicative sense of scale we note that DixonsCarphone reported that, in the three weeks before the UK introduced its prohibition on all non-essential social contact, demand was up 35 per cent. https://www.retailgazette.co.uk/blog/2020/03/dixons-carphone-online-sales-soar-but-warns-on-missing-profit-forecasts/

The overall effect of this is as follows.

- In the Medium scenario, over nine months GDP is 10 to 20 per cent lower for two thirds of the time and 3.33 to 6.66 per cent higher for one third of the time, and over 3 months GDP is 10 to 20 per cent lower half the time and 3.33 to 6.66 per cent higher for half the time. The aggregate effect over the year is that GDP is 5 to 10 per cent down over the year.
- In the Extended scenario, over the first nine months GDP is 10 to 20 per cent lower for two thirds of the time and 3.33 to 6.66 per cent higher for one third of the time, and over the following nine months GDP is 10 to 20 per cent lower half the time and 3.33 to 6.66 per cent higher for half the time. The aggregate effect on GDP is that it is 5 to 10 per cent lower in the first year, then 3.33 to 6.67 per cent lower during the following six months.

1.2 Implications for the WACC

In all scenarios the contraction in GDP in the current quarter is unprecedented, and even the figures quoted above may prove to be markedly too optimistic. The next issue is what this implies for the communications sector WACC in Ireland.

First, under the shorter scenario we assume that the economy recovers rapidly after the period of disruption. Although there are considerable social implications, implications for the future of health expenditure (raised) and international travel (cut) and for international trade with China (less), even under this scenario, we assume there are no enduring impacts on the WACC. That is to say, we assume that the WACC estimated in our Final WACC report is the WACC most relevant to use for the Irish communications sector, until the time of the Annual WACC review report in 2021.

It could be that the WACC is changed even under the shorter scenario. But on the other hand it could be that the WACC would have been changed over the year by other factors even if the coronavirus crisis had never occurred. The Annual Review process should provide an opportunity to update the WACC estimates and is the correct process in this case.

Next, we move to consider what we should assume about the WACC under the scenarios where the crisis becomes more extended.

1.2.1 Risk-free rate

First, let us consider implications for bond yields (noting that the EC Notice method treats the risk-free rate as an observed asset yield based on government bonds). Governments will be borrowing gargantuan sums against the future, to aid their economies through this period. Enormous stimulus packages have already been announced in multiple countries, but if the crisis is prolonged that will be only the beginning. That will be happening all over the world, and competition for funds may bid up returns.

A further consideration is that many analysts have argued that negative bond yields have been a consequence of the savings behaviour of populations in response to extended longevity. It is plausible that in an extended scenario savers in, say, their 50s may feel less certain than in the past that they will have opportunities for consumption in their later life and hence be more inclined to spend the money earlier. If, as it were, one believes there is a higher risk that once you become 75 or 80 you will be kept isolated in your own home to keep you safe from dread diseases, one will not have the same expectation of being able to spend money on late-life cruises and so one may not save as much up.

We note that this assumption of elevated GDP half the time reflects our assumption that the first month following the end of the Sawtooth has GDP elevated by the same amount as would have happened during a Relaxation period in the Sawtooth.

On the other hand, perhaps the dominant effect might be an increase in savings as people believe they need to set more aside, in relatively liquid forms, to be available to spend in disaster periods when cash is required (eg a lockdown). Increased savings could increase demand for bonds as a location for keeping money, bidding yields down.

Furthermore, governments around the world may respond to this crisis as they did to the banking crisis in 2008/09, by cutting interest rates and providing additional quantitative easing. Their scope for interest rate cuts is now admittedly very limited and quantitative easing may not have the anticipated effect on yields. It might, for example, bid up yields as people fear inflation. But there is some chance that, as in the period 2008 onwards, the net effect is to take yields down.

Our view is that this is less likely in the case of an extended coronavirus depression. The reason is that whilst the Great Recession following the 2008/09 crisis was largely a demand and future profitability expectations recession, the Coronavirus Depression will be of a very different nature, being more of a supply- than a demand shock. The key factor in this case is the combination of a reduction in labour (only around 35 per cent of workers can work from home, and may of them are dependent upon workers who are not working from home – eg an accountant for a construction firm may be able to work from home but her job will have purpose only if there are construction workers outside) and reduction in capital (eg idle restaurants; idle factories).

