Review of Weighted Average Cost of Capital (WACC) – Response to Consultation and Final Decision

Mobile Telecommunications

Fixed Line Telecommunications

Broadcasting Transmission

Decision – D10/20

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Redacted Information

Please note that this is a confidential version of the Review of Weighted Average Cost of Capital (WACC) Response to Consultation and Decision. Certain information within this document has been marked for redaction for reasons of confidentiality and commercial sensitivity, indicated by the symbol ✂ and where the opening square bracket symbol [is used to indicate the start of confidential information and the closing square bracket symbol] indicates where that confidential information ends.

Content

Annex

Tables

Section **Page**

Figures

Section **Page**

1 Introduction

1.1 ComReg is the national regulatory authority (‘**NRA**’) for the electronic communications sector in Ireland. As the NRA, ComReg is tasked under the European regulatory framework for electronic communications with reviewing electronic communications markets and where ComReg finds that relevant markets are not competitive, with imposing obligations on operators found to have significant market power (‘**SMP**’). Obligations which ComReg may impose include price controls including obligations to charge cost-oriented prices.

1.2 A cost-oriented price includes a reasonable rate of return on investment. To that purpose ComReg estimates the Weighted Average Cost of Capital (‘**WACC**’) where the weightings are based on the costs and amounts of equity and debt capital.

1.3 Simply put, the WACC measures a company’s cost of capital, that is, the opportunity cost of making a specific investment instead of a different investment with the same level of risk. The WACC reflects the return that investors expect to achieve in financial markets at the same level of risk as in the undertaking seeking funding. It reflects the returns investors expect rather than compensating them for historical investment decisions.

1.4 An appropriate WACC is an important element in the regulatory process as the WACC is central to the regulated price-setting process. As such, it has an important impact on a regulated undertaking’s investment incentives, as well as the overall competitive process, and ultimately end prices for consumers. In particular, the WACC plays an important role by setting the reasonable return allowed to SMP operators in respect of regulated products, thereby protecting existing and future levels of competition in wholesale and retail markets, protecting consumers, and promoting efficient network investment by SMP operators and other operators.

1.5 The WACC to apply in price controls for SMP operators was last set by ComReg in 2014[1] and needed to be reviewed in order to ensure that its value remains at a level that is appropriate in light of ComReg’s statutory objectives and of regulatory requirements, namely:

- Under Section 12 of the Communications Regulation Act 2002, as amended (the ‘**Act**’), to promote competition; to contribute to the development of the internal market; and to promote the interests of users within the Community.

[1] Cost of Capital: Mobile Telecommunications – Fixed Line Telecommunications – Broadcasting (Market A and Market B) – Response to Consultation and Decision, ComReg Document 14/136, ComReg Decision D15/14 (the “2014 Decision”).

- Under Section 16(2)(d) of the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (the '**Framework Regulations**'), amongst other things, the promotion of efficient investment and innovation in new and enhanced infrastructures, applying objective, transparent, non-discriminatory and proportionate regulatory principles.

- The requirement under Regulation 13(2) of the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (the '**Access Regulations**') *"[t]o encourage investments by the operator, including in next generation networks, … take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project."*

1.6 In particular, ComReg is mindful of the need to ensure that the WACC is at a level that is appropriate to promote a favourable climate for efficient and timely investment and to promote innovation in telecommunications and broadcasting infrastructure and services in Ireland. A WACC rate that is set too low could make future investment unattractive to investors. Similarly, a WACC that is too high would allow a regulated company to earn excessive returns at the expense of its wholesale and retail customers while also potentially distorting pricing signals to investors.

1.7 It is important that regulated returns reflect the risks that companies face in making investments and that the relevant WACC encourages future efficient investment in telecommunications and broadcasting infrastructure in Ireland. It is therefore important to take into account current market conditions and also any potential developments over the period of the review. However, it is also important to note that ComReg does not have an obligation to ensure financeability[2]. Financeability concerns are not among the factors that ComReg has considered when selecting the most appropriate approach to the estimation of the WACC[3].

1.8 ComReg is also mindful of the economic upheaval caused by Covid-19 and the possibility of additional upheaval in the event of a no-deal BREXIT if trade negotiations between the European Union and Great Britain prove to be inconclusive. However, despite the immediate recessionary impact of

[2] Where financeability is a regulatory obligation, "the regulator assesses whether an efficient company's revenues, profits and cash flows, forecast using the outputs from the regulatory decision process, would enable that company to access the financial markets at reasonable cost". See section 3 of "Financeability Assessment of the Draft Price Determination in relation to Dublin Airport – The Commission for Aviation Regulation", October 2019, Centrus

[3] See section 2.14 of the Consultation

Covid-19 which would be exacerbated by a no-deal BREXIT, the final outcome of both events is largely unknown. Prior to March 2020 the financial data available to ComReg indicated a downward trajectory in WACC values. The forecast data and underlying assumptions from March 2020 onwards tend to be heavily caveated.

1.9 ComReg is, therefore, of the view that the WACC values should be based on data prior to March 2020, mainly to Q4 2019[4]. ComReg will implement annual updates to the WACC (discussed in Chapter 7). These annual updates will capture any movements in the underlying parameters caused by Covid-19 and, should it occur, a no-deal BREXIT.

1.10 This response document (the "**Response to Consultation**") sets out ComReg's final decision as regards the WACC to apply in three sectors namely:

- Fixed line telecommunications;
- Broadcasting; and
- Mobile telecommunications.

1.11 This Response to Consultation follows on from ComReg Document No. 19/54[5] ('**the Consultation**'). The Consultation, accompanied by a Report ('**the Europe Economics Technical Report**') prepared by Europe Economic Research Limited ('**Europe Economics**'),[6] was issued on 31 May 2019 and following an extension, closed on 13 August 2019. Responses were received from eight operators to the Consultation:

- Alternative Operators in the Communications Market ('**ALTO**')
- Eircom Limited ('**Eircom**');
- National Broadband Ireland Infrastructure Limited ('**NBI**');
- Raidió Teilifís Éireann ('**RTÉ**');
- RTÉ Transmission Network Designated Activity Company ('**2rn**');
- Sky Subscribers Services Limited ('**Sky**');
- Three Ireland (Hutchison) Limited ('**Three**'); and
- Vodafone Ireland Limited ('**Vodafone**').

[4] See section 1 Europe Economics Covid 19 report – Note is current to 6 April 2020.
[5] https://www.comreg.ie/publication/review-of-the-weighted-average-cost-of-capital/
[6] Annex 8 to the Consultation, *"Cost of capital for Mobile Termination Rates, Fixed-Line, and Broadcasting Price Controls",* May 2019 ('**Europe Economics Technical Report**').

1.12 Further submissions were received from some of the operators after the closing date of the Consultation but before ComReg notified the European Commission ("EC") and then after ComReg received its comments letter back from the EC. A full list of submissions received is contained in Annex: 8.

1.13 This Response to Consultation takes into consideration all of the submissions received. It also takes into consideration, as set out in Annex 9, the further submissions and comments received after notification of the draft decision to the European Commission[7] ('**Draft Decision'**) from ALTO, Eircom, BT and Sky, as well as submissions by Sky of 5 May 2020 which Sky said on 10 July 2020 were relevant in part to ComReg's proposed WACC decision. The relevant sections from that submission have been considered in this Response to Consultation[8].

1.14 ComReg also has had regard to the European Commission's Notice published on 5 November 2019 on the calculation of the cost of capital for legacy infrastructure in the context of the Commission's review of national notifications in the EU electronic communications sector[9] (the '**Commission Notice**') and the accompanying Staff Working Document (the '**Staff Working Document**'). ComReg noted in its Draft Decision , however, that in accordance with paragraph 71 of the Commission Notice, the European Commission would not assess the WACC calculation notified by NRAs by reference to the methodology set out in the Commission Notice until 1 July 2020 at the earliest.

1.15 This Response to Consultation also benefitted from further input received from Europe Economics, set out in the Report entitled "*The Cost of Capital for the Irish Communications Sector – Final Report"* ('**Europe Economics Final Report**'[10]). Europe Economics Final Report takes into consideration the views expressed by respondents to the Consultation, the Commission Notice and Staff Working Document, and also uses updated market data (with a cut-off date of Q4 2019). Europe Economics also provided ComReg with an assessment of the possible impact of Covid 19 on the various WACC parameters ("the **Covid 19 report**").

1.16 For comparative purposes and to ensure consistency in its own analysis, ComReg considered data from other regulated sectors in Ireland, data from other European countries and, where considered necessary, data from countries outside of Europe. ComReg and Europe Economics also had regard to reports published by the Body of European Regulators for

[7] ComReg notified its draft decision to the European Commission on June 10th, 2020, case IE/2020/2250

[8] ComReg received a document from Sky on 5 May 2020 entitled "Analysis of Eircom's wholesale fixed access regulated prices, costs and returns"

[9] OJEU 2019/C 375/01.

[10] Issued May 2020.

Electronic Communications ('**BEREC**') comparing the methodologies in calculating WACCs across Member States, including its most recent report published in December 2019.

1.17 In arriving at its conclusions, ComReg has, in accordance with its relevant statutory obligations: notified the European Commission ('**EC**'), BEREC, and other NRAs regarding the measures it proposes to take. On July 9th, 2020 the EC issued its response to ComReg (the '**EC Response**[11]'), in which it commented on the approach to setting the WACC, as further set out in Annex: 5.

1.18 In arriving at the positions set out in this Response to Consultation, ComReg has taken utmost account of the EC's comments. ComReg's consideration of the EC's comments is set out in Annex: 6 and elsewhere throughout this Response to Consultation, as appropriate.

1.19 ComReg notes that the availability of reliable data is paramount in setting the WACC. ComReg is mindful that the WACC it sets is based on a best estimate, even with the availability of good quality data. As the WACC is effectively formulated based on historical data (with consideration given to likely future trends), ComReg acknowledges that there is a risk that the actual outturn of the various WACC components may be different to what is currently expected. ComReg has attempted to minimise this risk insofar as it is possible by basing its approach on international precedent and availing of reliable comparable data.

1.20 In calculating the respective WACCs ComReg has chosen a point estimate from within a range for each of the parameters. This is based on a forward-looking assessment of the available data.

1.21 This Response to Consultation sets out the WACCs to be used as follows:

- As a key input into price controls for Eircom in respect of the markets where Eircom has been designated with SMP[12];

- As an input, when required, into cost models that are used for the purpose of price controls applicable to mobile service providers ('**MSP**') and fixed service providers ('**FSP**');

[11] Commission Comments letter C(2020) 4837 adopted on 9.7.2020 in case IE-2020-2250. Courtesy copy received by ComReg by email on 10.7.2020

[12] At present, Eircom is designated with SMP in respect of Wholesale Call Origination on the Public Telephone Network Provided at a Fixed Location (ComReg Decision D05/15); Wholesale high-quality access provided at a fixed location (ComReg Decision D03/20); Retail Access to the Public Telephone Network at a Fixed Location (ComReg Decision D12/14); Wholesale Local Access provided at a Fixed Location (ComReg Decision D10/18); Wholesale Central Access provided at a Fixed Location for Mass-Market Products (ComReg Decision D10/18).

- As a key input into price controls for broadcasters 2rn and RTÉ in broadcasting transmission services markets where they have been designated with SMP;[13] and

- As part of ComReg's assessment of whether the net cost of any Universal Service obligation represents an unfair burden, in the context of any funding application received from the Universal Service Provider(s).

1.22 This Response to Consultation, discussing the Cost of Equity (Chapter 4) and the Cost of Debt (Chapter 5), determines the values for the parameters that are generic or common to all sectors, and those that are sector specific. Within these chapters ComReg explains its final position on the individual parameters used in the calculation of the WACC and based on this analysis the appropriate range for each WACC.

1.23 ComReg then determines a specific WACC for each of the fixed, broadcasting and mobile sectors (Chapter 6).

1.24 BEREC published its report on "WACC parameter calculations according to the European Commission's WACC Notice of 7th November 2019" on June 29th, 2020[14]. ComReg has considered the WACC parameters reported by BEREC in this Response to Consultation. The WACC parameters in the BEREC report are based on data up to March 31st, 2020. This compares with ComReg's estimates mainly being based on data up to Quarter 4 2019. For comparison purposes ComReg has estimated the WACC based on the BEREC report in Annex 6 – Section A 6.6. The value based on the BEREC report is compared to a value submitted to the EC as part of its request for information of 4.49% and 4.05% respectively.

1.25 In the Consultation, as well as consulting on the estimated WACCs for the three sectors, ComReg consulted on several issues that it considers have become particularly relevant since the last review in 2014[15]. These included:

- Should the effective tax rate or statutory tax rate be used for calculating the WACC[16];

- Whether or not the continued use of "aiming-up" is appropriate[17];

- Implementation of new WACCs[18];

[13] ComReg Document No. 13/71.
[14] BEREC BoR (20) 116
[15] ComReg Document No. 14/136 Cost of Capital.
[16] See paragraph 4.30 of the Consultation.
[17] See paragraph 8.6 of the Consultation.
[18] See paragraph 8.13 of the Consultation.

- Frequency of WACC reviews[19]; and
- Should there be differentiated WACCs within the fixed line telecommunications sector[20].

1.26 This document is structured as follows:

- **Chapter 2** is the Executive Summary.
- **Chapter 3** sets out ComReg's general approach to the estimation of WACC vis-à-vis the equilibrium approach and the observed asset approach.
- **Chapter 4** considers the Cost of Equity.
- **Chapter 5** considers the Cost of Debt.
- **Chapter 6** sets the Final WACC values.
- **Chapter 7** discusses the implementation and other matters.
- **Annex: 1** includes the Decision Instrument.
- **Annex: 2** – Legal Basis.
- **Annex: 3** – Comparison of WACC parameters (2014 & 2020)
- **Annex: 4** – Europe Economics' Reports
- **Annex: 5** - EC Response to ComReg's Notified Draft Measures
- **Annex: 6** - Consideration of EC Comments
- **Annex: 7** – Fixed Line Comparators
- **Annex: 8** – List of submissions received
- **Annex: 9** – Submissions made following the receipt of comments from the EC

[19] See paragraph 8.4 of the Consultation.
[20] See paragraph 8.34 of the Consultation.

2 Executive Summary

2.1 This Response to Consultation determines the appropriate return to be allowed to operators subject to price controls imposed by ComReg, set by reference to the Weighted Average Cost of Capital ('**WACC**').

2.2 ComReg finds that a WACC should continue to be set using the Capital Asset Pricing Model ('**CAPM**') formula for the cost of equity for each of the fixed line, broadcasting and mobile sectors.

2.3 For each of the sectors, the WACC is calculated on a nominal pre-tax basis by reference to a hypothetical efficient operator and expressed as a weighted average of the cost of debt (r_{debt}) and the cost of equity (r_{equity}) according to the following formula:

$$WACC_{pre-tax} = g * r_{debt} + (1-g) * \left(\frac{r_{equity}}{(1-t)}\right)$$

where:

- g = gearing, which is defined as the ratio of debt to the total value of the debt and of equity of the operator (*Debt/(debt + equity)*) and
- t = *corporation tax rate.*

2.4 There are different ways in which the WACC-CAPM framework may be implemented, and it is also customary to cross-check outputs produced using one method, with that from other approaches.

2.5 In the Consultation, ComReg proposed to follow the same approach as it had followed in 2014 ('**the 2014 approach**') and determine the WACC as an underlying equilibrium reflecting the functioning of the economy as a whole. Under this approach the parameters for the calculation of the cost of equity are not considered to be directly observable – rather they are inferred from economic and macroeconomic data and historical experience. ComReg also proposed to use the same approach to the calculation of the cost of debt using the same risk-free rate as was used for the calculation of the cost of equity.

2.6 In setting the proposed WACC for each sector, cross-checks were conducted using two alternative approaches, namely that followed by the UK Regulators Network ('**UKRN'**) and that proposed by the European Commission in a consultation then ongoing. Both these approaches can be said to "let the data speak" more and derive the WACC from more or less directly observable components.

2.7 Following the responses to the Consultation received by ComReg, the publication of the Commission Notice on the calculation of the cost of capital for legacy infrastructure, additional data having become available including as regards the cost of debt in particular, and further advice received from Europe Economics[21], ComReg has amended its approach to the determination of the WACC. As a result, additional weight is given to the approach set out in the Commission Notice, taking into account, however, the specific circumstances of the Irish economy and observable data.

The cost of equity

2.8 Under the CAPM, the cost of equity is calculated using the formula:

$$r_{equity} = r_f + \beta_{equity} * ERP$$

where:

- r_f is the risk-free rate, i.e., the return on a riskless asset;
- β_{equity} is the equity beta, defined as the covariance between a stock price returns, and the returns of the entire equity market, and which measures a stock's sensitivity to market risks; and
- ERP is the Equity Risk Premium, which is the difference between the total market return ('**TMR**') and the risk-free rate.

2.9 In this Response to Consultation ComReg sets the cost of equity by reference to two different methodologies:

- the 2014 approach, updated to reflect market changes since the Consultation; and
- the methodology set out in the Commission Notice, modified to take account of circumstances specific to Ireland ('**the modified Commission Notice approach**').

2.10 The 2014 approach involves the following:

- The risk-free rate is determined by relying on the theoretical relationship between changes in risk-free rates and changes in the medium-term growth rate of economies, using as a starting point pre-2010 government bonds as proxies for the risk-free rate. On that basis, taking into account Eurozone and Irish growth prospects, the real risk-free rate is estimated at 1.75%;
- The inflation rate is set having regard to both Irish inflation forecasts (for the short term) and Eurozone inflation forecasts (for the medium to long term), at 1.5%;
- The nominal risk-free rate is 3.28%;

[21] See Europe Economics Final Report.

- The Equity Risk Premium is set at a point estimate of 4.9%, having regard both to Dimson Marsh Staunton (‘**DMS**’) historical values, and a value for the total market return estimated at 6.65%;
- The asset beta is based on two years of daily data with a value of 0.43 (fixed line telecommunications), 0.45 (broadcasting) and 0.48 (mobile telecommunications); and
- The nominal post tax cost of equity is 6.75% (fixed line telecommunications), 6.22% (broadcasting) and 7.20% (mobile telecommunications).

2.11 Under the modified Commission Notice approach:

- The risk-free rate for Ireland is determined by calculating the 5-year average of weekly yields obtained from Irish government bonds with a residual maturity of 10 years[22]. At November 2019, this gives a nominal risk-free rate of 0.824%. With the inflation rate set using the 5 year ahead Eurozone inflation forecasts published by the ECB, namely, at December 2019, at 1.7%, the real risk-free rate is a negative 0.861%.
- The ERP is determined to be 7.21% on the basis of an average real TMR for Europe of 6.35% and a real risk-free rate of negative 0.861%[23].
- The asset beta is based on five years of weekly data with a value of 0.48 (fixed line telecommunications) and 0.5 (mobile telecommunications)[24]; and
- The nominal post tax cost of equity is 6.59% (fixed line telecommunications) and 6.83% (mobile telecommunications).

The cost of debt

2.12 The cost of debt may be measured using two approaches:

- A debt premium approach whereby the cost of debt is calculated as $r_{debt} = r_f$ + debt premium. Under that approach a premium (or “spread”) of corporate bonds over very low risk corporate bonds of equivalent maturities is determined, which is added to the risk-free rate to obtain the cost of debt; or

[22] Source Eurostat, https://ec.europa.eu/eurostat/web/products-datasets/-/teimf050
[23] See paragraph 4.51 of this Response to Consultation and section 4.4.2.1 of the Europe Economics Final Report.
[24] As discussed in section 3.33 of the Response to Consultation the modified Commission Notice approach is not applied to broadcasting.

- In the alternative, an observed approach may be used where yields are estimated directly from the bonds of comparator firms or a peer group.

2.13 ComReg has set the cost of debt by reference to both the 2014 approach and the approach in the Commission Notice. Consideration is also given to recent Eircom bond issuances. The cost of debt is set at 2.60%[25].

Covid 19 and BREXIT

2.14 ComReg considers that while significant economic uncertainty has been caused by Covid 19 and with the ongoing negotiations between the United Kingdom and the European Union on the future form of any trade agreement the impacts upon the WACC are uncertain and highly dependent upon which scenario plays out. In ComReg's view the WACC values in this Response to Consultation are likely to be a better estimate of the WACC for the Covid 19 period than those in the 2014 Decision. Even if the WACCs in the Response to Consultation prove incorrect, it would be better to adopt them rather than to leave the WACC unchanged from the 2014 Decision.

2.15 ComReg will be updating the WACC at annual reviews. By the time of an annual review in 2021, there would be much more data available allowing a proper recalculation of the WACC and the potential implications for the pricing of electronic communication services in Ireland in the light of that new WACC.

WACCs

2.16 The final WACC for each sector is as follows:

Table 1 Final WACCs[26]

Sector	WACCs
Mobile Telecommunications	5.85%[27]
Fixed Line Telecommunications	5.61%[28]
Broadcasting	5.98%[29]

Annual updates

2.17 The WACCs will be recalculated on an annual basis using updated parameters[30]. These updated WACC values will be published on or before 30 June annually and the recalculated WACC values will be used when

[25] See paragraphs 5.19 to 5.42 of this Response to Consultation.
[26] See section 6 of Europe Economics Final Report.
[27] Table 15: Final WACC value – Mobile telecommunications
[28] Table 10: Final WACC value – Fixed Line Telecommunications
[29] Table 12: Final WACC value – Broadcasting
[30] See section 7.54 of the Response to Consultation.

price controls are amended or updated as part of any subsequent ComReg decision.

Implementation

2.18 The above WACCs will be used in the calculation of cost-oriented prices for the purpose of amending or imposing new price controls.

2.19 Insofar as existing price controls are concerned, where there are prices directed as part of the price control (including maximum prices), such prices will remain in place for the duration of the price control period, unless ComReg intervenes where there are material changes or exceptional circumstances, or else until such time as price controls are reviewed and updated. When price controls are being updated, the latest available WACC will be used[31].

2.20 Falling within this category are FTTC prices. In ComReg Decision D11/18, ComReg reserved the right to require prices to be updated depending on the outcome of ComReg's decision on the WACC. Work on the new Access Network Model ('**ANM**') is well advanced and ComReg will proceed in the coming weeks to publish a consultation on its use. The impact of using updated access network cost inputs and the new WACC value on FTTC prices will be considered as part of that consultation. In particular, and in order to enable stakeholders to assess the implications of this WACC decision, ComReg considers it useful to clarify at this point that based on draft ANM outputs, it is of the view that the revised WACC and the new ANM model will together have a material impact on FTTC costs and accordingly, FTTC prices will be revisited in the forthcoming ANM consultation.

2.21 Where an operator is subject to a cost orientation obligation but ComReg has not imposed a specific price, or only given an indicative price, the above WACCs, or the annually updated WACCs, must be used by the operator in respect of the amendment of prices or the introduction of new prices. Furthermore, in those cases where an operator is subject to a cost orientation obligation but ComReg has not imposed a specific price, or only given an indicative price, in accordance with the provisions of Regulation 13 of the Access Regulation, ComReg may require the operator concerned to justify the continued cost-orientation of its prices allowing a reasonable rate of return set at the most recently published WACC value, and may direct the amendment of prices to ensure their cost-orientation.

[31] See sections 7.34 to 7.53 of the Response to Consultation.

3 Methodology to estimate the WACC

Consultation

3.1 In the Consultation, ComReg proposed to continue to use the Capital Asset Pricing Model (‘**CAPM**’) formula to calculate the WACC for each of the fixed line, broadcasting and mobile sectors. Under the CAPM, for each of the sectors, the WACC can be calculated on a nominal pre-tax basis by reference to a hypothetical efficient operator and expressed as a weighted average of the cost of debt *(r_{debt})* and the cost of equity *(r_{equity})* according to the following formula:

$$WACC_{pre-tax} = g * r_{debt} + (1-g) * (\frac{r_{equity}}{(1-t)})$$

where:

- g = gearing*,* which is defined as the ratio of debt to the total value of the debt and of equity of the operator (*Debt/(debt + equity)*) and
- *t = corporation tax rate.*

3.2 Under the CAPM, the cost of equity is calculated using the formula:

$$r_{equity} = r_f + \beta_{equity} * ERP$$

where:

- r_f is the risk-free rate, i.e., the return on a riskless asset;
- The equity beta (β_{equity}) is the covariance between a stock price returns, and the returns of the entire equity market, and which measures a stock’s sensitivity to market risks; and
- ERP is the Equity Risk Premium, which is the difference between the total market return (‘**TMR**’) and the risk-free rate, representing the additional return over the risk-free rate expected by investors for investing in the entire equity market.

3.3 A number of those parameters are economy-wide, or generic, parameters, including the risk-free rate, the ERP and the corporation tax rate. Other parameters are sector or firm-specific and must be assessed taking a peer group or comparators as a reference point. They include the asset and equity beta, the debt beta, the gearing and the debt premium and/or cost of debt, noting the following:

- The debt beta measures a debt’s exposure to systemic risks (it is normally set at zero);

- The debt premium is the return above the risk-free rate that a debt investor requires to make that investment.

3.4 There are different ways in which the WACC-CAPM framework may be implemented, and it is also customary to cross-check outputs produced using one method, with that from other approaches.

3.5 In the Consultation, ComReg discussed two different methodologies for estimating the WACC:

- The equilibrium approach; and
- The observed asset approach.

3.6 In the Consultation ComReg noted that it has historically adopted the **equilibrium approach**. In this approach, the WACC is considered as an equilibrium parameter in the economy that is inferred rather than observed, with judgement applied to account for distortions in the observed data, arising from factors such as, for example, quantitative easing. ComReg proposed to follow the same equilibrium approach it had followed in 2014. Under this approach the parameters for the calculation of the cost of equity are not considered to be directly observable – rather they are inferred from economic and macroeconomic data and historical experience. ComReg also proposed to use a debt premium approach to the calculation of the cost of debt using the same risk-free rate as was used for the calculation of the cost of equity.

3.7 The **observed asset approach** was used recently in the United Kingdom by members of the UKRN whereby the WACC is considered to be observable rather than an inferred equilibrium. The observed asset has become more prevalent in UK regulatory decision making in recent years. UK regulators, rather than taking individual parameters for the risk-free rate and ERP, examine current market return data and projects forward for a given time period the return an investor might expect.

3.8 An important difference between the two approaches concerns the estimation of the risk-free rate.

- The risk-free rate measures the expected return on an investment free of default and systematic risk (i.e. where the realised return on the investment will be equal to the expected return). Although a risk-free asset does not exist in practice, in economies with minimal sovereign default risk the risk-free rate is typically estimated with reference to the yield to maturity on government issued bonds. These yields are assumed to be the closest proxy to the return on a theoretical risk-free rate. Under the observed asset approach a risk-free or near risk-free asset in an Irish context could be a government bond and the risk-free rate would simply be the latest yield on government bonds of the appropriate maturity.

- By contrast, under the equilibrium approach, the risk-free rate is an underlying equilibrium parameter from which the actual yields for near risk-free assets might deviate at any one time. Under that approach, one would consider that government bonds are likely to have become poor proxies for risk-free returns following the financial crisis in 2008-2009 and the Eurozone crisis of 2010-2012[32] and including the associated significant distortions in yields as a result of policy interventions such as quantitative easing.

3.9 It is also important to cross check the outputs of any such approaches against observable comparators, where possible. While this is not feasible when estimating the cost of equity, since there is no observable cost of equity to check against, it is possible in the case of the cost of debt.

3.10 In the Consultation ComReg proposed to follow the equilibrium approach adopted in 2014 having conducted cross-checks using two alternative observed asset approaches, namely that followed by the UKRN and that proposed by the European Commission in a consultation then ongoing[33]. (Both these approaches can be said to "let the data speak" more and derive the WACC from more or less directly observable components.)

3.11 ComReg observed that the WACCs resulting from either approach (equilibrium or observed asset) were such that the overall difference for Ireland in estimation between the two was marginal. ComReg's rationale for following an equilibrium approach was as follows:

(i) Prior to the financial crisis Irish government bonds enjoyed a strong credit rating and could potentially be taken as a proxy for a risk-free asset;

(ii) During the financial crisis Irish government bonds experienced a significantly diminished credit rating and sharply escalating yields ultimately leading to the Irish government needing to obtain financial assistance from the International Monetary Fund, the EU and other parties; and

(iii) Subsequent to the financial crisis Irish government bonds have a strong credit rating[34] and could plausibly be used as a proxy for a risk-free asset. However, there is a concern that current observable yields are distorted by policy interventions, such as quantitative easing and as a result they may not reflect the true long-term measure of the price of a risk-free asset. There is a risk that using the risk-free rate on current

[32] Europe Economics Technical Report, pp. 67-68.
[33] See Annex 5 of Europe Economics Technical Report.
[34] For example, as of 14 May 2020 the Standard and Poors rating for Ireland is AA-, investment grade, very strong capacity to meet financial commitments.

yields on government bonds would accordingly lead to an artificially low estimated risk-free rate for forward-looking cost of equity estimates.

(iv) Estimating instead an underlying risk-free rate by reference to the economic fundamentals and in particular the underlying growth potential of the economy at large[35] has the advantage of being both a more stable and a forward-looking approach.

3.12 In the absence of any clear reason for changing its approach and having regard to the desirability of regulatory predictability[36], ComReg was of the preliminary view that the equilibrium approach should continue to be used, both for determining the cost of equity and the cost of debt. Both accordingly relied on estimating the risk-free rate as an input to the cost of equity and the cost of debt, using the following formulas:

$$r_{equity} = r_f + ß * ERP$$

$$r_{debt} = r_f + \text{debt premium}$$

3.13 In the Consultation ComReg asked the following question:

Question 1: Do you agree or disagree with the continued use of equilibrium concept for the estimation of the WACC? Please clearly indicate the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Submissions to the Consultation

3.14 ComReg received specific replies to Question 1 from four Respondents: ALTO; Eircom; NBI; and 2rn. RTÉ, Sky, Three and Vodafone did not address the issues raised in Question 1 in their responses.

3.15 Eircom[37] agreed with ComReg's continued use of the equilibrium concept on the basis that allowing for regulatory judgement helps mitigate the risk of underestimating the WACC by allowing NRAs to account for distortions in observed data (citing quantitative easing). Continuing ComReg's previous approach allows for consistency and predictability which in turn limits uncertainty and minimises risks. ALTO[38], NBI[39] and 2rn[40] also generally agreed with ComReg's continued use of the equilibrium concept. All noted ComReg's comment that the difference between the two

[35] http://www.europe-economics.com/publications/sustainable_growth_rate_working_paper.pdf
[36] Under Regulation 16(2) of the Framework Regulations 2011 (SI N. 333 of 2011), ComReg is required to "apply objective, transparent, non-discriminatory and proportionate regulatory principles by, among other things – (a) "promoting regulatory predictability by ensuring a consistent regulatory approach over appropriate review periods.
[37] Paragraph 15 of its response – 13 August 2019.
[38] Page 2 of its response.
[39] Page 2 of its response.
[40] Paragraph 2.4 of its response.

alternative approaches put forward by ComReg produced marginal differences. ALTO submitted that in light of Brexit and its potential impact on the Irish economy it would be advisable to track both over the coming years. 2rn submitted that Europe Economics' methodology should be examined in greater detail were it to produce a WACC that diverged significantly from a more conventional estimate of the CAPM parameters[41]. While Sky did not address question 1 directly, Sky raised several concerns regarding the level of the risk-free rate derived under the equilibrium approach, having regard to Eircom's observable cost of debt[42].

Response to Consultation, New Data and Commission Notice

3.16 While respondents were generally in favour (or at least not opposed) to the equilibrium approach, a number noted ComReg's comment that the difference between the two alternative approaches put forward by ComReg produced marginal differences.

3.17 Since the Consultation, however, new data have become available which suggest that the cost of debt derived under the equilibrium approach for the risk-free rate may be too high and that there may be more than marginal differences between the two approaches in this respect. Contrary to the cost of equity, which must be modelled, it is possible where relevant bonds are available, to observe the cost of debt. As a result of recent bond issuances data has become available on Eircom's cost of debt[43]. That cost of debt is materially lower than the cost of debt proposed in the Consultation[44].

3.18 Europe Economics in its Final Report notes that when such data is available, adequate weight should be placed on it especially where there are marked deviations from the cost of debt calculated under an equilibrium approach[45].

3.19 In particular, Europe Economics notes that since the Consultation, government bond rates had fallen substantially and to calculate the cost of debt using the risk free rate derived from expected growth estimations combined with a debt premium could produce a result that is substantially out of line with current observable market premia for corporate debt. This is primarily driven by the fact that the forward-looking risk-free rate is derived from economic forecasts and not simply the rate of Irish government bonds over the last five years. Europe Economics advised as

[41] Paragraph 2.7of its response.
[42] Paragraph 12 of its response.
[43] https://www.eir.ie/investorrelations/newsannouncements/
[44] See section 6.27 of the Consultation (4.93%).
[45] Section 5.2.4 of Europe Economics Final Report.

follows[46]:

"Even if one regarded our 2014-type approach as the main method and the UKRN-type and European Commission-type approaches as cross-checks, in our view the large gap between our cross-check results and the debt-premium results based on the cost of equity risk-free rate has become too large for it to be sustainable to use the 2014-type approach unmodified. The data we have available on Eircom's own bond issuance might not be sufficient, by itself, to cause us to change our cost of debt estimate if our other cross-checks did not also, decisively, imply that our main approach was not producing a sustainable answer, but in fact those cross-checks indicate precisely that".

3.20 In this context and following the publication of the Commission Notice in November 2019, ComReg also considered the approach of the European Commission as set out in the Commission Notice as regards the risk-free rate. There are a number of important differences between the approach set out in the Commission Notice, and that proposed by ComReg in the Consultation.

3.21 The Commission Notice approach involves inferring the risk-free rate from the historic yields of government bonds. The Commission Notice recommends the use of 10-year domestic government bonds to estimate the risk-free rate without any adjustment for central bank quantitative easing programmes being required[47]. According to the Commission, the use of domestic government bonds, together with a consistent methodology across NRAs, will ensure that differences in risk free rates reflect actual differences in financing conditions between Member States.

3.22 Under that approach, the risk-free rate is calculated as the arithmetic mean of Irish government 10-year bonds over a period of 5 years.

3.23 However, the approach set out in the Commission Notice is not fully appropriate for Ireland at this time. As explained by Europe Economics[48], the European Commission's overall approach to the calculation of the cost of equity is unsatisfactory for Ireland because it tends to produce implausibly low figures for the TMR, partly because for large parts of the historic dataset, bond yields were far higher than those today.

3.24 In particular, the Commission Notice approach estimates the ERP on the basis of long term historical series which covers periods in which government bond yields were materially higher than the observable yields

[46] See section 5.2.4 of Europe Economics Final Report.
[47] See section 4.1 of the Commission Notice.
[48] Section 4.4.2.1 of Europe Economics Final Report.

in recent years, while it relies on recent bond market data to estimate the risk free rate. This results in a TMR below that which could be expected.

3.25 For the cost of equity, the fundamental point set out in Europe Economics Technical Report still applies[49]: the uncertainties in TMR estimation for Ireland mean that the view that approaches of the UKRN or Commission Notice "let the data speak" type reduce the need for regulatory judgement or a need for assessing an underlying or equilibrium value, does not hold true in Ireland.. This does not work for Ireland because of challenges in obtaining robust estimates of the TMR due to the large spikes in recent years in Gross Domestic Product ("**GDP**") and in the stock market, generally attributed to distortions associated with the relocation to Ireland of large corporate firms. Consequently, estimating the risk-free rate from current bond yields and a TMR based on recent dividend yields and GDP produces a range of estimates that are so wide as not to be useful for regulatory purposes

3.26 Therefore, ComReg is of the view that it is appropriate to continue with the use of the 2014 approach in the estimation of the cost of equity albeit taking account of the Commission Notice approach in the overall assessment.

