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REPORT ON PRICING AND METHODOLOGY FOR CURRENT GENERATION ACCESS SERVICES (MARKET 3b)

FOR COMREG

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CHAPTER 1. INTRODUCTION

Background

On November 11, 2016, ComReg published its Consultation and Draft Decision on the Reviews of the Market for Wholesale Local Access (WLA) provided at a Fixed Location and the Market for Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products (ComReg 16/96). The objective of the reviews is to examine the extent of competition within these wholesale markets.

WLA and WCA services are wholesale inputs ultimately used in the supply of a range of downstream wholesale and retail services, such as fixed telephony, broadband internet/connectivity, leased lines and TV services to residential and business End Users. WLA inputs can also be utilised by Service Providers (SPs) to supply downstream WCA or other wholesale services.

For the purpose of this report, the WCA market findings are the most relevant. The WCA market lies downstream from the WLA market but upstream from the retail broadband (and other) markets. WCA encompasses the rental of an active broadband connection between an End User's premises and an aggregation point higher up in a network.

Arising from the analysis in its Consultation, ComReg has prospectively identified the following three, separate markets:

(a) The Wholesale Local Access Market: WLA provided at a fixed location, which includes Local Loop Unbundling (LLU), Line Share and Virtual Unbundled Local Access (VULA) products (the WLA Market);
(b) The Urban Wholesale Central Access Market: WCA for mass-market products provided at a fixed location, which includes Bitstream products provided over a copper only network and Bitstream products provided over a Fibre to the Cabinet (FTTC)/Fibre to the Home (FTTH) network (the Urban WCA Market).;
(c) The Regional Wholesale Central Access Market: WCA for mass-market products provided at a fixed location, which includes Bitstream products provided over a copper only network and Bitstream products provided over a FTTC/FTTH (together FTTx) network (the Regional WCA Market).

For the purpose of this report, the main focus is on so called Current Generation Access services, the WCA services provided over a copper only network.

ComReg's preliminary findings on the WCA Markets are as follows:

- No Service Provider has a Significant Market Position (SMP) in the Urban WCA Market;
- Eircom Ltd (hereafter "Eircom") has SMP in the Regional WCA Market.

The provision of fast, efficient and low-priced broadband services is ever more important within the digital economy. The European Union (EU) has recognised that the innovation, speed and reach of high-speed broadband has the potential to transform economies, as high-quality digital infrastructure underpins virtually all sectors of a modern society. This has been acknowledged in particular within the Digital Agenda for Europe (DAE)[1].

There are many challenges to be overcome if the DAE targets are to be met, especially in remote and rural areas. Most of these challenges are on the supply-side: users are increasingly aware of the benefits of ultra-high-speed broadband and are frustrated if they cannot obtain appropriate access speeds from their suppliers at affordable prices. It is therefore critical that regulators such as ComReg establish methodologies for costing and pricing of broadband access that enable the DAE goals to be met.

Furthermore, the Irish Communications Regulations Act identifies the following objectives:

(i) to promote competition and encourage efficient investment in infrastructure and promote innovation;
(ii) to contribute to the development of the internal market;
(iii) to promote the interest of users and encourage access to the internet at a reasonable cost to end-users.

Bitstream products are a crucial component of making broadband competition work. In rural areas, where alternative fixed infrastructure is slow to develop or unlikely to develop at all, it may be the only way to stimulate competition in fixed broadband services at retail levels. Bitstream access is also an important step in the Ladder of Investment, offering the opportunity to alternative providers to carve out market share and gradually invest in their own infrastructure where this is commercially viable, enabling and incentivizing migration from virtual to actual infrastructure based competition. At the same time, challenges arise because of the dynamic nature of the access network in the transition to ever-faster broadband networks. As both fibre and copper digital subscriber line (DSL) technology changes, so the most efficient access network topology changes. For the regulator there is a need both to set prices that encourage efficient deployment today but also enable or incentivize innovation towards the efficient technologies of the future. This is clearly a difficult balance to strike, and one that needs to be reviewed regularly in light of technology developments.

[1] The DAE has set targets (now seen as the absolute minimum requirement) that all Europeans have access to broadband at speeds of at least 30Mbps by 2020, and that 50% or more have access to 100Mbps.

Based on the European regulatory framework that was introduced in 2002, the main regulatory activity to date has focused on access to networks of operators with significant market power (SMP). Two decisions stand out for their particular importance with respect to costing and pricing of Current Generation Access, one of ComReg in Ireland (ComReg Decision D11/14) and one from the European Commission (EC Recommendation C(2013) 5761). Also, guidelines developed by BEREC (Common Position on geographical aspects of market analysis) are relevant for the project.

ComReg Decision D11/14

The need for effective regulation of access prices has been recognised for many years, both across the EU and more specifically in Ireland. Since 2002 the EU regulatory framework has required national regulatory authorities (NRAs) to analyse the markets for Wholesale Local Access "WLA" (Market 3a, previously known as the market for wholesale physical network infrastructure access (WPNIA –Market 4) and for Wholesale Central Access "WCA" (Market 3b, previously known as the market for wholesale broadband access (WBA –Market 5) in order to determine operators with significant market power (SMP) and to impose appropriate remedies.

For WLA, ComReg has undertaken such market analyses in 2004 and 2010. In the latter analysis, separate remedies were imposed on Eircom with respect to its copper access network and its fibre network. In the case of copper, Eircom has to provide local loop unbundling (LLU) and sub-loop unbundling (SLU) on transparent and non-discriminatory terms, subject to cost-oriented prices and also a margin squeeze test that ensures there was always sufficient head-room between the different prices of wholesale inputs such that alternative service providers could compete in the margin. In the case of fibre, Eircom has a number of obligations, including price control and cost accounting (see Decision D3/13 described below).

For WCA, ComReg has undertaken market analyses in 2005 and 2011. As part of the latter market review, ComReg decided that, pending a full review of the pricing regulation methodology, Eircom was required to set prices in accordance with the 2006 retail minus price control that was set out in ComReg Decision D01/06. The review of the price regulation mechanism took place in 2013-2014. ComReg published a Consultation Document (Document No 13/90) and, after considering the responses to the consultation, in July 2014 issued Decision ComReg D11/14. This Decision subjects CGA products in Ireland to a national cost orientation obligation, a subnational cost orientation obligation outside the LEA and retail margin squeeze obligations. There is a slight difference depending on more urban and less urbanized areas, dependent on the level of infrastructure-based competition. In addition, to prevent a margin (price) squeeze between Wholesale Bitstream Access (WBA) and Wholesale (Physical) Network Infrastructure Access, a minimum price floor is set.

Decision D11/14 is not a stand-alone regulation but forms a coherent regime together with ComReg's decisions on the Wholesale Broadband Access Price Floor, the NGA pricing regulation (D03/13) and the regulation of the access network pricing (D03/16).

Given the time that has elapsed since ComReg's previous analysis of the 2010 WPNIA Market and 2011 WBA Market and having regard to market developments, including the EC Recommendation discussed below, ComReg considered it appropriate to carry out the further review of these markets in the 2016 Consultation and Draft Decision (ComReg 16/96) as briefly described above.

EC Recommendation C(2013) 5761

After ComReg completed its previous review of Market 5 (now known as Market 3b), and in parallel with the drafting of Decision D11/14, the European Commission published its Recommendation C(2013)5761 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment. Again, this Recommendation focuses on SMP providers and the appropriate means of establishing cost-based access to their networks, including both active and passive infrastructure.

The EC recommends that "a costing methodology should be based on a modern efficient network, reflect the need for stable and predictable wholesale copper access prices over time, which avoid significant fluctuations and shocks, in order to provide a clear framework for investment and be capable of generating cost-oriented wholesale copper access prices serving as an anchor for NGA services, and deal appropriately and consistently with the impact of declining volumes caused by the transition from copper to NGA networks, i.e. avoiding an artificial increase in wholesale copper access prices which would otherwise be observed as a result of customers migrating to the NGA network of the SMP operator." It identifies key principles as cost recovery, the provision of appropriate "build or buy" price signals, transparency and consistency. The EC concludes that a bottom-up long run increment cost plus a mark-up for common costs (BU LRIC+) methodology best meets these objectives.

Nevertheless, the Recommendation does not always and automatically require NRAs to adopt a BU-LRIC+ pricing methodology immediately. A sufficiently long transition period is needed to avoid unnecessary disruption and provide a stable and transparent regulatory approach.

Currently applied methodologies other than the recommended one may also meet the conditions set out in point 40, but the NRA needs to follow the standard procedure of notification ahead of the deadline to allow the Commission, BEREC and other NRAs to comment. If more time is needed, NRAs should consider

setting interim prices based on a benchmark that reflects an average of the access rates set by NRAs in compliance with the Recommendation.