A further factor affecting the nominal risk-free rate is the outlook for inflation. Inflation will surely change, though how is less clear. A huge recession will mean crashes in prices for goods in existing inflation baskets, but the basket itself will change radically if a large share of the population spends extended periods homebound over a year or two, and prices of goods in the new basket will probably rise.

As to the impact of these events upon the underlying growth rate of the economy, and hence the risk-free rate under the Comreg 2014 method, that is highly unclear. It is far from implausible that there is actually a step change in the economy whereby a significant portion of GDP is simply deleted, whereafter the economy grows more rapidly than before as innovators rapidly explore the possibilities of new technology in the "unploughed field" of a new world. There could be much low-hanging fruit and much stronger incentives to take up various new technologies associated with this scenario more quickly than would have been the case in the pre-coronavirus world.

On the other hand, the step change could imply that the structural relationships between the risk-free rate of return and the medium-term growth rate (the 0.7 factor in our models) no longer applies. The number could be higher or lower. Much is uncertain and we as yet lack the data or even the certainty as to what scenario we are in for it to be productive to attempt to quantify these effects in any detail.

Overall, the impact on the risk-free rate is ambiguous, but the risk lies to the downside (ie a drop is more likely than a rise).

1.2.2 Total Market Return

Impacts on the Total Market Return are highly uncertain. In an economy there is a production function using capital and labour. The cost of capital is the marginal return to capital. The production function might take a form such as $K^aL^{(1-a)}$ where K is the capital stock, L is the labour stock and a is the share of capital in output. Whatever the specific form, capital and labour are complements. Returns to labour rise if the capital stock rises with the labour stock constant and returns to capital rise if the labour stock rises with the capital stock constant.

Now, a long-lived quarantine essentially deletes a large portion of capital from the economy. Airports, planes, roads, manufacturing plant and equipment, restaurants, theatres and large amounts of other vested capital are suddenly removed from the production function. There may also be some reduction in the labour stock

(eg workers that are unable to do anything productive from home). So it is not altogether clear whether the proportionate reduction in capital or in labour is bigger.

Suppose the drop in capital is bigger. If we focus upon realised average returns for the pre-quarantine capital stock, they will obviously fall. But that is because we are averaging across capital still within the productive capital stock and capital that is now idle and unproductive. But the deleted capital will not affect marginal returns to newly invested capital and hence not affect the cost of capital. Marginal returns will depend upon the deployed (as opposed to idle or deleted) capital stock. And if the deployed capital stock has fallen by more than the labour stock, then (ceteris paribus - which it is very much not) marginal returns to deployed capital will rise.

A further issue concerns the outlook for the idle capital to re-enter the capital stock and the time horizon of any new investment at this elevated cost of capital. It could be that there is a continual "risk" that the idle capital re-enters the capital stock (eg a vaccine is invented). At that point, investments that were specific to the quarantine scenario would see their value drop dramatically. That may mean that they require very high returns in order to (financially) justify investment. To make this more concrete, if we invest in a huge increase in hand sanitisers, in ventilators and in automatic fever sensors on supermarket doors (to stop anyone entering with a fever), if the quarantine were to end suddenly, the value of all these items would crash. So perhaps they need to be delivering high returns in the meantime, in order to justify the investment. If enough of the economy falls under that condition, that could raise the TMR (interpreted as the ex ante expected or required return on new investment).

A further possibility arises because this crisis has very different impacts on different parts of the economy. Some parts are almost entirely eliminated (eg restaurants); others flourish. Perhaps this crisis might cause investors, even after the crisis, to take the view that committing too much into any one part of the economy is riskier than previously thought, and that there is a benefit in maintaining liquidity and flexibility with a greater part of an investment portfolio, so as to put more into those sectors that are going to flourish and so as not to suffer as much by being committed into sectors that suffer, when future crises occur. That could raise equity risk.