ComReg's Decision on the Approach

3.27 In light of the above, ComReg does not believe that it should set the WACC solely by reference to the equilibrium approach proposed in the Consultation and followed in 2014, or indeed by reference solely to an observed asset approach, including in the form of that set out in the Commission Notice. ComReg has accordingly decided to modify its approach to the calculation of the WACC and calculate the cost of equity and the cost of debt for each sector using both the equilibrium approach and an "observed data" approach.

3.28 ComReg notes in this regard that in relying on different approaches, ComReg does not – and it would not be appropriate to – compare the value for each of the parameters making the cost of equity and the cost of debt, e.g., the risk-free rate. Rather, having estimated cost of equity and cost of debt under different approaches, ComReg makes a judgement as to the appropriate values for the cost of equity and the cost of debt taking into account the outcome suggested by both approaches.

Cost of equity

3.29 The approach to the cost of equity is as follows:

[49] See section 4.2.1.3 of Europe Economics Final Report.

- Firstly, ComReg calculates, using the 2014 equilibrium approach, the individual WACC parameters and a cost of equity under the methodology discussed and proposed in the Consultation.

- Secondly, ComReg also calculates the cost of equity using the methodology, with a number of modifications,[50] set out in the Commission Notice.

3.30 The main modification to the Commission Notice adopted by ComReg relates to the estimation of the ERP. ComReg has modified the approach under the Commission Notice so that the ERP is derived from the TMR, rather than calculated on the basis of long-term historical series of bond yields.[51].

3.31 ComReg estimates the TMR as follows:

- Using regulatory precedent from the UK and the approach adopted by the UKRN;

- Using relevant DMS data for Ireland; and

- Using both European wide and Irish specific TMR values.

3.32 As will be seen, the cost of equity under the approach from the Consultation and ComReg's modified approach using the Commission Notice are comparable with the cost of equity being calculated as the average of the two.

3.33 Given the limited comparator data for broadcasting, the cost of equity for broadcasting continues to be estimated under the equilibrium approach only[52].

Cost of debt

3.34 Insofar as the cost of debt is concerned, ComReg, in addition to the 2014 equilibrium-based approach, also now considers additional observed and modelled approaches allowing for cross checks and comparisons[53], as follows:

- Under Approach 1, ComReg calculates the cost of debt on the basis of a debt premium approach using a risk-free rate calculated on the basis of five-year historical data, as recommended in the **Commission Notice.** This is as an observed approach;

[50] These WACC parameters and where necessary their modifications are discussed in their relevant chapters below.
[51] Section 4.4.2.1 of Europe Economics Final Report.
[52] Section 4.4.3.1 of Europe Economics Final Report.
[53] Section 5.7 of Europe Economics Final Report.

- Approach 2 uses a "quasi-all-in" cost of debt approach. This is based on the approach of the **UKRN** and was considered by ComReg as part of the Consultation. It uses current government spot rates[54] (the current rate payable on government bonds) and a debt premium obtained by comparing the spreads between operator bonds and domestic government bonds. This is also an observed approach;

- Approach 3 is the equilibrium approach proposed in the Consultation, which calculates the cost of debt from the **equilibrium** risk-free rate and a debt premium obtained by comparing the spreads between operator bonds and domestic government bonds. This is a modelled approach;

- Approach 4 relies on observed data, namely the data available on **Eircom's recent bond issuances**. As the observed data has indicated that there has been a material movement in bond yields, Eircom's recent bond issuances are used as a cross check. This is as an observed approach.

3.35 To determine the final cost of debt value, a range, based on the four approaches, is derived and a point estimate chosen from within the range.

Covid 19 and BREXIT

3.36 As noted in paragraphs 2.14 to 2.15 considerable uncertainty exists due to the impact of Covid 19 and the potential impact of a no-deal BREXIT, raising the question of whether, and how, to take into these impacts into the WACC estimation[55].

3.37 ComReg notes for example that under the 2014 approach ComReg uses GDP growth for Ireland to estimate the risk-free rate. At the time of the Consultation in 2019 these forecasts reflected a strong economic outlook for the Irish economy. Since then, with the advent of the Covid 19 crisis, recent publications by both the Department of Finance[56] and the Central Bank[57] forecast significant declines in GDP in 2020 with some slight recovery in 2021. Full recovery is not expected until at least 2022. Considerable uncertainty has arisen as a result.

3.38 As noted by the Central Bank:

[54] The spot rate is the price quoted for immediate settlement on a commodity, a security or a currency.
[55] See Section 1.1 – "Scenarios" Europe Economics Covid 19 report.
[56] https://www.gov.ie/en/news/d2ec5b-minister-donohoe-publishes-stability-programme-update-2020/
[57] https://www.centralbank.ie/publication/quarterly-bulletins/quarterly-bulletin-q2-2020

"In terms of its impact on the economy, COVID-19 has triggered an extremely severe economic shock that is fundamentally different in nature and scope from types of shocks previously witnessed."

3.39 It continues:

"Given the unprecedented nature of this crisis, the outlook is characterised by an extreme degree of uncertainty. The future path of the pandemic, in particular its scale and duration, is unknown, and, as a consequence, so is the duration and scope of the containment measures. As a result, there is considerable uncertainty about both the potential depth and persistence of the downturn currently underway, and also the likely timing and speed of an eventual recovery."

3.40 The current economic climate also raises considerable uncertainty for the second "historic" approach. For example, the European Central Bank has announced a stimulus package[58] of €750bn. Normally one might expect this to reduce even further yields on government bonds and other debt instruments. This would reduce further the estimate of the risk-free rate if reliance is placed solely on observed market rates which are being used as proxies for a risk-free rate.

3.41 Given the unprecedented times and the fact that Covid-19 affects all financial markets represented by the ERP and TMR, with the economic downturn expected to be the most severe since the Great Depression, the full impact on both is hard to define at this time. This creates particular difficulties when estimating the cost of equity using an equilibrium approach which is based on long term fundamentals rather than current market rates. Within the financial markets certain sectors are experiencing wholly different impacts. Retail, aviation and tourism sectors have effectively ceased to function for the time being. Telecommunications and energy sectors have seen an increase in demand from both the lockdown and homeworking.

3.42 Given the uncertainty over the trajectory of Covid-19, ComReg believes that evaluating the impact on WACC values over the medium term is extremely difficult. The available Covid-19 information is only for a short period of time and as most countries are still in the lockdown phase, or are slowly reopening their economies, a new "normal" economic scenario is still not evident.

3.43 Prior to the Covid-19 crisis the available information indicated that the WACC values in both Ireland and Europe had been declining compared to those imposed under the 2014 Decision[59]. Given the uncertainty caused

[58] https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~3949d6f266.en.html
[59] See figure 1 of the Consultation.

by Covid-19 ComReg is currently of the view that it is more appropriate to impose WACC values based on information with a cut-off date prior to the commencement of the pandemic rather than:

- Continue with the WACC values from the 2014 Decision which are based on parameter estimates which have not been updated since 2014; or

- Estimate a WACC which incorporates Covid-19 assumptions, the impact of which are uncertain. Furthermore, given the use of the longer-term equilibrium approach in the case of the cost of equity these impacts may not be material over the longer term.

3.44 As set out in Chapter 7, the WACC values set out in this Response to Consultation will be updated annually[60]. ComReg notes that this will mitigate the risk of a material under or over-estimating of the WACC. ComReg will continue to monitor the effect of the crisis on the various parameters in the context of annual updates. Furthermore, ComReg has given some weight in this Response to Consultation to observable interest rates, which are already close to zero, in its estimation of the risk-free rate.

3.45 With respect to BREXIT, the risk of the United Kingdom and the EU failing to reach a trade deal is still a possibility. In April 2020 the European Commission indicated concern at the lack of progress in negotiations in developing a trade deal[61].

3.46 Clearly there is a risk to the Irish economy which could have implications for its potential growth rate which in turn could have implications for the risk-free rate in particular. This is due to the correlation to the growth potential and the risk-free rate as well as potentially other parameters. However, as negotiations are still ongoing it seems to ComReg that it is very difficult, at this time, to model the potential impact given the range of possible outcomes and their impact on the Irish economy. Again, ComReg is of the view that annual updates provide an appropriate mechanism to reflect change to economic conditions arising from a no-deal BREXIT.

Consultation questions

3.47 As a result of ComReg's modified approach to estimating the cost of equity and cost of debt it has been necessary to amend the structure of this Response to Consultation document as compared to the Consultation.

3.48 In the Consultation 15 questions were asked. Questions 1 to 11 mainly related to the estimation of the WACC whereas questions 12 to 15 specifically related to the Decision Instruments in the three sectors. Due

[60] See section 7.54 of the Response to Consultation.
[61] https://www.rte.ie/news/brexit/2020/0424/1134603-barnier-brexit/

to the modification of ComReg's approach to estimating the cost of equity and the cost of debt ComReg is now responding to the issues raised in questions 1 to 11 as follows:

Question	Chapter in Consultation	Chapter in Response to Consultation
Question 1 – equilibrium concept	Chapter 3 – Proposed approach to WACC estimation	Chapter 3 – Methodology to estimate the WACC
Question 2 – tax rate	Chapter 4 – Generic WACC parameters	Chapter 6 – Final WACC values
Question 3 – generic parameters (Nominal risk-free rate, ERP, Taxation)	Chapter 4 – Generic WACC parameters	Chapter 4 – Cost of equity (Nominal risk-free rate, ERP) Chapter 6 – Final WACC values (taxation)
Question 4 – Mobile specific parameters (asset beta, gearing, debt premium)	Chapter 5 – Mobile telecommunications	Chapter 4 – Cost of equity (asset beta) Chapter 5 – Cost of debt (debt premium) Chapter 6 (gearing)
Question 5 – Fixed line specific parameters (asset beta, gearing, debt premium)	Chapter 6 – Fixed Line telecommunications	Chapter 4 – Cost of equity (asset beta) Chapter 5 – Cost of debt (debt premium) Chapter 6 (gearing)
Question 6 – broadcasting specific parameters (asset beta, gearing, debt premium)	Chapter 7 – Broadcasting	Chapter 4 – Cost of equity (asset beta) Chapter 5 – Cost of debt (debt premium) Chapter 6 (gearing)
Question 7 – more frequent updates	Chapter 8 – Other issues regarding the WACC	Chapter 7 – Other issues regarding the WACC

Question 8 – aiming up	Chapter 8 – Other issues regarding the WACC	Chapter 7 – Other issues regarding the WACC
Question 9 – implementation	Chapter 8 – Other issues regarding the WACC	Chapter 7 – Other issues regarding the WACC
Question 10 – principles for differentiating WACCs	Chapter 8 – Other issues regarding the WACC	Chapter 7 – Other issues regarding the WACC
Question 11 – other issues	Chapter 8 – Other issues regarding the WACC	Chapter 7 – Other issues regarding the WACC

3.49 Questions 12 to 15 are dealt with in sections 7.108 to 7.129.

4 Cost of equity

Overview

4.1 In this Chapter, ComReg applies the two approaches outlined in Chapter 3 to the calculation of the cost of equity, namely the 2014 approach and the modified Commission Notice approach, in respect of each of the cost of equity parameters, namely the risk-free rate, the ERP and the equity beta. Costs of equity are then determined for each of the fixed line, mobile, and broadcasting sectors

4.2 Respondents' views were sought on the risk-free rate, inflation and the ERP as part of Question 3 in the Consultation. Question 3 asked whether respondents agreed with ComReg's proposed approach to estimating the generic parameters for the respective WACCs and the preliminary point estimates chosen. Respondents' views were sought on the asset beta and equity beta to apply to each of the mobile, fixed and broadcasting sectors in, respectively, Questions 4, 5 and 6 of the Consultation which each addressed non-generic, sector or operator-specific, parameters.

4.3 In considering the appropriate cost of equity to use for the WACC calculation, this chapter considers the submissions made to consultation in response to Question 3 in respect of the risk-free rate, inflation and ERP, and in response to Questions 4, 5 and 6 in the Consultation in respect of the asset beta and the equity beta, for each of the sectors (mobile, fixed and broadcasting).

4.4 ComReg received replies to ***question 3*** from five respondents: ALTO, Eircom, NBI, Three and 2rn. ComReg received no direct replies to question 3 from RTÉ, Sky, and Vodafone. ComReg has considered part of Sky's general response in its assessment of responses to question 3.

4.5 ComReg received replies to ***question 4*** from three respondents: Eircom, Three, and Vodafone. ALTO, NBI, RTÉ, Sky, and 2rn did not address Question 4 in their replies.

4.6 ComReg received direct replies to ***question 5*** from four respondents: ALTO, Eircom, NBI, and Three. Sky did not reply directly to question 5 but raised issues in general that are relevant to this question. ComReg received no replies to question 5 from RTÉ, Vodafone, and 2rn.

4.7 ComReg received one reply to ***question 6*** from 2rn. ComReg received no replies to question 6 from ALTO, Eircom, NBI, RTÉ, Sky, Three and Vodafone.

Risk free rate

A. 2014 (Equilibrium) Approach

Consultation

4.8 ComReg, in the Consultation, proposed to estimate a nominal risk-free rate, in line with previous ComReg review of the WACC in 2014, where the nominal risk-free rate was used to derive a nominal WACC estimate. Nominal rates were estimated in order to be consistent with non-indexed historical asset valuations in pricing models. While a WACC estimated using a real risk-free rate combined with indexed asset values can also be applied (real WACC), ComReg proposed continuing with a nominal risk-free rate thereby maintaining the consistent approach to the WACC estimation.

4.9 In the Consultation ComReg was of the preliminary view that the nominal risk-free rate estimate should be based on separate estimations of the real risk-free rate and inflation.

4.10 ComReg considered that the estimate of the real risk-free rate to be used in WACC calculations needed to take account of expected future economic conditions, both in the Eurozone and in Ireland. In addition, due to the global financial crisis that started in 2008, ComReg was of the view in the Consultation that current Eurozone bond rates may not be fully representative of the risk-free rate over the period that the proposed WACCs will be used.

4.11 Against this background, ComReg proposed in the Consultation to adopt the methodology (described in the Europe Economics Technical Report) for estimating a forward looking real risk-free rate that takes account of these issues[62]. This included the following steps:

(i) The real risk-free rate and inflation were calculated separately, before deriving the nominal risk-free rate, on the basis that changes in the nominal risk-free rate can occur due to changes in either or both the real risk-free rate and in inflation.

(ii) The underlying equilibrium value of the (real) risk-free rate was determined for the Eurozone, treating the Eurozone as one capital market, based on a review of the macroeconomic outlook, bond yields across the Eurozone and regulatory precedent, using as a starting point Eurozone government bond rates prior to the 2007-2008 financial crisis.

[62] See Section 3.1 of Europe Economics Technical Report.

(iii) On the basis of its finding that there is a strong correlation with a coefficient of about 0.7 between changes in the risk-free rate and changes in sustainable growth of a given economy at large, [63] European Economics calculated a (real) risk-free rate for the Eurozone in 2020 of around 1.7-2.2 per cent, on the basis of the European Commission Autumn 2018 economic forecasts. This reflected economic growth for the Eurozone for the period 2018 to 2020 forecast to be around 1.5%, by contrast with the 2% per annum for the period before the global financial crisis.

(iv) Noting that Ireland's GDP growth rate was much faster than that of the Eurozone economy, Europe Economics was of the view that the risk-free rate for Ireland should lie in the upper part of the Eurozone range.

4.12 On this basis, Europe Economics accordingly estimated that an appropriate real risk-free rate for Ireland was **2.1 per cent**.

4.13 As for inflation, ComReg was of the view (paragraph 4.15 of the Consultation) that the forecast inflation rate for Ireland should be used as the costs discounted by the WACC are costs arising in Ireland. (By contrast, the Commission Notice recommends the use of a Eurozone-wide inflation estimate for Eurozone Member States which ideally cover a period equal to the 10-year maturity of government bonds used to estimate the risk-free rate. In practice 10-year inflation forecasts are rarely available, thus shorter-term forecasts may be used (e.g. inflation forecast 5 year ahead by ECB)[64].)

4.14 The Europe Economics Technical Report[65] noted that the European Commission forecast inflation for the Eurozone was 1.2% for 2019 and 1.4% for 2020. ComReg was of the preliminary view in the Consultation that the annual inflation rate for Ireland would be within the range of 1.1% to 1.8% over the period of the price control, with a point estimate of **1.3 per cent**

4.15 Taking the ranges and point estimates for the real risk-free rate and inflation, ComReg proposed a nominal risk-free rate range of 2.82% to 4.04% with a point estimate of **3.43 per cent.**

Submissions to the Consultation

4.16 Respondents were generally in agreement with the methodology proposed by ComReg to set the risk-free rate, including in particular that the nominal risk-free rate should be derived from separate estimations of the real risk-free rate and inflation, and that the real risk-free rate should be estimated

[63] See Europe Economics Technical Report & also http://www.europe-economics.com/publications/sustainable_growth_rate_working_paper.pdf
[64] See paragraph 63 of the Commission Notice.
[65] See Section 3.1.4 of Europe Economics Technical Report.

on the basis of the methodology devised by Europe Economics. Eircom endorsed the principle that the risk-free rate and the inflation should be estimated separately[66].

4.17 A number of respondents, however, noted a need to update the data used for the estimation of the risk-free rate. Sky pointed to material developments in ECB policy and government bond yields which clearly indicated that the proposed risk-free rate of 3.43% was not justified and was overstated[67]. It commented that:

ComReg should revisit the risk-free rate calculations in light of the most up to date information and given Eircom's financing is now secured out to 2026 at very advantageous costs of debt that is far more efficient than the proposed hypothetically efficient cost of debt ComReg proposes.

4.18 In Sky's view, those developments required that the models used be updated to derive the risk-free rate.

4.19 Different views were taken by respondents as regards the estimate for inflation. Eircom suggested that ComReg should aim up its point estimate for inflation of 1.3% towards the ECB inflation rate target of 2%, having regard to the long-term inflationary impact of Brexit on Irish prices[68]. By contrast NBI took the view, based on the July Consumer Price Index figure published by the Central Statistics Office ('**CSO**') and the proliferation of negative bond yields across Europe, that ComReg's estimate for inflation of 1.3% appeared high[69]. ALTO was also concerned that ComReg had not sufficiently taken account of the potential impact of Brexit on Ireland[70].

Response to Consultation

4.20 The Europe Economics Technical Report provided an estimate of the risk-free rate under an equilibrium approach. That estimate was updated in the Europe Economics Final Report using the economic forecasts in the European Commission Autumn 2019 Forecasts.

4.21 In the Consultation ComReg proposed a risk-free rate in the range of 1.7% to 2.2% with a point estimate of 2.1%. Since the Consultation and up to Q4 2019 there had been a slight deterioration in Eurozone and Ireland growth prospects[71]. As noted in paragraphs 2.14 to 2.15 the full impact of Covid-19 or the potential impact of a no-deal BREXIT on the risk-free rate and other parameters cannot be determined at this time and ComReg is therefore basing its data on information to Q4 2019. With this in mind,

[66] Paragraph 56 of its response – 13 August 2019.
[67] Paragraphs 16 to 19 and also point 1 of paragraph 45 of its response.
[68] Paragraph 36 of its response – 13 August 2019.
[69] Page 3 of its response.
[70] Page 3 of its response.
[71] See Section 4.3.1 of Europe Economics Final Report.

Europe Economics has adjusted its estimation of the Eurozone real risk-free rate for the period 2020 to 2024 to a range of 1.6% to 2.1%[72].

4.22 Based on the data to Q4 2019 ComReg is of the view that the real risk-free rate should be **1.75%** under the approach used in the Consultation and in 2014.

4.23 As for inflation, Europe Economics in its Final Report remains of the view that Irish communications sector price changes are likely to reflect economic conditions in Ireland more closely than those of the Eurozone as a whole but accepts that the ECB implicit inflation target reflects appropriately inflation expectations over the medium-to-long run[73]. On this basis, Europe Economics suggests taking account of inflation forecasts for Ireland for the short term and Eurozone inflation forecasts for the medium-to-long term[74].

4.24 Having considered the respondents' comments on inflation, the Commission Notice and the advice of Europe Economics, ComReg has modified its view of how inflation should be taken account of under the 2014 approach. ComReg agrees with the approach taken by Europe Economics where weight is placed on inflation forecasts for Ireland for the short term and Eurozone inflation forecasts for the medium-to-long term[75]. ComReg considers that some weight should be given to costs arising in Ireland and also that inflation forecasts for Ireland for the short term have a higher chance of being closer to actual outcomes than those for the longer term. ComReg also agrees that for medium-to-long term forecasts of inflation the 5-year forecast of inflation represents the most appropriate forecast to use.

4.25 ComReg also considers that it is better to use inflation forecasts from Central Banks rather than targets as they have a higher likelihood of being more accurate than inflation target rates. ComReg has, therefore, updated its position on the inflation assumption taking into account the Central Bank of Ireland forecasts for inflation in Ireland for 2020-2021 inclusive and ECB inflation forecasts for 2022-2024 inclusive.

4.26 The Central Bank of Ireland had published inflation forecasts under deal and no deal Brexit scenarios[76]. Under a deal scenario, where a trade deal is agreed, inflation is forecast to be 1.1% and 1.4% for 2020 and 2021 respectively. The ECB 5 year ahead inflation forecast is 1.7%[77].

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[72] See Section 4.3.1 of Europe Economics Final Report.
[73] See Section 3.1.4 Europe Economics Final Report.
[74] See section 3.3 of Europe Economics Final Report.
[75] See section 3.2.1 of Europe Economics Final Report.
[76] https://www.centralbank.ie/publication/quarterly-bulletins/quarterly-bulletin-q4-2019
[77] https://www.ecb.europa.eu/stats/ecb_surveys/survey_of_professional_forecasters/html/table_hist_hicp.en.html

4.27 Under a "deal" scenario the forecast average inflation rate is 1.52% for the years 2020-2024 inclusive[78].

4.28 Europe Economics recommend using an inflation assumption of 1.5% for WACC calculations under a deal scenario[79].

4.29 ComReg considers that inflation will be in the range of 1.1% to 1.8% with a point estimate of **1.5%.**

4.30 Taking the point estimate of 1.75% for the real risk-free rate and the inflation forecast of 1.5%[80] the point estimate for the nominal risk-free rate is **3.28%**[81].

B. Commission Notice approach

4.31 Using the approach under the Commission Notice the nominal risk-free rate for Ireland based on five-year historical data would be **0.824%**[82].

ERP

A. The 2014 Approach

Consultation

4.32 In the CAPM framework, the ERP represents the mean level of extra return that investors require as a reward for investing in equities rather than a risk-free asset. The ERP cannot be directly observed but may be inferred from historical evidence or economic forecasts.

4.33 In the 2014 Decision, ComReg chose the ERP based on data from DMS. DMS estimated ERP over bonds (a proxy for the risk-free rate) for various countries since 1900. Relying on a long-run historical data set can significantly reduce the variation in ERP which is observed over short periods of time. The use of the arithmetic mean[83] for estimating ERP has been the favoured method among Regulators[84].

4.34 ComReg was of the preliminary view in the Consultation that the arithmetic mean approach should continue to be adopted as part of this review.

[78] Section 3.2.1 of Europe Economics Final Report.
[79] Section 3.3 of Europe Economics Final Report.
[80] See paragraph 4.22 of the Response to Consultation.
[81] This is derived from the Fisher equation: (1 + real risk-free rate) * (1 + inflation) - 1
[82] Five years to November 2019. This is from data obtained from Eurostat.
[83] An alternative way is to estimate geometric mean. Geometric mean is the nth root of the product of historical ERP values.
[84] The DMS series can be thought as a set of draws from an underlying distribution of returns. In this context the arithmetic mean is the expected value of returns - since the arithmetic mean is the expected value of a sample. See section 3.2.2 in the Europe Economics Technical Report.

4.35 Europe Economics Technical Report relied on the ERP estimates provided by DMS. Europe Economics Technical Report estimated an ERP arithmetic mean for Ireland of 4.60%[85]. ComReg noted in the Consultation that this Ireland specific rate was similar to the estimated European wide ERP of 4.3%.

4.36 Europe Economics also reviewed the ERP values applied in previous regulatory WACC estimations in Ireland, including those of other Irish Regulators, and suggested an ERP range of 4.3% to 4.75%.

4.37 ComReg analysed Europe Economics approach to estimating the ERP and concurred in the Consultation with its proposal of a **4.60%** point estimate.

Submissions to the Consultation

4.38 2rn considered that the parameter estimates for the ERP and risk free rate are likely to allow it to earn an appropriate return[86].

4.39 Both Eircom and Three expressed the view that an ERP at 4.6% was too low. Three noted that the reduction used in the calculation from 5% to 4.6% appeared to be at odds with international trends, citing those of the Netherlands and Italy at 5.75% and 6.07% respectively[87].

4.40 Eircom disagreed with ComReg's and Europe Economics' exclusive reliance on the historical data estimate by DMS, noting that by definition, this means that there is no account taken of specific risks associated with current or future investments[88]. Eircom argued for a wider methodological approach, consistent with the equilibrium approach and noted that recent NRA decisions on WACC by the Portuguese and Slovenian regulators complemented their approach beyond the DMS analysis[89]. Eircom believed that ComReg's DMS analysis should be complemented with a Damodaran analysis[90] (which measures the volatility of Irish equity stock relative to the Irish economy and the additional return by investors to invest in Irish companies) as well as rely on the Fernandez survey[91] (which provides information on expectation of ERP for investments). Eircom disagreed also on the downward adjustments proposed by Europe Economics to reflect economic contractions, on the basis that this is implicit in the DMS data, and that this amounted to an unjustified departure from the approach used in 2014[92].

[85] See section 3.2 of Europe Economics Technical Report.
[86] Paragraph 3.2 of its response.
[87] Page 2 of its response.
[88] Paragraph 41 of its response – 13 August 2019.
[89] Paragraph 45 of its response – 13 August 2019.
[90] Paragraph 46 of its response – 13 August 2019.
[91] Paragraph 48 of its response – 13 August 2019.
[92] Paragraph 51 of its response – 13 August 2019.

Response to Consultation

4.41 For the reasons explained in the Europe Economics Technical Report,[93] and further set out in the Europe Economics Final Report,[94] alternative approaches such as the use of a Dividend Growth Model for the TMR from which the ERP can be derived, are not appropriate for Ireland given the very significant ranges they produce. Furthermore, there are no data sources that can be used to complement the DMS data, as suggested by Three and Eircom, because the relevant risk-free rate they use is significantly lower than it is for Ireland.

4.42 ComReg accordingly remains of the view that for the purpose of the equilibrium approach, the arithmetic mean approach for calculating the ERP is appropriate, and that the ERP should be calculated using data from DMS.

4.43 It is the case, however, as explained in the Europe Economics Final Report,[95] that the approach proposed by Europe Economics and followed by ComReg does take into account the macroeconomic context in which the WACC is to apply. ComReg in the Consultation had proposed an ERP which reflected the Irish economic outlook. Since then the economic outlook for Ireland has become more uncertain and an update is required.

4.44 ComReg agrees that the ERP proposed in the Consultation, under the equilibrium approach, ought to be updated as suggested by Eircom but not for the reasons advanced by Eircom[96].

4.45 In the Consultation Europe Economics noted that in periods of recession many regulators elevate the ERP and therefore in times of economic growth it is reduced[97]. Therefore, in the Consultation it applied a reduction to the ERP as produced by DMS. In the Response to Consultation Europe Economics notes that the economic outlook for Ireland has become more uncertain and therefore considers that a downward adjustment to the ERP is no longer required[98].

4.46 As a result, the point estimate of the ERP has been raised to a value of **4.90%**. This considers the risk of Eurozone recession and medium-term impacts of Brexit[99].

[93] Section 3.2 and Section 12.4. of Europe Economics Technical Report.
[94] Section 4.2.2.3 of Europe Economics Final Report.
[95] Section 4.2.2.3 of Europe Economics' Final Report.
[96] See Section 4.3.2 of Europe Economics Final Report.
[97] See section 3.2.2 of Europe Economics Technical Report.
[98] See Section 4.3.2 of Europe Economics Final Report.
[99] See Section 4.3.2 of Europe Economics Final Report.

B. Commission Notice approach (Modified)

4.47 The Commission Notice proposes that the ERP should be based on a European wide value and not a domestic value.

4.48 The BEREC regulatory accounting expert working group has agreed to estimate an ERP for Europe as part of its programme to calculate parameter values under the Commission Notice. As this value will not be available until Summer 2020 Europe Economics has, for the purposes of this Response to Consultation, estimated this value to be within a range of 4.20% and 6.4%[100]. In doing so, it has considered two approaches:

- 4.2% reflects the ERP for each country averaged across the comparator set: Low: Spain 3.6% to High: Austria 21.1%.
- Applying a GDP weighting results in a weighted average of 6.4%.

4.49 These produce a range for TMR using the Commission Notice of between 5.024% and 7.224% or a midpoint of 6.14%. Excluding the inflation adjustment of 1.7% results in a real TMR under the Commission Notice approach of 4.4%[101].

4.50 ComReg considers that this TMR value of 4.4%, which includes the current exceptionally low values for government bonds is not reflective of the TMR for Ireland, which should be relatively stable over the long term. By way of comparison the real TMR under the 2014 approach is estimated at 6.65%[102]. Generally, when nominal interest rates show downward pressure the ERP moves in the opposite direction. Therefore, in order to address this issue ComReg, in conjunction with Europe Economics, has modified the approach under the Commission Notice for calculating the TMR.

4.51 DMS data indicates a real TMR for Europe of 6% and that for Ireland of 6.7% with an average of 6.35%[103]. The real-risk free rate for Ireland is a negative 0.861% under the Commission Notice approach. This would imply a real ERP between the range of 6.86% and 7.56% and a point estimate of 7.21%. It should be noted that in a final determination report for the Commission for Aviation Regulation Swiss Economics[104] estimated a real TMR of 6.38% and an ERP of 6.99%.

4.52 Therefore, for the purposes of estimating the ERP under the modified Commission Notice approach the point estimate is **7.21%[105].**

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[100] See table 4.12 “ERP figures of EU countries” of the Europe Economics’ Final Report.
[101] See Section 4.4.2 of Europe Economics Final Report.
[102] See Table 4.10 of Europe Economics Final Report.
[103] See section 4.4.2.1 of Europe Economics Final Report.
[104] Dublin Airport Cost of Capital for 2019 Determination, Final Report, 30 September 2019, ISSN 2235-1868.
[105] See Section 4.4.2.1 of Europe Economics Final Report.

Asset beta and equity beta

Methodology/General

4.53 Within the CAPM framework it is necessary to determine the equity beta, β_E, i.e. the covariance between a stock price returns, and the returns of the entire equity market. For this purpose, ComReg, with Europe Economics, has examined relevant comparators' observed equity betas.

Asset beta / equity beta

4.54 Using the gearing[106] of each comparator their equity betas are converted to asset betas, β_A. An asset beta (which, under a zero debt beta assumption, is also called an unlevered beta) is the beta of a company without the impact of debt. It compares the risk of an unlevered company to the risk of the market.

4.55 In order to determine the equity beta of a notional company with a notional level of debt, these betas are converted to the notional level of borrowing used in the WACC calculation as unlevered or Asset Beta β_A is calculated using the following formula:

$$\beta_A = \beta_D \times g + \beta_E \times (1 - g)$$

- where:
  - β_D = debt beta; and
  - g = gearing.

4.56 In the above formula ComReg has ignored the debt beta. In general, Irish regulators have chosen not to include a debt beta (β_D) in their assessment of the regulatory WACC (i.e. debt beta equal to zero). In this usage the equation above becomes:

$$\beta_A = \beta_E \times (1 - g)$$

4.57 The use of zero debt betas reflects the difficulties of producing reliable estimates of debt beta. It also reflects the fact that, where debt beta is low and notional gearing is close to companies' actual gearing levels, the inclusion of debt beta does not make a material difference to the WACC. However, a non-zero debt beta may be appropriate in some circumstances, for example if elevated debt premia suggest that the systematic risk of debt has increased.

[106] Note "Gearing" is discussed in more detail in Chapter 6 – Final WACC Values.

4.58 The rationale behind estimation of debt beta is explained in Europe Economics Technical Report[107]. Debt betas of zero and 0.1 have been considered by Europe Economics, but the overall WACC is calculated with a zero-debt beta due to its negligible impact on equity beta when re-levered to the notional gearing level.

4.59 No comments were made by respondents regarding the debt beta. Having reviewed Europe Economics' analysis[108], ComReg remains of the view that the debt beta should be zero. Given that the debt beta is zero, the asset beta is determined by reference to the equity beta, and to determine the asset beta it is first necessary to determine the equity beta for the comparator set.

4.60 Unlevered betas are obtained by multiplying equity betas by (1 - gearing), where the gearing measure used was two-year rolling average of firms' net debt over enterprise value.

4.61 The calculation of the asset beta and equity beta below is done on the basis of the two general approaches to the cost of equity, namely by reference to the 2014 equilibrium approach, and the Commission Notice approach. The same peer group is used for both approaches.

4.62 The calculation of the asset beta and equity beta is considered below for both fixed line and mobile communications under each approach at paragraphs 4.98 to 4.101. The calculation of the asset beta and equity beta for broadcasting is set out at paragraph 4.126.

Covid 19

4.63 The asset beta is estimated by reference to a peer group of telecoms operators.

4.64 A recent publication by Standard and Poors[109] considers that the telecoms industry while not remaining totally unscathed by Covid-19 may not experience the same level of economic downturn as other industries. Therefore, the asset beta for the telecoms industry may vary when compared to the market as a whole. The review of asset beta will form part of ComReg's annual updates. However, insufficient data is available at this time to determine what the impact, if any, Covid 19 will have on beta[110].

[107] See section 4.3.3 of the Europe Economics Technical Report.
The Europe Economics Final Report Appendix 2 has a cross-check using a debt beta of 0.1. The net effect is to reduce the WACC rate by a negligible amount.
[108] Footnote 43 of Europe Economics Final Report.
[109] 6 April 2020.
[110] See section 1.2.3 "Gearing and Beta" - Europe Economics Covid 19 report.

Fixed Line and Mobile

Consultation

4.65 In the Consultation, ComReg proposed to rely, as set out in the Europe Economics Technical Report, on daily data over a two-year period, to estimate the equity beta.

4.66 The Consultation outlined that the most straightforward way of estimating the equity beta is to estimate current equity beta from the stock market. In a best-case scenario, in respect of fixed line, ComReg would be able to estimate the beta values from the stock price of a fixed line incumbent in the Irish market and make a judgment surrounding perceived efficiencies.

4.67 Due to the amount of time that has passed since Eircom was a listed company, it was not considered appropriate in the Consultation to use historical market data to directly estimate the equity beta of Eircom. Europe Economics instead relied on regulatory precedent and comparator analysis to estimate the equity beta for a hypothetical efficient FSP, setting out asset betas from European comparator companies in the range of 0.38 to 0.41[111]. ComReg proposed a point estimate of 0.40 for the hypothetical efficient FSP.

4.68 The preliminary equity beta was estimated to be 0.67 in the Consultation, resulting from a preliminary asset beta of 0.40, a debt beta of zero and notional gearing of 40%.

4.69 A fixed line equity beta of 0.66 is therefore derived from the following:

Equity beta = 0.40 / (1 – 0.40[112]).