Point 40 of the Recommendation states the following:
"When imposing cost-oriented access prices, NRAs may continue to apply beyond 31 December 2016 the costing methodology that they use at the time of entry into force of this Recommendation, if it meets the objectives of the recommended costing methodology as set out in recitals 25 to 28[2] and satisfies the following criteria: i) if not modelling an NGA network, it should reflect a gradual shift from a copper network to an NGA network; ii) it should apply an asset valuation method that takes into account that certain civil infrastructure assets would not be replicated in the competitive process; iii) it should be accompanied by documented projections of copper network prices showing that they will not fluctuate significantly and therefore will remain stable over a long time period and that the alternative methodology meets the objective of regulatory transparency and predictability as well as the need to ensure price stability; and iv) it should require only minimal modifications with respect to the costing methodology already in place in that Member State in order to meet the first three criteria."

Furthermore, NRAs may see the need to not impose price regulation on NGA. This would be acceptable to the European Commission under the condition that three tests are passed:

- Equivalence of Input rules is in place - meaning that all relevant services and information supplied to the access seeker are the same, and provided on the same timescales, as to the downstream businesses of the SMP operator.
- The technical replicability test is passed - the access seeker must be able to replicate the retail offers of the downstream businesses of the SMP operator, based on having timely availability of all wholesale inputs and access to equivalent Service Level Agreements (SLAs) and Key Performance Indicators (KPIs) including: service ordering, service provision, quality of service, fault repairs, network migration.
- The economic replicability test is passed - the margin between the retail price and the price of regulated wholesale inputs (being the most representative combination of active and passive elements in the time-frame of the analysis) covers the incremental downstream costs (of an operator equally efficient to the SMP operator) plus a reasonable percentage of common costs.

Except in the circumstances described above, the EC recommends that the BU-LRIC+ model should be in place by the end of 2016 and the EC should be notified

[2] Modern efficient network, cost recovery, appropriate build-or-buy signal, transparency and consistency

of the costs and resulting access prices that it imposes. To the extent that Decision D11/14 did not fully implement the EC Recommendation, it is likely that the new pricing decision will be analysed by the EC for this implementation, unless strong reasons justify divergence in the case of Ireland.

BEREC Common Position on geographical aspects of market analysis
Besides the relevant European Recommendations/Guidelines, we also draw on the BEREC Common Position on geographical aspects of market analysis (definition and remedies) (2014). These guidelines have a bearing on geographical differentiation in remedy development. The Common Position states that the main aspects of the geographical analysis are the definition of the relevant geographical unit (historically based on network coverage, at present centred around Local Exchanges/MDF's, but may evolve towards administrative/municipality units), and the assessment of the homogeneity of competitive conditions (barriers to entry, number of operators, market shares, price differences).

Segmentation of national markets has been a major development in regulation in recent years in Europe. Many countries recognize the need to assess whether regulation needs to reflect this: stringent regulation in less/non-competitive areas (since the Significant Market Position ("SMP") provider has a *de facto* monopoly power or dominance), and possibilities of relaxing regulation in areas with advanced infrastructure-, and services-based competition.

Diverging competitive conditions may lead to sub-national geographic markets, but where the NRA cannot conclude that the different competitive conditions are stable over time and there is no justification for sub-national delineation of markets, NRAs are allowed to consider differentiated remedies to address diverging competitive conditions.

Ofcom (UK) pioneered geographical segmentation of the WBA market in 2007. Important indicators to differentiate were the number of operators acting as a constraint and the exchange size as a proxy for economies of scale and barriers to entry. Since then, countries that proposed (but were, especially initially, not allowed by the EC) application of geographical segmentation or differentiation of remedies include: Austria, Spain, Czech Republic, Poland, Austria again, Finland, France, Ireland itself, Belgium, UK (additional geographical market in terminating leased lines, 2013).

<u>Objective of this report</u>

The fact that Decision D11/14 has been taken relatively recently has an impact on the methodological approach for this assignment.
The Decision was taken over two years ago and there has barely been time to implement it and see its effects. The reason for reviewing the Decision so shortly after it was taken is a more formal one. In 2014, ComReg was criticized by

Eircom for adapting the remedy for CGA price regulation without first undertaking a market analysis so that relevant developments in the competitive state of the market may be fully taken into account. ComReg pointed out in its Decision that recital 15 of the Access Directive expressly anticipates that remedies may be imposed on an SMP operator without requiring an additional market analysis, as long as there a justification that the obligation in question is appropriate and proportionate in relation to the nature of the problem identified. However, ComReg assured that "If as a result of the outcome of these market reviews it is clear that changes are required to the remedies already in place then adjustments will be made accordingly."

In addition, stakeholders broadly supported ComReg's proposals for Decision D11/14. Therefore it is fair to say that the 2016/2017 review of the Decision is not because there is reason to believe that the choices of 2014 were wrong or are already out-dated, but to revalidate those choices against the background of the new review of Market 3b.

The objective of this report is therefore to assess whether the choices made in 2014 are still applicable and reasonable or if there are strong reasons to make adaptations. As predictability and continuity of the regulatory regime are strong regulatory objectives in their own right, the aim should be to reconfirm the choices made so recently unless there are strong, new reasons to revise them.

Such reasons could come from a limited number of **sources**:

a) The new Market Review of Market 3b is the leading driver for the choice of remedies. Therefore the first task is to ascertain if the outcome of the Market Review itself proposes strong reasons to revise the remedies applied. A case in point would be the delineation of sub-national geographical markets and/or the application of different remedies in them.
b) The EC Recommendation C(2013)5761 on consistent non-discrimination obligations and costing methodologies. This was not yet in place during the 2011 Market review. It needs to be assessed whether there is an impact on the conclusions or remedies applied.
c) Choices with a high degree of materiality for the regulatory regime should ideally be in sync with similar choices in other relevant EU countries.
d) Last but not least, the drivers of choices strongly sensitive to change in timeframes as short as the 2.5 years since the 2014 Decision should be reviewed.

CHAPTER 2. EXECUTIVE SUMMARY

In 2016, ComReg has conducted a number of new Market Reviews, one of which is the market for Bitstream Services, also known as the Market for Wholesale Central Access provided at a fixed location for mass-market products or Market 3b ("WCA Market"). As part of the Market Review, ComReg has asked Regulaid and Jacobs, Cordova & Associates to review the main choices of Decision D11/14 with regard to pricing methodology and pricing principles.

In reviewing this Decision, we also take into account The EC Recommendation C(2013)5761 on consistent non-discrimination obligations and costing methodologies ("Recommendation"), and on-going relevant experience in select European countries.

The Market Review delineates two areas that differ in competitive circumstances and therefore differ in potential competition problems. ComReg identifies two separate geographic markets: the Urban WCA Market and the Regional WCA Market. Also, within the Regional WCA Market, there are differences observed, albeit not stable enough to validate separate markets. The Urban WCA Market is considered effectively competitive and therefore no regulation is required. Within the Regional WCA Market, prospectively there are varying competitive circumstances which differ between the more urban areas and the rural areas. The pricing remedies need to deal with these in an adequate and proportionate way. We examined the appropriateness of cost orientation obligations, margin squeeze tests and price floor regimes in the context of CGA services in Market 3b. We also examined the methodology of Historic Cost Accounting and Fully Allocated Cost.

In its Recommendation, the European Commission recommends a costing methodology that leads to access prices that replicate those expected in an effectively competitive market, based on a modern efficient network. The Commission also emphasizes the need for stable and predictable copper prices over time. A BU LRIC+ methodology is deemed to best meet these objectives, but particular care needs to be taken in determining the valuation of assets. If the methodology-in-use of the NRA meets the objectives though, it does not necessarily need to be BU LRIC+ but can be an alternative methodology[3].

In addition, an Economic Replicability test (or ex-ante margin squeeze test) is recommended, with a view to non-discrimination obligations.

Research of selected cases from other European countries shows an evolution – rather than a revolution – of methodology towards BU LRIC+, most notably in market 3a, and to a lesser extent in market 3b. From comments made by the EC in notification cases, it becomes clear that the EC puts emphasis on predictability

[3] Point 40 of the Recommendation

and transparency. Correct valuation of civil engineering infrastructure is another focal point.