One further point to note is that the coronavirus might increase the likelihood that not trade agreement is agreed between the UK and EU by the end of 2020, and thus that the UK ends the transition period with no agreement in place, with possible implications for Ireland's growth rate.

Overall, we consider the impact on the TMR to be ambiguous. Non-trivial falls and non-trivial rises are both plausible.

1.2.3 Gearing and Beta

The natural first expectation is that gearing will rise, as share prices in general fall precipitously in the early phase of such a crisis. But this may not be the end of the story – especially for the communications sector. Communications could be amongst those sectors that gain from these events. Although there is some loss on supply to offices, that is likely to be partially made up by additional home supply. And although a large recession would ordinarily be associated with a drop in pay-TV or online gaming (which might be regarded as a luxuries), in this particular recession pay-TV and online gaming (with its attendant high demands upon broadband capacity) are among the limited set of products available for people to use in the home.

Impacts are made particularly complex by the lumpy nature of changes. According to recent studies, only just over a third of workers in developed economies are able to work from home. Even some of those are likely to be providing work for workers outside the home (eg accountancy services or bid-writing for construction firms). These workers may increase their purchases of home-based communications services. But a large portion of other workers will be furloughed. They may have their salaries supported for a time, but if they are not able to work then in due course even their purchases of home-based activities may fall. New

techniques may be developed to allow more of these workers outside or increase the scope for them to work from home. And they may work very intensively in the more relaxed phases of the Sawtooth. But impacts could still be large.

A further point is that in this new economy, online activities may play an even larger part in the economy than what was already a rapidly-growing role before. That itself could mathematically tend to raise beta. Furthermore, in such an economy there would be likely to be a more intense connection between economic activity in general and use of communications services in particular, raising the beta.

Our overall expectation is that the beta of the communications sector will rise, but we believe there is a wide range, at this stage, as to by how much, even if one were confident as to the scenario.

1.2.4 Cost of debt

If the risk-free rate falls, that will tend to drag down the cost of debt for a given debt premium. But in an extended scenario for the coronavirus crisis, it is very likely that there will eventually be some form of debt or broader financial sector crisis. Such crises have in the past had a very large impact on the communications sector cost of debt.

We do not consider the post-2008/09 Great Recession a particularly close analogue for the coronavirus depression overall, but the debt crisis phases of the Great Recession provide us with a sense of scale as to what might happen in debt crisis phases of the coronavirus depression.

In the following chart we set out the debt premium for the Thomson Reuters 10yr Telecom bonds (BBB) versus the EU 10yr Benchmark over time.



Figure 2: Thomson Reuters 10yr Telecom bonds (BBB) versus the EU 10yr Benchmark

We see here that in 2006 to 2007 the debt premium for telecom BBB bonds was about I per cent. Then in 2008 it rose to about 2 per cent and stayed at that level, with various further spikes we shall discuss, until 2013. There was one brief spike to around 3 per cent in early 2008, then a large spike to around 5 per cent at the peak of the 2008 financial crisis, dropping back to around 4 per cent until mid-2009, whereafter it dropped back to around 2 per cent again before spiking back to 3 per cent in 2011 during the crisis that followed the downgrading of US sovereign debt in the summer of 2011. From 2013 onwards the debt premium has varied mainly in the I to $1\sqrt[3]{4}$ per cent range.

Similar effects might raise the cost of debt markedly, if and when they occur. One important point to note is that the timing could be very difficult to predict.

1.3 Evidence from the modified EC Notice method

For this note it has not been feasible to update the Comreg 2014 method with data. More elaborate techniques could be deployed to re-assess the various parameters, but for the exercise required in this case that is not proportionate and it would, in any event, produce results that were highly scenario-dependent and even then ambiguous, until the crisis has progressed far enough for us to have a more robust data base from which to assess impacts.

The modified EC Notice method, being more straightforwardly a reflection of current market data, can be updated to the end of March 2020. The method uses averages over 5 years for many variables and hence is only slowly affected by events even as large as the coronavirus crisis, since the latter so far affects only one month of data. We can illustrate that in the table below.