4.70 In respect of the mobile sector ComReg recognised in the Consultation that estimating an asset beta for a hypothetical efficient MSP is complicated by several factors. It was difficult to find good comparators for beta estimation as there are a limited number of mobile only operators in Europe. As mobile operators in Europe tend to exist as part of a multi-service telecommunications company, it was difficult to isolate their pure-play mobile activities and to identify their returns. There also happened to be relatively few precedents, post financial crisis, on betas for efficient mobile operators.

4.71 Europe Economics considered the following in reaching a proposal on a suitable range for a hypothetical efficient MSP's asset beta[113], in order to arrive at a best approximation:

[111] See Table 6.3 and figures 6.2 and 6.3 of the Europe Economics Technical Report.
[112] Notional gearing.
[113] It is important to note that the asset beta is industry specific and not country specific meaning that we can take guidance from operators in other countries.

- A combination of direct statistical estimates based on market data from a sample of European and non-European mobile telecommunications asset betas; and

- Relevant regulatory precedent regarding asset betas, as estimated by other NRAs in their respective Mobile Termination Rate ("**MTR**") determinations.

4.72 Having analysed the Europe Economics Technical Report and for the reasons outlined above, ComReg's preliminary view in the Consultation was that, for the purposes of the mobile telecommunication WACC estimation, an unlevered beta point estimate of 0.43 should be used.[114]

4.73 The preliminary equity beta was estimated to be 0.66, resulting from an estimated asset beta of 0.43, a debt beta of zero and notional gearing of 35%.

4.74 A mobile equity beta of 0.66 is therefore derived from the following:

Equity beta = 0.43 / (1 – 0.35[115]*)*

Submissions to the Consultation

4.75 Eircom disagreed with ComReg's proposed calculation of the asset beta and equity beta[116] on the basis that the timespan proposed by ComReg was incorrect[117], the peer groups incomplete[118] and the presentations of regulatory precedent incorrect[119]. As a result, the proposed unlevered beta of 0.40 for fixed line,[120] and 0.43 for mobile communications [121] were not appropriate. Sky also suggested that the Equity beta based on comparator set may not be appropriate[122], and Vodafone and Eircom both suggested that the value for the equity beta/value appeared low.[123]

4.76 In summary, Eircom disagreed with ComReg's proposed approach to calculating the asset beta taking the view that ComReg had relied on an incorrect methodological approach to market data. Eircom submitted that asset betas should be estimated using five years of data i.e. that the asset

[114] The asset beta is also referred to an unlevered beta. This is subsequently levered (with gearing) to achieve the equity beta which ultimately feeds through to the estimation of the cost of equity.
[115] Notional gearing.
[116] Paragraph 62 of its response – 13 August 2019.
[117] Paragraph 107 of its response – 13 August 2019.
[118] Paragraphs 112 and 73 of its response – 13 August 2019.
[119] Paragraph 83 of its response – 13 August 2019.
[120] Paragraph 103 of its response – 13 August 2019.
[121] Paragraph 62 of its response – 13 August 2019.
[122] Paragraph 24 of its response.
[123] Paragraph 9 of its response.

beta for estimating the forward looking WACC should be based on the asset beta calculated using the last five years of stock market returns[124].

4.77 According to Eircom, using two years of observations instead of five years is an incorrect approach; greater weight should be placed on results using the Blume adjusted method[125]. A longer time period would increase the accuracy of the estimates, decrease the risk of beta estimates being affected by uninformative volatility, place less weight on recent macroeconomic events, better reflect the business cyclicality of the economy, and take the long lifetime of investment decisions into account.

4.78 It noted that the Commission Notice also advocates the use of a five-year time span for beta calculation.

4.79 Eircom also said in respect of both fixed line and mobile communications that the peer group used for estimating the beta was incomplete and suggested additional comparators to the group[126]. Sky also submitted that adopting an equity beta for Eircom based on a comparator set that does not have comparable gearing levels may not be appropriate and result in an outcome divorced from reality.

4.80 For both fixed and mobile, Eircom submitted that the regulatory precedent was incorrectly presented or (for mobile) that Europe Economics had failed to consider regulatory precedents. It continued that Europe Economics had mistakenly identified that the regulatory precedent for the unlevered asset beta for fixed line was between 0.42 and 0.61[127]. For Eircom the range is between 0.48 and 0.78 with an average value of 0.58 for fixed line. For mobile, Eircom provided an average asset beta value of 0.64 based on notifications in the three years prior to Eircom's response[128].

4.81 Eircom suggested a value of 1 rather than 0.66 for the equity beta[129] for mobile. Vodafone said that the equity beta estimate appears low[130].

Response to Consultation

4.82 In consideration of the responses to the Consultation ComReg has modified the methodology proposed in the Consultation in relation to asset betas[131] in a number of ways[132].

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[124] Paragraph 64 of its response – 13 August 2019.
[125] Paragraph 107 (iii) of its response – 13 August 2019.
[126] Paragraphs 112 and 73 of its response – 13 August 2019.
[127] Paragraph 125 of its response – 13 August 2019.
[128] Paragraph 87 of its response – 13 August 2019.
[129] Paragraph 90 of its response – 13 August 2019.
[130] Paragraph 9 of its response.
[131] See Section 4.3.3 of Europe Economics Final Report.
[132] In footnote 52 of paragraph 66 of its response – 13 August 2019, Eircom commented that *"[…] formal request for the underlying data used by Europe Economics was denied by ComReg on the basis that it was propriety data"*. ComReg notes that this type of the type of information required to calculate asset

Two-year asset beta estimates

4.83 ComReg continues to use the average of two-year asset beta estimates.

4.84 ComReg notes that the Brattle Report to the European Commission recommended that NRAs calculate betas using daily returns over a two-year period[133].

4.85 ComReg considers that two years of daily stock market data provides more data points than five years of weekly stock market data. Europe Economics is also of the view that estimating betas based on 2-years of daily data strikes the right balance between a short enough estimation period to be relevant on a forward-looking basis whilst having enough data points to ensure statistical robustness[134]. An analysis by Europe Economics, based on stock market outcomes, concluded that a beta estimate using two years of prior data had the least predictive error of spot beta estimating for the next five years than betas based on one, three or five years[135]. ComReg considers that asset betas based on 5 years of weekly data, as suggested by Eircom, would not increase the accuracy of estimates over those based on 2 years of daily data.

4.86 ComReg also considers that beta estimates should consider investors' views on recent economic events and current views for the future as reflected in stock market relative movements. Annual updates will also help in keeping this current[136].

4.87 Furthermore, ComReg is of the view that a beta based on a previous 5-year window does not necessarily better reflect the future financial conditions of assets with long lifetimes unless the future is expected to be similar to the 5-year window.

4.88 ComReg is of the view that estimating future asset betas using a weighted average approach based on data over the prior two years provides the best results for capturing market expectations.

Five-year asset beta estimates

4.89 The Commission Notice considers that betas based on a five-year timespan provide greater stability for WACC estimates over time and in its view the five-year timespan is consistent with the timespan used for the risk-free rate. Using a five-year timespan would also help consistency with future

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betas tends not to be publicly available and Europe Economics were only able to obtain this information under licence, which precluded the sharing of data. ComReg notes, however, that Europe Economics has described its methodology, provided the source for its information and updated the peer group based, in part, on suggestions from Eircom.

[133] See section III.A of the Brattle Report on Beta, https://op.europa.eu/en/publication-detail/-/publication/da1cbe44-4a4e-11e6-9c64-01aa75ed71a1/language-en

[134] See Section 4.3.3 of Europe Economics Final Report.

[135] See Table 4.6 of Europe Economics Final Report.

[136] See section 7.54 of the Response to Consultation.

WACC notifications from other Member States, assuming those other member states follow the EC Guidelines. While for the reasons set out above ComReg prefers the two year span approach, as noted in section 3.29 ComReg, in this Response to Consultation, is now also calculating asset betas using the Commission Notice approach so that the WACCs estimated by ComReg will reflect the Commission Notice approach also. ComReg notes that the Commission Notice argues against the use of any beta adjustments, such as Blume, as these are unlikely to increase the efficiency of the estimation while increasing unnecessarily the complexity of the regulatory approach and limiting its transparency[137].

Peer groups

4.90 Further to the comments made by respondents, changes have been made to the choice of peer groups, with more being added to the group, taking into account the set of 5 criteria in the Commission Notice for selecting a peer group of comparators[138], illustrated in the Staff Working Document by a list of firms that would be consistent with the criteria[139].

4.91 Only companies that meet the five criteria in the Staff Working Document are included in the peer group[140].

- It should be noted that not all companies proposed by Eircom were included in the peer group. For example, Telenor and Veon have extensive activities outside of Europe and were therefore not considered as appropriate comparators.
- Elisa and Tele2, as proposed by Eircom for inclusion, are also listed in Table 25 of the Staff Working Document, as are Proximus, Telekom Austria, and Vodafone.
- Orange, Telefonica and Telia were proposed in the Consultation for inclusion in the peer group. They are also listed in Table 25 of the Staff Working Document as well as Eircom's proposed list of comparators.
- In the Consultation it was proposed that Deutsche Telekom be included in the peer group. However, as it earns more than 50% of its revenues from outside Europe it does not meet one of the criteria in the Staff Working Document and is now excluded.

[137] See section 5.3.3.1 of the Commission Notice.
[138] See paragraph 44 of the Commission Notice. The five criteria are: are listed on a stock exchange and have liquidly traded shares; own and invest in electronic communications infrastructure; have their main operations located in the Union; have an investment grade credit rating; and are not, or have not been recently, involved in any substantial mergers and acquisitions.
[139] See Table 25 in the Staff Working Document.
[140] See section 4.3.3. of Europe Economics Final Report.

- In the Consultation it was proposed that Telecom Italia be included in the peer group. However, as it does not have investment grade status it does not meet one of the criteria in the Staff Working Document and is now excluded

- NOS, as proposed by Eircom, is now included in the peer group as it is considered to meet the five criteria in the Staff Working Document.

4.92 Considering the proposals made by Eircom and the illustrative list of peer group members in the Commission Notice, the appropriate comparator sets have been amended. The final comparator sets for fixed line and mobile are presented in Table 4.5 in the Europe Economics Final Report. The sets include the following:

- Certain comparators proposed in the Consultation;

- Certain firms proposed in the Commission Notice; and

- Certain comparators as proposed by Eircom.

4.93 As such the peer group companies for fixed line and mobile telecommunications are:

Table 2: Final comparators set for fixed line and mobile telecommunications

Company	Country
British Telecom	United Kingdom
Elisa	Finland
KPN	Netherlands
NOS	Portugal
Orange	France
Proximus	Belgium
SwissCom	Switzerland
Telefonica	Spain
Tele2	Sweden
Telekom Austria	Austria
Telia	Sweden
Vodafone	UK

4.94 In response to Eircom's comments regarding the regulatory precedents[141], ComReg notes that the comparator set for asset betas has been updated to reflect current information (2015 onwards). Based on this information the regulatory precedent range for asset beta in the fixed-line sector is between 0.43 and 0.59, with an average value of 0.50[142] and in the mobile sector, between 0.47 and 0.75, with an average value of 0.62[143].

4.95 However, it should also be noted that these asset betas do not feed directly into the beta calculation but instead serve only as context and cross-checks to them. In relation to the UK asset beta the BT Group's unlevered beta is 0.78. However, Ofcom has disaggregated BT Groups' beta into "Openreach copper network" beta (0.59), and "Other UK telecom business" beta (0.73), and since the latter includes also mobile and bundle services, ComReg considers that the former is more relevant for the purpose of determining the systematic risk of fixed line business[144].

4.96 In response to Sky's comments, ComReg notes that the equity beta used to calculate the cost of equity is not taken directly from the equity betas of the comparator set. For each company in the comparator set an equity beta is calculated. The equity beta for each company is then unlevered to get the asset beta. This is done for each company using the rolling average of the net debt over enterprise value of that company, as available from Thomson Reuter[145]. An average value of asset beta is calculated using the asset beta values that were derived from the individual equity betas for each company. To calculate a notional equity beta the average asset beta value is re-levered using the notional gearing level of 40%. ComReg considers that this approach results in an appropriate equity beta for a hypothetical efficient operator in fixed line telecommunications.

4.97 However, in light of the submissions received, a further refinement has been made for the fixed line and mobile sectors. The asset betas are estimated under three different approaches and a range developed. Each of the approaches listed below uses companies' revenue shares across different segments to estimate separate unlevered betas that are as representative as possible of a notional pure-play entity.

[141] See paragraph 83 (Mobile) and paragraph 125 (Fixed Line) of its response – 13 August 2019.
[142] See table 4.3 of Europe Economics Final Report.
[143] See table 4.2 of Europe Economics Final Report.
[144] See Section 4.2.3.2 of Europe Economics Final Report.
[145] See section 4.3.3 in the Europe Economics Final Report.

- **Weighted average approach** – This is the approach used in the Consultation and consists of estimating weighted averages of the telecom operator's beta where the weights are proportional to the share of revenues each company generates from mobile activities and from fixed line activities[146].
- **Sector index approach (Method A)** — This second approach consists in constructing two separate industry return indices (a mobile sector return index and a fixed line return index) by calculating a weighted averages of the operators' daily returns with weights proportional to each firm's market capitalisation and the share of revenues each firm generates from mobile activities and from fixed line activities[147]. The mobile sector and fixed line betas are then estimated by regressing each of the two sector returns indices against a wide market index.
- **Sector index approach (Method B)** — The third approach is a variation of the second approach. Two sector return indices are constructed which are proportional to the firms' market capitalisation. However, a weight of zero is assigned to firms that generate less than a given percentage of revenues from either mobile or fixed activities. The share of revenues each firm generates from mobile activities and from fixed line activities is normalised to ensure that this is zero for a firm that meets precisely the threshold, and one for a firm that generates all its revenues from that activity[148].

Estimation under the 2014 approach

Fixed

4.98 Based on the three methods described above (see paragraph 4.97) to determine an asset beta for fixed line telecommunications using two-year daily averages, ComReg considers that the asset beta lies in the range of 0.40 to 0.45 with a point estimate (the mid-point of the range) of **0.425**.

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146 Assume there two companies: Company A has a 50 per cent share of mobile in its total revenue and Company B with 25 per cent share of mobile in its total revenue. The weighted average would be (50/75)*Asset Beta A + (25/75)*Asset Beta B.

147 Assume there are two companies: Company A has a market capitalisation of 8 billon and a 50 per cent share of mobile in its total revenue and Company has a market capitalisation of 12 billion with 25 per cent share of mobile in its total revenue. The mobile return index would be [(8*0.50)/(8*0.50+12*0.25)]*Return A + [(12*0.25)/(8*0.50+12*0.25)]*Return B.

148 The thresholds used are 40 per cent of revenues generated from mobile activity and 25 per cent of revenues generated from fixed line activity. These thresholds are chosen to try to reflect natural breaks in the data (i.e., points where there is a grouping of comparators above or below or both, with a break between them) whilst also ensuring that there are a reasonable number of firms above the threshold.

4.99 At a gearing level of 40%[149] this results in an equity beta of **0.71**[150].

Mobile

4.100 Based on the three methods described above to determine an asset beta for mobile telecommunications using two-year daily averages, ComReg considers that the asset beta lies in the range of 0.47 to 0.49 with a point estimate (the mid-point of the range) of **0.48**.

4.101 At a gearing level of 40% this results in an equity beta of **0.80**[151].

Estimation under the Commission Notice approach

4.102 In order to estimate the asset betas for the fixed line and mobile sectors under the Commission Notice approach ComReg has used five years of weekly return data from the peer group[152].

Fixed

4.103 Using five-year weekly averages ComReg considers that, under the Commission Notice approach, the asset beta fixed line telecommunications is **0.48**.

4.104 At a gearing level of 40% this results in an equity beta of **0.80**.

4.105 Eircom proposed a point estimate for the asset beta of 0.60 in its response of 13 August 2019 to the Consultation[153], based on five-year data. In its Supplemental Response of 23 January 2020 Eircom provide an arithmetic average of 0.55 based on five-year data[154].

4.106 Both Eircom[155] and the Commission Notice[156] reference a range of 0.50 to 0.67 for the asset beta from the Brattle Report published in 2016[157]. It would be expected that the asset beta reasonable range would change over time.

4.107 The Brattle Report says that

> *"[…] there is significant uncertainty associated with the asset beta estimate for a legacy network",*

and that

[149] Section 6.24 of this Response to Consultation.
[150] See section 4.3.3.3 of Europe Economic Final Report.
[151] See section 4.3.3.3 of Europe Economic Final Report.
[152] See Section 4.4.3 of Europe Economics Final Report.
[153] Paragraph 124.
[154] Paragraph 20.
[155] See paragraphs 118 and 124 of the Eircom Response.
[156] See section 6 of the Staff Working Document.
[157] https://brattlefiles.blob.core.windows.net/system/news/pdfs/000/001/092/original/review_of_approaches_to_estimate_a_reasonable_rate_of_return_for_investments_in_telecoms_networks_in_regulatory_proceedings_and_options_for_eu_harmonization.pdf?1468846264

"NRAs should recalculate beta for each new regulatory period, but exercise discretion in updating the beta value used in the WACC estimate. Significant variations in beta estimates from one regulatory period to another should be duly justified."

4.108 ComReg notes that its decision value of 0.425 for the asset beta (based on the 2014 approach) is outside the 2016 reasonable range when the Brattle Report was published. The evidence shows however that, whether using two or five years of recent data, fixed telecoms asset betas have declined since the Brattle Report. For example, following the Commission Notice approach Europe Economics calculated an asset beta of 0.48 using five years of data for the period ending 29 November 2019[158] which again is below the range in the Brattle Report.

4.109 Based on the currently available evidence ComReg considers that an asset beta of 0.425[159], under the 2014 approach, is reasonable and appropriate. ComReg has also calculated an asset beta of 0.48[160] using the Commission Notice approach. These result in equity betas of 0.71 and 0.80 respectively.

Mobile

4.110 As noted in section 4.90 ComReg has updated its comparator set for the calculation of the asset beta.

4.111 Using five-year weekly averages ComReg considers that, under the Commission Notice approach, the asset beta for mobile is **0.50**[161].

4.112 At a gearing level of 40%[162] this results in an equity beta of **0.83**.

4.113 Using the revised figures of gearing of 40% and an asset beta of **0.48** the equity beta parameter, under the 2014 approach, is estimated to be **0.80**[163] compared to 0.66 in the Consultation. ComReg does not consider the revised figure to be low. It compares with average and median values of 0.82 and 0.85 respectively in the BEREC Report Regulatory Accounting in Practice 2019 – WACC Chapter[164].

[158] See section 4.4.3.1 of Europe Economics Final Report.
[159] Based on two year daily data.
[160] Based on five year weekly data.
[161] See section 4.4.3.1 of Europe Economics Final Report.
[162] Section 6.40 of this Response to Consultation.
[163] See section 4.3.3.3 of Europe Economics Final Report.
[164] BoR (19) 240.

Broadcasting

Consultation

4.114 In the Consultation the asset beta was estimated based on evidence from regulatory precedent and comparator companies. Regulatory precedent suggested a range of 0.49 to 0.65 for the asset beta. Europe Economics Technical Report[165] considers that two-year asset betas for tower and mast companies (which are used as the most relevant comparators) indicate the relevant range as being 0.3 to 0.5, which is similar to that of fixed line companies.

4.115 ComReg was of the preliminary view that a point estimate of 0.4 for the asset beta of a hypothetical efficient broadcaster was appropriate. The approach of estimating the asset beta was based on several sources of evidence and was in line with approaches taken by other European regulators. The reliance on the various sources of information produces a range for the asset beta that is rigorous, and evidence based. The value of this comprehensive approach is that each source of information acts as a separate data point in the analysis while providing a cross-check on the other results.

4.116 Having analysed Europe Economics Technical Report and for the reasons outlined above, ComReg's preliminary view was that, for the purposes of the broadcasting WACC estimation, an unlevered asset beta point estimate of 0.4 should be used.

4.117 The preliminary equity beta was estimated to be 0.53, resulting from an estimated asset beta of 0.4, a debt beta of zero and notional gearing of 25%.

4.118 An equity beta of 0.53 is therefore derived from the following:

Equity beta = 0.4 / (1 – 0.25[166])

Submissions to the Consultation

4.119 2rn submitted that the comparator companies chosen should face similar risks[167] and be in a similar regulatory regime to 2rn[168]. It noted that:

- Crown Castle and SBA Communications provide wireless infrastructure and not broadcasting infrastructure[169]; and

165 See section 7.5 of Europe Economics Technical Report.
166 Notional gearing level.
167 Paragraph 4.8 of its response.
168 Paragraph 4.11 of its response.
169 Paragraph 4.10 of its response.

- El Towers and Cellnex operate in Europe, whereas American Tower operates predominantly in the USA and India. SBA Communications only operates in the Americas and Crown Castle in the USA. Therefore, El Towers and Cellnex are the most appropriate comparators[170].

4.120 The asset beta range proposed by Europe Economics was between 0.30 and 0.50. However, El Towers was at 0.60 in October 2018 when it delisted and given that the comparator set is small it should continue to be used and that it is unlikely that the systematic risk would have changed significantly since then[171].

4.121 To 2rn, it appears that Europe Economics has calculated 2-year beta using weekly data but 2rn cannot replicate this and there is no evidence that other sensitivities using different time periods or intervals have been considered[172].

4.122 In summary, 2rn proposed[173]:

- Primary weight be placed on Cellnex and El Towers (0.5 and 0.6 asset beta respectively);
- Less weight on American Tower (0.30);
- Disregard Crown Castle and SBA Communications; and
- A point estimate of 0.55 noting that 0.55 was used in the 2014 Decision and there has been no indication by ComReg as to why the asset beta would have fallen[174].

Response to Consultation and Final Decision

4.123 While not ideal, as there is a limited number of comparable pure-play broadcasting companies for the peer group available there is merit in expanding the peer group for similar companies in different geographic areas. Crown Castle and SBA Communications manage and operate similar assets to broadcasters and therefore their systematic risk exposure would be similar to that of broadcasters.

4.124 However, as suggested by 2rn more weighting will be placed on the asset betas of broadcasting operators and European operators. The risks European operators face are more reflective of the risks 2rn would face when compared to those of US operators.

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[170] Paragraph 4.13 of its response.
[171] Paragraph 4.18 of its response.
[172] Paragraphs 4.21 to 4.22 of its response.
[173] Paragraph 4.23 of its response.
[174] Paragraph 4.24 of its response.

4.125 ComReg has, therefore, made the following adjustments to its calculation of the asset beta for broadcasting[175]:

- Despite it being delisted, ComReg has assumed that the asset beta of EI Tower would have evolved in line with Cellnex;
- ComReg has calculated a weighted average of all five comparators; noting that
  - More weight is placed on broadcasters than wireless operators; and
  - More weight is placed on European broadcasters than American broadcasters.

4.126 Based on these assumptions the average asset beta at December 2018 would have been 0.45 compared to an asset beta of 0.40 in the Consultation. Since August 2018 asset betas for broadcasting have come down and based on the above assumptions the average asset beta would be 0.38. This is based on two years of daily return data.

4.127 Using two-year daily averages ComReg considers that the asset beta lies in the range of 0.38 to 0.49 with a point estimate (the mid-point of the range) of **0.45,** which is the Cellnex asset beta[176].

4.128 At a gearing level of 25%[177] this results in an equity beta of **0.6**.

[175] See section 4.3.3 Europe Economics Final Report.
[176] See section 4.3.3.3 of Europe Economics Final Report.
[177] See section 6.34 of the Response to Consultation.

Cost of Equity

Fixed line

4.129 Using both the 2014 approach and the modified Commission Notice approach to estimating the cost of equity, ComReg details below the parameter values under each.

Table 3 Nominal pre-tax cost of equity for fixed line telecommunications - Decision

		2014 approach [178]		Modified Commission Notice approach[179]
	Parameter	Rate		Rate
A	Corporation Tax rate	12.5%		12.5%
B	Real risk-free rate	1.75%		<0.86%>
C	Inflation	1.50%		1.7%
D	Nominal risk-free rate	3.28%	(1+B)*(1+C)-1	0.824%
E	Equity risk premium	4.90%		7.21%
	Real TMR	6.65%		6.35%
	Asset beta	0.43		0.48
	Notional gearing	40%		40%
F	Equity Beta at notional gearing	0.71		0.80
G	Nominal post-tax cost of equity	6.75%	D + (F*E)	6.59%
H	Nominal pre-tax cost of equity	7.71%	G/(1-A)	7.53%
	Average Nominal post-tax cost of equity (average of row G)		6.67%	

[178] See Table 4.10 of Europe Economics Final Report.
[179] See Table 4.15 of Europe Economics Final Report.

4.130 The average of the cost of equity under the 2014 approach (6.75%) and the modified Commission Notice approach (6.59%) is 6.67%. The two approaches produce quite similar costs of equity and ComReg considers that on this basis it is reasonable to take the average value, namely 6.67%. (In the Consultation ComReg had estimated the nominal pre-tax cost of equity for the fixed line telecommunications sector to be 7.42%.)

4.131 This average of **6.67%** is the cost of equity applied by ComReg in determining the WACC for fixed line telecommunications.

Mobile

4.132 Using both the 2014 approach and the modified Commission Notice approach to estimating the cost of equity, ComReg details below the parameter values under each.

Table 4 Nominal pre-tax cost of equity for mobile telecommunications - Decision

		2014 approach[180]		**Modified Commission Notice approach**[181]
	Parameter	Rate		Rate
A	Corporation Tax rate	12.5%		12.5%
B	Real risk-free rate	1.75%		<0.86%>
C	Inflation	1.50%		1.7%
D	Nominal risk-free rate	3.28%	(1+B)*(1+C)-1	0.824%
E	Equity risk premium	4.90%		7.21%
	Real TMR	6.65%		6.35%
	Asset beta	0.48		0.50
	Notional gearing	40%		40%
F	Equity Beta at notional gearing	0.80		0.83
G	Nominal post-tax cost of equity	7.20%	D + (F*E)	6.83%
H	Nominal pre-tax cost of equity	8.23%	G/(1-A)	7.78%
	Average Nominal post-tax cost of equity (average of row G)		7.01%	

[180] See Table 4.9 of Europe Economics Final Report.
[181] See Table 4.14 of Europe Economics Final Report.

4.133 The average of the cost of equity under the 2014 approach (7.20%) and the modified Commission Notice approach (6.83%) is 7.01%. The two approaches produce quite similar costs of equity and ComReg considers that on this basis it is reasonable to take an average value, namely 7.01%. In the Consultation ComReg estimated the cost of equity for the mobile telecommunications sector to be 7.39%.

4.134 This average of **7.01%** is the cost of equity applied by ComReg in determining the WACC for mobile telecommunications.

Broadcasting

4.135 As noted in section 3.33 ComReg considers that there is insufficient comparator data available for it to apply the modified Commission Notice approach to the calculation of the cost of equity for broadcasting. It has therefore continued to use its 2014 approach.

4.136 ComReg details below the parameter values under the approach in the Consultation to determine the cost of equity for broadcasting[182].

4.137 The cost of equity for broadcasting is set at 6.22%.

Table 5 Nominal pre-tax cost of equity for Broadcasting – Response to Consultation

	Parameter	2014 approach[183]	
A	Tax rate	12.5%	
B	Real risk-free rate	1.75%	
C	Inflation	1.5%	
D	Nominal risk-free rate	3.28%	(1+B)*(1+C)-1
E	Equity risk premium	4.90%	
	Asset Beta	0.45	
F	Equity Beta at notional gearing	0.60	
G	Nominal post-tax cost of equity	6.22%	D + (F*E)
H	Nominal pre-tax cost of equity	7.11%	G/(1-A)

Source: Europe Economics Technical Report

[182] See section 4.5 Europe Economics Final Report.
[183] See Table 4.11 of Europe Economics Final Report.

5 Cost of debt

5.1 The methodological detail and the change from the Consultation in relation to the Cost of Debt is explained in Chapter 3.

5.2 Given the responses to the Consultation and a further assessment of the proposals within the Commission Notice a number of methodological updates have been made. These are set out below together with the reasons for the changes.

General methodology in the Consultation

5.3 In the Consultation ComReg proposed to use the same approach as had been used in 2014 and calculate a cost of debt on a forward-looking basis for all three sectors using the following formula:

$$r_{debt} = r_f + dp$$

where:

r_{debt} = cost of Debt

r_f = risk free rate (as estimated through the equilibrium approach); and

dp = debt premium.

5.4 Consistent with the approach set out in the Europe Economics Technical Report, the proposed WACC was calculated on the basis of a forward-looking cost of debt for a hypothetical efficient operator.

Methodology applicable to the broadcasting sector

5.5 In its analysis of the debt premium for the broadcasting sector Europe Economics Technical Report noted that there was limited publicly available information in relation to the debt of "towers and masts" type companies. The information that was most readily available is for US companies.

5.6 As this information was not readily available for towers and mast companies in the Eurozone, the Europe Economics Technical Report compared the corporate bonds of US towers and mast companies to US government bonds[184]. A comparison could also be made to the fixed line debt premium.

[184] See section 7.4 of the Europe Economics Technical Report.

Cost of debt preliminary values

5.7 The debt premium was estimated for each of the mobile and fixed communications and broadcasting sectors as the average spread of comparators' corporate bonds versus the appropriate government bond benchmark, as follows:

- For comparators within the Eurozone, the spread was calculated against the 10-year German government bond;
- For comparators outside the Eurozone, the spread was calculated against the respective 10-year national government bond.[185]

5.8 For each of the three sectors, Europe Economics estimated that the debt premium was 1.5%, which added to the risk-free rate of 3.43%, gave a cost of debt of 4.93% in each of the sectors.

Submissions to the Consultation

5.9 In its response, Sky questioned the proposed cost of debt for fixed line telecommunications noting that Eircom's average cost of debt was lower than that proposed in the Consultation. It said that there was no justification for the level of debt premium as proposed in the Consultation[186].

5.10 As noted in paragraph 3.34 four different approaches are now used in order to determine the cost of debt. This range reflects the current spot rates that are in the market and also the Commission Notice approach which recommends using five years of historical data. The range also reflects the 2014 approach and recent bond issuances by Eircom. ComReg considers that it is necessary to consider each of these approaches as there has been significant movement in bond yields since the Consultation.

5.11 ComReg considers that its update to the cost of debt for the WACC represents a reasonable value that takes into account the reduction in the cost of debt since the Consultation.

5.12 In its submission to the Consultation 2rn commented that Europe Economics had not explained why it only used data for American Towers and Crown Castle when determining the debt premium and not the others in the asset beta comparator set[187]. It further noted that:

- 2rn's licence does not require it to hold a particular credit rating and the basis for the debt premium was unclear[188];

[185] Europe Economics Technical Report, p. 21.
[186] Paragraph 12 of its response.
[187] Paragraph 4.28 of its response.
[188] Paragraph 4.32 of its response.

- Cellnex was not considered by Europe Economics to be a relevant comparator even though it has a BBB- credit rating from Fitch (with a negative outlook) and BB+ from S&P[189];
- No details were provided as to why SBA Communications and El Towers were not considered[190]; and
- Even though El Towers delisted in October 2018 this does not mean that it is no longer a relevant comparator[191].

5.13 2rn was of the view that all comparator companies should be used for estimating the debt premium. As these companies are larger in scope than 2rn the debt premium for Ireland is likely to be underestimated with 1.5% being at the lower bound[192].

5.14 Having considered the comments of 2rn ComReg notes the following[193]:

- Cellnex does not have investment grade status and therefore is not representative of a hypothetical efficient operator;
- The only available data is for US based operators and not European operators. While ComReg does not use the debt premia of US based companies, as it would be comparing a US dollar risk free rate against that of the Euro it notes that in overall terms the debt premium of US broadcasting operators is comparable to that of European fixed line telecoms operators[194]. ComReg therefore considers that the four approaches it is proposing for calculating the cost of debt for fixed line operators is also suitable for broadcasting.

5.15 No specific responses were received from respondents in relation to the cost of debt for the mobile telecommunications sector.

Covid 19

5.16 While a reduction in the risk-free rate, through the ECB stimulus package introduced as a response to the economic impacts of Covid 19, would likely reduce the cost of debt in the first instance, given the fact that the global economy has entered a recession, similar to the 2008/2009 financial crisis the cost of debt could rise.

[189] Paragraph 4.34 of its response.
[190] Paragraph 4.35 of its response.
[191] Paragraph 4.36 of its response.
[192] Paragraph 4.39 of its response.
[193] See section 5.5 of Europe Economics Final Report.
[194] See section 5.5.1 of Europe Economics Final Report.

5.17 However, the effect on the telecoms industry may be different now to the 2008/2009 financial crisis as financial markets may consider that its risk profile has changed.

5.18 It may be necessary, therefore, to reconsider the estimation of the cost of debt, as part of the annual updates, in order to take in to account observable market realities and to place some weightings on these[195].

Response to Consultation and Final Decision

5.19 As outlined in section 3.34 in the Response to Consultation ComReg has updated its methodology to take account of both the Commission Notice and also movements in the bond markets since the Consultation. Due to the material movements in underlying data ComReg is calculating the cost of debt under four approaches, developing a range and while choosing a point estimate is cross referring to the available data.

5.20 As noted in the Europe Economics Final Report[196], it is possible to cross check the original approach proposed in the Consultation (i.e. using the risk-free rate derived using an equilibrium approach with an estimated debt premium) with observed outcomes. This is in contrast to estimating the cost of equity which must be modelled. Since the Consultation, changes in market conditions have resulted in a significant divergence between the modelled equilibrium-based approach and various observed measures. ComReg is now of the view that this divergence is too big to ignore and that the equilibrium approach should be calibrated by reference to observed measurements. Accordingly, ComReg agrees with Europe Economics that it is appropriate to take a number of approaches into account.

5.21 To recap from Chapter 3, the four approaches are:

- Approach 1, ComReg calculates the cost of debt on the basis of a debt premium approach using a risk-free rate calculated on the basis of five-year historical data, as recommended in the Commission Notice (Observed);
- Approach 2 use a "quasi-all-in" cost of debt approach. This is based on the approach of the UKRN and was considered by ComReg as part of the Consultation. It uses current government spot rates (the current rate payable on government bonds) and a debt premium obtained by comparing the spreads between operator bonds and domestic government bonds (Observed);

[195] See section 1.2.4 "Cost of debt"- Europe Economics Covid 19 report.
[196] See section 2.1.2 of Europe Economics Final Report.

- Approach 3 is the equilibrium approach proposed in the Consultation, which calculates the cost of debt from the equilibrium risk-free rate and a debt premium obtained by comparing the spreads between operator bonds and domestic government bonds (Modelled);
- Approach 4 relies on observed data, namely the data available on Eircom's recent bond issuances. As the observed data has indicated that there has been a material movement in bond yields, Eircom's recent bond issuances are used as a cross check (Observed).

5.22 For the purpose of applying each of the following four approaches, Europe Economics relied on investment grade bonds (i.e. BBB- or above according to the S&P rating system) denominated in a European/EEA currency (except for broadcasting) with time-to-maturity between 7 and 13 years issued by the following comparators:

- For fixed and mobile communications: BT, KPN; Orange; Proximus; Swisscom; Telefonica; Telia; and Vodafone[197].
- For broadcasting: American Tower and Crown Castle[198].

Approach 1 (Commission Notice[199])

5.23 Approach 1, which reflects the Commission Notice approach, combines a five-year historical risk-free rate of 0.824% with a debt premium of 0.62%[200].