Based on the analysis of the Market Review, the EC Recommendation and international practice, we recommend to amend the Price obligation regime as follows:

a. The Urban WCA Market is deregulated, so we recommend only a wholesale margin squeeze test between the WCA Market (3b) and the WLA Market (3a) to avoid leverage of SMP in 3a into the 3b market. However, a retail margin squeeze test in Market 3a may be needed as a consequence of the review findings on Market 3a.
b. For the Regional WCA Market (or as referred to as Regional Area 1 and Regional Area 2) we recommend a cost orientation obligation to apply across both Areas and an additional separate cost orientation obligation in Regional Area 2. We recommend maintaining wholesale and retail margin squeeze tests in conjunction with the WBA price floors for the Regional WCA Market.
c. We recommend moving from a TD/FAC model based on HCA to a Modern Equivalent Asset approach in the form of a BU-LRAIC+ model based on CCA. We recommend paying attention to the so-called Regulatory Asset Base.
d. We recommend using the Tilted annuity depreciation method and the BU-LRAIC+ cost methodology. We believe this ensures future-proof predictability and stability of copper prices.

CHAPTER 3. SYSTEMATIC MAPPING OF CHOICES

The main choices made in D11/14 are mapped below:

DECISION	OBJECTIVE/DRIVER	ADDITIONAL RESULT
Market review		
1. National market	Changes in geographical development not stable enough	Differentiation of pricing remedies in LEA and Outside LEA
2. Delineation of LEA and Outside LEA	Different competitive circumstances	Changes enough to warrant differentiation of pricing remedies
3. Main Competition problems	LEA: squeeze; Outside LEA excessive pricing	
Obligations		
4. National cost orientation obligation	Better prevention of excessive pricing than retail minus	Safeguard against consumer harm
5. Additional cost orientation obligation Outside LEA	Extra safeguard against excessive pricing in non-competitive area	Safeguard against consumer harm
6. Retail Margin Squeeze Tests for both LEA and Outside Lea	Safeguard against foreclosure or substantial lessening of competition in both areas – preserves incentives for entry Outside LEA	Safeguard against consumer harm
7. WBA Price Floors	Margin squeeze prevention between WPNIA and WBA services to keep incentives to invest in LLU or other infrastructure; Prevent anti-competitive pricing, price dumping and foreclosure	Protect investment incentives; Safeguard against consumer harm
Methodology		
8. Historic Cost Accounting adjusted for efficiency + WACC	Ensure cost recovery of actual investments; no risk of sweating assets (Outside LEA) without actual investment	Practical: in line with incumbents books N.B. BU-LRAIC+ for access network services
9. Fully allocated Cost	Cost recovery for incumbent preserves investment incentives	Signal: consistent with recorded investments and the principle of causality

DECISION	OBJECTIVE/DRIVER	ADDITIONAL RESULT
10. Hybrid cost model	Based on Top Down Data and Eir dimensioning with adjustments	Prevents recovery of cost not made (OLEA investments)
11. Retail margin squeeze test LEA SEO/EEO	EEO for marketing/billing/ product management cost since multinational competitors have similar scale/scope overall (bundles)	Consistent with NGA MST
12. Retail margin squeeze test Outside LEA SEO	Appropriate for marginally competitive area, where only a number of small operators are active	
13. Retail margin squeeze test LEA – portfolio analysis	Allows incumbent some flexibility in pricing individual services in a more competitive environment	Competitors are in a position to replicate, being multinationals
14. Retail margin squeeze test Outside LEA – product-by-product analysis	In the absence of competition, aims to prevent foreclosure/obstruction of new entry	
15. For SEO cost-base, 25% market share as operator volume base	Avoids inefficient entry	
16. Cost standard Average Total Cost	No real concerns about future exclusions/exit; align with actual (expected) cost	In line with DCF Model and MST for NGA
Other issues		
17. Promotions	Within margin squeeze tests	
Instruments		
Bitstream Cost Model	Prevents under/over recovery of cost	
DCF Model for margin squeeze tests	Determines appropriate margin by looking forward; adjustments for scale and scope to reflect new entrant	
WBA Price Floors Model	Stimulate alternative operator investment – signal: build/buy.	Updates with a view to broadband usage/throughput rate. Key elements: per port charges and bandwidth levels

The change in D11/14, compared to the earlier regime, is the imposition of a national cost orientation obligation with regard to Eircom's current generation Bitstream services. In addition, ComReg decided to withdraw the previous retail minus price control and instead imposed a retail margin squeeze test. The application of both pricing obligations differs somewhat between more urban and less urbanised areas. ComReg had previously defined a LEA[4], which comprises those exchange areas where there is the presence of cable infrastructure[5], local loop unbundling ("LLU") based competition, and, prospectively, the potential for the rollout of next generation access ("NGA"). Areas outside the LEA ("Outside the LEA") are those areas that have less/no infrastructure-based competition and where the wholesale broadband market is unlikely to become competitive prospectively.

The key decisions in D11/14 are a further specification of the margin squeeze obligation and the imposition, amendment and withdrawal of the price control and the transparency obligations contained in the WBA Market Decision.

The key points were motivated by the following considerations:

a) National cost orientation obligation

The national cost orientation obligation allows Eircom to recover its actual incurred costs adjusted for efficiency plus a reasonable rate of return. The objective of the Bitstream cost model is to ensure that Eircom does not materially over- or under-recover its actual costs adjusted for efficiency (including a reasonable rate of return) nationally.

This is consistent with Regulation 13(2) of the Access Regulations[6], which provides that:

> *"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 reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project."*

b) Cost orientation obligation Outside the LEA

Outside the LEA, Eircom is required to ensure that it recovers no more than the actual incurred costs (adjusted for efficiency, plus a reasonable rate of return) associated with the provision of current generation Bitstream services. In

[4] Larger Exchange Area
[5] UPC Communications Ireland Ltd. ("UPC")
[6] European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011).

addition, Eircom shall not increase its current Bitstream rental prices Outside the LEA or introduce the price for a new Bitstream monthly rental charge without ComReg's prior approval. The approval process would involve a demonstration by Eircom to ComReg that any proposed increases to Bitstream monthly rental prices Outside the LEA or the introduction of a price for a new Bitstream monthly rental charge should recover no more than its actual incurred costs adjusted for efficiency (plus a reasonable rate of return) associated with that area (i.e. Outside the LEA) while also ensuring that it complies with the overriding national cost orientation obligation.

c) Cost orientation obligation based on historic costs

The cost orientation obligation (both the national and sub-national obligations set out above) is assessed by applying the historic cost accounting ("HCA") methodology, which uses Eircom's costs (adjusted for efficiency plus a reasonable rate of return). This should allow Eircom to recover any money invested in maintaining or upgrading its network on the basis that Eircom will have the assurance that what it spends (e.g., operating expenditure adjusted for efficiencies associated with maintenance expenditure and any relevant depreciation charges associated with capital expenditure) can be recouped over the price control period – particularly Outside the LEA. Therefore, Eircom's investment incentives are not negatively affected by this Decision; in fact they are likely to be enhanced Outside the LEA. This ensures consistency with Regulation 13(2) and Regulation 13(4) of the Access Regulations.

ComReg considered that the use of bottom up long run average incremental costs plus an apportionment of joint and common costs ("BU-LRAIC+") as opposed to the HCA methodology in the absence of alternative network competition may encourage Eircom to "sweat" its assets in areas Outside the LEA. This may result in excessive pricing relative to its actual investment without any benefit to end users in terms of alternative platform based investment. The BU-LRAIC+ approach permits the recovery of hypothetical costs that may not have been actually incurred or is likely to be incurred. Given the extent of depreciated assets (i.e. DSLAMs[7] and BRAS[8]) in Eircom's core network, and the fact that these assets may not be replaced by Eircom as the market focuses on NGA services, the BU-LRAIC+ methodology could give rise to significant increases in wholesale and retail legacy broadband prices Outside the LEA. This may be detrimental to end-users and wholesale operators that have no alternative options for broadband provision other than purchasing these services from Eircom.

While ComReg recognised that BU-LRAIC+ may be useful in setting appropriate "build or buy" signals for other networks, this consideration is less important, at least Outside the LEA (rural areas) in Ireland, where commercial build in current

[7] Digital Subscriber Line Access Multiplexers
[8] Broadband Remote Access Servers

generation Bitstream and in many areas next generation services is unlikely due to low population densities.

ComReg's outlook was that Outside the LEA there is little prospect of potential investment in current generation Bitstream by an alternative operator and it would therefore be inappropriate to chose a pricing methodology that aims to stimulate alternative operator investment. While ESB Networks and Vodafone Ireland Limited ("Vodafone") have entered the Irish wholesale broadband market, using a joint venture vehicle called SIRO, by leveraging ESB's power transmission network, it seems that the initial roll-out would be confined to areas that prospectively may well form part of the LEA. Outside the LEA ComReg considers that it is unlikely that any commercial operator would replicate Eircom's network. For the majority of exchanges Outside the LEA it is highly likely that investment in NGA broadband will be through state intervention by means of the national broadband plan ("NBP").

d) Obligation not to cause a retail margin squeeze

Comreg imposed a retail margin squeeze test, instead of the national retail minus price control obligation in force before. The test is differentiated between the LEA and Outside the LEA. Both tests rely on the same discounted cash flow model (the "DCF" model).