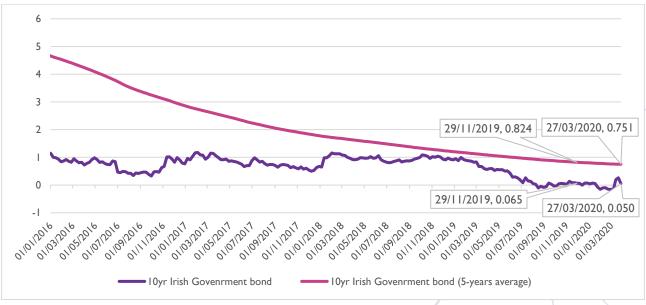
Table I: Building blocks of WACC, Fixed Line, modified EC Notice Method

	Point estimate, Nov-2019	Point estimate, Mar-2020
Real risk-free rate	-0.86%	-0.93%
Inflation	1.70%	1.70%
Nominal risk-free rate	0.824%	0.751%
Real TMR	6.35%	6.35%
ERP	7.21%	7.28%
Asset beta	0.48	0.51
Notional gearing	40%	40%
Equity beta	0.80	0.85
Nominal cost of equity (post-tax)	6.59%	6.94%
Debt premium	0.62%	0.65%
Cost of debt	I. 44 %	1.40%

When comparing the November 2019 figures to the March 2020 figures we note the following:

• The rise in the cost of equity is driven entirely by the rise in asset beta (the risk-free rate has decreased but not by enough to compensate for the rise in beta). Also, the rise in beta would be much more marked if betas were estimated on a shorter time window (e.g. 2-years).

Figure 3: Weekly nominal yield and 5-year average nominal yield of 10-year Irish government bonds



Source: Thomson Reuters and Europe Economics' calculations.

0.58
0.56
0.54
0.52
0.5
0.5
0.48
0.46
0.44
0.42
0.4
0.42
0.4
0.42
0.4
Weighted average (Mobile)
Weighted average (Fixed-line)

Figure 4: Weighted average 5-year weekly unlevered betas for the mobile and fixed-line sectors

Source: Thomson Reuters, companies' annual reports, and Europe Economics' calculations

• The debt premium has increased but the overall cost of debt is lower due to the lower risk-free rate. Under the EC approach the rise in debt premium is modest (3 basis points). This is the case because the debt premium is calculated as the average spread over the last five years. However, the rise in the debt premium based on spot figures is much larger (ie an increase of around 80 basis points in March 2020 – note our discussion above).



Figure 1.5: Spread of Thomson Reuters non-financial indices versus 10-year German government bond

Source: Thomson Reuters and Europe Economics calculation

As we can see the spread of Thompson Reuters non-financial indices at the end of March 2020 are 1.83 per cent (A) and 2.34 per cent (BBB). The values in November 2019 were 1.04 per cent (A), and 1.16 per cent.

The following chart illustrates how much the EC Notice method dampens the recent movement in the spreads for bonds.



Figure 6: 5-year average spreads of telecom operators' bonds (bps)

Source: Thomson Reuters and Europe Economics calculations.

1.4 Recommendation to Comreg for how to proceed

In our view the impacts of the coronavirus crisis upon the WACC are uncertain and highly dependent upon which scenario plays out. We emphasize one thing in particular: In our view the cost of capital which we estimated in our Final WACC Report is likely to be a better estimate of the WACC for the coronavirus period than the 2014 Decision WACC. That is to say, even if the WACC in our Final Report proves incorrect, it would be better to adopt that as the WACC than to leave the WACC unchanged from the 2014 Decision.

Comreg's process involves the potential for updating the WACC at annual reviews. In our view, by the time of an annual review in early 2021, there would be much more data available allowing a proper recalculation of the WACC and re-pricing of communications services in Ireland in the light of that new WACC.

However, we emphasize that that review is likely to require a much more extensive new analysis than simply the mechanical data update that was envisaged in Comreg's May 2019 Consultation process.

We would propose that Comreg should set prices on the basis of our Final WACC Report WACC for now, leaving open the possibility of a material change in a review in early 2021. We suggest that the situation is sufficiently dynamic that the date of that early 2021 review could be brought forward into late 2020 if required.