5.24 The debt premium is obtained by comparing the spreads of bonds of telecoms operators to comparable government bonds. The following criteria were applied when assessing the bonds of telecoms operators:

- Investment grade bonds, up to Q4 2019, were chosen denominated in either euro or other European currencies;
- As not all comparators issue 10 year bonds the telecom operator bonds have a residual value of between 7 and 13 years.

5.25 The government bonds were 10 year domestic government bonds.

5.26 The average spread across all bonds is calculated and then a five year average is obtained.

5.27 This gives a cost of debt of 1.44%.

[197] See table 5.1 of Europe Economics Final Report and Table 2 of the Response to Consultation.
[198] See table 5.2 of Europe Economics Final Report.
[199] Referred to as the **European Commission approach** in Europe Economics Final Report.
[200] See section 5.4.2 of Europe Economics Final Report.

Approach 2 (UKRN[201])

5.28 Approach 2 combines a spot risk free rate of 0.065% with a debt premium of 0.68%[202]. The debt premium is obtained by comparing the spreads of bonds of telecoms operators to comparable government bonds.

5.29 Again, as with approach 1 telecom operator bonds with a residual value of between 7 and 13 years were chosen. These bonds are also compared to domestic government bonds.

5.30 This gives a cost of debt of 0.75%.

Approach 3 (2014 approach[203])

5.31 Approach 3 combines the 2014 approach risk free rate of 3.28% with a debt premium of 0.68% calculated under approach 2.

5.32 This debt premium is chosen as it is a spot rate and therefore forward-looking, as is the 2014 approach.

5.33 This gives a cost of debt of 3.96%.

Approach 4 (Actual cost of debt[204])

5.34 Under approach 4, ComReg takes into consideration the available data on Eircom's actual cost of debt as issued in 2019.[205]

5.35 In this regard, Eircom has had several bond issuances in 2019 as follows:

Table 6: Recent bond issuances by Eircom

Date	€	Period	Coupon[206]
13 May 2019	750m	7 years	2.95%
22 October 2019	350m	5 years	2.40%
8 November 2019	350m	7 years	2.85%

[201] Referred to as the **Quasi-all-in cost of debt approach** in Europe Economics Final Report.
[202] See table 5.3 of Europe Economics Final Report.
[203] Referred to as the **Debt premium vs national benchmark approach** in Europe Economics Final Report.
[204] Referred to as **Eircom's actual cost of new debt** in Europe Economics Final Report.
[205] See section 5.6 of Europe Economics Final Report.
[206] Ten year equivalent yield estimated by adding the differential between the Thomson Reuters 10 YTM and 5/7 YTM BBB indices yields, as of the issuance dates.

5.36 The average coupon is c. 2.6%[207], for 10-year equivalent bond, based on the most recent bond issuances. Eircom, in its half year results to December 2019 noted that its average cost of debt is 3.03%.[208]

Final value for cost of debt

5.37 ComReg is determining the cost of debt for a hypothetical efficient operator in each of the three sectors.

5.38 Of the four approaches Approach 2 (UKRN) would be the lower bound with a cost of debt would be 0.75%. Approach 3 (2014 Approach) would be the higher bound of the range with a cost of debt would be 3.96%. The average of these values is 2.4%.

5.39 If the average under Approach 1 – 1.44% (Commission Notice approach) and Approach 3 - 3.96% (2014 Approach) were taken the average would be 2.7%.

5.40 The application of the Commission Notice would require that only debt of investment grade status is considered. Eircom does not have investment grade status[209].

5.41 ComReg, with the advice of Europe Economics is of the view that the cost of debt should be set at **2.6%** for mobile, fixed line and broadcasting[210] operators. This is comparable to:

- The high – low range of the four approaches with a point estimate of 2.4%; and
- The average of the Commission Notice Approach and the 2014 Approach with a point estimate of 2.7%.

5.42 While 2.6% also reflects the average of Eircom's recent bond issuances ComReg does not consider that the values from any future bond issuances should be taken to be reflective of the cost of debt as these may not necessarily align.

[207] See table 5.5 of Europe Economics Final Report.

[208] https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2019_2020/eir_Q2_FY20_results_presentation.pdf

[209] As defined in the Staff Working Document (page 77).
Standard & Poors reviewed Eircom's credit rating on 26 February 2020 and rated it B+
- B (speculative grade) - More vulnerable to adverse business, financial and economic conditions but currently has the capacity to meet financial commitments
- BB (speculative grade) - Less vulnerable in the near-term but faces major ongoing uncertainties to adverse business, financial and economic conditions

[210] Section 5.5.2 of Europe Economics Final Report note that there no corporate bonds available for assessment under the Commission Notice approach. It further notes that the debt premia between fixed line, mobile and broadcasting are similar. It therefore uses the same debt premium figure obtained for fixed and mobile under the Commission Notice approach (i.e. a debt premium of 0.62%).

6 Final WACC values

6.1 As noted in section 2.3 WACC values for each of the three sectors are derived from the formula:

$$WACC_{pre-tax} = g * r_{debt} + (1 - g) * (\frac{r_{equity}}{(1 - t)})$$

6.2 In order to derive WACC values for each sector the appropriate level of gearing and the tax rate that should be applied to the cost of equity and the cost of debt must be determined.

6.3 In this chapter, therefore, ComReg assesses the following:

- The level of gearing for each sector;
- the appropriate tax rate;
- and finally, the WACC values.

WACC values

6.4 In order to determine the final WACC values in this Response to Consultation the following approach has been taken:

- The preliminary parameter values from the Consultation for each sector are detailed;
- Where available comparator analysis in the Consultation from other jurisdictions is shown; and
- The views of respondents to in relation to the preliminary WACC values and ComReg's assessment are summarised.

6.5 Final WACC values for each sector are determined as follows:

- Gearing – methodology (section 6.6 below)
- Gearing – fixed line (section 6.24 below);
- Gearing – broadcasting (section 6.34 below);
- Gearing – mobile (section 6.40 below);
- Taxation (section 6.55 below);
- WACC – fixed line (section 6.78 below);
- WACC – broadcasting (section 6.91 below); and
- WACC – mobile (section 6.104 below).

Gearing

Consultation – general methodology

6.6 In the Consultation ComReg noted that one element of the WACC calculation is financial gearing, which is the ratio of debt to the sum of debt plus equity (i.e. net debt divided by net debt plus equity). Gearing reflects the relative weighting of debt and equity in the overall capital structure. Regulators can use the actual level of gearing for an industry specific company, such as the SMP operator, or alternatively assume a notional level. In light of ComReg's general approach, gearing for the purpose of the WACC calculation is determined for a hypothetical efficient operator.

6.7 The notional level of gearing is an approach which is widely used by NRAs and has several merits. It provides flexibility to the regulated company to adopt the most efficient capital structure and it also reduces the degree of regulatory intervention in the financing of the business. Importantly, it does not reward the regulated entity for an inefficient capital structure or for sub-optimal decisions made in the past. It also reflects the inherent uncertainty regarding the future evolution of the company's capital structure.

6.8 The notional gearing approach involves choosing a credit rating for the hypothetical efficient operator. Europe Economics suggests using notional gearing on the grounds that companies should decide their efficient capital structure.

6.9 ComReg's assessment of the responses to the Consultation is dealt with below.

Gearing for fixed line telecommunications

Consultation

6.10 In the Consultation, ComReg noted that Eircom's debt levels remain higher than most of its European peers' and considered that this does not represent the capital structure of an efficient operator.

6.11 The Europe Economics Technical Report examined credit ratings, ratings outlooks, and average gearing levels[211] for companies providing fixed line telephony. Europe Economics calculated a sector average gearing of 40% with gearing levels varying from 25% to 50% (with some exceptions) and noted credit ratings of BBB+ and gearing level of 34% within this range of BBB- to A. In its assessment of gearing Europe Economics assumed that a hypothetical efficient Irish operator must maintain a credit rating within investment grade.

[211] See Table 5.3 of Europe Economics Technical Report.

6.12 The 2018 BEREC report[212] indicated that since 2015 NRAs have applied a gearing ratio of between c. 35% and 40%. The Europe Economics Technical Report[213] also provided a comparison of gearing among European fixed-line operators and the corresponding credit ratings. [214]

6.13 On that basis, ComReg's preliminary view in the Consultation was that, for the purposes of the fixed line telecommunication WACC estimation, a notional gearing approach should be used and that a point estimate of 40% was appropriate.

Submissions to the Consultation

6.14 The following issues raised by respondents relate to gearing:

- point estimate of gearing reasonable (Eircom[215]) – (section 6.15 below); and
- actual gearing vs notional gearing (Sky[216]) – (section 6.16 below).

6.15 The Consultation proposed a notional gearing level of 40% for fixed line telecommunications. Eircom said that the point estimate for gearing of 40% appears reasonable.

6.16 Sky provided extensive commentary on gearing in its submission, which were reiterated and emphasised in its submission of 10 July following ComReg's notification of its proposed decision to the European Commission, as follows[217]. According to Sky:

- The equity beta varies depending on the level of gearing and is impacted by leverage. The higher the gearing the greater the equity beta of a firm. It can be estimated that Eircom has been operating in an 80 – 85% equity beta range, giving an equity beta of 1.64 – 2.67, which bears no relationship to reality in the sector being considered.
- If a company's actual gearing is lower than its notional gearing it is going to recover a higher return on investment than its true cost of capital[218]. The chart presented above paragraph 21 in the Sky 03 September 2019 submission illustrates how equity beta varies depending on the level of gearing.

[212] BOR (18) 215.
[213] See Table 6.2 of Europe Economics Technical Report.
[214] See section 6.1 of Europe Economics Technical Report.
[215] Paragraph 98 of its response – 13 August 2019.
[216] Paragraph 20 of its response.
[217] Please see Annex 9.10.
[218] Paragraph 21 of its response.

- Adopting a comparator set that does not have comparable gearing levels may not be appropriate and result in an outcome divorced from reality[219].

- Eircom's actual gearing ratio could be applied to fixed estimates of the cost of equity and debt that are derived based on an optimal gearing level[220].

- Approaches previously adopted could contribute to a "fiscal crisis" at the incumbent particularly if it is restricted to earning a fair return on capital as opposed to being allowed the excessive returns it currently enjoys[221].

Response to Consultation and Final Decision

6.17 As Eircom does not have a stock market listing it is not possible to calculate a gearing level using its stock market value. ComReg considers that, as cost-oriented prices are set assuming a hypothetical efficient operator, a notional level of gearing should be used in the calculation of the fixed line WACC.

6.18 As noted by Europe Economics the use of notional gearing is standard practice in economic regulation[222]. ComReg considers that firms which are highly leveraged could, over time face financial difficulties and incur high costs of debt – there is a risk that they would be unable to pay the interest on the debt and therefore creditors would look for higher levels of interest to cover the risk they are taking. This would increase the WACC. It would be expected that comparator companies would look to set their gearing at an optimal level (i.e. where the WACC is minimised). Otherwise they should increase their level of gearing to lower their cost of debt.

6.19 The notional gearing used in the WACC formula represents that of a hypothetical efficient operator. It is based on firms that supply fixed line telecommunications that have a stock market listing. The gearing used therefore represents typical levels of gearing for the industry concerned. A large proportion of price controls for Eircom's regulated products are determined using bottom up models that assume a hypothetical efficient operator. These bottom up models use the regulated WACC. Hence ComReg considers that it is appropriate to use the parameter value of the gearing of a notional operator to calculate the WACC.

6.20 Sky in its response suggests that ComReg apply Eircom's actual gearing ratio to fixed estimates of the cost of equity and debt that are derived based on an optimal gearing level[223]. There is a practical problem with this. As

219 Paragraph 24 of its response.
220 Paragraph 27 of its response.
221 Paragraph 45 of its response.
222 See section 4.3.4.1 of Europe Economics Final Report.
223 Paragraph 27 of its response.

Eircom does not have a stock market listing it is not possible to calculate its market value, which would be needed in order to calculate a gearing for Eircom. Also if Eircom's actual gearing ratio was higher than an optimal gearing level then it would be expected that its cost of debt would be higher than that of a company with a lower gearing level – thereby making the company relatively more risky with the result that equity investors and bond buyers would expect higher returns relative to less leveraged comparator companies.

6.21 For the avoidance of doubt, ComReg accepts Sky's submission that as a company's gearing is increased, its equity beta increases. This is well-known in finance. However, ComReg sets the weighted average cost of capital for a notional operator in the fixed line market.

6.22 As regards Sky's comments on the possibility that the approaches previously adopted lead to a "fiscal crisis" at the incumbent, ComReg notes that the financeability of an SMP operator is not among the considerations that it is required to take into account. ComReg's obligation is limited to ensure that the WACC allows a reasonable return on investment to the SMP operator.

6.23 Furthermore, if the gearing of a highly leveraged operator was used, ComReg considers that it would need to estimate the cost of debt on the basis of it being below investment grade. This is also not consistent with the Commission Notice. While ComReg does consider Eircom's cost of debt from recent (2019) bond issuances, this does not imply that ComReg accepts the use of its actual cost of debt[224].

6.24 Having considered the comments from Eircom and Sky, the Commission Notice, and the analysis and advice of Europe Economics, ComReg considers that a gearing level of **40%** represents a reasonable level of gearing for a hypothetical efficient operator in fixed line telecommunications in Ireland.

Covid 19

6.25 ComReg has estimated gearing on the basis of a hypothetical efficient operator. With the fall in equity values during the Covid 19 crisis actual gearing levels in telecoms may rise. However, given the indications that telecoms may not be as affected as other sectors and the increased demand for home-working telecoms may become more like a utility resulting in more constant cashflows than other sectors which may be attractive to providers of debt finance. Gearing levels will be considered as part of the annual updates. Therefore, what is considered currently as

[224] See section 5.42 of the Response to Consultation.

an appropriate level of gearing may need to be reconsidered if the debt to equity profile of telecoms changes as a whole[225].

Gearing for broadcasting

Consultation

6.26 In estimating gearing, the Europe Economics Technical Report examined recent regulatory decisions of European regulators that opted for a notional gearing approach. Applying this approach to an Irish context suggests that notional gearing levels in the broadcasting sector should be within the range of 25% to 55%. There are relatively few publicly listed companies that can be considered as suitable comparators to a company operating in the broadcasting sector. Europe Economics examined gearing levels of companies that operate in the towers and masts sector, for which market data is available. Europe Economics selected companies that it deemed to be the most relevant comparators to a hypothetical efficient broadcaster.

6.27 The Europe Economics Technical Report examined credit ratings, ratings outlooks, and average gearing levels[226] for companies providing similar services to 2rn and RTÉ.

6.28 Gearing of these companies (in the towers and masts sector) has generally been between 20% and 40% and the credit ratings between BB to BBB-. However, as noted in the Consultation companies with investment grade credit rating (such as Baa3 by Moody's rating or BBB by S&P's rating) tend to have gearing levels at the lower end of this range. In its assessment of gearing Europe Economics assumed that a hypothetical efficient Irish operator must maintain a credit rating within investment grade.

6.29 Finally, the assessment of notional gearing of companies operating in the broadcasting sector indicated the range of 25% to 55%[227].

6.30 Europe Economics concluded by selecting a preliminary notional gearing of 25%, with which ComReg concurred.

6.31 ComReg noted that this point estimate for gearing was lower than notional gearing adopted in previous regulatory decisions in other European countries. However, more weight was placed on the observed gearing levels of comparators with investment grade ratings. As the gearing of these companies was below 30%, notional gearing of 25% was chosen for estimating the broadcasting WACC in Market A and Market B.

[225] See section 1.2.3 Europe Economics Covid 19 report.
[226] See Table 5.3 of Europe Economics Technical Report.
[227] See Table 7.1 of Europe Economics Technical Report.

6.32 Having analysed Europe Economics Technical Report and for the reasons outlined above, ComReg's preliminary view was that, for the purposes of the broadcasting WACC estimation, a notional gearing approach should be used with a point estimate of 25% being appropriate.

Submissions to the Consultation

6.33 In its response 2rn did not provide a specific response on the gearing approach for broadcasting.

Response to Consultation and Final Decision

6.34 ComReg remains of the view that a notional gearing approach should be used with a point estimate of 25% being appropriate.

Gearing for mobile telecommunications

Consultation

6.35 In estimating gearing for the Consultation, the Europe Economics Technical Report examined recent regulatory decisions of Irish Regulators and of European NRAs that opted for a notional gearing approach.[228] It was evident that asset heavy regulated industries tend to be more highly geared than mobile operators with the former tending to have a range in the region of 40% to 60%. Notwithstanding this range, precedent for the mobile telecommunications sector suggested that the gearing range should in fact be lower.

6.36 The Europe Economics Technical Report examined credit ratings, ratings outlooks, and average gearing levels[229] for companies providing mobile telephony. Europe Economics calculated a sector average gearing of 36% and noted Vodafone's credit rating of BBB+ and gearing level of 34%. In its assessment of gearing Europe Economics assumed that a hypothetical efficient Irish operator must maintain a credit rating within investment grade.

6.37 A notional gearing level of 35% was proposed by ComReg which is consistent with Europe Economics Technical Report[230] which suggests gearing percentages for pure play mobile operators of c. 30% and below the 50%/60% gearing of multi-service operators. This chosen level of gearing was also broadly consistent with the observed gearing level of mobile operators outside of Ireland.

[228] See section 5.1.1 of Europe Economics Technical Report.
[229] See Table 5.3 of Europe Economics Technical Report.
[230] See section 5.1.3 of Europe Economics Technical Report.

Submissions to the Consultation

6.38 In respect of gearing, Eircom submitted that the point estimate for gearing of 35% appeared low in comparison to the average gearing of relevant mobile peers[231]. There were no comments on the proposed gearing level from other respondents.

Response to Consultation and Final Decision

6.39 Europe Economics re-examined its estimation of a gearing level of 35% in light of Eircom's comments. As the evidence base for its estimation was low Europe Economics accepted Eircom's recommendation and rounded it up to **40%**[232].

6.40 Taking into account the difficulty of finding mobile pure-play comparator companies, and the fact that many listed telecommunication companies are active both in fixed and mobile telecommunications ComReg considers that a point estimate of 40% represents a reasonable estimate of gearing for mobile.

Taxation

6.41 The approach to taxation is discussed as follows:

- ComReg's preliminary views in relation to the choice between the effective rate and the statutory rate of tax is discussed;
- The views of respondents to Question 2 and ComReg's assessment are summarised and the final tax rate determined.

Consultation

6.42 The WACC can be estimated on a pre-tax or post-tax basis. Pre-tax WACC grosses up the cost of equity[233] by the selected tax rate. This is because payments to equity holders in the form of dividends are not tax deductible so the allowed return must allow for corporation tax payments. This is not the case for debt interest payments which can be offset against profits for the purposes of corporate tax calculations in Ireland and in most jurisdictions. The allowed profits are then intended to cover both investor remuneration and statutory tax payments.

6.43 ComReg noted in the Consultation that there are two main approaches to selecting the tax rate:

[231] Paragraph 59 of its response – 13 August 2019.
[232] See section 4.3.4.1 of Europe Economics Final Report.
[233] Equity dividend payment is made from a post-tax profit; Therefore, the cost of equity is a post-tax cost. The cost of debt is a pre-tax cost and thus grossing up is not required.

- The statutory tax rate; and
- The effective tax rate.

6.44 The selection of the effective tax rate recognises the fact that the firm in question may be taxed at a different tax rate from the statutory tax rate. This situation can arise, for example, when a company has high levels of gearing (high level of debt relative to the level of debt plus equity), carries forward tax losses or where depreciation profiles for tax purposes (capital allowances) are different to accounting depreciation. These situations create the potential for what are sometimes called tax shields. A tax shield is the reduction in corporation tax that results from taking an allowable deduction from taxable income. Since interest on debt is a tax-deductible expense, taking on debt acts as a tax shield. The application of the effective tax rate with WACC calculations claws back the benefits of debt tax shields and reduces the incentives to take on excessive debt levels.

6.45 A further refinement of this approach would be to take the accounting effective tax rate, including deferred tax charges or credits, which is intended to smooth out temporary timing differences between a company's effective tax rate from year to year.

6.46 ComReg noted in the Consultation that the selection of tax rate is largely dependent on the chosen methodology for estimating a regulated company's gearing level. The application of the effective tax rate might be preferred in instances where the chosen notional level of gearing (gearing level of an efficiently financed firm) is substantially lower than the actual gearing level of the regulated firm.

6.47 In previous reviews of the WACC, the statutory corporation tax level of 12.5% was used. ComReg proposed in the Consultation to continue with this approach. This is consistent with the calculation of the WACC for each sector for a hypothetical efficient operator, i.e. an operator with an efficient capital structure. In the 2014 Decision, ComReg considered it would be inappropriate to factor in company specific factors such as the availability of losses forward or accelerated capital allowances.

6.48 ComReg noted, however, that both Eircom and 2rn appeared to have paid little corporation tax for several years. In that context, the use of the statutory corporation tax rate could be said to result in the SMP operator being compensated for tax charges which may not arise in the short to medium term.

6.49 ComReg noted that the use of a statutory corporation tax rate of 12.5% results in a WACC rate of c.0.6% higher when compared to a WACC estimated using an effective rate of 0%.

6.50 In the Consultation ComReg asked the following question 2:

Question 2: Where a company's effective tax rate is significantly different to the statutory tax rate should the WACC be estimated using the statutory corporation tax rate or the company's effective corporation tax rate? Please clearly indicate the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Submissions to the Consultation

6.51 ComReg received replies to Question 2 from seven respondents, namely ALTO; Eircom; NBI; Three; Vodafone; 2rn; and RTÉ. Sky's general response did not consider the issues raised in Question 2.

6.52 Eircom[234], RTÉ[235], Three[236], 2rn[237] and NBI[238] all agreed with ComReg's continued use of the statutory tax rate.

6.53 Eircom noted that as the WACC is based on a hypothetical efficient operator, it would be inappropriate to include company specific factors, and that in any event computing the effective tax rate would be very complex. Eircom further referred to the position set out by Europe Economics in 2014 that reliance on the effective tax rate could interfere inappropriately with the tax incentives provided for by tax authorities. 2rn and RTÉ also noted that the use of the statutory corporation tax rate was appropriate in the context of the WACC calculated based on a hypothetical efficient operator as it was the tax rate that an efficient standalone operator would expect to pay. NBI concurred that the use of the statutory tax rate was consistent with the calculation of the WACC based on a hypothetical efficient operator employing an efficient capital structure. NBI also noted that the use of the statutory tax rate was conducive to long-term stability in relation to the allowable WACC for the SMP operator, which may not be achieved using an effective rate of tax.

6.54 Vodafone raised the question as to why consumers should pay for taxes that the incumbent does not in fact need to pay, and in that context took the view that Eircom's effective rate should be used[239]. Vodafone noted, however, that where the rate for efficient entrants competing with Eircom is closer to the statutory rate than Eircom's effective rate, then the statutory rate should be used. ALTO also considered that where the effective rate is significantly different to the statutory rate the effective rate should be used,

[234] Paragraph 20 of its response – 13 August 2019.
[235] Page 2 of its response.
[236] Page 2 of its response.
[237] Paragraph 3.6 of its response.
[238] Page 2 of its response.
[239] Paragraph 8 of its response.

noting that it is very much possible in Ireland to sustain high gearing for long periods of time[240].

Response to Consultation and Final Decision

6.55 ComReg has carefully considered the views of respondents regarding the tax rate that should be considered in the calculation of the WACC. ComReg appreciates that, due to previous losses incurred, Eircom and 2rn are unlikely to pay corporation tax for some time.

6.56 However, no clear case was put forward for a change to ComReg's approach and the use of an effective rate.

6.57 Having regard to the fact that the WACC estimations are based on hypothetical efficient operators and the models that are used to calculate costs are also generally built on the assumption of hypothetical efficient operators, ComReg therefore considers it appropriate to continue estimating WACCs assuming a corporation tax rate of **12.5%[241].**

[240] Page 3 of its response.
[241] See section 3.5 of Europe Economics Final Report.

WACC value – fixed line telecommunications

Consultation

6.58 In the Consultation ComReg proposed a WACC for the fixed line telecommunications sector of 6.42%. It was based on the following ranges and point estimates.

Table 7 WACC for a hypothetical FSP - Consultation

	Low	High	Point Estimate
Gearing (%)	40%	40%	40%
Tax rate (%)	12.5%	12.5%	12.5%
Real risk-free rate (%)	1.70%	2.20%	2.10%
Inflation (%)	1.10%	1.80%	1.30%
Nominal risk-free rate (%)	2.82%	4.04%	3.43%
Equity risk premium (%)	4.30%	4.75%	4.60%
Equity Beta at notional gearing	0.63	0.68	0.67
Nominal post-tax cost of equity (%)	5.54%	7.29%	6.49%
Nominal pre-tax cost of equity (%)	6.33%	8.33%	7.42%
Debt Premium (%)	1.45%	1.65%	1.50%
Nominal pre-tax cost of debt (%)	4.27%	5.69%	4.93%
Nominal Vanilla WACC (%)	5.03%	6.65%	5.87%
Nominal pre-tax WACC (%)	5.51%	7.27%	6.42%

Source: Europe Economics Technical Report

6.59 In the Consultation ComReg identified the WACC notifications of Portugal and Slovenia as being relevant.

Eurozone comparator – Portugal - Consultation

6.60 In 2019 the European Commission responded to a Portuguese fixed line WACC notification[242]. In its letter of 30 April 2019, the European Commission listed the parameters used by ANACOM to estimate the WACC.

6.61 A comparison of these parameters and final WACC estimation compared to ComReg's preliminary view as set out below in Table 8 was presented in the Consultation.

Table 8 Comparison between Portuguese fixed line WACC & ComReg estimate - Consultation

Parameter	Portugal	ComReg's preliminary view
Nominal Risk-free rate	3.11%	3.43%
Equity risk premium	6.22%	4.60%
Equity beta	0.804	0.66
Nominal cost of equity (post tax)	8.11%	6.49%
Nominal cost of equity (pre-tax)	10.47%	7.42%
Notional cost of debt	4.47%	4.93%
Debt premium over risk free rate	1.36%	1.5%
Gearing	40.05%	40%
Marginal tax rate	22.50%	12.5%
Nominal pre-tax WACC	8.07%	6.42%

6.62 The Consultation noted that if a tax rate of 12.5% were applied to the Portuguese WACC estimation the nominal pre-tax WACC would change from 8.07% to c. 7.35%. Having compared the parameters ComReg considered, in the Consultation, that its proposed value remained appropriate.

[242] C(2019) 3426 final.

Eurozone comparator – Slovenia - Consultation

6.63 In 2018 the European Commission also responded to a Slovenian fixed line WACC notification[243]. In its letter of 26 September 2018, the European Commission listed the parameters used by AKOS to estimate the WACC.

6.64 A comparison of these parameters and final WACC estimation compared to ComReg's preliminary view as set out below in Table 9 was presented in the Consultation.

Table 9 Comparison between Slovenian fixed line WACC & ComReg estimate - Consultation

Parameter	Slovenia	ComReg preliminary view
Risk free rate	2.78%	3.43%
Equity risk premium	5.71%	4.60%
Equity beta	0.76	0.66
Nominal cost of equity (post tax)	7.12%	6.49%
Notional cost of debt	4.05%	4.93%
Debt premium over risk free rate	1.27%	1.5%
Gearing	34.28%	40%
Marginal tax rate	19%	12.5%
Nominal pre-tax WACC	7.16%	6.42%

6.68 The Consultation noted that if a tax rate of 12.5% were applied to the Slovenian WACC estimation the nominal pre-tax WACC would change from 7.16% to c. 6.74%. Having compared the parameters ComReg considered, in the Consultation, that its proposed value remained appropriate.

Submissions to the Consultation

6.69 The following issues raised by respondents relate to WACC value for fixed line telecommunications:

- The impact of a hard Brexit (ALTO[244]) – (section 6.70 below);

[243] C(2018) 6369 final.
[244] Page 3 of its response.

- Agreed with approach to estimating WACC (ALTO[245] and NBI[246]) (section 6.72 below);
- Large materiality threshold erroneously applied (Eircom[247]) – (Annex A 7.5 below);
- Failure to adjust for country specific circumstances (Eircom[248]) – (Annex A 7.9 below);
- Suggested value of WACC of 8.47% (Eircom[249]) – (section 6.74 below);
- Support of lower WACC for fixed line telecommunications (Three[250]) – (section 6.76 below); and
- Possible separate WACC for CEI assets in NBP (NBI[251]) – (section 7.85 below).

Impact of a hard BREXIT

6.70 ALTO considered that the potential impact of a hard BREXIT should be considered when determining the WACC.

6.71 ComReg has addressed the potential impact of a hard BREXIT (and Covid 19) under each of the generic and specific parameters.

Approach to estimating WACC

6.72 ALTO said that it agreed with the proposed approach based on the logic explained and the comparisons with the Portugal and Slovenia submissions to the European Commission[252]. However, it did not agree with the point estimates chosen.

6.73 NBI also agreed with the approach to setting the WACC[253].

Suggested value of WACC

6.74 Eircom said that the WACC is 8.47% when appropriately calculated[254]. It also considered that the pre-tax WACC calculated as per the Commission Notice would have a high-range value of 6.92%[255].

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245 Page 4 of its response.
246 Page 3 of its response.
247 Paragraph 133 of its response – 13 August 2019.
248 Paragraph 136 of its response – 13 August 2019.
249 Paragraph 145 of its response – 13 August 2019.
250 Page 3 of its response.
251 Page 3 of its response.
252 Page 4 of its response.
253 Page 3 of its response.
254 Paragraph 145 of its response – 13 August 2019.
255 Annex 3 of its response – 23 January 2020.

6.75 ComReg considers that its WACC value is appropriately calculated with the parameter values discussed in their relevant chapters. In Annex: 7 ComReg compares the WACC parameters and values against those of other NRAs and against ComReg's use of the modified Commission Notice approach. ComReg's considers that its results are reasonable when compared with those of other NRAs.

Lower WACC for fixed

6.76 Three said it would support a lower WACC for fixed line telecommunications[256].Three did not provide reasoning as to why it would support a lower WACC for fixed line telecommunications.

6.77 ComReg considers that it needs to set the fixed line telecommunications WACC on its best estimate of the actual weighted average cost of capital for fixed line telecommunications in Ireland and that it has achieved this in the Response to Consultation.

Response to Consultation and Final Decision

6.78 The nominal pre-tax WACC for the fixed line sector is estimated to be 5.61%[257] compared to the preliminary estimate of 6.42% in the Consultation.

6.79 This is based on the following[258]:

Table 10: Final WACC value – Fixed Line Telecommunications

	Response to Consultation	Consultation
Cost of equity – section 4.131	**6.67%**	7.42%
Cost of debt – section 5.41	**2.60%**	4.93%
Notional gearing - section 6.24	**40%**	40%
Tax rate – section 6.57	**12.50%**	12.50%
Nominal pre-tax WACC	**5.61%**	6.42%

[256] Page 3 of its response.
[257] Nominal pre tax cost of debt * gearing plus Nominal post tax cost of equity * (1 – gearing) / (1 minus corporation tax rate).
[258] See table 6.2 of Europe Economics Final Report.

WACC value – broadcasting

Consultation

6.80 In the Consultation it was noted that the WACC for broadcasting transmission will be used by ComReg in respect of any price controls that apply to a broadcasting transmission service provider subject to a price control. This includes 2rn and RTÉ. In 2013, both were found to have SMP as follows:

- 2rn – Wholesale access to national terrestrial broadcast transmission services ("**Market A**"); and
- RTÉ – Wholesale access to digital terrestrial television ("**DTT**") multiplexing services ("**Market B**").

6.81 It should be noted that ComReg has recently commenced a new market analysis on the market for broadcasting transmission services in Ireland in 2020[259].

6.82 The Consultation also noted that the WACC is an input into the pricing decisions for setting tariffs in Market A and Market B.

6.83 In addition to question 6 whether a separate WACC should be estimated for Markets A and B, the remainder of this chapter considers the applicable gearing, asset beta and equity betas and the cost of debt for a hypothetical efficient broadcaster

The WACCs in Market A and Market B

6.84 Based on the Europe Economics Technical Report[260] ComReg has considered that the WACCs for Market A and Market B should be estimated on the same basis. The evidence considered consisted of previous regulatory WACC estimations in the broadcasting sector in Europe.

- There is no regulatory precedent for estimating separate WACCs in Market A and Market B. Both the United Kingdom and Sweden estimate a WACC for broadcasting without differentiating between Market A and Market B[261];
- There is a lack of pure play DTT operators. Among the few publicly listed DTT multiplex operators[262] (e.g. ITV in the UK), DTT multiplexing forms a

[259] See ComReg Document No. 20/31 - https://www.comreg.ie/publication/broadcasting-transmission-services-in-ireland
[260] See section 7.1 of Europe Economics Technical Report.
[261] See section 7.2 of Europe Economics Technical Report.
[262] For operators such as BBC in the UK or TDF Group in France market data is not available as they are either state-owned or privately owned.

small part of its diverse operations making it difficult to confidently estimate a separate WACC in Market B.

6.85 On this basis, Europe Economics proposed that a single WACC is appropriate for both Market A and Market B.

6.86 ComReg agreed with this view. There is limited available information upon which the separate WACCs could be estimated. Furthermore, following the assessment of international evidence, ComReg has not encountered any persuasive evidence indicating that there is a difference in the exposure to systematic risks between Market A and Market B. In addition, in excess of 90% of the costs incurred in Market B are derived from Market A. Therefore, while Market A and Market B are separate markets, they are nonetheless vertically related and there is a close relationship between the two.

6.87 ComReg was of the preliminary view that the same WACC should be applied in both Market A and Market B and should be estimated for a hypothetical efficient broadcaster.

6.88 In the Consultation ComReg proposed a WACC for the broadcasting sector of 6.27%. It was based on the following ranges and point estimates.

Table 11 WACC for Broadcasting - Consultation

	Low	High	Point Estimate
Gearing (%)	25%	25%	25%
Tax rate (%)	12.5%	12.5%	12.5%
Real risk-free rate (%)	1.7%	2.2%	2.1%
Inflation (%)	1.2%	1.8%	1.3%
Nominal risk-free rate (%)	2.82%	4.04%	3.43%
Equity risk premium (%)	4.30%	4.75%	4.60%
Equity Beta at notional gearing	0.40	0.67	0.53
Nominal post-tax cost of equity (%)	4.54%	7.21%	5.88%
Nominal pre-tax cost of equity (%)	5.19%	8.24%	6.72%
Debt Premium (%)	1.40%	1.80%	1.50%
Nominal pre-tax cost of debt (%)	4.22%	5.84%	4.93%

Nominal Vanilla WACC (%)	4.46%	6.86%	5.64%
Nominal pre-tax WACC (%)	4.94%	7.64%	6.27%

Source: Europe Economics Technical Report

6.89 ComReg did not identify any international comparators for the broadcasting sector.

Submissions to the Consultation

The WACC for Market A and Market B

6.90 2rn considered that using the WACC as an input in calculating regulated tariffs in Market A remains appropriate[263].

Response to Consultation and Final Decision

6.91 Based on ComReg's analysis ComReg remains of the view that the same WACC should apply for Market A as for Market B.

6.92 The nominal pre-tax WACC for the broadcasting sector is estimated to be 5.98% compared to the preliminary estimate of 6.27% in the Consultation.