In the LEA the retail margin squeeze test assesses multiple retail products against the one wholesale product (portfolio analysis) to ensure that on an overall aggregate basis the average of Eircom's retail revenues for all of its retail current generation broadband products recovers the average total retail and wholesale costs. The retail margin squeeze test Outside the LEA assesses each retail product against the relevant wholesale product (product-by-product analysis) to ensure that the revenue for each retail offer recovers its associated retail and wholesale costs.

ComReg considered that the retail margin squeeze tests were necessary because, apart from the cable infrastructure and LLU based competition, Outside the LEA most competition to Eircom, at the retail level, is still provided over WBA. Eircom still has an incentive and ability to set retail prices at a level relative to its own wholesale process that could foreclose competition. This approach also ensured regulatory consistency with the ComReg Decision on NGA D03/13[9] (the "NGA Decision") and with the ComReg Decision on Bundles D04/13[10] (the "Bundles Decision").

[9] ComReg Document No 13/11: Next Generation Access (—NGA||) Remedies for Next Generation Access Markets|| dated 31 January 2013.
[10] ComReg Document No 13/14: Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4|| dated 8 February 2013.

e) WBA Price Floors (Decision) to remain in place

The minimum price floors price control to minimize the risk of a margin (price) squeeze between WBA and Wholesale (Physical) Network Infrastructure Access (including shared or fully unbundled access) at a fixed location (i.e., the WBA Price Floors Decision[11]) remained in place. The objective of the WBA Price Floors Decision was to prevent Eircom from setting Bitstream prices too low, such that they could discourage investment in LLU or other infrastructure operators either investing or planning to invest. Therefore, in the WBA Price Floors Decision ComReg imposed a margin squeeze obligation on Eircom between Market 4 (WPNIA) and Market 5 (WBA) services. This should prevent the risk that Eircom would set current generation Bitstream prices too low that could be detrimental to build/buy signals and investment in networks by other operators.

[11] ComReg Decision D06/12, ComReg Document No 12/32 —Wholesale Broadband Access: Further specification to the price control obligation and amendment to the transparency obligation‖ dated 5 April 2012.

CHAPTER 4. IMPACT OF THE EC RECOMMENDATION ON CONSISTENT NON-DISCRIMINATION OBLIGATIONS AND COSTING METHODOLOGIES

4.1Main points of the EC Recommendation related to price control obligations

On September 11th, 2013, the European Commission published its Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (C(2013) 5761). One of the core objectives of the Digital Agenda for Europe is the deployment of next generation access networks (NGA Networks) and the Recommendation is part of the European Commission's efforts to create common approaches, together with National Regulatory Authorities (NRAs) and BEREC, for the consistent application of the regulatory framework defined by Directive 2002/21EC (the Regulatory Framework).

The Recommendation aims to promote efficient investment and innovation in new and enhanced infrastructures whilst recognising the need to maintain effective competition, which is an important long-term investment incentive. The present Recommendation seeks (i) to ensure a level playing field through the application of stricter non-discrimination rules, (ii) to establish predictable and stable regulated wholesale copper access prices, as well as (iii) to increase certainty on the circumstances that should lead to the non-imposition of regulated wholesale access prices for NGA services. Increasing legal and regulatory predictability in this manner should further help to trigger the investment needed in the near to medium-term future.

The Commission has consistently urged NRAs under its powers pursuant to Article 7 of Directive 2002/21/EC (i) to use appropriate cost-accounting methods and ensure consistent pricing of access products along the same value chain to safeguard the ladder of investment principle, (ii) to apply the principles of the relevant cost model consistently to all relevant input data and (iii) to recognise the importance of using the costs of a modern efficient network to set access prices.

Costing methodology

The recommended costing methodology by the EC

A costing methodology that leads to access prices replicating as much as possible those expected in an effectively competitive market is appropriate to meet the objectives of the Regulatory Framework. Such a costing methodology should be based on a modern efficient network, reflect the need for stable and predictable wholesale copper access prices over time, which avoid significant fluctuations and shocks, in order to provide a clear framework for investment and be capable of generating cost-oriented wholesale copper access prices serving as an anchor for NGA services, and deal appropriately and consistently with the impact of

declining volumes caused by the transition from copper to NGA networks, i.e. avoiding an artificial increase in wholesale copper access prices which would otherwise be observed as a result of customers migrating to the NGA network of the SMP operator.

The European Commission considers the following principles key to a costing methodology:

- cost recovery: recovery of costs that are efficiently incurred plus an appropriate return on invested capital
- provision of the appropriate 'build-or-buy' signal
- ensuring transparency and consistency within the Union as well as ensuring that specific national circumstances are reflected under a consistent modelling approach

The Commission considers the following:

> *"The bottom-up long-run incremental costs plus (BU LRIC+) costing methodology best meets these objectives for setting prices of the regulated wholesale access services. This methodology models the incremental capital (including sunk) and operating costs borne by a hypothetically efficient operator in providing all access services and adds a mark-up for strict recovery of common costs. Therefore, the BU LRIC+ methodology allows for recovery of the total efficiently incurred costs."*

The Commission reasons that, since a BU LRIC+ methodology calculates current costs on a forward-looking basis (and therefore recovers the costs that an efficient network operator would incur if he would build a modern network today), it provides the correct and efficient signals for entry. Since SMP operators would react to competition by upgrading their copper networks, and progressively replace them with NGA, the methodology should calculate the current costs of deploying a modern efficient NGA network.

The Commission is, *inter alia*, particularly focused on the valuation of assets. Current costs best reflect the replicability of assets. The Commission recognizes that civil engineering assets (ducts, trenches, poles) are unlikely to replicated, but instead could be re-deployed within an NGA network. The Commission therefore recommends using a Regulatory Asset Base (RAB) corresponding to the reusable legacy civil engineering assets to all four of the following principles:

1. be valued at current costs
2. take account of the assets' elapsed economic life (cost already recovered)
3. use an indexation method, relying on historical data on expenditure, accumulated depreciation and asset disposal (as available from the SMP operator's statutory and regulatory accounts) and on a publically available price index (i.e. retail price index)
4. be locked-in and rolled forward.

The Commission expects RAB modelling in this way to:

- Send efficient market entry signals for build or buy decisions
- Avoid the risk of cost over-recovery for reusable legacy civil infrastructure
- Take into account that fully depreciated non-replicable reusable legacy civil engineering assets would be no longer part of the RAB – therefore no cost for the access seeker and the SMP operator alike.
- Ensure adequate remuneration for the SMP operator and provide regulatory certainty for both SMP operator and access seekers.

Another point of attention is decreasing volumes of active copper lines. The European Commission favours modelling a single efficient NGA network for copper and NGA access products, in order to neutralise the inflationary volume effect that would occur in modelling a copper network separately. Volumes would be transferred from copper to NGA within the same model.

If the topology of the NGA network makes a single model unfeasible (because copper prices cannot be derived from engineering adjustments to the NGA side of the model), the Commission recommends modelling an overlay network in which two parallel networks share to an extent the same civil infrastructure network. The Commission reasons that the unit costs of the civil engineering assets would remain stable – and since these represent the largest part of the costs of an access network, the resulting wholesale prices would reflect this stability.

Implementation of the costing methodology

The Commission considers a transitional period until 31 December 2016 appropriate to avoid unnecessary disruption and provide a stable and transparent regulatory approach.

However:

- NRAs are not required to maintain cost models for calculating wholesale copper access prices in circumstances when there is no ex ante price regulation imposed, for example absent demand for such services.
- The Commission set out a band of prices within which it anticipates the Union's average monthly fully unbundled copper local-loop rental access price (net of all taxes) to fall when the recommended costing methodology is applied.

According to the Commission:

> *"For the avoidance of doubt, this Recommendation does not require NRAs to impose access prices within the band when the NRA applies the recommended costing methodology or the methodology used pursuant to point 40 (see below)."*

Currently applied methodologies other than the recommended one may also meet the conditions set out in point 40, but the NRA needs to notify ahead of the deadline to allow the Commission, BEREC and other NRAs to comment. If more time is needed, NRA's should consider setting interim prices based on a benchmark that only considers an average of the access rates set by NRAs in compliance with the Recommendation.

Point 40 of the Recommendation states the following:
"When imposing cost-oriented access prices, NRAs may continue to apply beyond 31 December 2016 the costing methodology that they use at the time of entry into force of this Recommendation, if it meets the objectives of the recommended costing methodology as set out in recitals 25 to 28[12] and satisfies the following criteria: i) if not modelling an NGA network, it should reflect a gradual shift from a copper network to an NGA network; ii) it should apply an asset valuation method that takes into account that certain civil infrastructure assets would not be replicated in the competitive process; iii) it should be accompanied by documented projections of copper network prices showing that they will not fluctuate significantly and therefore will remain stable over a long time period and that the alternative methodology meets the objective of regulatory transparency and predictability as well as the need to ensure price stability; and iv) it should require only minimal modifications with respect to the costing methodology already in place in that Member State in order to meet the first three criteria."