6.93 This is based on the following[264]:

Table 12: Final WACC value – Broadcasting

	Response to Consultation	Consultation
Cost of equity – section 4.137	**6.22%**	6.72%
Cost of debt – section 5.41	**2.60%**	4.93%
Notional gearing - section 6.34	**25%**	25%
Tax rate – section 6.57	**12.50%**	12.50%
Nominal pre-tax WACC	**5.98%**	6.27%

[263] Paragraph 4.4 of its response.
[264] See table 6.3 of Europe Economics Final Report.

WACC value - mobile

Consultation

6.94 In the Consultation ComReg was of the preliminary view that the nominal pre-tax WACC for a hypothetical efficient MSP is 6.53%, with a high and low bound estimated to be 7.33% and 5.65% respectively.

Table 13:WACC for Mobile Telecommunications - Consultation

	Low	High	Point Estimate
Gearing (%)	35%	35%	35%
Tax rate (%)	12.5%	12.5%	12.5%
Real risk-free rate (%)	1.70%	2.20%	2.10%
Inflation (%)	1.10%	1.80%	1.30%
Nominal risk-free rate (%)	2.82%	4.04%	3.43%
Equity risk premium (%)	4.30%	4.75%	4.60%
Equity Beta at notional gearing	0.65	0.68	0.66
Nominal post-tax cost of equity (%)	5.60%	7.25%	6.47%
Nominal pre-tax cost of equity (%)	6.40%	8.29%	7.39%
Debt Premium (%)	1.45%	1.50%	1.50%
Nominal pre-tax cost of debt (%)	4.27%	5.54%	4.93%
Nominal Vanilla WACC (%)	5.13%	6.65%	5.93%
Nominal pre-tax WACC (%)	5.65%	7.33%	6.53%

Source: Europe Economics Technical Report

International comparator

6.95 ComReg compared its estimation to that notified by the Italian regulator AGCOM to the European Commission[265], as set out in the European Commission's Article 7 letter of 15 November 2018. Having regard to the fact that if a tax rate of 12.5% had applied to the Italian estimation, the Italian nominal pre-tax WACC would change from 8.55% to c. 6.86%, having compared the parameters, ComReg considered that its proposed value appeared reasonable.

Table 14 Comparison between Italian mobile WACC & ComReg estimate - Consultation

Parameter	Italy	ComReg's preliminary view
Risk free rate	2.31%	3.43%
Cost of debt	4.61%[266]	n/a
Tax shield	24%	n/a
Tax rate	33%	12.5%
Pre-tax cost of debt	5.2%	4.93%
Equity risk premium	6.07%	4.60%
Gearing	49%	40%
Asset beta	0.47	0.43
Equity beta	0.92	0.66
Post tax cost of equity	7.90%	6.47%
Pre-tax cost of equity	11.79%	7.39%
Nominal pre-tax WACC	8.55%	6.53%

[265] C(2018) 7709 final.
[266] See footnote 19 of C(2018) 7709 final: "*It is the average interest rate at the 31 December 2017 of the obligations of the considered operators*".

Submissions to the Consultation

6.98 The following issues raised by respondents relate to WACC value for mobile telecommunications:

- The WACC is 8.46% when appropriately calculated (Eircom[267]) – (section 6.99 below);
- Support for a higher WACC for mobile and aiming up for mobile (Three[268]) – (section 6.101 below).

WACC is 8.46% when appropriately calculated

6.99 In its response to Consultation Eircom said that the mobile WACC in the Consultation is 8.46% when appropriately calculated[269].

6.100 ComReg considers that its WACC value is appropriately calculated. This is based on the values of the parameters chosen and having reviewed and updated both gearing and the peer group. ComReg has also calculated the WACC under the 2014 approach and the modified Commission Notice approach.

Higher WACC for mobile

6.101 In its response to Three supported a higher WACC for mobile and also aiming up[270]. In Three's view, ComReg's original position from the 2014 Decision, that the negative consequences of setting the WACC too low are potentially greater than the negative consequences of setting it too high, still applies to investment in mobile networks. Three would accordingly support aiming up for the mobile WACC.

6.102 ComReg considers that the annual updating of the WACC parameters takes away the need for aiming up as any mismatch of the WACC value will be apparent.

6.103 ComReg considers that this value compares reasonably with values in other Eurozone countries such as Finland – 6.88%; France – 6.20%; Germany – 5.87%; and the Netherlands 5.70%[271].

[267] Paragraph 96 of its response – 13 August 2019.
[268] Page 3 of its response.
[269] Paragraph 96 of its response – 13 August 2019.
[270] Page 3 of its response.
[271] Cullen: WACC 19 December 2019 (note: this is a subscription service).

Response to Consultation and Final Decision

6.104 The nominal pre-tax WACC for the mobile telecommunications sector is estimated to be 5.85% compared to the preliminary estimate of 6.53% in the Consultation.

6.105 This is based on the following[272]:

Table 15: Final WACC value – Mobile telecommunications

	Response to Consultation	Consultation
Cost of equity – section 4.134	**7.01%**	6.47%
Cost of debt – section 5.41	**2.60%**	4.93%
Notional gearing - section 6.40	**40%**	25%
Tax rate – section 6.57	**12.50%**	12.50%
Nominal pre-tax WACC	**5.85%**	6.53%

[272] See table 6.1 of Europe Economics Final Report

7 Implementation and Other Issues regarding the WACC

7.1 As outlined in Chapter 1 there are a number of objectives that ComReg must take into account when setting the appropriate WACC for each sector, including the need to create appropriate incentives for future investment in telecoms and broadcasting infrastructure in Ireland. The objectives are also relevant to how the WACCs are used in price controls and in this respect, the Consultation considered a number of key related issues concerning the implementation of the WACC. These included the frequency of WACC reviews, whether the WACC values should be "aimed up" and how the WACC is to apply to existing and future price controls. The Consultation also considered whether there should be differentiated WACCs within the fixed line telecommunications sector.

7.2 Questions 7, 8 and 9 in the Consultation concerned the first three of these issues and these issues are dealt with below together under the heading "Review and Implementation of the WACC".

7.3 Question 10, regarding the issue of the use of differentiated WACCs within the fixed line telecommunications sector is then considered.

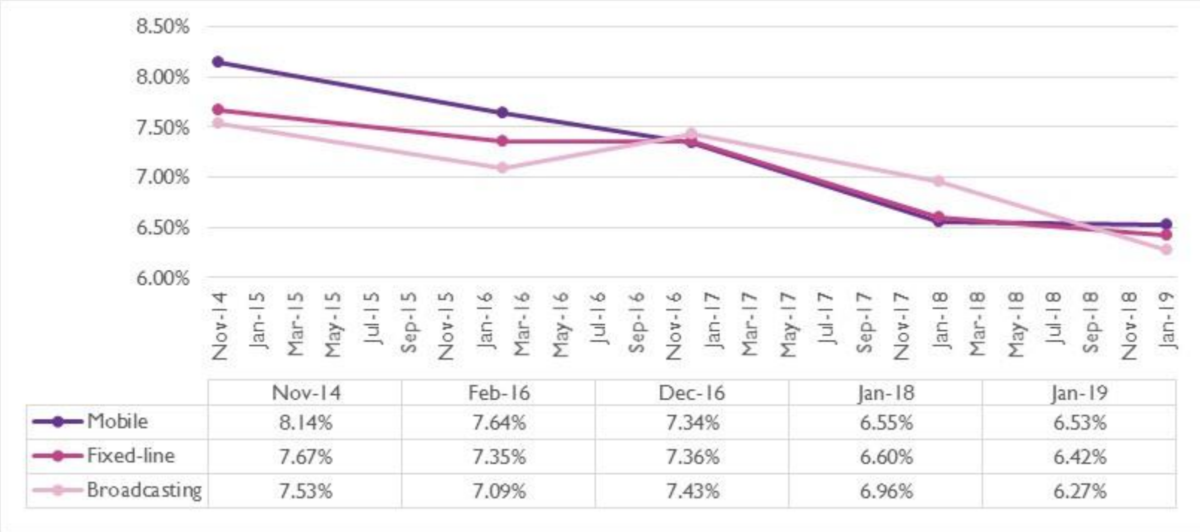
7.4 Finally, question 11, regarding "other matters" raised by respondents is discussed.

Review and implementation of the WACC

Consultation

7.5 It has been ComReg's practice to use the WACC value set for regulatory purposes for a period of three to five years until a full review sets a new value. In the Consultation ComReg noted, as shown in Figure 1: Evolution of WACCs since the 2014 Decision (reproduced below), that there was a significant movement in the WACCs since the 2014 Decision. ComReg suggested that it may be appropriate to update WACC estimations on an annual basis in order to ensure that appropriate WACCs are used for subsequent price reviews.

Figure 1: Evolution of WACCs since the 2014 Decision



Source: Europe Economics Technical Report

7.6 This also meant that it may no longer be appropriate to “aim up” the WACC value, that is, adjust the WACC upwards in order to mitigate the risk that the WACC is set too low and discourage investments: there is an asymmetry of consequences between setting the WACC too low and setting it too high, the negative consequences of setting the WACC too low being potentially greater than the negative consequences of setting it too high. The longer the review period, the higher the risk, and the greater the requirement for aiming up.

7.7 In 2014, ComReg had “aimed-up” three key parameters, namely the risk-free rate, the asset beta and the debt premium, resulting in the following adjustments:[273]

Table 16 Aiming up adjustments from 2014 Decision

	Mobile	Fixed Line	Broadcasting
Pre-aimed up WACC	8.14%	7.67%	7.53%
Aiming-up adjustment	0.49%	0.51%	0.58%
Post-aimed up WACC	8.63%	8.18%	8.11%

7.10 Using the same approach, ComReg calculated the impact of aiming-up (if it were applied) on the preliminary WACC estimates, in the Consultation, in the following table:

[273] In the 2014 Decision aiming up was estimated using a Monte Carlo simulation.

Table 17 Impact of aiming-up on proposed rates

	Mobile	Fixed Line	Broadcasting
Pre-aimed up WACC	6.53%	6.42%	6.27%
Aiming-up adjustment (if applied)	0.25%	0.25%	0.37%
Post-aimed up WACC	6.78%	6.67%	6.64%

7.17 In the Consultation ComReg considered three options for implementing the WACC in price controls, as follows:

- Option 1 – Apply the revised WACC with immediate effect to all cost-oriented prices;
- Option 2 – Apply the revised WACC only as new price controls are imposed;
- Option 3 – Apply the revised WACC as new price controls are imposed, and in addition, rely on the revised WACC immediately when assessing compliance with cost-oriented prices including any submissions by regulated entities.

7.18 In the Consultation ComReg favoured Option 3 in preference to Options 1 and 2 for a number of reasons:

- First, ComReg believed that the change to existing tariffs following publication of the revised WACC under Option 1 would not be appropriate absent a review of the other parameters used in the relevant price controls[274].
- Second, ComReg believed that Option 2 would not address the risk identified with the trajectory of the WACC as shown in Figure 1 in the Consultation and reproduced above[275]. The risk was that regulated tariffs using a WACC set for a period of in or around 5 years depart from cost-oriented prices in the period between the imposition of new price controls, which might be relatively extended. As a result, SMP service providers subject to cost-oriented price controls could be over or under compensated for a period of time, longer than necessary.

7.19 The shortcomings of Option 1 and of Option 2 could, however, be addressed satisfactorily by Option 3.

[274] This was also discussed in ComReg Decision D11/18
[275] Figure 1: Evolution of WACCs since the 2014 Decision

- Option 3, together with the use of annual reviews, would allow for more frequent WACC reviews, and ensure that prices remain cost oriented.

- Updated WACCs would be relied on by SMP operators when assessing their compliance with cost orientation price control obligations in any submissions or calculations (where considered necessary), including cost-oriented tariffs that were in force prior to the revision of the WACCs.

7.20 In the Consultation, ComReg asked the following 3 questions.

Question 7: Do you agree or disagree with ComReg's preliminary view that WACC **parameters could be updated more frequently** and consulted on separately (as part of a pricing consultation) as opposed to conducting a full WACC methodology review and consultation? Please clearly indicate the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Question 8: Do you consider that the risk free rate, asset beta and debt premium should be **aimed up**? Please clearly indicate the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Question 9: Do you agree or disagree with ComReg's preliminary view that **Option 3 is the most appropriate method to implement the revised WACC**? Please clearly indicate the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Submissions to the Consultation

Questions 7 to 9 – Respondents' views

7.21 ComReg received replies from ALTO, Eircom, NBI, Three and 2rn to all three questions. Sky addressed the issues raised by the three questions under the headings "Options for Implementing the WACC in Price Controls" and "Aiming up". Vodafone replied to Question 9 but not directly to Questions 7 or 8. RTÉ did not respond to any of the three questions. Further submissions were received, see Annex 8 for details, in particular from Sky on 10 July 2020, ALTO on 20 July 2020 and BT on 31 August 2020 following ComReg's notification of its proposed decision to the European Commission which ComReg has also taken into account.[276]

[276] ComReg's detailed consideration of the additional submissions received from Eircom and Sky is set out in further detail in Annex 9.

7.22 ALTO[277], Sky[278] and Three[279] all agreed that more frequent updates to the WACC were warranted. ALTO noted that frequent WACC reviews resulting in price changes could have an undesirable disruptive effect but too long periods of time between reviews mean that the WACC is often very dated when used for price controls. ALTO agreed against this background that the WACC ought to be calculated on an annual basis.

7.23 Sky also agreed that an annual update of the parameters underpinning the WACC calculations using the methodologies decided upon by ComReg could be a sensible response to the issues identified by ComReg.

7.24 NBI, mindful of the requirement for price stability and of the time required to complete pricing reviews generally, considered that a biennial review of the WACC might work better[280].

7.25 Both ALTO[281] and Sky[282] took the view that more frequent updates took away the need for aiming up, in particular given that, Sky noted, the principle of aiming up is already applied by ComReg when setting each of the parameters, doing away with the need of a further iteration. For Three, aiming up continued to be appropriate in the mobile sector, having regard to the investments required, but possibly not in the fixed sector, given relative stability of demand and technology[283]. NBI also agreed that there should be no aiming up[284].

7.26 While acknowledging ComReg's proposal to review the WACC parameters more regularly and as part of pricing consultations, 2rn expressed the view that further flexibility was required in order to allow the WACC determination to be re-opened and re-examined where uncertainties materialise (e.g., Brexit, inflation, change to corporate tax)[285].

7.27 Eircom did not agree with ComReg's proposal that the WACC be updated annually[286]. In Eircom's view, a full WACC consultation should be undertaken as part of the market analysis process and that WACC would be used for any further pricing decisions relying on that market analysis. Eircom also appeared to suggest that if a pricing decision was delayed, the WACC parameters could be updated but consultation on the WACC as part of that pricing decision would only be required if the updated WACC fell

[277] Page 6 of its response.
[278] Paragraph 42 of its response.
[279] Page 2 of its response.
[280] Page 5 of its response.
[281] Page 7 of its response.
[282] Paragraph 43 of its response.
[283] Page 3 of its response.
[284] Page 5 of its response.
[285] Paragraph 5.9 of its response.
[286] Paragraph 149 of its response – 13 August 2019.

outside the high low range of the WACC set out in the initial market analysis decision.

7.28 Both 2rn[287] and Eircom[288] expressed the view that no explanation had been provided by ComReg which would justify departing from the policy implemented in the 2014 Decision by the aiming up of the WACC. Eircom, while agreeing that more frequent WACC updates would reduce the risk of the WACC being set too high or too low, considered that ComReg had failed to consider the impact of the greater uncertainty arising from WACC annual updates. Aiming up would continue to be necessary if the WACC was set, as Eircom suggested, in the context of a market analysis, as the risk would not be addressed there of the WACC being set too low for the duration of the market analysis review period.

7.29 Insofar as implementation is concerned, ALTO[289], Sky[290] and Vodafone[291] all considered that the revised WACC should be applied with immediate effect, in order to avoid the continuation of what they said were excessive returns. All three respondents saw no justification for the delayed application of the WACC to price controls, with particular reference to the price control imposed by ComReg in ComReg Decision D11/18, and were concerned to ensure that prices be amended without a full price review being undertaken, in order to ensure cost-orientation of prices. ALTO and Sky both noted that ComReg Decision D11/18 did contemplate the possibility of a price change relatively soon after the imposition of the price control, to account for the change to the WACC. In Sky's view, the returns that Eircom is making in comparison to its regulated rate of return go beyond what is acceptable as part of a "fair bet". No issue of regulatory certainty arose in that context.

7.30 NBI[292], Three[293] and 2rn[294] agreed that Option 3 was the most appropriate method to implement the revised WACC. 2rn explicitly stated its view that Option 1, which would involve changes to agreed prices, was not appropriate.

7.31 Eircom agreed in part that Option 3 was the most appropriate method to implement the revised WACC[295]. Eircom did not agree with the proposal to apply a revised WACC to pre-existing cost-oriented price controls when assessing compliance with cost orientation which Eircom said, was equivalent to implementing Option 1, which ComReg had rejected, and

[287] Paragraph 5.15 of its response.
[288] Paragraph 155 of its response – 13 August 2019.
[289] Page 7 of its response, see also ALTO's submission of 20 July 2020.
[290] Paragraph 34 of its response.
[291] Paragraph 11 of its response.
[292] Page 5 of its response.
[293] Page 4 of its response.
[294] Paragraph 5.21 of its response.
[295] Paragraph 165 of its response – 13 August 2019.

contrary to regulatory predictability. In particular, such an approach would upset the build/buy signals in the price control period, and the "fair bet" assumptions which operators are encouraged to make. Such "retrospective" application of the WACC would create regulatory uncertainty and have a chilling effect on investment.

7.32 In its submission of 25 May 2020 Eircom commented further that:

> *"the FTTC price path set by ComReg from 1 March 2019 to 30 June 2024 is bound by the existing WACC of 8.18%. Similarly, the maximum migration/connection charge nationally for FTTH at €100 per event cannot be amended based on a change to the extant WACC rate."*

7.33 Finally, in its letter of 9 July 2020 to ComReg in response to ComReg's notification of its proposed decision under Article 7 of the Framework Directive, the European Commission commented that "*ComReg must adjust all regulated prices that are significantly affected by the WACC value, in line with the considerable decrease of the WACC (from 8.18% (current) to 5.61% (notified) for the fixed-line market). The Commission urges ComReg to update relevant pricing decisions as soon as possible, to ensure that prices in the Irish wholesale markets reflect current market conditions, as the WACC is a significant and central determinant of prices.*"

Response to Consultation and Final Decision

Option 3 - Implementation

7.34 In the Consultation, ComReg proposed as its preferred option, Option 3. Option 3 was described in ComReg Document 19/54 as follows:[296]

> *"Option 3 involves the application of the revised WACC to subsequent price controls that come into effect after this review and reflects ComReg's proposal that more frequent WACC reviews are undertaken. Option 3 would apply to the WACCs proposed in this consultation and also to any future revisions.*
>
> *This would mean that any cost-oriented prices calculated after this WACC review will apply the revised WACC as a parameter in their calculation.*
>
> *Furthermore, when assessing its compliance with its cost orientation price control obligations the SMP service providers, subject to cost-oriented price controls would apply the revised WACC in any submissions or calculations (where considered necessary). This would apply to cost-oriented tariffs that were in force prior to the*

[296] ComReg Document No. 19/54 – paragraphs 8.18 to 8.20.

revision of the WACCs."

7.35 Option 3 accordingly included the following:

- Annual review of the WACC in accordance with the methodologies set out in the WACC Response to Consultation, and no aiming up;
- Application of the new WACC to subsequent price controls, that is to say, to use the WACC in future pricing decisions by ComReg;
- Maintenance of existing price controls until a full review of existing price controls is undertaken; a price review may be triggered in the context of a requirement to justify continued cost orientation of prices[297].

7.36 Having considered the respondents' views, ComReg is of the view that Option 3, together with annual updates and excluding aiming up, addresses its statutory objectives and allows ComReg to meet the respondents' concerns in a measured and objective way.

7.37 Together with updated WACCs, Option 3 ensures both regulatory certainty and predictability, and that prices remain cost-oriented during the life of a price control.

7.38 In particular, annual updates of the WACC will ensure that the most up-to-date WACC will be used in any new or updated pricing decisions (including any that may be under consultation). This will ensure that it adequately reflects current underlying economic and financial conditions at that time (including forecasts), an issue which a number of respondents noted by reference to the use of the WACC calculated in 2014 in the price control set out in ComReg Decision D11/18. The application of the most recently updated WACC to new/updated price controls means that the WACC used in a price control appropriately estimates the reasonable return that the SMP operator is allowed under the Access Regulations.

7.39 How the new WACC will affect existing price controls is set out below for three general categories of price control obligations, namely: (1) where prices have been set by ComReg; (2) where prices within a price control are indicative prices; and (3) where there is a cost orientation obligation without specific prices.

[297] See Regulation 13(4) of the Access Regulations – Price control and cost accounting obligations.

Impact where prices have been set by ComReg

7.40 ComReg is mindful that predictability of pricing is an important aspect of creating the right environment for all operators to make investment decisions. Consequently, ComReg will generally avoid intervening within a price control period where it has mandated specific prices unless circumstances are materially different from those envisaged at the time of the pricing decision or exceptional circumstances have otherwise arisen.

7.41 Consequently, where prices have been previously set by ComReg (including in the form of maximum prices), for a defined future period, a subsequent change in the WACC will not automatically lead to any change in those prices.

7.42 However, this should not be taken as fettering ComReg's general discretion to intervene to change prices when it considers it justified. In particular, if there is evidence of a sufficiently material change in modelled costs as a result of changes to the model or changes to inputs such as costs and/or volumes or the WACC itself or other exceptional circumstances, ComReg may embark on a fresh pricing consultation or require, in accordance with Regulation 13(4) of the Access Regulations, any SMP operator that is subject to a cost-orientation price control, to review the basis for the existing prices and determine whether any changes to the prices are required. ComReg notes that the observations in this paragraph apply equally to circumstances that could lead to an increase in wholesale prices as to circumstances that could lead to a decrease.

7.43 In its Decision D11/18 (concerned with, *inter alia*, prices for FTTC based services) ComReg reserved the right to require prices to be updated depending on the outcome of ComReg's decision on the WACC. ComReg will proceed in the coming weeks with the publication of a consultation on the use of a new Access Network Model ('**ANM**'), and revised access prices for existing access network products subject to cost-orientation obligations. The impact of using these updated access network cost inputs and the new WACC value on FTTC prices will be considered as part of that consultation. Given the length of time that has since elapsed, ComReg does not now consider it appropriate to review FTTC prices solely on the basis of a change to the WACC. Rather ComReg will consider whether updated FTTC prices require to be mandated in the light of the new Access Network Model. As explained in ComReg Document 19/92,[298] "*FTTC prices are derived from its NGA Cost Model which uses outputs from the Revised Copper Access Model as an input. ComReg will assess the implications of the new Access Network Model for FTTC pricing. In the event that there was likely to be a material impact on the inputs into the NGA Model ComReg would revisit FTTC prices*." In considering whether FTTC prices

[298] Settlement of High Court proceedings - Sky Ireland Limited v ComReg 2018/459 MCA

require amending, ComReg will, in accordance with the principle set out above, use the relevant updated WACC value.

7.44 Work on the new Access Network Model is well advanced and ComReg will proceed in the coming weeks to publish a consultation on its use. The consultation will include an evaluation of the impact on the NGA cost model and the NGN Core Model of both the updated ANM cost inputs and the updated WACC, and considers regulated FTTC prices in that context.

7.45 In particular, and in order to enable stakeholders to assess the implications of this WACC decision, ComReg considers it useful to clarify at this point that based on draft ANM outputs, it is of the view that the revised WACC and the new ANM model will together have a material impact on FTTC costs and accordingly, FTTC prices will be revisited in the forthcoming ANM consultation.

7.46 ComReg does not accept Eircom's view that the FTTC price path set by ComReg from 1 March 2019 to 30 June 2024 is bound by the existing WACC of 8.18% and that the maximum migration/connection charge nationally for FTTH at €100 per event cannot be amended based on a change to the extant WACC rate. ComReg cannot fetter its discretion in the way suggested by Eircom. ComReg disagrees that the new WACC cannot be used to assess compliance with the relevant price control while noting that the then proposed price of €100, which came into effect on 1 July 2020 is well below the previous price of €170[299]. The issue of a risk premium specifically for FTTH connections is addressed below. ComReg's preferred approach also involves no "retrospective application"; any changes made to a specified regulated price following the updated WACC and the review of other parameters would apply on a forward looking basis.

7.47 ComReg notes further that the mechanism set out above as provided for under Regulation 13(4) is not entirely dissimilar to that proposed by Eircom in its response to Question 7. In particular, Eircom proposed that a WACC be set for the price control period at the beginning of the market analysis period (which will be the case here through the use of the most recently updated WACC) which could be updated during the price control period if the updated WACC fell outside a WACC range where a pricing decision is not made at the same time as the market analysis decision is made (at which point, Eircom submits, the WACC should also have been determined). While this is different from ComReg's preferred approach, there is a degree of commonality between the approaches, namely that it may be appropriate to update the WACC between two market analyses.

[299] https://www.openeir.ie/wp-content/uploads/2020/05/Broadband-Price-List-V16_2-marked-20042020.pdf

Impact where prices within a price control are indicative prices

7.48 ComReg's decisions sometimes contain indicative prices for the later years of a price control period. ComReg may review such prices or require justification for them. Any such review or justification will be based on all relevant circumstances including the WACC rate pertaining at the time of the review.

Impact where prices are subject to a cost-orientation obligation without a specific price

7.49 Where an obligation of cost orientation applies but no specific price has been set out by ComReg (for example certain Access Reference Offer tariffs), the SMP operator is required to use immediately the most up-to-date WACC value as it monitors its on-going compliance with its obligations and updates prices subject to a cost-orientation obligation.

7.50 The obligation to monitor compliance with cost orientation obligations rests with the SMP operator. Regulation 13(4) of the Access Regulations states:

> *Where an operator has an obligation under this Regulation regarding the cost orientation of its prices, the burden of proof that charges are derived from costs, including a reasonable rate of return on investment shall lie with the operator concerned. For the purpose of calculating the cost of efficient provision of services, the Regulator may use cost accounting methods independent of those used by the operator. The Regulator may issue directions requiring an operator to provide full justification for its prices and may, where appropriate, require prices to be adjusted.*

7.51 In situations where no specific price has been set out by ComReg and ComReg considers that the SMP operator has not adhered to the monitoring of its cost orientation obligation ComReg may intervene if it considers it necessary to do so.

7.52 Examples of the prices which fall into the above categories are included in the table below:

Table 18: Various price controls

		Impact of WACC Decisions	Examples of prices or price controls
1.	All Future Pricing Decisions	Latest WACC will be used in decision	SB-WLR[300] CEI[301]

[300] Single billing – wholesale line rental
[301] Civil Engineering Infrastructure

2.	Existing Prices set by ComReg	No change to price during price control period unless ComReg intervenes where there are material changes or exceptional circumstances[302]	FTTC VUA[303] FTTC Bitstream Fixed termination rate Mobile termination rate
3.	Indicative prices	Latest WACC used if prices reviewed or required to be justified	SB-WLR (1 July 2019 to 30 June 2021)[304].
4.	Cost-orientation obligations without specific prices and other price controls	Latest WACC to be used for monitoring compliance and updating price controls	PPCs[305] FTTH connection charges Margin squeeze tests Bundles test Various ancillary services Broadcasting transmission services

7.53 As regards WHQA services, in ComReg Decision D03/20[306] of 24 January 2020, ComReg required Eircom to submit updated prices for certain WHQA services and in that WHQA Decision reserved the right to require these updated prices be based on the WACC from the (at that time) forthcoming WACC Decision.[307] ComReg notes that a WACC of 5.61% has been used by Eircom in updating Zone B WHQA prices published in September 2020.

Annual reviews[308]

7.54 ComReg will update the WACC annually in line with the methodology as follows:

[302] Please see paragraphs 7.43 to 7.45 in respect of FTTC.
[303] Virtual Unbundled Access
[304] See ComReg Decision D03/16 – Figure 20
[305] Partial private circuits
[306] ComReg Document No. 20/06 – Market review: Wholesale High Quality Access at a Fixed Location.
[307] Para. A1.998.
[308] See section 6.1 of Europe Economics Final Report.

Cost of Equity

7.55 As noted in this Response to Consultation the values of the cost of equity calculated using the modified Commission Notice approach and the equilibrium approach are quite similar. ComReg considers that for the reasons set out in Chapter 3, both approaches are relevant to Ireland and ought to be considered in reaching a judgement as regards the appropriate cost of equity. In this context, ComReg is of the opinion that equal weight should be given to both approaches and has therefore based its estimate of the cost of equity on an average of the values from the two approaches.

7.56 In its annual updates ComReg will express that judgement and calculate the cost of equity on the basis of the modified Commission Notice approach applying to that calculation a percentile adjustment (described below) which will incorporate the cost of equity as calculated under the equilibrium approach. Annual updated WACCs will accordingly be determined using the WACC parameters calculated under the modified Commission Notice approach however taking account of the result produced by the equilibrium approach.

Percentile Adjustment – Example Fixed Line

7.57 When estimating the fixed line cost of equity in the Response to Consultation under the modified Commission Notice approach the range lay between 6.31% and 6.87% with a point estimate of 6.59%[309]. The spread between the lower and upper bounds of the range is 0.56%.

7.58 The cost of equity used in the final WACC value (averaging both the equilibrium approach and the modified Commission Notice approach) is 6.67%. ComReg believes that a reasonable assumption is that the relative difference between the two approaches will continue over time. Locating the value of 6.67% within the range under the modified Commission Notice approach finds that it sits on the 64th percentile[310].

7.59 Multiplying the spread of 0.56% by 64% gives a value of 0.36%. When added to the lower bound under the modified Commission Notice approach this equals 6.67%.

7.60 ComReg will update the cost of equity parameters (risk-free rate, equity beta and equity risk premium) under the modified Commission Notice approach on an annual basis. In calculating the parameters ComReg will also refer to the values produced by BEREC for the European Commission to ensure consistency and if variances arise to understand the reasons for same.

[309] Table 4.15 of Europe Economics Final Report.

[310] If on a scale of 1 to 100 6.31% represented 1 and 6.87% represented 100 then the average cost of equity value for fixed line of 6.67% would sit at 64 (i.e. the 64th percentile).

7.61 Using the updated parameters ComReg will calculate the range of the cost of equity under the modified Commission Notice approach. It will then calculate the spread between the lower and upper bounds. This spread will be multiplied by 64% and added to the lower bound, thereby producing the annual updated cost of equity. The updated cost of equity will then be used to calculate the updated WACC value.

7.62 For mobile telecommunications it will take the 80th percentile and for broadcasting the 138th percentile.

Cost of debt

7.63 The cost of debt for the annual update will commence with the approach under the Commission Notice. However, as this was one of four possible approaches ComReg considered suitable to estimating the cost of debt an adjustment is considered necessary.

7.64 In the Response to Consultation ComReg considers that the cost of debt is 2.6%. This is currently 116 basis points above the Commission Notice approach as estimated by ComReg. ComReg considers that a reasonable assumption is that the difference between ComReg's calculation of the cost of debt and the Commission notice approach can be expected to be constant over the timeframe of this Decision. ComReg will update this difference with the results produced by BEREC for 2020. This difference will be applied in future updates. ComReg will therefore update the cost of debt by estimating it using the Commission Notice approach and adding the difference produced this year to the updated Commission Notice approach.

7.65 ComReg will publish the annual update of parameter values and WACCs via an Information Notice. The first annual review will take place in 2021.

Aiming up

7.66 ComReg notes that Eircom acknowledges that more frequent WACC updates reduces the risk of inaccurate WACC estimates. ComReg's objective in using aiming up as noted in ComReg document No. 19/54[311] and also by several respondents:

> *"The purpose of aiming up was to reflect the asymmetry of consequences between setting the WACC too low and setting it too high."*

7.67 Therefore, the purpose of aiming-up was not to simply provide the SMP operator with a WACC higher than the estimated values but instead to ensure it earned a sufficient return to enable it to continue to invest which in turn would enhance consumer benefits.

[311] See section 8.7.

7.68 Also, when estimating the WACC, before the addition of aiming-up, the point estimates are chosen from within a range and not necessarily the mid-point provided which is based on the data available. The basis for choosing the point estimate is explained. Therefore, there is an implicit element of aiming-up within many of the parameters.

7.69 However, as also noted in ComReg document No. 19/54[312] there has been a downward trajectory in WACC values since the 2014 Decision and this trend has continued. Given the recent movements in WACC values ComReg considers that to aim-up would increase the value of the WACC beyond its estimated value and move it in the opposite direction to where the available data is pointing it to. This would result in too high of a WACC value and the over-compensation of the SMP operator for consequences that the data has shown have not occurred and are unlikely to occur.

7.70 Therefore, the use of updated WACCs and the possibility to intervene where justified in the light of material changes to the underlying parameters of a price control also means that no aiming up is required when setting the WACC. The risk that the return allowed under the WACC is in fact too low (but also too high) is much reduced when the WACC is updated annually.

[312] Figure 1.

Should there be differentiated WACCs within the fixed line telecommunications sector

Consultation

7.71 ComReg usually assesses the WACC at a sector-wide level. However, companies commonly make investment decisions at a project or activity level (for instance individual services within markets or retail activities) that take into account differences in systematic risk between different activities. ComReg notes that assets with different risk profiles may have different required rates of return, even when owned by the same company. ComReg is therefore exploring a number of possible measures that may be used, if appropriate, to promote efficient investment incentives. One of these measures is the possibility of setting different levels of WACC for certain activities or assets carrying more systematic risk than is currently reflected in asset betas for the sector. ComReg notes for example that section 1.4 of the Commission Notice (Scope of the Notice) makes it clear that its scope is limited to the WACC calculation for legacy infrastructure.

7.72 For investment in the roll-out of fibre to the home there is currently difficulty in determining asset betas as there are insufficient pure-play fibre operators from which to estimate appropriate asset betas. This will likely evolve over time as more fibre is deployed and copper retired. Hence it would be expected that the increased use of fibre will be reflected in the asset betas for fixed line telecommunications. For now, though, trying to assess pure-play fibre roll-out betas is problematic.

7.73 Another possibility for promoting efficient investment may be the use of project specific risk premia. Many projects have their own project specific risks. For example, investments in very high capacity networks ('**VHCN**') are likely to have different risk profiles to legacy investments. However, some risks may be diversifiable.

7.74 For fibre assets the European Commission Recommendation on regulated access to Next Generation Access Networks (2010/572/EC) [313] noted:

> *"NRAs should ensure that access prices reflect the costs effectively borne by the SMP operator, including, where appropriate, a higher risk premium to reflect any additional and quantifiable risk incurred by the SMP operator".*

7.75 As further noted in section 1.4 of the Commission Notice:

> *Therefore, the Commission services consider that, for the time being, it is opportune to the limit the Notice to the elements*

[313] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010H0572&from=EN

necessary for the estimation of the WACC in relation to legacy infrastructure.

7.76 Insofar as CEI is concerned, in the Consultation, ComReg noted that CEI assets (primarily ducts and poles) owned by Eircom may be used as part of the National Broadband Plan (‘**NBP**’), and that currently the same WACC is used for these assets as other regulated assets of Eircom.

7.77 Noting further that no determination yet had been made by ComReg as regards the application of a separate WACC for CEI assets associated with the NBP, including because the final structure of the NBP remained uncertain, ComReg explained that it considered it important to establish the principles for estimating a WACC associated with certain CEI assets.