Economic Replicability test

In order to establish whether alternative access seekers can economically replicate a downstream offer provided by the SMP operator with the regulated wholesale input available, in cases where wholesale price regulation should not be imposed, an NRA should undertake an economic replicability test.

NRAs may also apply an ex ante margin squeeze test to regulated wholesale inputs in order to ensure that wholesale access pricing of copper-based access products does not hinder competition at retail level or to ensure an adequate economic space between the different copper access inputs. However, penetration pricing strategies should not be considered for legacy copper-based inputs given the maturity of the market and the cost orientation generally applicable to copper-based wholesale inputs.

Should national competitive circumstances show a difference between geographic areas in terms of the NGA access input used (for example in rural and densely populated areas) NRAs should vary the test based on specific inputs identified as the most relevant.

[12] As described in the first two paragraphs of the Recommended Costing Methodology sub-section

Application of a non-discrimination obligation when assessing both legacy and NGA networks

The European Commission's recommendation considers non-discrimination as part of "competitive constraints" that need to be in place before an NRA decides not to impose or relax wholesale price regulation on (NGA) inputs.

The recommended non-discrimination obligation has two components:

1) Ensuring equivalence of access
2) Ensuring technical replicability of the SMP operator's new retail offers as a minimum

In addition, NRA's need to take economic replicability into account.

According to the Commission:

Non-imposition of regulated wholesale access prices on NGA networks
"The NRA should decide not to impose or maintain regulated wholesale access prices on active NGA wholesale inputs, except those inputs specified in point 49 pursuant to Article 13 of Directive 2002/19/EC, where - in the same measure- the NRA imposes on the SMP operator non-discrimination obligations concerning passive and active NGA wholesale inputs pursuant to Article 10 of Directive 2002/19/EC that are consistent with:

(a) EoI[13], (following the procedure in point 51);
(b) obligations relating to technical replicability under the conditions set out (in points 11 to 18) when EoI is not yet fully implemented; and
(c) obligations relating to the economic replicability test as recommended (in point 56);

provided that the actual take-up of upstream passive wholesale inputs or non-physical or virtual wholesale inputs offering equivalent functionalities or the presence of alternative infrastructures create a demonstrable retail price constraint."

Furthermore:
"The NRA should decide not to impose or maintain regulated wholesale access prices on passive NGA wholesale inputs or non-physical or virtual wholesale inputs offering equivalent functionalities, pursuant to Article 13 of Directive 2002/19/EC, where - in the same measure - the NRA imposes on the SMP operator non-discrimination obligations concerning passive NGA wholesale inputs or non-physical or virtual wholesale inputs offering equivalent functionalities, pursuant to Article 10 of Directive 2002/19/EC, that are consistent with:

[13] Equivalence of Input as described later

(a) EoI, (following the procedure in point 51);
(b) obligations relating to technical replicability under the conditions (set out in points 11 to 18) when EoI is not yet fully implemented; and
(c) obligations relating to the economic replicability test as recommended (in point 56);

under the condition that:
(d) the NRA can show that a **legacy access network** product offered by the SMP operator subject to a cost-oriented price control obligation in accordance with the costing methodology specified in points 30 to 37 or 40 constitutes a copper anchor and thus exercises a demonstrable retail price constraint; or
(e) the NRA can show that operators providing retail services over one or more alternative infrastructures that are not controlled by the SMP operator can exercise a demonstrable retail price constraint. For the purposes of this condition, 'control' should be interpreted in accordance with competition law principles.

In geographic markets where the conditions listed in points 48 and 49 (as described above) are fulfilled only in some areas within such markets, NRAs should differentiate remedies and maintain or impose price control obligations in accordance with Article 13 of Directive 2002/19/EC only in those areas where such conditions are not fulfilled. NRAs should implement the recommended costing methodology so that the outcome is not affected by the imposition of differentiated remedies within a particular geographic market.

It should be noted that the Commission does recognise that the above described conditions should not be seen as the only circumstances under which NRAs can decide not to impose regulated access prices for NGA wholesale inputs.

> *"Depending on the demonstration of effective equivalence of access and on competitive conditions, in particular effective infrastructure-based competition, there may be additional scenarios where the imposition of regulated wholesale access prices is not warranted under the Regulatory Framework."*

Equivalence of access

With regard to tackling and preventing non-price related discriminatory behaviour the Commission prefers the Equivalence of Inputs approach.

However, the Commissions recognises it may be different for legacy copper-based services:

> *"In this respect, requiring the SMP operator to provide legacy copper-based wholesale inputs over existing systems on an EoI basis is less likely to create sufficient net benefits to pass a proportionality test due to the higher costs of redesigning existing provisioning and operational support systems to*

make them EoI compliant. Conversely, requiring the SMP operator to provide NGA wholesale inputs, which in many cases are provided over new systems, on an EoI basis is likely to create sufficient net benefits, and thus be proportionate, given the comparatively lower incremental compliance costs to ensure newly built systems are EoI-compliant. Before supplying new inputs to its downstream divisions, the SMP operator should be able to build in EoI at the design stage for new products at a proportionate cost. "

and

"Where NRAs conclude that an obligation to provide regulated wholesale inputs on an EoI basis is disproportionate, an EoO model should be applied, which ensures that the wholesale inputs provided to alternative operators — while not using the same systems and processes — are comparable, in terms of functionality and price, to those the vertically integrated SMP operator consumes itself. "

4.2 State of implementation in Member States

According to the BEREC Report on Regulatory Accounting in Practice[14], as per 2015, with the exception of 4 NRAs, most are still developing their costing methodology and assessing the level of compliance with the Recommendation.

NRAs were asked if, in light of the Recommendation, they adopted the related costing methodology in order to deal with the migration of customers from copper to NGA services. The majority of NRAs that answered this question, in total 24, referred to Markets 3, nine of which reply "yes". Out of these nine, 4 NRAs have implemented or considered the costing methodology actually implemented to be in line with the Recommendation. Two of these state that the approach used complies with the Recommendation in the sense that, in practical terms, it gives the same or similar results in many respects, as the Commission's Recommendation indications. Although these NRAs have not used a BU-LRIC+ hypothetical NGA access model, they have used the exception of Point 40 of the Recommendation to continue with the existing methodology.

Some other NRAs that have not yet decided to apply the EC Recommendation, envisage that the models that are in use need to be updated to be in line with the Recommendation. 12 NRAs report that they have developed a hybrid copper and NGA BU-LRIC model, whereas 7 NRAs have developed distinct models for NGA only and copper only. Moreover, 3 NRAs consider their cost model to be in line with point 32 of the Recommendation, in terms of the capability to deliver the DAE targets.

[14] BEREC Report on Regulatory Accounting in Practice 2015, BoR(15) 143

Concerning asset valuation, 6 NRAs, out of the 24 which adopt CCA as cost base for LLU copper service, determine the Regulatory Asset Base of reusable civil infrastructures taking into account the depreciation already occurred, using information from the incumbent's regulatory asset base. Specifically, two NRAs use a renewal accounting method, two NRAs take a net replacement cost from the top down model of the incumbent and then adjust the remaining life time in accordance with point 36 of the recommendation. Two NRAs are adapting the BU-LRIC model to be compliant with the recommended asset valuation.

CHAPTER 5. INTERNATIONAL COMPARISON

This chapter identifies the choices within selected EU countries, relevant to inform ComReg on remedies in a geographical segmented market 3b based on the notifications of market decisions to the European Commission. The focus is on those elements of the current pricing regime that may be of particular interest for the European Commission in light of its Recommendation on consistent non-discrimination obligations and costing methodologies.

The main issue will be the methodology of cost accounting and cost model.

5.1 Cost accounting methods in the EU

According to BEREC[15], the cost base used in the Relevant Markets in 2015 was more CCA than HCA, although it is clear that HCA is still valid for a number of countries in market 3b, market 4 and WLR[16].

The same report shows that the "annualisation" methodology used in 2015 in market 3b is evenly spread between straight-line depreciation and tilted annuity.

As far as the allocation methodology is concerned, the LRIC/LRAIC methodology is mainly used in case of termination markets, where the pure LRIC is the main variant, instead FDC is the prevailing methodology for access Markets 3b and 4, the retail market (Market 1/2007) and for WLR.

With a view to the EC Recommendation, NRAs were asked about the treatment of fully depreciated assets. BEREC states the following:

"In general it can be said that in countries where the FDC methodology is in use, fully depreciated assets are generally excluded from the cost base, since their value has already been recovered through past depreciation or because there is no mechanism to control whether there are depreciated assets in use by the SMP operator. Alternatively, they have a zero value in the financial accounting system or are replaced by new assets using the estimated lifetime of the new asset."

5.2 Selected countries

We identified the EU countries that, in 2015 and apart from Ireland, use HCA as a cost base. These are Cyprus, Slovakia and Lithuania.

We also identified countries that are using geographical segmentation, or geographical differentiation of remedies (to an extent where certain areas are

[15] BEREC Report on Regulatory Accounting in Practice 2015, BoR (15) 143
[16] See Annex I for illustrations

deregulated) that could be relevant. These are France, Austria, Portugal, Slovenia, Czech Republic, and Lithuania.

Although the United Kingdom is well known for pioneering geographical segmentation and differentiation of remedies, we consider its example less relevant, given the fact that functional separation is in place.

For Portugal, also one of the pioneering countries in geographical market segmentation, the following holds: with regard to markets 3a and 3b, ANACOM decided to postpone the broadband market analysis of 2012 in view of the developments in the Portuguese market towards consolidation. ANACOM is consulting on these markets in 2016 and has not yet notified with the European Commission.

Slovenia and Slovakia did not have sufficient relevance due to the facts that their market analyses are less current and the methodology is either unclear or retail minus.

We will briefly discuss 5 notified cases. These cases are discussed more in depth in Annex II.

5.2.1 France Case FR/2016/1832 (market 3a) and Case FR/2016/1833 (market 3b)

These notifications were on the details of remedies differentiated according to areas in a national market.

On market 3a:
The relevant geographic market was defined as national. The price control for access to the copper local loops was based on "current economic costs" in order to i) take into account the fact that the physical lifetime of civil engineering is longer as compared to the level anticipated in 2005, ii) send a strong signal on the copper-to-fibre transition, and iii) limit the increase in LLU unit costs, which would otherwise penalise the last copper users.

On market 3b:
The geographic scope of the market was considered to be national although competitive conditions varied depending on the number of network operators who were in the position to offer a LLU-based bitstream. ARCEP identified a geographic area where only one operator was able to provide a bitstream offer and a second geographic area where several operators were able to provide such a product. ARCEP stressed that precise and stable boundaries between the two areas could not be distinguished since the number of unbundled MDFs may substantially change in the timeframe of the market analysis. ARCEP designated Orange as the undertaking holding SMP and imposed the following obligations: (i) provision of bitstream over its copper network (although not over fibre); (ii)

non-discrimination; (iii) cost-orientation (for those areas where Orange was the only wholesale supplier of DSL); (iv) cost accounting and accounting separation; and (v) transparency.

The European Commission commented as follows:
"Although current wholesale access prices are well within the price band foreseen *in the Recommendation on Non-Discrimination and Costing and therefore access prices are likely to remain broadly stable also following the review of the cost model, the Commission asks ARCEP to implement the new costing methodology within the planned time horizon and without further delay."*

Interim observation 1: Despite the fact that the wholesale prices are well within the price band of the Commission, it still insists on its new methodology to be in place within the planned time horizon. This implies that the Commission places a lot of emphasis on predictability and transparency.

The original decisions FR/2014/1602 (market 3a) and FR/2014/1604 elicited no comments from the European Commission.

5.2.2 Czech Republic Case CZ/2015/1753 (market 3a) and Case CZ/2015/1754 (market 3b)

The Commission commented on market 3a (national market, LLU regulated based on BU-LRIC+), specifically with regard to the treatment of civil engineering:

"The Commission insists that the economic characteristics of these assets (i.e. the underlying competitive process and the scope for replicability) ***can be significantly different****. The Commission, therefore, underlines that such a cost model runs the risk of not properly reflecting the distinct economic characteristics of the relevant assets."*

Interim observation 2: The Commission pays specific attention to the valuation of civil engineering assets, and will require an analysis on replicability.

With regard to market 3b (national market, no price control, both for copper and NGA, but for a margin squeeze test), the Commission commented as follows:

"The Commission notes, as at the time of the market analysis, that ***for certain geographic areas where cable and FTTx are not present, there might be the risk that the SMP operator will find it increasingly attractive to apply excessive prices, particularly for its higher speed products****, which are less*

constrained by Wi-Fi. In such cases, the current margin squeeze test alone may no longer be able to prevent excessive prices at wholesale level."

Interim observation 3: The Commission will be in favour of preventing excessive pricing in less competitive areas and will look for more than a margin squeeze test. This strengthens the case for stricter regulation in less competitive areas.

5.2.3 Lithuania Case LT/2015/1821 (market 3a) and Case LT/2016/1839 (market 3b)

The relevant geographic market was considered to be national. The price control obligation consists of a price cap calculated by means of a Fully Distributed Costs (FDC) cost model applying Historical Cost Accounting (HCA). RRT considered that it would be disproportionate at this stage to adopt a BU LRIC cost model using Current Cost Accounting (CCA), when (i) the transition from copper to NGA has already largely taken place in Lithuania; (ii) civil engineering assets, which are crucial for the deployment of alternative infrastructure, will not be replicated and should therefore not be valued at current costs; (iii) RRT considered that copper prices will remain stable over the next period of review.

In 2016 RRT notified its decision on market 3b including:
The relevant geographic market was considered to be national. The price control obligation consists of a price cap calculated by means of a Fully Distributed Costs (FDC) cost model applying Historical Cost Accounting (HCA). RRT considers that the FDC method would be more appropriate compared to a BU-LRIC cost model using Current Cost Accounting (CCA), since i) it assures the consistency between regulation of wholesale local access and wholesale central access services, ii) civil engineering assets, which are crucial for the deployment of alternative infrastructure, will not be replicated and should therefore not be valued at current costs; iii) the current method assures the stability of prices.

The European Commission expressed concern with the methodology in both markets:
"The Commission further calls on RRT to monitor during the next period of review the take up of the imposed wholesale remedies and thus verify whether they can benefit customers in areas where alternative operators are still not ready to roll out their own infrastructure, or where they are unable to do so. ***If access seekers will continue to disregard access products, including in areas where they are unlikely to roll out their own networks, then it will become necessary for RRT to further investigate whether any aspect of the design of the remedies is not fit for purpose and should be improved.*** *In this regard, conducting a joint analysis of markets 3a and 3b will be crucial, as the appropriateness and*

proportionality of remedies in the two markets is interdependent and will be conditioned by the results of the geographic survey."

Interim observation 4: The Commission sees reason to suggest additional investigation in case "access seekers are disregarding access products". This is a criterion without base in the Recommendation and we haven't seen it used in other notifications. However, the signal is that the design of remedies in these areas need to be "fit for purpose" without discouraging entry.

And:

"The Commission recalls the importance to achieve stability in the pricing of access in order to ensure that operators' investment plans can be carried out and can benefit end users as soon as possible. However, the Commission considers that the methodology chosen by RRT can compromise this stability in the long term. Indeed, in particular the choice of HCA for all assets in the cost model can potentially lead to very low access prices. A FDC HCA model is unlikely to send the appropriate build or buy signals, in particular when pricing access to legacy assets that may have been substantially depreciated, but which could be replicated in the competitive process, such as technical equipment or the transmission medium. The more common ***BU LRIC+*** *Current Cost Accounting (CCA) model used by other NRAs, in particular with the adjustments for non-replicable assets as recommended in the Commission Recommendation on Costing and Non-Discrimination, is likely to meet that objective."*

Interim observation 5: The Commission reiterates its point of view here. However, notably, it did not have comments a year earlier when the same implementation of price control was proposed on market 4, the market for wholesale high-quality access provided at a fixed location (Case LT/2015/1823).

5.2.4 Poland Case PL/2014/1632 (market 5, now 3b) and Case PL/2015/1780 (market 3b)

In its Notification in 2014, UKE introduced geographical segmentation. It proposed to deregulate in the competitive market, and, for the remaining territory of Poland, impose the obligation of cost orientation based on an LRIC+ methodology.

The European Commission had the following comments:
"In assessing the criteria on the basis of which the retail market relating to the 76 communal areas is considered competitive, ***UKE relies, however, largely on the availability of the LLU operator*** *in a given area, without a sufficient assessment*

of either its actual strength or the forward-looking economic viability of LLU (especially in view of the foreseen migration towards NGA, expected by UKE in the areas in question). Therefore, the Commission invites UKE to take more fully into account and consider for its final measure either only (physical) infrastructures not related to OPL (i.e. suppliers in the retail market that are not based on either LLU- or WBA-based access services purchased from OPL) ***or safeguarding that the LLU operators do actually exert, and can continue to exert in future, a significant competitive constraint as a "third" infrastructure-based provider at retail level."***

In its Notification in 2015, UKE described its cost methodology further:
The wholesale charges were first calculated on the basis of a bottom-up LRIC. The cost model values civil engineering assets at full replacement costs which is not fully in line with the principles of the Commission Recommendation. As a consequence of a negative margin in all instances UKE, in a second step, proceeded to calculate the wholesale charges on the basis of a "retail minus" methodology. Therefore following the results of the retail minus calculations UKE now proposes to approve the lower charge of either the retail minus, or the LRIC calculated charges.