7.78 Having considered the possible differentiation of WACCs for Fibre to the Home (‘**FTTH**’); Fibre to the Cabinet (‘**FTTC**’); and Assets relating to Civil Engineering Infrastructure (‘**CEI**’), in the Consultation, ComReg was of the preliminary view that there may be other factors, in addition to the WACC, that need to be considered (for example the potential take-up of services and its timeframe), when determining the level of risk associated with cost-oriented prices.

7.79 In that context, ComReg invited views on the possibility of implementing incentive-based mechanisms whereby any particularly systematically risky or state-backed capital-incentive projects could be assessed on an individual basis to determine whether a modification of the average WACC would be appropriate. There was, however, no specific proposal in the Consultation to differentiate WACCs nor any proposals on project-specific risks. Rather, the intention was to gain views that would be useful in any potential future consultation. ComReg thanks the respondents for their contributions to this question.

7.80 ComReg asked the following question 10:

> What principles do you think should be adopted, if any, for differentiating WACCs? What principles should be adopted, if any, to decide if project specific risks need to be taken into account? Please clearly indicate the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

Submissions to the Consultation

7.81 ALTO[314], Eircom[315] and NBI[316] responded to Question 10.

[314] Page 7 of its response.
[315] Paragraph 58 of its response – 13 August 2019.
[316] Page 6 of its response.

7.82 ALTO submitted that whether differentiated WACCs should apply must be assessed on a case by case basis and what, if any, additional risks are posed by such investment choices must be clearly identified. Eircom also noted that the determination of an alternative project specific WACC would have to be subject to consultation.

7.83 Regarding FTTH, ALTO noted that a blanket premium on FTTH investment would not appear to be justified taking the example of the rural 300k footprint, as identified in the National Broadband Plan, where ALTO said, Eircom faces little or no risk from infrastructure competition. Eircom took a different view. Eircom saw that any FTTH wholesale pricing remedy in the foreseeable future should continue to be in the form of an appropriate margin squeeze test. Eircom also noted that the premia expected by operators investing in smaller FTTH footprints in Ireland were significantly in excess of the current WACC and that a number of NRAs have notified to the European Commission a range of FTTH WACC values[317].

7.84 Regarding FTTC[318], Eircom disagreed with the position taken by ComReg in ComReg Decision D11/18 that FTTC investment is no more risky than legacy copper today or at the time that the investment first took place and was of the view that this was inconsistent with the European Commission's 2010 Recommendation on NGA. Eircom also considered that the cost-orientation obligation on FTTC failed to take into account the fact that FTTC pricing is an anchor product for FTTH prices and places a cap on FTTH returns. Neither NBI nor ALTO commented on FTTC in this context.

7.85 Regarding CEI, both Eircom[319] and NBI[320] proposed a number of principles which ComReg ought to consider when deciding whether a differentiated WACC for CEI in the NBP Intervention Area was justified. The principles they suggest are by and large aligned – e.g., Eircom and NBI appear to agree that an assessment of the risk associated with the NBP project is required and that the existence or not of available alternative infrastructure in the NBP area is relevant, as is the use of CEI by Eircom in wholesale products and the impact of NBP rollout on Eircom's business. However, they both each reach opposite conclusions, Eircom finding that a differentiated WACC would not be justified[321], in contrast to NBI which suggests that an NBP-specific WACC would be justified[322].

7.86 In its submission of 25 May 2020, Eircom considers that:

[317] Paragraph 180 of its response – 13 August 2019.
[318] Paragraph 173 of its response – 13 August 2019.
[319] Paragraph 182 of its response – 13 August 2019.
[320] Page 6 of its response.
[321] Paragraph 182 of its response – 13 August 2019.
[322] Page 8 of its response.

> *"[…] ComReg has failed to consult on the appropriate WACC for NGA services, and the appropriate WACC premium for FTTH. This means any pending decision from ComReg on the appropriate WACC cannot apply to FTTC or FTTH services."*

7.87 Eircom also suggested that ComReg in the Consultation had not adequately addressed the issues identified by the 2010 NGA Recommendation and that ComReg D11/18 had not taken the utmost account of the European Commission's expressed concerns of that notified measure.

Response to consultation

7.88 ComReg agrees that whether to apply differentiated WACCs is a decision to be made on a case by case basis. ComReg however disagrees with Eircom's suggestion that the matter of the risk premium for NGA has not been consulted upon. The issue was consulted upon in ComReg Consultation document 17/26, see paragraphs 6.58 – 6.59 regarding FTTC, and paragraph 10.41 regarding FTTH. The issue of a premium for FTTC was subsequently considered in detail in Decision No. D10/18 where ComReg, having considered, in accordance with the European Commission's 2010 NGA Recommendation whether there were any additional and quantifiable investment risk incurred in order to take into account the risk associated with NGA investments, found that in the context of Eircom's FTTC (or EVDSL) deployment, there was no need to apply a risk premium. ComReg's decision in this respect followed the European Commission 2010 NGA Recommendation (section 6) which notes as follows:

> *"Investment into FTTN, on the other hand, which is a partial upgrade of an existing access network (such as for example VDSL), normally has a significantly lower risk profile than investment into FTTH, at least in densely populated areas. In particular, there is less uncertainty involved about the demand for bandwidth to be delivered via FTTN/VDSL, and overall capital requirements are lower. Therefore, while regulated prices for WBA based on FTTN/VDSL should take account of any investment risk involved, such risk should not be presumed to be of a similar magnitude as the risk attaching to FTTH based wholesale access products. When setting risk premia for WBA based on FTTN/VDSL, NRAs should give due consideration to these factors…"*

7.89 At paragraph 7.1352, D11/18, ComReg noted that it is recognised that there is a reduced investment risk for FTTC deployment as FTTC services can reutilise the D-Side[323] copper network and the deployment of Eircom's FTTC network has been underway since 2013. The majority of the associated investment in FTTC infrastructure such as cabinets, DSLAMs and E-Side[324] fibre, had taken place and a significant uptake of these services had already been achieved. Similarly, EVDSL reutilises the copper loop thereby limiting the level of new investment required. As pricing and quality of service is similar to FTTC it is easier to make predictions on EVDSL penetration rates, while the use and cost of copper lines can be estimated with a reasonable level of certainty. There was, and there is, accordingly no need to apply a risk premium for FTTC or EVDSL deployment.

7.90 Furthermore, in relation to FTTC, ComReg considers that Eircom has not identified any risk premium associated with the rollout of its fibre network. A review of historical investor relation presentations made by Eircom, while not made for regulatory purposes, nevertheless does not indicate any increased risk to Eircom as a result of FTTC rollout. In fact, the contrary seems to apply; despite increased fibre investment Eircom's cost of debt has fallen.

- In Q1 2017 Eircom commented that it had spent €415m on fibre rollout. Separately it had refinanced bonds with the rate moving from 4.5% to 4%[325].

- In Q3 2107 Eircom commented that its average cost of debt had fallen from 5.2% at the beginning of its financial year to 3.63%. This is despite "CAPEX expected to remain at elevated levels for FY17 and FY18[326].

- In Q4 2017 it noted that it had received rating upgrades from all three agencies[327].

- In Q3 2019 Eircom commented that it had completed a successful debt refinancing and that the initial offering of €850m was increased to €1.15bn

[323] Footnote 1506: Distribution side – access network from the exchange to the customer premises.
[324] Footnote 1507: Exchange side – access network within an exchange.
[325] https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2016_2017/quarter1/eir_1st_quarter_results_presentation_FY1617_1.pdf
[326] https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2016_2017/quarter3/eir_3rd_quarter_results_presentation_FY1617_2.pdf
[327] https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2016_2017/quarter4/eir_4th_quarter_and_full_year_results_presentation_FY1617_1.pdf

due to significant investor demand. The pricing of the new bonds reduced from 4.5% to 3.5%[328].

- In Q1 2020 Eircom raised bonds for FY2025 at 1.75% and FY2027 at 2.625%. It noted that the bonds for FY2025 had reduced by 175bps since May 2019[329].
- In Q2 2020 Eircom commented that its average cost of debt was 3.03% down 61bps year on year[330].
- In Q3 2020 Moodys reaffirmed its credit rating for Eircom [331].

7.91 Therefore, based on the above, as Eircom invested in FTTC its debt risk profile declined. As the rollout of FTTC is now largely complete and given the fact that Eircom has neither identified any particular risk associated with it and nor do its own reports to investors highlight any risks ComReg does not believe that there is any basis for reviewing its position and it remains of the view that there is no need to apply a risk premium.

7.92 In addition, the updated WACC reflects the market's view of risk of investing in comparator companies across Europe. These companies have, to a large extent, also rolled out FTTC. Hence the risk of FTTC is included in the updated WACC.

7.93 Insofar as FTTH is concerned, the 2010 NGA Recommendation[332] notes as follows:

> *"The deployment of FTTH will normally entail considerable risks, given its high deployment costs per household and the currently still limited number of retail services requiring enhanced characteristics (such as higher throughput) which can only be delivered via fibre. Investments into fibre depend for their amortisation on the take-up of new services provided over NGA networks in the short and medium terms. The costs of capital of the SMP operator for the purpose of setting access prices should*

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328 https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2018_2019/quarter3/eir_Q3_FY19_results_presentation.pdf

329 https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2019_2020/eir_FY20_Q1_results_presentation.pdf

330 https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2019_2020/eir_Q2_FY20_results_presentation.pdf

331 https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2019_2020/eir_Q3_FY20_results_presentation.pdf

332 Paragraph 23

reflect the higher risk of investment relative to investment into current networks based on copper.

7.94 In ComReg Decision D10/18, ComReg further considered (paragraph 7.1353) the inclusion of a risk premium for FTTH but found that this was not necessary for FTTH, having noted (paragraph 7.1350) to Annex I, point 6 of the 2010 NGA Recommendation, according to which NRAs should estimate investment risk, inter alia, by taking into account the following factors of uncertainty:

i. Uncertainty relating to wholesale and retail demand;
ii. Uncertainty relating to the costs of deployment, civil engineering works and managerial execution;
iii. Uncertainty relating to technological progress;
iv. Uncertainty relating to market dynamics and the evolving competitive situation, such as the degree of infrastructure-based and/or cable competition; and
v. Macroeconomic uncertainty.

7.95 In particular, as Eircom is subject to a margin squeeze obligation (rather than cost orientation) for FTTH rental, there was, and there is, no need to estimate costs of the associated access network. At the same time, the assets relevant for the FTTH rental margin squeeze obligation are not a part of the access network but rather part of the core network. These assets are not therefore subject to a risk premium. Eircom is accordingly free to determine the wholesale charge for FTTH rental so long as it does not cause a margin squeeze and the question of the application of a WACC premium to FTTH rental currently does not arise at present.[333] Any future change to the pricing obligations for FTTH rental charges would be subject to consultation. Any further consideration of an NGA premium would be part of that consultation.

7.96 By contrast, FTTH connection and migration costs are subject to a price control which requires that they be at the same level and that they do not exceed the level that would allow Eircom to recover its customer specific connection related investment over the lifetime of the underlying assets. However, the investment in connections/migrations is only made in response to customer requests so these activities are inherently less risky than rolling out network infrastructure where demand is uncertain. Hence ComReg considers that there is no justification for a WACC premium for FTTH connections/migrations.

7.97 ComReg is accordingly satisfied that it has met all of its obligations of consultation in respect of the appropriate WACC for FTTC services, and

[333] Paras 2.22 and 2.35 of ComReg Decision D11/18, Pricing of wholesale broadband services in the WLA and WCA markets, ComReg Document No. 18/95.

the issue of a risk premium for FTTH and reached its decision on these matters having duly taken utmost account the European Commission's NGA Recommendation and the Commission's comments on its submissions concerning NGA. ComReg also notes, that at the time of the submissions of ComReg Decisions D10/18 and D11/18, that Eircom raised the issue of a risk premium with the European Commission but did not raise an appeal to those Decisions.

7.98 ComReg accordingly is of the view that there are insufficient reasons at this time which could justify a blanket premium on FTTH investment. ComReg notes further in respect of FTTC that Eircom's FTTC service is primarily a copper-based service and it is reasonable to apply the same WACC for FTTC as for other copper-based services.

7.99 As regards the question of a differentiated WACC for CEI, ComReg takes note of Eircom's and NBI's comments which have been used to inform the recently published consultation on CEI pricing[334].

[334] ComReg Document 20/81 published 9 September 2020

Other matters

Consultation

7.100 In Question 11 ComReg asked the view of respondents to other matters that may not have been addressed elsewhere in the Consultation.

> Are there any aspects that respondents consider important and that have not been covered under the previous questions? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with evidence and argumentation supporting your views.

Submissions to the Consultation

7.101 ComReg received responses to question 11 from Eircom (“Exponential Smoothing) and RTÉ (alternative basis for determining returns).

Exponential smoothing

7.102 Eircom suggested that ComReg adopt “exponential smoothing” as used by BNetzA[335].

7.103 ComReg considers that the use of annual updates and its implementation methodology will mean that there is no requirement for exponential smoothing.

Alternative basis for determining returns

7.104 RTÉ considered that given its relatively low level of assets (in Market B) the WACC was not the most appropriate means to determine a return[336].

7.105 ComReg considers that imposition of remedies in both Market A and Market B of the Broadcasting sector will be addressed in the current market analysis[337].

7.106 ComReg considers that all other points have been addressed in the previous chapters.

Response to Consultation and Final Decision

7.107 ComReg considers that it has addressed the matters raised by both Eircom and RTÉ in relation to question 11.

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[335] Paragraph 210 of its response – 13 August 2019.
[336] Page 2 of its response.
[337] See ComReg Document No. 20/31.

Questions in relation to the Decision Instruments

Consultation

7.108 The Consultation included draft text for the decision Instruments. ComReg proposed to have four separate decision instruments, one each for the fixed line sector, mobile communications, and two for broadcasting (one for each of the two regulated markets, known as Market A and Market B). Questions 12 to 15 of the Consultation sought the views of the Respondents respectively on the draft text for each of the four proposed Decision Instruments, from a legal, technical and practical perspective, in order to ensure that the legal instruments were sufficiently detailed clear and precise with regards to the specifics proposed.

7.109 In the Consultation, ComReg asked the following questions in relation to the Decision Instruments.

Question 12: Do you believe that the draft text of the proposed decision instrument for **Mobile Telecommunications** is from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed? Please explain your response and provide details of any specific amendments you believe are required.

Question 13: Do you believe that the draft text of the proposed decision instrument for **Fixed Line Telecommunications** is from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed? Please explain your response and provide details of any specific amendments you believe are required.

Question 14: Do you believe that the draft text of the proposed decision instrument for **Broadcasting - Market A** is from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed? Please explain your response and provide details of any specific amendments you believe are required.

Question 15: Do you believe that the draft text of the proposed decision instrument for **Broadcasting – Market B** is from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed? Please explain your response and provide details of any specific amendments you believe are required.

Submissions

7.110 Three was of the view that the draft decision instruments for fixed line and mobile telecommunications were well drafted and sufficiently detailed, clear and precise with regard to the specifics proposed. ALTO also agreed with the proposed decision instrument as drafted for fixed line telecommunications. ALTO did not offer comments in respect of the other decision instruments.

7.111 A number of respondents expressed a number of concerns in respect of the decision instrument for fixed line telecommunications (NBI and Eircom) and for broadcasting (2rn), as follows.

7.112 Following on from its response to Question 13, NBI submitted that provision should be made within the decision instrument for the updating of the WACC parameters in the manner as envisaged in the Consultation. In NBI's view, the proposed new procedure for updating the WACC parameters ought to be explicitly catered for within the legal text of the Decision Instrument.

7.113 Eircom took issue with the text proposed for fixed line telecommunications, including, in particular, Section 4.2 of the draft decision instrument and section 4.4.

7.114 Section 4.2 read as follows:

> "*Eircom shall apply, in the ongoing assessment of its compliance with cost recovery and price control obligations (including regulated wholesale prices) imposed prior to the Effective Date, the revised nominal pre-tax WACC rate of X% as set out in Section 4.1 of this Decision Instrument".*

7.115 Section 4.4 read as follows:

> "*Any obligations imposed on the Other SMP Fixed Service Providers relating to cost recovery and price controls (including regulated wholesale prices) imposed prior to the Effective Date and calculated using a previous WACC set by ComReg shall not be affected by this decision and shall continue to have full force and effect".*

7.116 In particular, Eircom was concerned that the language used in Section 4.2 indicated an intention to amend the WACC for pre-existing pricing decisions[338]. Eircom submitted that this would be ultra vires ComReg's powers and that ComReg could not in that way amend price controls imposed prior to the effective date of a WACC Decision.[339] Eircom submitted that in order that a new WACC applies, a market analysis had to be carried out in accordance with the requirements of Articles 6 and 7 of the Framework Directive; however there had been a failure to consult on the proposed changes to existing price controls[340].

7.117 Eircom also submitted that it had a legitimate expectation[341] that the WACC applicable to the various decisions implementing price controls would not be changed until there was a full market analysis. Any change to the WACC used in existing decisions had to be assessed in tandem with all the other parameters that went into the making of that decision; ComReg had recognised that a WACC is solely one component of these price controls and is not applied in isolation. Furthermore, existing decisions had been consulted upon on the basis that the applicable WACC for the duration of the decision would be that as prevailing at the time of consultation and decision. This had influenced how Eircom responded and whether or not an appeal would follow a decision.

7.118 Eircom was of the view that there was a serious lack of clarity as to how Section 4.2 of the draft decision instrument was to operate and that there was a concern that it may potentially apply with retrospective effect. It was unclear whether the revised WACC was to be applied in any calculation being made by Eircom that run across the present financial year and therefore Eircom contended, with retrospective effect.

7.119 Finally, Eircom complained that the draft discrimination instrument discriminated between Eircom and other operators[342]. Only Section 4.2, which applied only to Eircom, required an operator to implement the revised WACC in respect of existing price control obligations. Section 4.4 reinforced Eircom's concern that Section 4.2 was intended to alter Eircom's obligations under existing decisions and did not affect "*Other SMP Fixed Service providers*".

7.120 As for broadcasting, in its response to the draft decision instrument for Market A,[343] 2rn was of the view that there was a lack of clarity as to the actual effective date from implementation of the revised WACC. 2rn submitted that its understanding of paragraph 8.18 of the Consultation indicated that the revised WACC, which may be established following the

[338] Eircom Submission dated 13 August 2019, paragraph 222 – referenced made to ComReg. Decisions D03/16, D15/14, D02/12 and D01/08.
[339] Eircom Submission dated 13 August 2019, paragraphs 221-223.
[340] Eircom Submission dated 13 August 2019, paragraphs 215-227.
[341] Eircom Submission dated 13 August 2019, paragraph 231.
[342] Eircom Submission dated 13 August 2019, paragraphs 229-230.
[343] 2rn Submission dated 9 August 2019, paragraphs 6.1 – 6.4.

Consultation, will be implemented from the next price review which would impact 2rn. For 2rn, any ongoing assessment of compliance should take account of the revised WACC in assessing results for periods commencing after the conclusion of the Consultation and the publishing of a revised WACC by ComReg.

Response to Consultation and Final Position

7.121 In light of the issues raised by respondents regarding the lack of clarity of the proposed decision instruments in respect of their applicable scope and effective date of the revised WACCs, the absence of provisions regarding the annual update of the WACC, and Eircom's concerns regarding treatment between operators, ComReg has changed its approach to the decision instruments with the view to addressing these concerns.

7.122 First, noting that the principles underpinning the calculation of the WACC, the implementation or application to existing price controls and the updates to the WACC values are the same across fixed line and mobile telecommunications and broadcasting, ComReg adopts a single Decision Instrument setting out ComReg's decision as regards:

(i) The calculation of the WACC;

(ii) The WACC value for each of the three sectors

(iii) Annual updates of the WACC values; and

(iv) How the WACC values set out in the Decision Instrument, as updated from time to time, will be used.

7.123 Second, the text of the Decision Instrument has been amended to remove any uncertainty as to how ComReg will rely on the WACC, and the extent of the obligation imposed by the Decision on operators subject to existing price controls.

7.124 In accordance with ComReg's final position as set out in paragraphs 7.108 to 7.129, the Decision Instrument makes provisions for the following. First, the Decision Instrument states the principle that the most recently published WACC value as applicable to the relevant sector will be used by ComReg for the purpose of allowing an operator a reasonable rate of return in any decision made under the Access Regulations or where so required or appropriate under the Universal Service Regulations. This will include, in particular, price control decisions under the Access Regulations 2011.

7.125 Second, the Decision Instrument makes clear that the new WACC, and any subsequent updated WACCs, should be used in the context of new price controls, but should not lead to automatic updates of existing price controls. It does so by making it clear that price controls in force prior to ComReg's Decision will continue unaffected by the publication of the WACC values.

This means that no regulated price will automatically change from the day of ComReg's decision. Rather prices will only change following the present decision or the circumstances outlined within this Chapter 7, or a WACC update where there is another decision of ComReg requiring so.

7.126 For the avoidance of doubt the Decision Instrument also clarifies that the principle that the price controls in force on the day of the Decision continue unaffected does not mean that the new or updated WACC value is of no relevance to existing price controls.

7.127 While the Decision will not, in and of itself, affect mandated prices under existing price controls, in the case of price control obligations which do not mandate a specific (including maximum or minimum) price, then when the operator amends or introduces new prices, it must use the most recently published WACC value. Conversely, in that case also, when monitoring compliance, ComReg will use the most recently published WACC value. In particular, in accordance with Regulation 13(4) of the Access Regulations 2011, ComReg may require an operator that is subject to a price control obligation in the form of an obligation of cost orientation, to justify the continued cost-orientation of its prices allowing a reasonable rate of return, and may direct the amendment of prices to ensure their cost-orientation. ComReg in that case would use the most recently published WACC value for the purpose of allowing a reasonable rate of return.

7.128 ComReg believes that the change of approach to the decision instrument and the clarifications brought to the text of the decision instrument are sufficient to address the respondents' concerns. ComReg notes that a number of issues raised in the Consultation in fact do not arise having regard to the implementation option chosen by ComReg following consultation. They include in particular the comments received in respect of ComReg's vires as regards amendments to price controls or the "retrospective" application of a WACC value.

7.129 For the avoidance of doubt, ComReg does not accept, as suggested by Eircom, that ComReg would be acting ultra vires its powers in amending a price control absent a market analysis. This is simply not correct. ComReg notes, among others, the clear provisions of Regulation 13(4) of the Access Regulations 2011, and the obligations of an SMP operator in that regard.

Annex: 1 Decision Instrument

1. STATUTORY POWERS GIVING RISE TO THIS DECISION

1.1. This Decision Instrument is made by the Commission for Communications Regulation:

(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 16 of the Framework Regulations;

(ii) Pursuant to and having regard to Regulations Regulation 6(1), 8, 11 and 13 of the Access Regulations;

(iii) Pursuant to Regulation 18 of the Access Regulations;

(iv) Pursuant to and having regard to Regulations 11, 21, 23 and 25 of the Universal Service Regulations;

(v) Having had regard to the Communication from the European Commission entitled "*Commission Notice on the calculation of the cost of capital for legacy infrastructure in the context of the Commission's review of national notifications in the EU electronic communications sector*" published on 6 November 2019 (OJEU C375/1);

(vi) Having, where appropriate, pursuant to Section 13 of the Communications Regulation Act 2002 (as amended), complied with Ministerial Policy Directions;

(vii) In light of the reasoning and analysis set out in consultation and draft decision entitled "*Review of Cost of Capital - Mobile Telecommunications - Fixed Line Telecommunications – Broadcasting (Market A and Market B)*" (ComReg Document No. 19/54);

(viii) Having considered submissions received from interested parties in response to the consultation and draft decision (ComReg Document No. 19/54) following public consultation pursuant to Regulation 12 of the Framework Regulations;

(ix) In light of the analysis and reasons set out in ComReg Document No. 20/96 entitled "*Review of Cost of Capital - Mobile Telecommunications - Fixed Line Telecommunications – Broadcasting Transmission,* *Response to Consultation and Final Decision*" (ComReg Decision D10/20);

(x) 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 in accordance with Regulation 13 of the Framework Regulations and having taken the utmost account of any comments made by these parties.

1.2. This Decision Instrument shall be construed together with ComReg's conclusions, reasoning and analysis, set out in ComReg Document No. 19/54 and ComReg Document No. 20/96), (ComReg Decision D10/20).

PART I – GENERAL PROVISIONS

2. DEFINITIONS AND INTERPRETATION

2.1. In this Decision Instrument, unless the context otherwise suggests:

'2rn' means RTÉ Transmission Network Designated Activity Company trading as 2rn;

'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;

'BEREC' means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018 amending Regulation (EU) 2015/2120 and repealing Regulation (EC) No. 1211/2009;

'ComReg' means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act, 2002 (as amended);

'ComReg Decision D10/20' means ComReg Document 20/96 entitled "Review of Weighted Average Cost of Capital (WACC) Mobile Telecommunications, Fixed Line Telecommunications, Broadcasting, Response to Consultation and Decision, dated 12 October 2020;

'ComReg Document 19/54' means ComReg Document 19/54 entitled "*Review of Cost of Capital, Mobile Telecommunications, Fixed Line Telecommunications, Broadcasting (Market A and Market B)*", dated 31 May 2019;

'Effective Date' means the date set out in Section 10 of this Decision Instrument;

'Eircom' means Eircom Limited, a company incorporated in Jersey (Number 116389), registered as a Branch in Ireland (Number 907674), with an Irish registered Branch Office at 2022 Bianconi Avenue, Citywest Business Campus, Dublin 24, D24 HX03;

'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;

'RTÉ' means Raidió Teilifís Éireann, the body corporate established under the Broadcasting Authority Act 1960 and continued in being by section 113 of the Broadcasting Act;

'SMP' means Significant Market Power;

'Undertaking' has the same meaning as set out in Regulation 2 of the Framework Regulations;

'Universal Service Regulations' means the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2011 (S.I. No. 337 of 2011), as may be amended from time to time or replaced with equivalent effect;

'WACC' means the weighted average cost of capital.

3. SCOPE AND APPLICATION

3.1. This Decision Instrument shall apply for the purpose of determining or allowing an Undertaking a reasonable rate of return where required or appropriate under the Access Regulations and/or under the Universal Service Regulations.

3.2. Without prejudice to the generality of Section 3.1, and for the purpose in particular of Section 6.2 below, this Decision Instrument shall apply to Undertakings which have been designated with SMP in accordance with Regulation 27 of the Framework Regulations and subject to accounting separation obligations pursuant to Regulation 11 of the Access Regulations or cost recovery and price control obligations pursuant to Regulation 13 of the Access Regulations.

3.3. For the avoidance doubt, Undertakings for the purpose of Section 3.2 above include, in particular, Eircom, RTÉ and 2rn in respect of their designation as having SMP on the following markets:

3.3.1. Eircom on the market for fixed access and call origination as defined in ComReg Decision D05/15 of 24 July 2015 (ComReg 15/82);

3.3.2. Eircom on the market for wholesale local access provided at a fixed location and the market for wholesale central access provided at a fixed location for mass market products, as defined in ComReg Decision D10/18 of 19 November 2018 (ComReg 18/94);

3.3.3. Eircom on the market for wholesale high quality access as defined by ComReg Decision D03/20 of 24 January 2020 (ComReg 20/06);

3.3.4. 2rn on the market for broadcasting transmission services (Market A) as defined by ComReg Decision D11/13 of 26 July 2013 (ComReg 13/71);

3.3.5. RTÉ on the market for wholesale access to Digital Terrestrial Television (DTT) multiplexing services (Market B) as defined by ComReg Decision D11/13 of 26 July 2013 (ComReg 13/71).

PART II – DETERMINATION OF REASONABLE RATE OF RETURN

4. WACC CALCULATION

4.1. The reasonable rate of return of an Undertaking for the purpose of the Access Regulations and the Universal Service Regulations shall be set at the level of the nominal pre-tax WACC of a hypothetical efficient operator in the relevant sector as set out in Section 4.2, calculated in accordance with the formula set out in Section 4.3, and updated as the case may be in accordance with Section 5.2.

4.2. The WACC shall be calculated by reference to a hypothetical efficient operator for each of the following sectors:

4.2.1. Fixed line communications;

4.2.2. Mobile communications; and

4.2.3. Broadcasting transmission.

4.3. For each sector set out in Section 4.2, the WACC shall be calculated using the following formula:

$$WACC_{pre-tax} = g * r_{debt} + (1-g) * (\frac{r_{equity}}{(1-t)})$$

where:

- *'g' is the hypothetical efficient operator's level of gearing, which is calculated by the ratio debt/debt and equity, as defined in Chapter 6* of ComReg Decision D10/20 (ComReg 20/96);
- *'r_{debt}' means the cost of debt, as defined in Chapter 5* of ComReg Decision D10/20 (ComReg 20/96)*;*
- *'r_{equity}' means the cost of equity defined in Chapter 4* of ComReg Decision D10/20 (ComReg 20/96)*; and*
- *'t' means the applicable corporate tax rate.*

5. WACC VALUES

5.1. The values of the WACC for 2020 in each of the following sectors is as follows:

5.1.1. Fixed line communications: **5.61%**

5.1.2. Mobile communications: **5.85%**

5.1.3. Broadcasting transmission: **5.98%**

5.2. ComReg shall every year recalculate the WACC for each sector as set out in Chapter 7 of ComReg Decision D10/20 and each year on or before 30 June publish, by way of an Information Notice, updated WACC values.

5.3. Where for any reason the WACC values have not been updated by 30 June, the WACC values for the preceding year shall be relied on for so long as they have not been updated, as and where necessary, in accordance with Clause 6 below.

6. RELIANCE ON WACC

6.1. ComReg shall use the most recently published WACC value as applicable to the relevant sector for the purpose of allowing an Undertaking a reasonable rate of return in any decision made under the Access Regulations or where so required or appropriate under the Universal Service Regulations.

6.2. Price controls in force prior to the Effective Date shall continue unaffected by the publication of the WACC values pursuant to Section 5 save for the following, where a price control in the form of a cost orientation obligation does not mandate a specific price (including in the case where the price control provides for indicative prices):

6.2.1. Undertakings amending prices or introducing new prices that are subject to a price control obligation in the form of cost orientation (as and where permitted or required under such price control obligation) shall use the most recently published WACC value.

6.2.2. Without prejudice to any obligation on the part of an undertaking to amend or update prices in order to ensure their cost orientation and further to the provisions of Regulation 13 of the Access Regulation, ComReg may require an Undertaking that is subject to a price control obligation in the form of an obligation of cost orientation, to justify the continued cost-orientation of its prices allowing a reasonable rate of return set at the most recently published WACC value in accordance with Section 5.1 or Section 5.2 above, and may direct the amendment of prices to ensure their cost-orientation.

PART III – FURTHER GENERAL PROVISIONS AND EFFECTIVE DATE

7. STATUTORY POWERS NOT AFFECTED

7.1. Nothing in this Decision Instrument shall operate to limit ComReg in the exercise and performance of its statutory powers or duties conferred on it under any primary or secondary legislation (in force prior to or after the Effective Date of this Decision Instrument).

8. SEVERANCE

8.1. If any Section(s), clause(s) or provision(s) or portion(s) thereof contained in this Decision Instrument is(are) 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(those) Section(s), clause(s) or provision(s) or portion(s) 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(s) thereof of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument or other Decision Instruments.

9. PUBLICATION AND NOTIFICATION

9.1. This Decision Instrument shall be published on ComReg's website, www.comreg.ie, and on the same day, notified to the Undertakings named in Section 3.2.

10. EFFECTIVE DATE

10.1. The Effective Date of this Decision Instrument shall be, unless otherwise expressly stated in this Decision Instrument, the date of its publication on ComReg's website.

10.2. This Decision Instrument shall remain in force until further notice by ComReg.

GARRETT BLANEY

CHAIRPERSON

THE COMMISSION FOR COMMUNICATIONS REGULATION

THE 14TH DAY OF OCTOBER 2020

Annex: 2 Legal Basis

A 2.1 Pursuant to Regulation 8 of the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 ("the Access Regulations"), where an undertaking or operator has been designated as having significant market power on a relevant market as a result of a market analysis carried out in accordance with Regulation 27 of the European Communities (Electronic Communications Networks and Services) (Framework) Regulations ("the Framework Regulations"), ComReg shall impose on such undertaking or operator such obligations as set out in Regulations 9 to 13 of the Access Regulations, as appropriate.

A 2.2 Regulation 13 of the Access Regulations provides for price control and cost accounting obligations. In particular, Regulation 13(2) provides, *"To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a <u>reasonable rate of return on adequate capital employed</u>, taking into account any risks involved specific to a particular new investment network project."* (emphasis added).

A 2.3 This Consultation is part of a process whereby ComReg establishes the *"reasonable rate of return on adequate capital employed"* referred to above for the purposes of price controls in wholesale mobile call termination markets, fixed line telephone markets and broadcasting transmission services markets.

Functions and objectives of ComReg

A 2.4 The functions of ComReg are set out in section 10 of the Communications Regulation Act 2002 (as amended) and Regulation 6 of the Access Regulations.

A 2.5 The objectives of ComReg are set out in section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations. Of particular relevance to this consultation are:

- Section 12(1)(a) of the Communications Regulation Act 2002 (as amended), provides that the objectives of ComReg in exercising its functions in relation to the provision of electronic communications networks, electronic communications services and associated facilities are *"(i) to promote competition, (ii) to contribute to the development of the internal market, and (iii) to promote the interests of users within the Community."*; and

- Section 16(1)(d) of the Framework Regulations provides that in pursuit of the objectives under section 12 of the Communications Regulation Act 2002 (as amended), ComReg shall *"apply objective, transparent, non-discriminatory and proportionate regulatory principles by, amongst other things "promoting efficient investment and innovation in new and enhanced infrastructures…".*

Summary of consultation requirements

A 2.6 Regulation 12(3) of the Framework Regulations requires that, except in cases falling within Regulation 13(8) (i.e. exceptional cases involving urgency), where ComReg intends to take a measure which has a significant impact on a relevant market, ComReg must publish the text of the proposed measure, give the reasons for it, including information as to which of ComReg's statutory powers gives rise to the measure, and specify the period within which submissions relating to the proposal may be made by interested parties. Regulation 12(4) states that ComReg, having considered any representations received under Regulation 12(3), may take the measure with or without amendment.

A 2.7 Regulation 13(3) of the Framework Regulations provides that, upon completion of the consultation provided for in Regulation 12, where ComReg intends to take a measure which falls within the scope of Regulation 26 or 27 of the Framework Regulations, or Regulation 6 or 8 of the Access Regulations, and which would affect trade between Member States, it shall make the draft measure accessible to the European Commission, BEREC[344] and the national regulatory authorities in other Member States at the same time, together with the reasoning on which the measure is based.

[344] The Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Agency for Support for BEREC (BEREC Office), amending Regulation (EU) 2015/2120 and repealing Regulation (EC) No. 1211/2009;

Annex: 3 Comparison of WACC parameters (2014 & 2020)

A 3.1 The following tables list the WACC parameters from the 2014 Decision (pre aimed-up) compared to those being estimated in this Response to Consultation[345]. As noted in sections 3.29 to 3.33 the cost of equity is an average of ComReg's 2014 approach and the modified Commission Notice approach. For comparative purposes where necessary some individual parameters are averaged and therefore some rounding differences may result.

Table 19: Mobile Telecommunications sector WACC comparison

	2014 Decision	2020 Decision	Movement
Gearing (%)	30%	40%	10.00%
Tax rate (%)	12.5%	12.5%	-
Nominal risk-free rate (%)	3.63%	2.05%[346]	<1.58%>
Equity risk premium (%)	5.00%	6.06%[347]	1.06%
Asset beta	0.65	0.49[348]	<0.16>
Equity Beta at notional gearing	0.93	0.82	<0.11>
Nominal post-tax cost of equity (%)	8.27%	7.01%	<1.26%>
Nominal pre-tax cost of equity (%)	9.46%	8.02%	<1.44%>
Nominal pre-tax cost of debt (%)	5.08%	2.60%	<2.48%>
Nominal pre-tax WACC (%)	8.14%	5.85%	<2.29%>
Aiming up adjustment	0.49%	N/A	<0.49%>

[345] Some figures have been rounded to two decimal points.
[346] Average of 3.28% and 0.82%.
[347] Average of 4.9% and 7.21%.
[348] Average of 0.48 and 0.50.

WACC	8.63%	5.85%	<2.78%>

A 3.2 The main movements taking place in the WACC between the 2014 Decision and this Response to Consultation are:

Parameter	Impact of movement on WACC
Gearing	The increase in the gearing for mobile telecommunications operators from 30% to 40% decreases the WACC by 0.10%.
Nominal risk-free rate	The decrease in the nominal risk-free rate from 3.63% to an average of 2.05% decreases the WACC by 1.26%.
ERP	The increase in the ERP from 5.0% to an average of 6.06% increases the WACC by 0.79%.
Equity Beta	The equity beta is derived as follows: Equity beta = asset beta / (1 – gearing) In the 2014 Decision this was: • 0.93 = 0.65 / (1 – 30%) In this Response to Consultation it is: • 0.82 = 0.49 / (1 – 40%) The impact on the decrease in the equity beta from 0.93 to 0.82 decreases the WACC by 0.39%. The resulting combined changes to the gearing, nominal risk-free rate, ERP and equity beta have resulted in a decrease to the nominal pre-tax cost of equity of 1.31%
Cost of debt	The decrease in the cost of debt from 5.08% to 2.6% decreases the WACC by 0.74%.
Aiming up	The exclusion of aiming up decreases the WACC by 0.49%.

Table 20: Fixed Line Telecommunications sector WACC comparison

	2014 Decision	2020 Decision	Movement
Gearing (%)	40%	40%	-
Tax rate (%)	12.5%	12.5%	-
Nominal risk-free rate (%)	3.63%	2.05%[349]	<1.58%>
Equity risk premium (%)	5.00%	6.06%[350]	1.06%
Asset Beta	0.55	0.45[351]	<0.10>
Equity Beta at notional gearing	0.92	0.75	<0.16>
Nominal post-tax cost of equity (%)	8.21%	6.67%	<1.54%>
Nominal pre-tax cost of equity (%)	9.39%	7.62%	<1.77%>
Nominal pre-tax cost of debt (%)	5.08%	2.60%	<2.48%>
Nominal pre-tax WACC (%)	7.67%	5.61%	<2.06%>
Aiming up adjustment	0.51%	N/A	<0.51%>
WACC	8.18%	5.61%	<2.56%>

A 3.3 The main movements taking place in the WACC between the 2014 Decision and this Response to Consultation are:

Parameter	Impact of movement on WACC
Nominal risk-free rate	The decrease in the nominal risk-free rate from 3.63% to 2.05% decreases the WACC by 1.08%.

[349] Average of 3.28% and 0.82%.
[350] Average of 4.9% and 7.21%.
[351] Average of 0.43 and 0.48.

ERP	The increase in the ERP from 5.0% to an average of 6.06% increases the WACC by 0.67%.
Equity Beta	The impact on the decrease in the equity beta from 0.92 to an average of 0.75 decreases the WACC by 0.57%. The resulting combined changes to the nominal risk-free rate, ERP and equity beta have resulted in decrease to the nominal pre-tax cost of equity of 1.54%.
Cost of debt	The decrease in the cost of debt from 5.08% to 2.6% decreases the WACC by 0.99%.
Aiming up	The exclusion of aiming up decreases the WACC by 0.51%.

Table 21: Broadcasting WACC comparison

	2014 Decision	2020 Decision	Movement
Gearing (%)	25%	25%	-
Tax rate (%)	12.5%	12.5%	-
Nominal risk-free rate (%)	3.63%	3.28%	<0.35%>
Equity risk premium (%)	5.00%	4.90%	<0.10%>
Asset beta	0.55	0.45	<0.10>
Equity Beta at notional gearing	0.73	0.60	<0.13>
Nominal post-tax cost of equity (%)	7.30%	6.22%	<1.08%>
Nominal pre-tax cost of equity (%)	8.34%	7.10%	<1.24%>
Nominal pre-tax cost of debt (%)	5.08%	2.60%	<2.48%>
Nominal pre-tax WACC (%)	7.53%	5.98 %	<1.55%>
Aiming up adjustment	0.58%	N/A	<0.58%>
WACC	8.11%	5.98%	<2.13%>

A 3.4 The main movements taking place in the WACC between the 2014 Decision and this Response to Consultation are:

Parameter	Impact of movement on WACC
Nominal risk-free rate	The decrease in the nominal risk-free rate from 3.63% to 3.28% decreases the WACC by 0.30%.
ERP	The decrease in the ERP from 5.0% to an 4.9% decreases the WACC by 0.07%.

Equity Beta	The impact on the decrease in the equity beta from 0.73 to 0.60 decreases the WACC by 0.58%. The resulting combined changes to the nominal risk-free rate and equity beta have resulted in a decrease to the nominal pre-tax cost of equity of 0.93%.
Cost of debt	The decrease in the cost of debt from 5.08% to 2.6% decreases the WACC by 0.62%.
Aiming up	The exclusion of aiming up decreases the WACC by 0.58%.

Annex: 4 Europe Economics Reports

Technical Report

Published as ComReg Document No. 19/54a

Final Report

Published as ComReg Document No. 20/96

Covid 19 Report

Published as ComReg Document No. 20/96

Annex: 5 European Commission's Response to ComReg's Notified Draft Measures

EUROPEAN COMMISSION

Brussels, 9.7.2020
C(2020) 4837 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

Subject: Case IE/2020/2250: Determination of the WACC for the purpose of price control obligations in Ireland
Commission comments pursuant to Article 7(3) of Directive 2002/21/EC

Dear Mr Blaney,

1. PROCEDURE

On 10 June 2020, the Commission registered a notification from Ireland's national regulatory authority (NRA), the Commission for Communications (ComReg)[1], concerning the weighted average cost of capital (WACC) for the purpose of price control obligations in Ireland.

The national consultation[2] ran from 31 May to 13 August 2019.

The Commission sent a request for information (RFI)[3] to ComReg on 17 June 2020 and received a reply on 22 June.

Under Article 7(3) of the Framework Directive, NRAs, the Body of European Regulators for Electronic Communications (BEREC) and the Commission may make comments on notified draft measures to the NRA concerned.

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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.

2 In accordance with Article 6 of the Framework Directive.

3 In accordance with Article 5(2) of the Framework Directive.

2. DESCRIPTION OF THE DRAFT MEASURE

2.1. Background

The Commission was previously notified of the Irish WACC methodology and assessed it under Case IE/2014/1649[4]. The current notification concerns the second WACC methodology of which ComReg has notified the Commission.

In Case IE/2014/1649, ComReg notified applicable WACC values for markets 2-7[5] under the 2009 Recommendation on relevant markets, and two markets for broadcasting. It used the capital asset pricing model (CAPM) to set values of 8.48% for markets 2-6 and 8.66% for the two broadcasting markets. These included an 'aim-up' to compensate for the potential under-recovery of investments made by the incumbent[6].

The Commission commented on the 'aim-ups' and invited ComReg to reconsider the validity of its approach, pointing to the WACC values derived solely under CAPM (8.17% for the mobile markets, 8% for the fixed-line markets and 8.11% for the broadcasting markets).

In its final measure, ComReg applied a WACC value of 8.18% for the fixed-line markets and 8.63% for the mobile market.

2.2. Notified WACC methodology

ComReg has now notified a new methodology for setting the WACC for future pricing decisions. It sets out the methodology and calculates the corresponding WACC value, without transferring this to any specific price decisions. Therefore, all current maximum prices set by ComReg remain unchanged until updated in a future pricing decision. For prices set by reference offer, the regulated operator must rely on the most recent WACC value to ensure compliance with the cost-orientation obligation.

ComReg calculates different WACC values for the fixed-line, mobile and broadcasting markets. It intends to update these annually. In its reply to the RFI, it explained that a future review of the mobile voice-call termination market is not envisaged, as single maximum EU-wide termination rates are scheduled for application by 2021.

To calculate the WACC, ComReg estimates a number of parameters, in particular (in line with common practice and the Commission Notice on WACC[7]):

- the *cost of equity* – for this, it has established two methodologies:
  - one based on the Commission Notice; and

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[4] C(2014) 7576.

[5] The 2007 recommendation covered the following markets (old numbers): call origination on fixed network (2), local/national call for residential (3), international call for residential (4), local/national call for non-residential (5), international call for non-residential (6) and retail local loop (7).

[6] The purpose of aiming up was to reflect the asymmetry of consequences between setting the WACC too low and setting it too high.

[7] Commission Notice on the calculation of the cost of capital for legacy infrastructure in the context of the Commission's review of national notifications in the EU electronic communications sector.

- o the other based on its current WACC methodology (IE/2014/1649), with values updated to reflect current conditions.

  ComReg thus estimates two costs of equity and takes the average of the two as input for the final WACC value (see below). It explains in its reply to the RFI that this is a justifiable way of taking account of the harmonised approach described in the Commission Notice and specific circumstances in the Irish market; and

- the *cost of debt* – ComReg calculates this according to four different approaches and evaluates the results and methods before choosing one for the setting of the WACC.

2.2.1. Cost of equity

As input for the CAPM method of estimating the cost of capital, ComReg calaculates the risk-free rate (RFR), the equity risk premium (ERP), total market return (TMR), asset beta, gearing and equity beta. For this, it takes a 'Commission Notice' approach and a '2014 approach'. The WACC methodology sets values for the fixed-line, mobile and broadcasting markets, and some parameters (the asset beta, gearing and equity beta values) vary from one setting to another.

For the 'Commission Notice' approach, ComReg calculates the RFR from the yields of 10-year Irish government bonds, averaged over 5 years. For the ERP, it first estimates the TMR, from which it then subtracts the estimated RFR to obtain the ERP. It therefore does not use the ERP computed by Dimson, Marsh and Stanton (DMS), but rather on the TMR from the same source. It argues that this gives a more accurate (and higher) estimate of the ERP. It acknowledges that this approach is not fully in line with the WACC Notice, but concludes that the results are closer to the values observed elsewhere in the market. As explained in the notification documents and in the reply to the RFI, this approach involves using the ECB's 5-year eurozone inflation forecast. For the asset beta, it uses weekly data over a 5-year period from the established peer group. Gearing is derived directly from the hypothetical efficient operator and the tax rate is the statutory Irish tax rate.

The '2014 approach' is methodologically identical to the approach notified under Case IE/2014/1649. The nominal RFR is estimated on the basis of forecasts taking account of Irish and EU GDP growth and inflation. Again, the ERP is derived from the DMS-based TMR, but only the Irish TMR, which means that the resulting values differ slightly from those derived from the 'Commission Notice' approach. Inflation is based on a blend of Irish and eurozone forecasts, with the former being used for the short term (2 years) and ECB forecasts from 2022 onwards. The asset beta comes from a 2-year data series based on daily observations. Gearing and tax are the same for the two approaches.

Using the two approaches, ComReg derives values for each parameter and computes an average. The parameter values and the resulting cost of equity relevant for the fixed-line market are presented in Table 1.

Table 1: Cost of equity for fixed-line market

	Commission Notice	The 2014 approach
Nominal risk free rate	0.824%	3.28%
ERP	7.21%	4.90%
Real TMR	6.35%	6.65%
Asset beta	0.48	0.43
Gearing	40%	40%
Equity beta	0.80	0.71
Nominal post tax cost of equity	6.59%	6.75%
Nominal pre tax cost of equity	7.53%	7.71%
Average nominal post tax cost of equity	6.67%	

The resulting cost of equity used for estimating the WACC for the fixed-line market is 6.67%. The costs of equity derived using similar methodology (but different values for gearing and betas) are 7.01% for the mobile and 7.11% for the broadcasting market.

2.2.2. Cost of debt

For cost of debt, ComReg sets out four approaches based on various assumptions and resulting in different values:

- approach 1 (1.44%) – 'Commission Notice' approach based on debt premia and 5-year historical data;
- approach 2 (3.96%) – taking account of observed government spot rates and a debt premium obtained by comparing the spreads between operator bonds and domestic government bonds;
- approach 3 (2.6%) – equivalent to the approach followed under the WACC methodology notified by ComReg in 2014; and
- approach 4 (0.75%) – based on observed data on Eircom's most recent bond issuances.

Although approach 1 is similar to that described in the Commission Notice, ComReg does not use it for the current notification. Instead, it takes the average of the range from the four approaches (0.75-3.96%). It further argues that approach 1 takes account only of investment-grade debt, which does not apply for the incumbent (Eircom).

ComReg calculates an average of 2.4%. Then, from approach 1 (1.44%) and aproach 2 (3.96%), it calculates an average of 2.7%. Since this is close to the result from approach 3, it uses that approach.

Therefore, it dismisses the approach as advocated in the Notice (approach 1) and rather takes the approach used in 2014, resulting in a 2.6% cost of debt, which it uses as input for all WACC calculations.

2.3. Final WACC values and future updates

Taking the above approaches and averages, ComReg applies the typical CAPM formula, resulting in the WACC values in Table 2. Across the markets, the notified values are lower than those from the 2014 WACC decision, as applied in current price decisions.

Table 2: WACC values derived for the three markets

Parameters	Fixed	Mobile	Broadcast
Cost of equity	6.67%	7.01%	6.22%
Cost of debt	2.60%	2.60%	2.6
Notional gearing	40%	40%	25%
Tax rate	12.50%	12.50%	12.50%
Nominal pre-tax WACC	5.61%	5.85%	5.98%

ComReg will annually review and where necessary update the WACC parameters, but it does not intend to change the methodology itself.

The updated WACCs, like the current one, will be used in the context of upcoming pricing decisions, including decisions on price controls following a market analysis and updating/amending decisions.

Where ComReg has set prices previously, these will remain in place until it issues a new pricing decision. Where a cost-orientation obligation applies, but ComReg has set no specific price (e.g. certain access reference offer tariffs), the SMP[8] operator must monitor its ongoing compliance and update prices subject to the obligation with reference to the most up-to-date WACC value.

3. COMMENTS

The Commission has examined the notification and the additional information provided by ComReg and has the following comments[9]:

3.1. Future updating of the WACC methodology

The Commission considers that ComReg will have to notify it of future updates of the WACC in accordance with Article 7 of the Framework Directive. After 1 July 2020, and from 1 July 2021 at the latest[10], the Commission will assess any notification of a WACC methodology or value for legacy infrastructure on the basis of the principles set out in the Notice. Thus, in the future, ComReg should take account of the methodology applied by the Commission on the basis of the Notice.

8 Significant market power.

9 In accordance with Article 7(3) of the Framework Directive.

10 In justified cases and at the request of the notifying NRA, the Commission will not base its review of draft measures on this methodology during a transitional period of up to a year (from 1 July 2020).

3.2. Ensuring that prices reflect current market conditions

While the Commission welcomes the revision of the WACC value notified under IE/2014/1649, ComReg must adjust all regulated prices that are significantly affected by the WACC value, in line with the considerable decrease of the WACC (from 8.18% (current) to 5.61% (notified) for the fixed-line market). The Commission urges ComReg to update relevant pricing decisions as soon as possible, to ensure that prices in the Irish wholesale markets reflect current market conditions, as the WACC is a significant and central determinant of prices.

Under Article 7(7) of the Framework Directive, ComReg must take utmost account of the comments of other NRAs, BEREC and the Commission and may adopt the resulting draft measure. Where it does so, it must communicate it to the Commission.

The Commission's position on this particular notification is without prejudice to any position it may take on other notified draft measures.

Pursuant to point 15 of Recommendation 2008/850/EC[11], the Commission will publish this document on its website. If ComReg considers that, in accordance with EU and/or national rules on business confidentiality, this document contains confidential information that you wish to have deleted prior to publication, please inform the Commission[12] within 3 working days of receipt and give reasons for any such request[13].

Yours sincerely,

VOOR GELIJKLUIDEND AFSCHRIFT
Voor de secretaris-generaal

Jordi AYET PUIGARNAU
Directeur van de Griffie
EUROPESE COMMISSIE

For the Commission
Roberto Viola
Director-General

[11] 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).

[12] By email to CNECT-ARTICLE7@ec.europa.eu.

[13] The Commission may inform the public of the result of its assessment before the end of the 3-day period.

Annex: 6 Consideration of the European Commission's Comments

Comment 3.1 Notifications

A 6.1 ComReg notes the position set out in the European Commission's letter of comments dated 9 July 2020 that notification to the Commission will be required of future updates of the WACC in accordance with Article 7 of the Framework Directive. It is ComReg's intention to notify the European Commission of any proposed amendments to the methodology used for the purpose of setting the WACC and ComReg will, as a matter of course, notify the European Commission of proposed decisions setting price controls and/or prices, including the applicable WACC.

A 6.2 In this regard, the annual WACC updates provided for by this Decision will not involve any policy decisions on the part of ComReg and be limited to a mechanical application of the methodology notified to the European Commission using updated values for the relevant parameters. However, should ComReg take the view (having regard for example, to material changes in market circumstances including in light of differences in the updated WACC with the WACC used for a price control) that an existing pricing decision requires amendment, ComReg will carry out the appropriate consultative process and thereafter notify the EC in accordance with the Article 7 Notification procedure.

Comment 3.2 Implementation

A 6.3 ComReg also notes the European Commission's comment that ComReg must adjust all regulated prices that are significantly affected by the WACC value, in line with the considerable decrease of the WACC and update relevant pricing decisions as soon as possible, to ensure that prices in the Irish wholesale markets reflect current market conditions.

A 6.4 ComReg agrees that it is desirable that prices in wholesale markets should reflect market conditions. It also notes that too-frequent adjustments to regulated prices can have an inhibiting effect on network investment and can impair business planning by both the SMP operator and access seekers. ComReg considers that the approach outlined in Chapter 7 strikes an appropriate balance between these considerations.

A 6.5 ComReg further notes that in addition to the ongoing consultation on prices for Civil Engineering Infrastructure (CEI), ComReg will soon consult on a new Access Network Model and a number of price controls, and associated prices. As stated in Chapter 7, ComReg will revisit FTTC prices in this upcoming consultation.

WACC value based on BEREC report

A 6.6 On 22 June 2020 ComReg responded to a request for information ("RFI") from the EC. Included in that response was ComReg's estimation of the WACC value (4.05%) should the Commission Notice approach (without modification) be adopted. In the RFI ComReg noted:

As the first BEREC report is not yet available, ComReg has calculated WACC values under the Commission Notice approach using the methodology as described in the Commission Notice.

A 6.7 With the publication of the first BEREC report, ComReg is now, by way of information only, including its estimation of the WACC value under the Commission Notice approach (without modification).

Parameter	Value RFI	Value BEREC report
Corporation tax	12.5%	12.5%
Nominal risk free rate	0.824%	0.75%
ERP	5.3%	5.31%
Asset beta	0.48	0.53
Gearing	40%	36.95%
Equity Beta	0.80	0.83
Nominal cost of equity post tax	5.07%	5.18%
Debt premium	0.62%	1.30%
Nominal cost of debt pre tax	1.45%	2.05%
Nominal pre-tax WACC	4.05%	4.49%

Annex: 7 Fixed line Comparators

Consultation

A 7.1 In the Consultation, ComReg included the fixed line WACC notifications of Portugal[352] and Slovenia[353] for comparison with ComReg's draft WACC for fixed line communications. The European Commission had responded to their notifications in April 2019 and September 2018 respectively.

A 7.2 In order to assess the comparability of their WACC values ComReg adjusted their values for corporation tax only, leaving all other parameters unchanged. This showed the following theoretical revisions to the WACCs compared to ComReg's estimated WACC of 6.42% from the Consultation.

Table 22: Fixed line comparators from the Consultation

Country	Notified WACC	Theoretical WACC @ 12.5% corporation tax
Portugal	8.07%	7.35%
Slovenia	7.16%	6.74%

A 7.3 In the Consultation, for both regulatory precedent comparators, ComReg noted that:

"Having compared the parameters ComReg considers that its proposed value remains appropriate."

Submissions to the Consultation

Eircom's response to international comparators.

A 7.4 Eircom responded to the two international comparators under the following headings:

- Erroneously applied a large materiality threshold[354].
- Failed to adjust for country specific circumstances[355].

[352] Paragraph 6.31 of ComReg Document No. 19/54.
[353] Paragraph 6.34 of ComReg Document No. 19/54.
[354] Paragraphs 133 to 135 of its response – 13 August 2019.
[355] Paragraphs 136 to 142 of its response – 13 August 2019.

Erroneously applied a large materiality threshold

A 7.5 Eircom did not accept that ComReg's benchmark comparison with Portugal was complete. It said in its response that ComReg appeared to apply a significantly high threshold in concluding that its WACC remains appropriate. Eircom provided its estimate of the difference between Portugal's WACC (if the statutory tax rate in Ireland applied) and the fixed line WACC proposed in the Consultation. Based on the difference Eircom said that the tolerance level used by ComReg is inconsistent with its regulatory objectives

A 7.6 It commented that:

> *"[…] ComReg appears to apply a significantly high threshold in concluding that its proposed WACC remains appropriate. This is despite the fact that the Portuguese WACC when (only) adjusted for the Irish tax rate is ~1% higher (7.35% vs 6.42%) than ComReg's estimate."*

A 7.7 And that:

> *"[…] such a tolerance level is inconsistent with ComReg's regulatory objectives".*

A 7.8 Eircom considered it would have several impacts on the telecommunications market:

- As the WACC sets an appropriate "build buy" signal for Eircom and operators who are undertaking the investment in telecommunications;
- There could be an anchoring pricing effect between FTTC and FTTH which could have implications for the NBP;
- It influences Ireland's digital economy and global competitiveness through encouraging efficient investment and innovation; and
- The combination of these outcomes will negatively impact end-users' benefits.

Failed to adjust for country specific circumstances

A 7.9 Eircom considered that in comparing WACC values with those of Slovenia and Portugal ComReg has incorrectly only adjusted for the Irish tax rate. If country specific factors were reflected in ComReg's estimation it would have resulted in an Irish nominal pre-tax WACC of 8.34% (using Europe Economics' peer group) and 8.61% using the wider peer group as proposed by Eircom. This is compared to ComReg's proposed WACC of 6.42%. The resulting impact of this variance is ✂ over a five-year period. When CEI poles are considered the impact is circa ✂.

A 7.10 Eircom considered that its proposed increase of the WACC to its estimation of 8.34% - 8.61% from 6.42% in the Consultation highlights three issues:

- The difference is solely due to methodology differences and not market fundamentals. In particular it noted the approach proposed by ComReg in assessing the asset beta;
- ComReg's methodology error will impact Eircom by at least ✂. The WACC calculated by ComReg does not reflect *"the return that investors expect to achieve in financial markets at the same level of risk as in the undertaking seeking funding*";
- Without correction, ComReg's proposed WACC will have a detrimental effect in the medium to long run benefit of consumers and the wider Irish economy.

A 7.11 In relation to ComReg's use of Slovenia as a regulatory precedent, Eircom commented that the Slovenian WACC was adjusted for specific country risks. If an Irish country risk premium were applied the WACC would increase from 7.16% to 7.50% compared to ComReg's proposed value of 6.42%. This would impact Eircom by c. €57m.

Response to Consultation and Final Decision

A 7.12 ComReg does not consider that it applied *a large materiality threshold* or *failed to adjust for country specific circumstances* in its comparison of the WACC parameters.

A 7.13 In the Consultation, ComReg compared the results as a sanity check and considered the difference in the parameters and the end results to be within a reasonable level bearing in mind the differences in the methodological approaches, the timing differences and the differences between the countries involved. ComReg does not expect to get the same result as other NRAs. As noted in the figures below there are large variations the in cost of equity and cost of debt values between NRAs. Furthermore, NRAs are not yet fully taking the Commission Notice into account. ComReg expects that this will decrease the level of variability of results between operators. Therefore, for the present, the results of other NRAs ComReg consider that comparisons with other NRAs should only be used as a sensibility check.

A 7.14 ComReg has expanded its international comparator list, beyond Portugal and Slovenia, to 11 countries[356] ("**WACC Comparators**"). These include countries that notified the European Commission or published WACC decisions, primarily from 2018 and 2019. The values for France (2017) have also been included as Eircom's parent company is predominantly French owned.

A 7.15 ComReg has reviewed the WACC Comparators under the following headings:

- Figure 2 – Cost of equity (post tax) – all countries;
- Figure 3 – Cost of equity (post tax) – Eurozone countries only;
- Figure 4 – Cost of debt (pre-tax) – all countries;
- Figure 5 – Cost of debt (pre-tax) – Eurozone countries only;
- Figure 6 – Post tax WACC – all countries;
- Figure 7 – Post tax WACC – Eurozone countries only;
- Figure 8 – Pre-tax WACC – all countries; and
- Figure 9 – Pre-tax WACC – Eurozone countries only.

[356] France – Decision 2017-0830 4 July 2017.
United Kingdom – WLA Market Review: Statement – Annex 17 – 27 March 2018.
Portugal C(2018) 5876 final 31 August 2018.
Slovenia C(2018) 6369 final 26 September 2018.
Poland April 2019 https://bip.uke.gov.pl/decyzje/rachunkowosc-regulacyjna/wyznaczenie-wysokosci-wskaznika-wacc-dla-orange-polska-s-a-,19.html
Belgium C(2019) 5209 final 4 July 2019.
Denmark draft proposal for 2020 (data to August 2019).
Croatia C(2019) 7033 final 25 September 2019.
Sweden C(2019) 8116 final 8 November 2019.
Malta C(2019) 9140 final 10 December 2019.
Germany C(2019) 9251 final 13 December 2019.

Cost of equity (post tax)

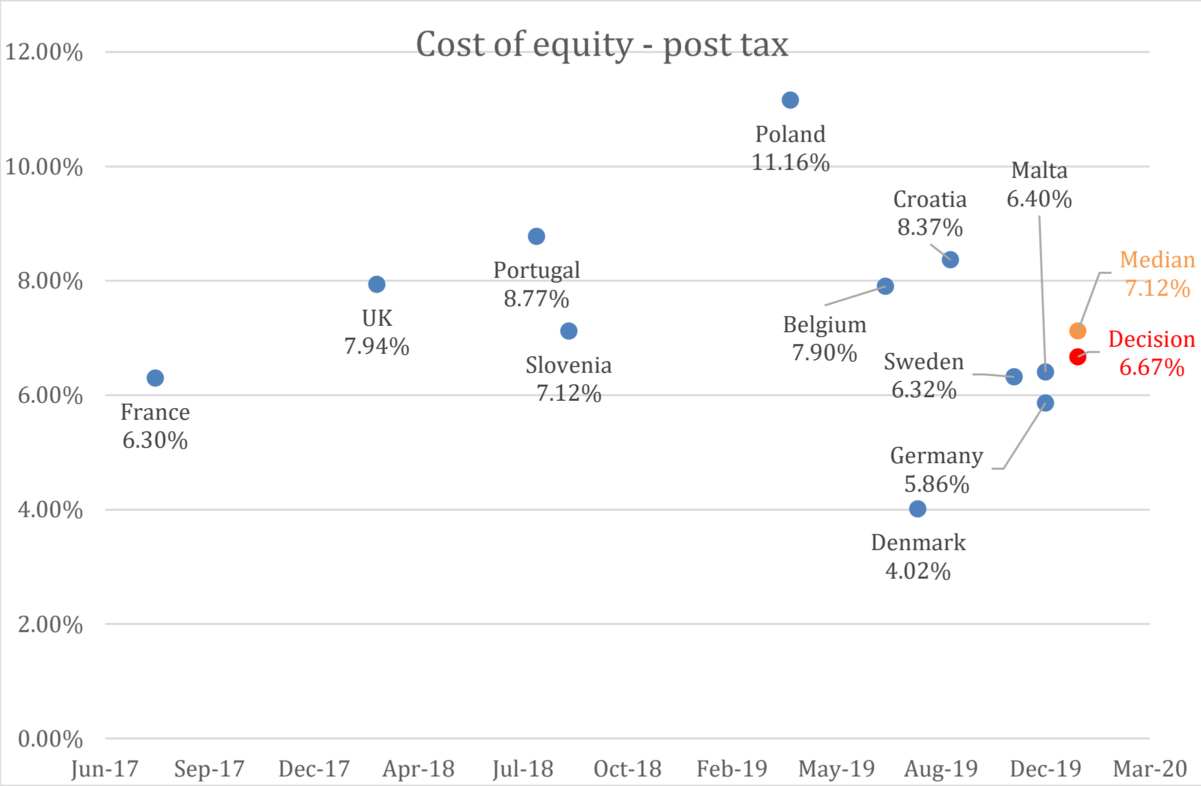
A 7.16 The post-tax cost of equity represents the return that equity investors expect to get on their investment. Any return for equity investors in the form of dividends is subject to corporation tax. When comparing returns for investors between countries the post-tax cost of equity is the valid measure.

A 7.17 Eircom, in its estimation of the WACC using the Commission Notice, calculated a value of 7.53% for the cost of equity[357]. However, as it has erroneously included inflation which is already factored into the nominal risk-free rate extracted from Eurostat bond yields this needs to be excluded. The corrected cost of equity under the Eircom calculation would be 5.82%. ComReg has calculated that under the modified Commission Notice the cost of equity would be 6.59% (and under the 2014 approach 6.75%)[358].

[357] Annex 3 of its response – 23 January 2020.
[358] See Table 3 Nominal pre-tax cost of equity for fixed line telecommunications - Decision the Response to Consultation.

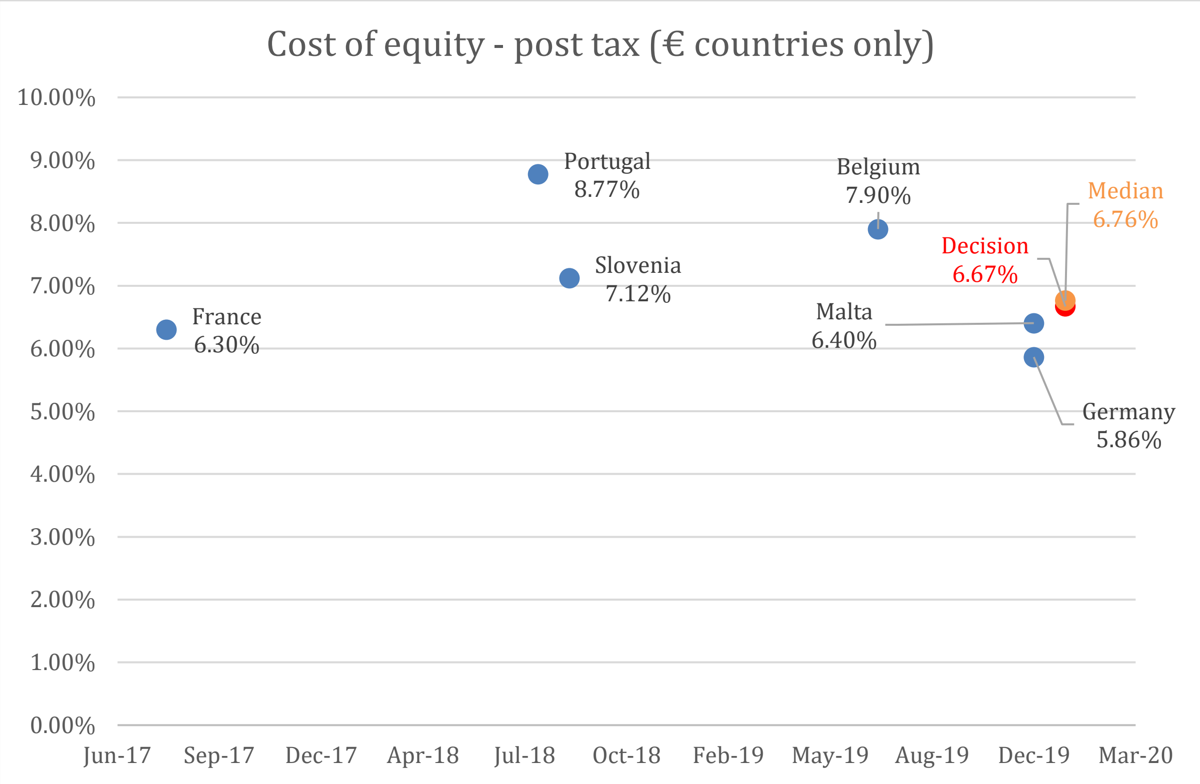
A 7.18 For the post tax cost of equity, in this Response to Consultation, the range for all countries is from 4.02% (Denmark) to 11.16% (Poland). The value for Ireland is 6.67% and compares to a median for all WACC Comparators which is 7.12% (Figure 2).

Figure 2: Cost of equity (post tax) – all countries



A 7.19 The range for Eurozone countries only in the WACC Comparators is between 5.86% (Germany) and 8.77% (Portugal). The median is 6.76% which is marginally higher than the cost of equity in this Response to Consultation of 6.67% (Figure 3).

Figure 3: Cost of equity (post tax) – Eurozone countries only



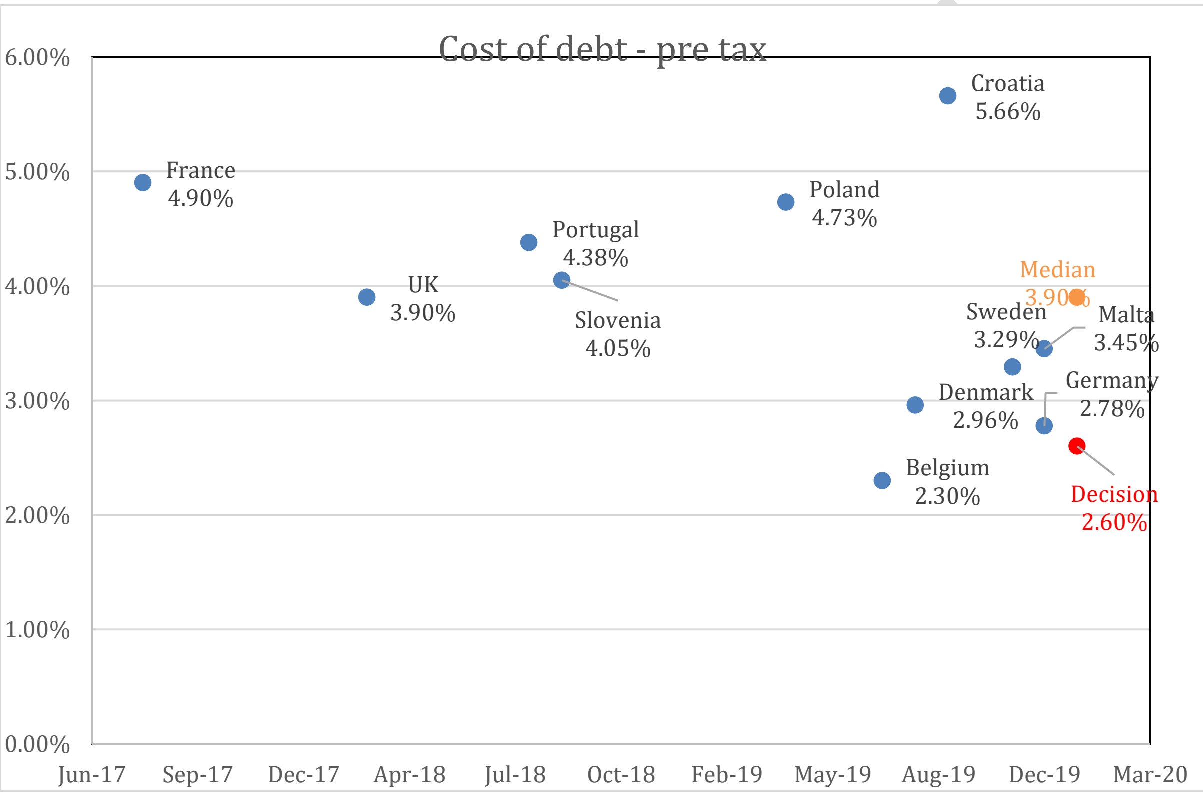
Cost of debt (pre-tax)

A 7.20 The pre-tax cost of cost of debt represents the interest payments on debt that companies are obliged to pay to bondholders. These payments are regarded as a cost of business and are tax deductible. When comparing costs of debt between countries the pre-tax cost of debt is the valid measure as it represents payments that companies are obliged to make, and it is also the rate that is observable in the bond market.