The European Commission commented:
The Commission notes that the wholesale price calculation by means of a retail minus methodology is a consequence of the wholesale bitstream costs (as calculated by OPL on the basis of its LRIC model) leading to a price squeeze. ***The main differences concern the valuation of civil engineering infrastructure assets.*** *In this respect, it is likely that the application of the recommended cost model (including more recent cost data) would have resulted in lower wholesale costs, not causing the margin squeeze which triggered further wholesale price adjustments by means of a retail minus methodology.*

In that regard the Commission notes that the application of the recommended cost model should normally be sufficient to avoid wholesale prices which could lead to a margin squeeze and that any ***further adjustment below the calculated costs raises issues of compliance*** *with Article 13 of the Access Directive and the requirement that operators must be allowed a reasonable rate of return on capital employed.*

Interim observation 6: The main issue here is the correct valuation of civil engineering infrastructure assets. Since not all assets will be replaced, they should not be incorporated at full replacement value. The Commission prescribes its preferred methodology on the Regulatory Asset Base in its Recommendation.

5.2.5 Austria Case AT/2013/1476 and Case AT/2013/1475

In 2013, Austria notified decisions for market 4 and market 5 (now: market 3a and 3b). Both geographical markets were considered national. The price control for market 4 is based on a FL-LRAIC model in combination with a margin squeeze test. Market 5 is subjected to a retail-minus price control.

The European Commission issued a serious doubt letter, having, inter alia, the most trouble with the model proposed in market 4, and with the methodology proposed in market 5. On the model:

"Moreover, in case a cost model which took account of, for example, the replicability of assets and a shift to a NGA-network would still result in a price level which risks squeezing access seekers out of the market, the Commission invited RTR to consider whether the competitive situation in certain geographic areas may provide sufficient competitive safeguards, stemming from, in particular, mobile and cable networks, to prevent the SMP operator from setting excessively high wholesale prices. In such scenarios, price control may not be the appropriate remedy and the Commission invited RTR to consider an alternative regulatory approach."

And on the methodology:
The Commission commented that, in principle, regulation of wholesale access prices should be consistent across the value chain. A scenario where RTR would be applying a margin squeeze test, which potentially results in relatively low prices in market 5 while at the same time setting cost-oriented prices in market 4, would therefore not ensure consistency and may be detrimental to promoting investment by alternative operators.

Interim observation 7: The Commission has concerns about the combination of a margin squeeze test (only) in the WBA market when the WPNIA market is regulated via cost orientation. This seems to be similar to the concerns the Commission expressed with D11/14 and seems to strengthen the case for WBA Price Floors.

Despite a BEREC opinion that was supportive of the Austria decision, the Commission decided to issue a formal Recommendation. In summary, the Commission advises deregulation of residential markets, and price control in the form of cost orientation for non-residential markets, unless the Austrian NRA analyses the possibilities of geographical segmentation of markets or differentiation of remedies. The Commission believes this prevents margin squeeze and also ensures consistency between market 4 and 5.

CHAPTER 6. ANALYSIS OF CHOICES

6.1 Introduction

As indicated in Chapter 1, the objective of this report is to revisit the relevant choices made in Decision D11/14 in order to assess if they are still applicable or need revisiting in the light of the new Market Review, the EC Recommendation on non-discrimination and costing methodologies and European practices. This chapter provides the analysis of changes stemming from those sources. In particular, the outcome of the Market Review, the resulting obligations, the methodology, other issues and the instruments will be assessed.

A National Regulatory Authority has a palette of remedies to impose, so it can ensure prevention of anti-competitive behaviour. This report will only concentrate on remedying competition problems that have to do with pricing.

6.2 Competitive landscape

The recent Market Review is presenting a growth in competitiveness in certain larger exchange areas, mostly in parts of the former LEA, but also in certain areas that were part of the area called Outside the LEA.

This warrants the conclusion that there is no longer one national market, but the market can be split into two sub-markets (Urban WCA Market and Regional WCA Market). Given the prospective varying competitive conditions in the Regional WCA Market between more urban related exchanges and rural exchanges there is a case for differentiation of the price control remedy into Regional Area 1 and Regional Area 2.

ComReg's objectives, in line with Section 12 of the Communications Regulations Act, are to promote competition, to contribute to the development of the internal market and to promote the interests of users within the community. More specifically, ComReg also has the objective to encourage efficient investment in infrastructure and promote innovation, as well as to encourage access to the internet at a reasonable cost to end-users.

The two Regional WCA sub-markets and the Urban WCA Market areas show different characteristics as far as potential competition problems are concerned and therefore warrant different regulatory treatment. It is ComReg's view that the underlying ability and incentives for Eircom to potentially engage in anti-competitive behaviour absent regulation is due to a lack of effective competition in certain geographic areas of the WCA market, coupled with Eircom's position as a vertically integrated supplier competing with its wholesale customers in downstream markets.

The types of competition problems that are of concern to ComReg are:

1. Exploitative Practices such as excessive pricing, inefficiency/inertia in maintenance and investment, all to the detriment of wholesale access seekers and ultimately, consumers;
2. Leveraging of Market Power into adjacent vertically or horizontally related markets with a view to foreclosing or excluding competitors in downstream and/or upstream markets;
3. Exclusionary Practices such as withholding or dealing investment and market entry into the WCA Market in order to foreclose the market or substantially lessen competition.

In the Urban WCA Market no SMP has been found and effective competition has been concluded. Therefore, no ex-ante regulation is warranted. In view of the interaction between markets 3a and 3b in general, however, a safeguard against wholesale margin squeeze should extend to this Urban WCA Market, based on the outcome of the Review of market 3a, to ensure SMP found in market 3a is not leveraged into market 3b.

In the Regional WCA Market (Regional Area 1 and Regional Area 2), SMP has been found. In Regional Area 1 some competitive pressures have emerged. On the retail side, the SMP operator is to some extent constrained by competitive offerings of cable operators and other alternative providers (through NGA and VUA/LLU). The main objective in this zone is to incentivize the growing competition to the benefit of end-users and prevent margin squeeze.

In regional Area 2, the competitive landscape has not changed significantly since the last market review. This situation is also not expected to change in the relevant regulatory timeframe. Therefore, the landscape here is very similar to a monopolistic situation in which there is a necessity to both prevent consumer harm through excessive pricing as well as prevent foreclosure or barring any market entry through margin squeeze/strategic price positioning.

6.3 Obligations

Decision D11/14 includes four main obligations with regard to preventing anti-competitive pricing behaviour by the SMP operator. These are:

1. A National Cost orientation obligation;
2. An additional cost orientation obligation Outside the LEA;
3. Retail margin squeeze tests for both the LEA and Outside the LEA;
4. WBA Price Floors.

These need to be reviewed in view of the different market delineation and the assessment of the competitive landscape.

6.3.1 National Cost orientation obligation

As a result of the outcome of the Market Review, the Urban WCA Market has been found to be effectively competitive. Therefore a national cost orientation is no longer warranted. Both the incumbent Eircom and other alternative operators should have the flexibility to allocate their costs and determine their own business models while competing for end-users. All providers will also have to operate within the boundaries of ex-post Competition Law.

Removal of this obligation on Eircom will open the door for Eircom to de-average both wholesale and retail prices from a national point of view. This can be beneficial for both end-users and access-seekers in certain geographical areas, but there is also a concern for an emergence of a digital divide between consumers in competitive and less competitive zones. Another risk could be that Eircom uses revenues from less competitive areas to cross-subsidise its activities in the Urban WCA Market. However, that would have to entail excessive retail- and/or wholesale prices in the Regional WCA Market behaviour that can be remedied in those zones.

It follows that a continuation of the existing cost orientation obligation is necessary only in the Regional WCA Market, This is to ensure that Eircom is recovering no more than its actually-incurred costs, adjusted for efficiency plus a reasonable rate of return, associated with the provision of bitstream services in those areas. This obligation should apply to all types of current generation bitstream services that are considered part of market 3b.