A 7.21 Eircom in its estimation of the WACC under the Commission Notice calculates the cost of debt to be 4.38%. However, as noted above it has included inflation which is already factored into the nominal risk-free rate extracted from Eurostat which needs to be excluded. The corrected cost of debt under the Eircom calculation would be 2.67%.

A 7.22 The range for all WACC comparators is 2.3% (Belgium) and 5.66% (Croatia) with a median of 3.9% (Figure 4). This compares to a cost of debt of 2.6% in this Response to Consultation[359]. However, as noted in section 3.19 of the Response to Consultation there has been a significant decline in the cost of debt since the Consultation.

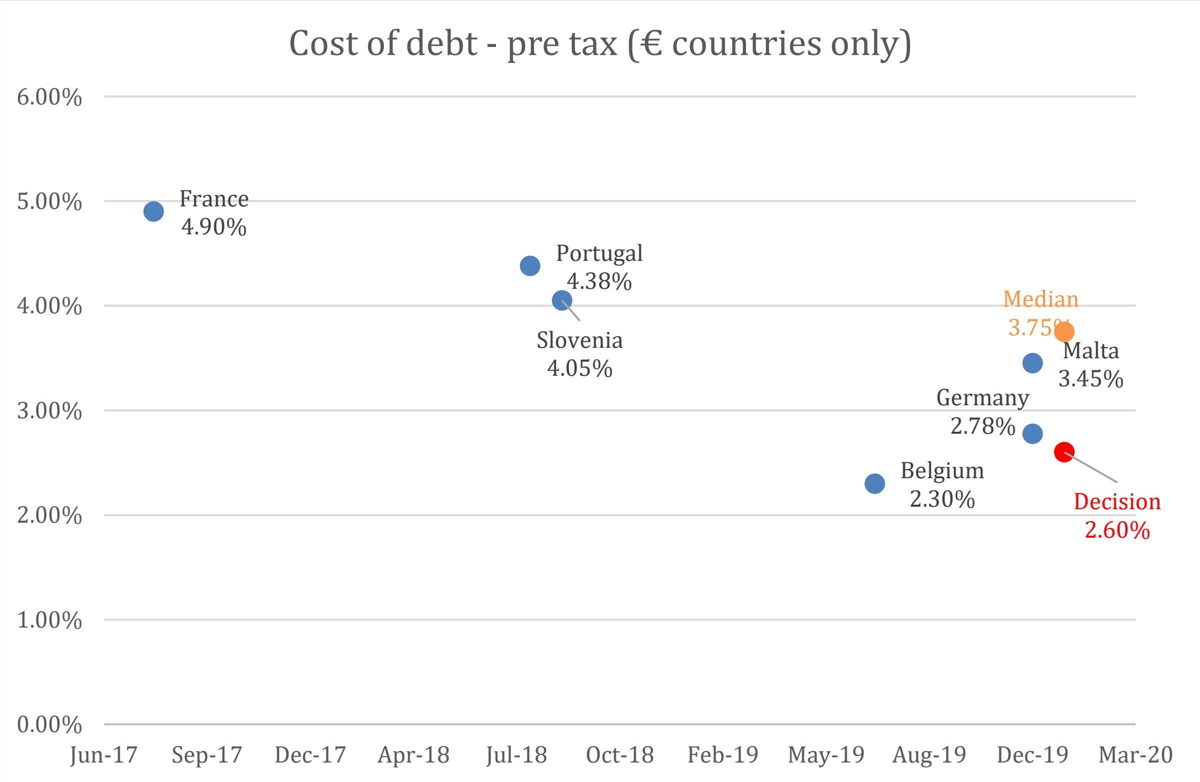
Figure 4: Cost of debt (pre-tax) - all countries



[359] See section 5.41 of this Response to Consultation.

A 7.23 The range for the cost of debt (pre -tax) for Eurozone coutnries only is between 2.3% (Belgium) and 4.9% (France) The median in the WACC Comparators is 3.75% (Figure 5). However, as noted in sections 5.37 to 5.42 a cost of debt of 2.6% is considered to be reflective of an efficient operator. It is also comparable to the recent debt issues of Eircom but less than the average cost of all debt of Eircom (recent and historical) of 3.03%[360].

Figure 5: Cost of debt (pre-tax) – Eurozone countries only



WACC (post tax)

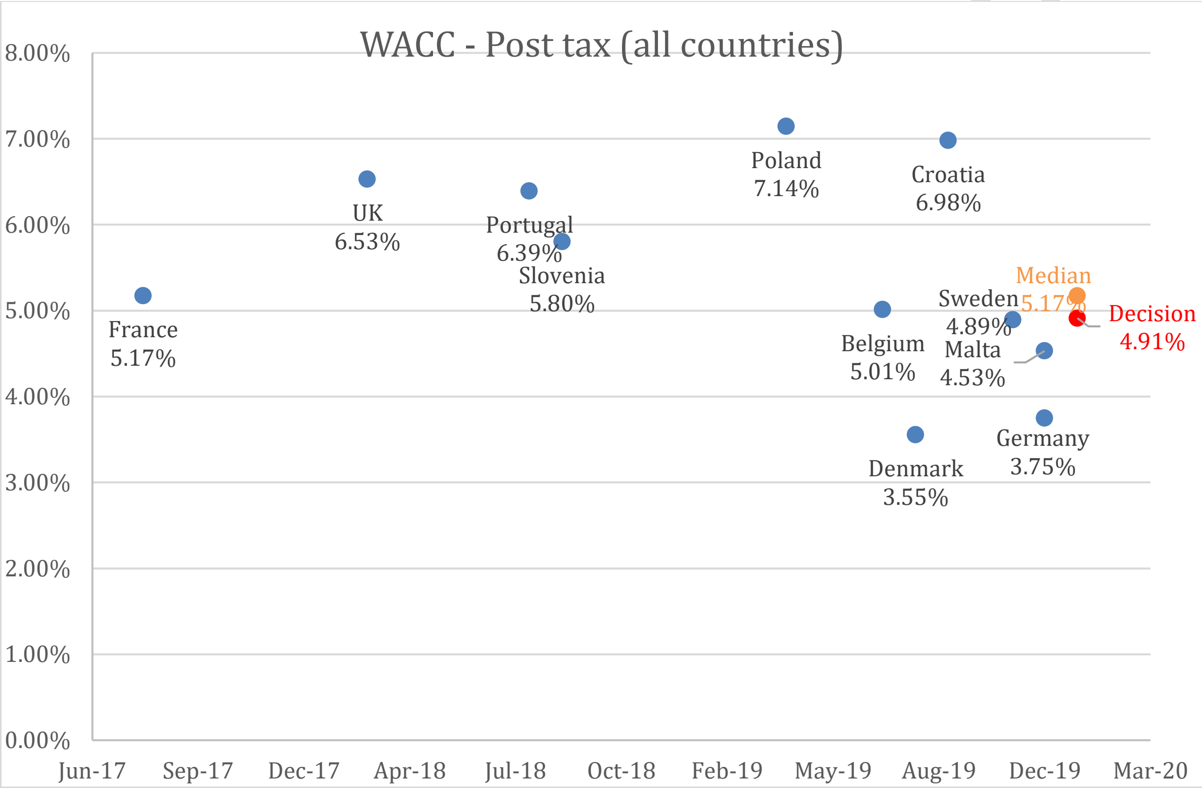
A 7.24 As the company cost of capital is the rate of return that investors and bondholders require on a portfolio of all the company's outstanding debt and equity, it can be calculated as an after-tax WACC, that is, as the weighted average of the after-tax cost of debt and the cost of equity. The weights are the relative market values of debt and equity. The cost of debt is calculated after tax because interest is a tax-deductible expense.

360 https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/presentations/2019_2020/eir_Q2_FY20_results_presentation.pdf - slide 15.

A 7.25 This allows for a comparison of WACCs as it includes the returns equity investors expect to receive (i.e. post corporation tax) and takes account of the tax benefits of debt capital.

A 7.26 The range for the nominal post tax WACC for all WACC Comparators is between 3.55% (Denmark) and 7.14% (Poland) with a median value of 5.17% (Figure 6). For Ireland it is 4.91%[361], a difference of 0.26%.

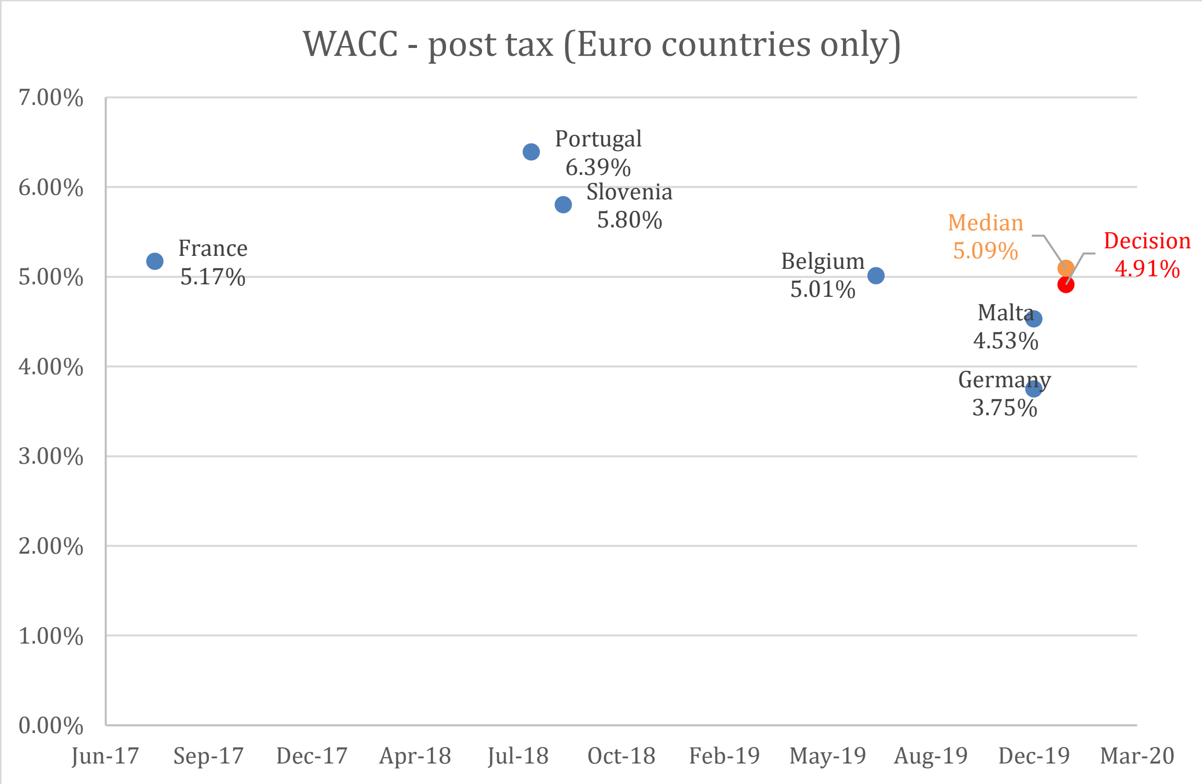
Figure 6 Post tax WACC all countries



[361] (6.67% * 60%) + (2.6% * (1 – 12.5%)) * 40%

A 7.27 The range for the nominal post tax WACC for Eurozone countries only in the WACC Comparators is between 3.75% (Germany) and 6.39% (Portugal) with a median value for of 5.09% (Figure 7). For Ireland it is 4.91%, a difference of 0.18%.

Figure 7: Post tax WACC Eurozone countries only



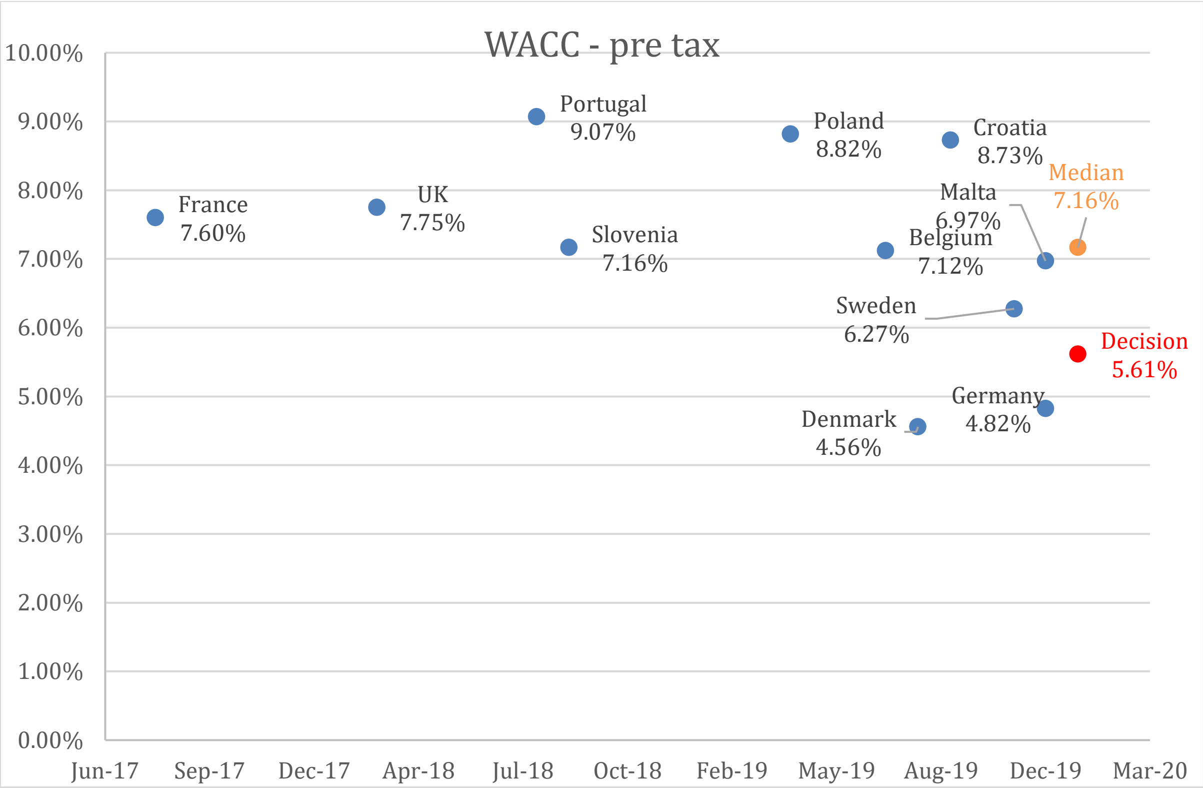
WACC pre-tax

A 7.28 The pre-tax WACC is the WACC value that is used for discounting future cash flows in BU-LRIC models in Ireland. Using this value ensures that the returns such models cover the pre-tax cost of debt and the post-tax cost of equity.

A 7.29 For the nominal pre-tax WACC the range for all WACC Comparators is between 4.56% (Denmark) and 9.07% (Portugal). The value for Ireland is 5.61%[362] compared to a median of 7.16% (Figure 8).

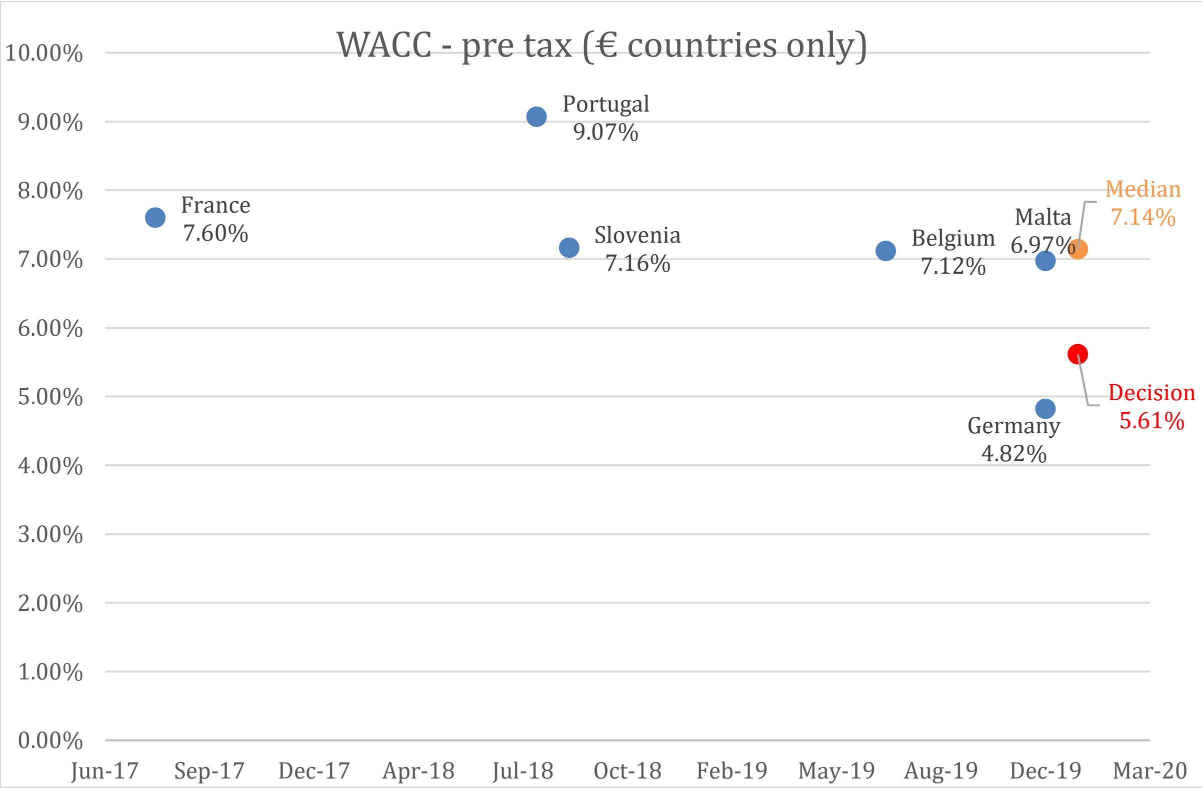
[362] See Table 10 of the Response to Consultation

Figure 8: Pre-tax WACC all countries



A 7.30 The range for WACC (pre-tax) for Eurozone countries only is between 4.82% (Germany) and 9.07% (Portugal). The median is 7.14% compared to Ireland at 5.61% (Figure 9). A significant portion of the difference between the Eurozone median of 7.14% and ComReg's value of 5.61% is primarily due to the fall in the cost of debt.

Figure 9: Pre-tax WACC euro countries



A 7.31 Based on the analysis ComReg considers that the values it has calculated compared to the WACC Comparators are reasonable.

Annex: 8 List of Submissions received

A 8.1 For the purpose of this Final Decision ComReg has considered the following submissions, received as follows:

- Up to the closing date of the Consultation;
- Between the closing date of the Consultation and prior to notifying the EC; and
- Following receipt of comments from the EC.

Table 23: Submissions up to the closing date of the Consultation

Respondent	Date received
ALTO	13 August 2019
Eircom	13 August 2019
NBI	13 August 2019
RTÉ	12 August 2019
2rn	08 August 2019
Sky	13 August 2019
Three	13 August 2019
Vodafone	13 August 2019

Table 24:Submissions between the closing date of the Consultation and prior to notifying the EC

Respondent	Date received
Eircom	17 October 2019
Eircom	23 January 2020
Eircom	19 February 2020
Eircom	25 May 2020
Sky	3 September 2019
Sky	12 September 2019
Sky	19 March 2020
Sky	9 April 2020

Sky	8 May 2020

Table 25:Submissions made following receipt of comments from the EC

Respondent	Date received
ALTO	20 July 2020
Eircom	22 July 2020
Sky	19 June 2020
Sky	10 July 2020
Sky	21 July 2020
Sky	24 July 2020
Sky	21 August 2020
BT	31 August 2020

Annex: 9 Submissions made following receipt of comments from the EC

A 9.1 Following notification of its proposed decision to the European Commission, ComReg received further submissions, shown at Annex 8, in particular from Sky on 10 July 2020, ALTO on 20 July 2020, Eircom on 22 July 2020 and BT on 31 August 2020 which ComReg has taken into account in reaching its final decision. ComReg's assessment of the detail of the submissions from Eircom and Sky in particular is set out below, in addition to the considerations set out in respect of all submissions received, in Chapter 7 in respect of implementation.

Eircom 22 July 2020

A 9.2 In its submission of 22 July 2020 Eircom submitted two clarifications:-

Clarification 1

> *"Paragraph 4.91* [of the Draft Decision as notified to the European Commission] *is simply wrong. ComReg surmises eir's position as "Eircom also proposed excluding BT, KPN and Swisscom". As evident from Table 7 of eir's response, eir's fixed line comparators clearly include BT, KPN and Swisscom in its analysis. Paragraph 77 of eir's response proposes removing those peers from the list of mobile comparators chosen by ComReg as these companies generate less than 40% of revenues from mobile operations."*

A 9.3 ComReg has removed the text from the relevant paragraph. For the avoidance of doubt, ComReg notes that the fixed line comparator set it notified to the EC included BT, KPN and Swisscom and is consistent with Eircom's clarification. As such the various parameters derived from the fixed line comparator set do not require amendment.

A 9.4 In relation to the mobile comparator set this also contains the same companies as the fixed line comparator set. However as noted in section 4.3.3 of Europe Economics Final Report three different types of weightings are applied to the members of the comparator set to determine appropriate asset betas for fixed line and mobile telecommunications.

A 9.5 ComReg considers that it is not necessary to amend the asset beta for either the fixed line or mobile WACCs.

Clarification 2

"Paragraph 7.35 [of the Draft Decision as notified to the European Commission] *is a complete misrepresentation of eir's point. As is clear from paragraph 150 of eir's response, eir considered that the WACC should be completed at the time of the market analysis. ComReg has incorrectly surmised eir's position. Paragraph 152 of eir's response clearly states that "In the event that there is a significant delay of a pricing remedy decision which is a further specification of that market analysis, then ComReg need only re-consult (on the WACC)[1] in circumstances where an updated WACC point estimate falls outside the high-low WACC range identified in the WACC decision for that market.[2] Where the updated point estimate falls within the high-low range then the original WACC decision remains appropriate and is not changed." [emphasis added]. Therefore, it is not in the context of updating the WACC throughout the pricing period that this proposal refers but only checking if the WACC needs to be updated in circumstances where a pricing decision is not made at the same time as the market analysis decision is made (at which point the WACC should also have been determined). In all other circumstances the WACC would hold for the duration of the market review period and for the pricing remedies that are specified or further specified as part of that market analysis decision."*

A 9.6 ComReg notes Eircom's clarification and the corresponding paragraph in this Decision has been amended to address Eircom's concerns and explain the similarities between Eircom's proposal and ComReg's chosen approach. ComReg considers that the process by which it will implement any changes to the WACC is balanced.

Sky 10 July 2020

A 9.7 A non-confidential version of Sky's submission of 10 July 2020 is contained in ComReg Document No. 20/96. Points made in that submission were reiterated by email of 21 July 2020 and following a response from ComReg to that email, again by email of 21 August 2020.

A 9.8 In its submission, Sky expressed the view that ComReg had not adequately addressed its comments on the chosen level of gearing in its 3 September 2019 response to the Consultation. Sky also expressed serious concerns regarding ComReg's draft decision as notified to the European Commission which, Sky said, meant that Eircom would not be required to revise its FTTC pricing in light of the new WACC.

A 9.9 Insofar as gearing is concerned, having considered Sky's further comments, ComReg continues to consider its assessment of the gearing level to be reasonable. The reasons why Sky's arguments as per the 03 September 2019 submission do not apply are set out below.

A 9.10 The chart presented above paragraph 21 in the Sky 03 September 2019 submission illustrates how equity beta varies depending on the level of gearing. The chart assumes that the asset beta value is 0.40. It calculates equity beta using the formula equity beta = asset beta / (1 -gearing). The chart uses a value of 0.40 for the asset beta i.e. the value proposed in the Consultation.

A 9.11 The chart shows how equity beta is impacted by leverage. The higher the gearing the greater the equity beta of a firm. In paragraph 21, Sky estimates that Eircom has been operating in an 80 – 85% equity beta range. Based on the 80 – 85% range Sky estimates an equity beta of 1.64 – 2.67. Sky also says that such equity betas represent no relationship to reality in the sector being considered.

A 9.12 ComReg agrees that as a company's gearing is increased its equity beta increases. This is well-known in finance.

A 9.13 However, ComReg sets the weighted average cost of capital for a <u>notional operator in the fixed line market</u>. ComReg, to a large extent, uses bottom-up long run incremental cost models where cost orientated obligations have been placed on operators in SMP markets. ComReg considers that its process of estimating WACC reflects the WACC in the telecoms sector and that this WACC should be used when setting cost-oriented prices in Ireland.

A 9.14 It is not ComReg's role to dictate to Eircom how it should finance its operations. It is also not ComReg's role to create incentives for Eircom to use a particular level of gearing[363]. It is ComReg's role to set a level of WACC that reflects general EC market levels for the telecoms sector as well as specificities in Ireland (i.e. for a hypothetical efficient operator in Ireland).

A 9.15 In respect of Sky's concerns regarding the **implementation of the WACC**, Sky complains that[364] "*Nowhere in the Draft Decision* [as notified to the European Commission] *does ComReg acknowledge the materiality of the change in WACC and its impact on pricing notwithstanding that it should be*

[363] In eircom Holdings (Ireland) Limited, "Annual Report for Bondholders for the year ended 30 June 2020", 2 September 2020, eircom lists, on page 41, business impacts of it being highly leveraged.
[364] Paragraph 5 of the Sky July 10, 2020 submission

*the **key determinant** in assessing whether to require existing prices to be updated with the new WACC*". Sky also claims that ComReg's failure to require prospective FTTC prices to reflect the new WACC has not been justified and is in breach of the Access Regulations 2011, and ComReg would have ignored important analysis submitted by Sky on the material impact of the change in WACC on FTTC prices. In particular, Sky submitted that ComReg had not considered a chapter of a report submitted in May 2020 to ComReg and prepared by Analysys Mason entitled "*The impact of the anticipated WACC is a reduction in wholesale prices*", which speaks to the materiality of the reduction in WACC from 8.18% to the then proposed level of 6.42% and the likely impact on cost oriented FTTC and other regulated prices. Sky argues that updating the WACC [for the purpose of setting FTTC prices] does not require all other inputs to FTTC pricing to be reviewed. ComReg, according to Sky, appears to be (incorrectly) treating prices set in D11/18 as though a price cap rather than a cost orientation price control was imposed on Eircom via D10/18. Finally, Sky suggests that the current FTTC pricing includes a premium to cross subsidise Eircom's loss-making services or that FTTC prices are being used to cross-subsidise services in different economic markets.

A 9.16 This Response to Consultation and Final Decision is concerned with the setting of the WACC and a framework for its implementation; it is not a process which is addressed to dealing with FTTC prices, as such. ComReg notes further that FTTC prices fall within the category of price controls where prices have been set for the price control review period by way of specifying the cost orientation obligation imposed on Eircom. The general principle decided by ComReg in respect of such price controls with the view to providing price stability and regulatory certainty is that such price controls will not be affected by a change in the WACC value unless the impact would be material or if there are exceptional circumstances. This applies to FTTC prices, save that in D11/18, ComReg had reserved "*the right to require prices to be updated depending on the outcome of any decision ComReg may take on the WACC rate as a result of that consultation process*"[365].

A 9.17 As explained in this Response to Consultation and Final Decision, it is ComReg's intention to review the impact of the WACC and the forthcoming update to other cost inputs to FTTC prices in the context of ComReg's consultation on the use of an updated access network cost model. ComReg is satisfied that this is the most appropriate way forward insofar as FTTC prices are concerned. ComReg in this regard does not accept Sky's suggestion that in not providing for the immediate application of the new WACC value to FTTC prices, ComReg would somehow be in breach of the Access Regulations. The

[365] See footnotes 60 and 112 and paragraph 9.53, D11/18, Pricing of wholesale broadband services, 19/11/2018

fact that there is a change in the WACC value, including where it is material, does not necessarily mean that it is appropriate to provide for its immediate application in all price controls. Where price controls involve cost models in which the WACC is only one input, amending the WACC with no regard to other cost inputs where a review of these inputs is warranted and in fact ongoing might not, contrary to what Sky contends, better ensure the cost orientation of prices and appropriate build/buy signals.

A 9.18 In other words, and noting Sky's comments on Eircom's submission regarding the permissibility of conducting a standalone assessment of WACC and Sky's interpretation of the comments by the European Commission to Anacom in August 2018 (paragraph 68 of its 10 July 2020 submission), ComReg considers that it is not now appropriate in the case of the new ANM to review FTTC prices solely on the basis of a change to the WACC, but rather to review the impacts of the revised WACC and the updated Access Network Model inputs together. In ComReg's opinion this provides the best means of ensuring that any revised FTTC cost-oriented prices are forward-looking and set on the basis of the most recent data available.

A 9.19 ComReg notes further in this regard that the fact that there is precedent in Ireland of regulators updating the WACC used in price controls independently of other inputs, as outlined in Sky's submissions of 24 July 2020, does not mean that this is what ComReg is required to do in respect of FTTC prices, or generally. For the reasons outlined in this Response to Consultation and Final Decision, ComReg believes that another approach is justified, namely that the WACC used in price controls remains unchanged unless there are material changes or exceptional circumstances which justify ComReg's intervention, in order that pricing stability and regulatory certainty are ensured to the necessary extent. In that context the fact that ComReg updated the WACC for RTÉ/2rn previously does not affect this analysis. ComReg notes also that the updating was done as part of an ongoing cost model review following RTÉ and 2rn's designation with SMP[366] which concerned the structures of the models themselves; forward looking assumptions to ensure tariffs remained relatively stable; Capital costs (supported by site visits); and Operating costs to ensure that only efficiently incurred costs were recovered.

A 9.20 In reaching its view as regards the appropriate approach to WACC implementation, ComReg has given consideration to the analysis regarding WACC set out in the Analysys Mason report submitted by Sky. That report takes notes of pricing models (including publicly available pricing models from other jurisdictions) and outlines possible FTTC prices changes by changing WACC values alone. However as outlined above ComReg considers that using the Access Network Model inputs together with the updated WACC

[366] ComReg Document No. 13/71 – Market Review: Broadcasting transmission services in Ireland.

provides the best means of reviewing FTTC cost-oriented prices. Work on the ANM is well advanced and ComReg will proceed in the coming weeks to publish a consultation on its use. The consultation will include an evaluation of the impact on the NGA cost model and the NGN Core Model of both the updated ANM cost inputs and the updated WACC, and considers regulated FTTC prices in that context.

A 9.21 Sky also makes the point that it would be discriminatory for ComReg to require WACC to be updated in margin squeezes but not FTTC prices. In its submissions of 31 August 2020, BT also complains that the Draft Decision means that Eircom will be able to enjoy a greater return on investments for key aspects such as FTTC port charges whereas a lower return will apply to components which are supplied in competition with others, such as backhaul elements, thereby giving competitors a lower margin space to compete with Eircom.

A 9.22 ComReg is of the view that to the extent that there is any issue of consistency between applicable WACCs used in margin squeeze tests and cost-oriented FTTC prices, it is not a material issue.

A 9.23 ComReg also considers that there are very significant differences in terms of complexity between determining cost-oriented FTTC prices and inputs to be used in margin squeeze tests. Determining cost-oriented FTTC prices requires very detailed modelling of future demands and costs.

A 9.24 WACC is not materially relevant to retail costs used in margin squeeze tests between retail and wholesale products, as the retail asset base to which WACC could be applied is minimal and hence WACC is largely irrelevant for these margin squeeze tests.

A 9.25 Finally, and for the avoidance of doubt, ComReg does not accept that the current FTTC pricing includes a premium to cross subsidise Eircom's loss-making services or that FTTC prices are being used to cross-subsidise services in different economic markets. (ComReg also does not accept, for the avoidance of doubt, that this is an issue which is relevant to its decision on WACC.)

A 9.26 Sky states that the alleged cross-subsidisation arises because FTTC prices have been set to recover all incremental costs "including capital costs" associated with access lines beyond 3km.

A 9.27 However, in D11/18, the maximum LLU line-length for an FTTC service has been set at 3km and the SLU line length at 1.5km, with the result that the average cost of the FTTC line is based only on an analysis of the costs of those lines that are shorter than 3km, see paragraphs 6.213 to 6.215 of D11/18:

> "*For the build or buy signals to be relevant the charges should only reflect the geographic limits of the access network that is required to pass and connect the targeted base. Including additional margin to help cross subsidise the more expensive customers that might be served on longer lines in the access network beyond that footprint would distort these investment signals. Therefore, rather than base the SLU and LLU inputs in the NGA Cost Model on the average national access cost, ComReg's view is that the costs should be based on the line lengths and the line densities that are compatible with the VDSL services they support. Consequently, ComReg has revisited both the line lengths and the line densities that inform the unit cost calculations that are carried out in the Revised CAM to derive the inputs into the NGA Cost Model to ensure that the costs of these inputs better reflect the future costs of providing FTTC and EVDSL based VUA services.*
>
> *To this end, ComReg has revised the maximum line lengths in the updated NGA Cost Model to 1.5kms (down from 3kms) for the SLU inputs used to inform stand-alone FTTC charges and to 3kms (down from 5kms) for the LLU inputs used to inform EVDSL and POTS based VUA charges, on the basis that these line lengths are more typical of the maximum line lengths currently being used in providing FTTC and EVDSL services.*
>
> *Capping the maximum SLU lengths at 1.5km should help address the concern raised in the AM Report (see paragraph 6.90) that using national costs risks overestimating the costs of FTTC wholesale services. By capping the line lengths of the SLU and LLU cost inputs into the NGA Cost Model,* ***ComReg ensures that the costs that are specific to the longer lines that are not capable of supporting viable VDSL services are excluded from the cost analysis****. Also, capping the maximum line lengths in this way helps ensure that the hypothetical network in the NGA Cost Model more closely aligns with the line base and network footprint that has a prospect of network competition from rival operators, which is focused on cities and around regional towns.*"
>
> (Emphasis added)

A 9.28 Consequently, **none** of the incremental costs associated with lines longer than 3km are recovered from FTTC prices.

A 9.29 Furthermore, as the costs of assets that are specific to lines longer than 3kms are excluded from the cost analysis for determining FTTC prices, there is no "*ongoing premium on FTTC prices that is predicated on "losses" associated* *with an excessive cost of capital for years to come on those assets beyond 3km*", contrary to Sky's claim.