It could be argued that a cost orientation obligation as such should only apply to regional Area 2, since there is at least some competitive pressure in regional Area 1. However, in view of the recent experience with the regime of D11/14, and the fact that this has encouraged competition in regional Area 1 to grow somewhat, we are of the opinion that it is too early in the development of this area to lift the cost orientation obligation. In effect, given the development of effective competition in the Urban WCA Market, a cost orientation obligation imposed across the whole Regional WCA Market is the equivalent to the national obligation of D11/14. Keeping the obligation for the Regional WCA Market preserves the competition where it is, and allows for efficient entry.
This remedy addresses concerns of excessive pricing and cross-subsidization to the benefit of the competitive market.

6.3.2 Additional cost orientation obligation in regional Area 2

Regional Area 2, which is similar to the former Outside the LEA zone of D11/14, has not changed in competitive outlook. Therefore, we recommend keeping the additional cost orientation obligation in order to prevent excessive pricing and

safeguard against consumer harm. This will ensure stable prices, while at the same time allowing Eircom to recover its actual costs.

6.3.3 Margin Squeeze Tests, Retail and Wholesale

As discussed in Chapter 4, the European Commission considers an ex-ante economic replicability test one of the cornerstones of a modern regulatory package that takes into account a moving landscape from legacy to Next Generation networks/services. Margin Squeeze Tests are considered effective tools in this regard.

Within Market 3b, for the Urban WCA Market, no SMP has been found to exist and therefore no ex-ante retail margin squeeze test is necessary as a consequence of the market review findings relating to this market. However, a retail margin squeeze test may be needed as a consequence of the review findings on Market 3a.

For the Regional WCA Market there are risks of respectively substantial lessening of competition and/or market foreclosure, both of which would cause consumer harm. In Regional Area 1, there is a concern that the incumbent has the opportunity and incentive to cause margin squeeze on the upcoming competition as well as the possibility of excessive pricing causing consumer harm. In Regional Area 2, there is a concern that the incumbent has the opportunity and incentive to squeeze very small competitors or potential competitors (risk of preventive foreclosure) as well as the possibility of excessive pricing causing consumer harm.
Therefore we recommend maintaining retail margin squeeze tests for these zones.

Additionally, we would recommend maintaining the wholesale margin squeeze test between market 3a and market 3b services in order to prevent the foreclosure of market 3a services, both in legacy and in NGA services.

6.3.4 WBA Price Floors

The WBA Price Floors Decision, maintained in D11/14, is still relevant, since it aims at minimising the risk of a margin squeeze between the markets 3a and 3b. Especially for Current Generation Bitstream products (for which copper LLU is an input), it is important to retain economic space in order to encourage investment in LLU where feasible. More importantly, investment in alternatives should not be discouraged. This may also include migration from CGA Bitstream to NGA Bitstream, as well as investments in own NGA infrastructure by alternative operators.

Based on the outcome of the Market Review of Market 3a, the price floor can apply to the same geographical area of that Market, i.e. national.

For Market 3b, especially in Regional Area 1, this obligation needs to remain in place to prevent predatory pricing and/or price squeeze by the incumbent. Depending on the speed with which the NBP leads to actual deployment, this obligation will be as relevant to these future investments in Regional Area 2.

In order for these price floors to interact properly – i.e. send the right build-or-buy signals – with more forward looking investments, the model needs to reflect the relationship of WBA services with LLU and NGA services.

Since the EC advocates taking into account decreasing copper volumes in a model that incorporates both CGA and NGA products, ComReg may want to model these on a national basis.

6.3.5 Summary of proposed obligations

In conclusion, the following approach is proposed:

Decision D11/14	Proposed approach
National Cost orientation obligation	Cost orientation obligation imposed in the Regional WCA Market
Additional cost orientation obligation Outside the LEA	Additional cost orientation obligation in Regional Area 2
Retail and wholesale margin squeeze tests for Inside LEA and Outside LEA	• Urban WCA Market: wholesale margin squeeze test between market 3a and market 3b; no retail margin squeeze tests (unless required as a remedy in market 3a) • Regional WCA Market: maintain wholesale and retail margin squeeze tests.
WBA price floors	Maintain WBA price floors for the Regional WCA Market

6.4 Methodology

D11/14 aimed at setting a future proof regulatory methodology. In this paragraph we review the main choices. These include:

1. Cost Methodology
2. Cost Allocation
3. Hybrid cost model
4. Depreciation method
5. Principles of the Margin Squeeze Tests
6. Cost Standard

6.4.1 Cost Methodology

In D11/14, ComReg made the explicit choice for Historic Cost Accounting as to the non-access network costs of the bitstream services. The main reason is directly derived from the non-competitive situation Outside the LEA. The arguments were as follows:

> "An important consideration for ComReg then is how best to balance a desire for affordable pricing for broadband Outside the LEA (thereby increasing demand) with the objective of encouraging roll out of broadband while at the same time preventing excessive pricing. Again it seems to us that commercial operators may be best placed to evaluate these trade-offs, that is whether they should invest in LLU or whether they should buy Eircom's Bitstream service. "[17]

The main concern in the least competitive area (now Regional Area 2) is the ability of Eircom to charge excessive prices for both end-users and (potential) access seekers, thereby harming consumers both short- and longer term. Those consumers have no choice (except forgoing broadband services altogether) but to pay the retail price Eircom sets or influences through the level of wholesale price. If Eircom sets high wholesale prices for WBA, (potential) access seekers would be prevented from entering the market. Although these access seekers could potentially deliver services via LLU, this is likely to be a less efficient approach than WBA in remote areas and would only be considered by entrants because Eircom is over-recovering its actual costs for WBA. Such over-recovery is not the right build-or-buy signal for efficient and structural market entry and would in the longer term also harm consumers.

ComReg balanced its concerns by prescribing actual cost recovery based on historical costs, adjusted for efficiency and including a reasonable rate of return. In this way, Eircom recovers its actual costs (of maintenance and replacement) but is not allowed to 'sweat its assets' to the detriment of consumers. At the same time, the Price Floor would ensure that efficient entry is still possible and the market is not foreclosed. It should be noted that the Price Floor is calculated on a BU-LRAIC+ basis, therefore forward-looking and providing the right build-or-buy signal.

For Regional Area 2, where no new investments have taken place, not even (as yet) under the umbrella of the NBP, we consider it timely to streamline methodology, and we recommend using the same methodology for both areas of the Regional WCA Market. The objective of ensuring consumer access to broadband services at an affordable price is still the most important objective in

[17] Paragraph 2.19 of the Consultation on Wholesale Bitstream Price Control (ComReg 13/90)

Regional Area 2. However, it is equally necessary that the WBA Price Floor remains in place as well – to ensure that any efficient entry is not blocked.

For Regional Area 1, where some competition is developing and there is the potential of further competition, the concern for excessive pricing is perhaps less relevant but still existing. Here, however, the primary regulatory objective is to incentivise investments beyond WBA, towards LLU and/or NGA services. These investments can be safeguarded in the form of the margin squeeze test. In these circumstances it is timely to move towards the Modern Equivalent Asset approach (BU-LRAIC+)[18]. This would provide for the right build-or-buy incentives to allow existing competition to grow, including a potential move to NGA services, and/or other alternative operators to enter this market.

In our opinion, the use of BU-LRAIC+ is warranted due to the balance of cost recovery for the SMP operator (so including the average incremental cost and a mark-up for common cost) and the forward-looking quality, which allows for efficient entry and preservation of existing competition.

In view of the recommendation of the European Commission to move towards one model dealing with legacy and NGA services alike, together with a trend for NRAs towards forward looking cost modelling, we would recommend building such a BU-LRAIC+ model now. Since some common costs will be shared for current generation bitstream services and NGA services, the BU-LRAIC+ model should take these into account and allocate accordingly.

In summary we propose that ComReg:

- Transitions from the current HCA model to the BU-LRAIC+ model, either in one step if the differences are minor or, through a glide path. (The European Commission allows for glide paths in cases where there are concerns about price shocks.)

6.4.2 Cost Allocation

In D11/14, ComReg decided to use Fully Allocated Cost, based on the argument that it is consistent with actual cost incurred and recorded in the SMP operator's books. This argument could still be regarded as relevant, especially for Regional Area 2 where the main objective is to ensure that Eircom recovers no more than its historically incurred costs (efficient build-buy price signals being less important in this zone). However, and again especially in Regional Area 2 where there is no or less incentive for efficiency, inefficiently incurred costs need to be excluded.

[18] The main point here is to become consistent with forward-looking models in use, i.e. the models used for LLU (which is an input – the argument is to have a consistent 'ladder of investment' methodology), but preferably also NGA models.

Another argument for retaining the FAC approach would be that it would ensure regulatory predictability for operators and consumers, so long as adjustments continue to be made so as to exclude inefficiently incurred costs.

However, the BU-LRAIC+ approach is unlikely materially to change outcomes, so long as adjustments are made for passive infrastructure costs to ensure that Eircom does not over-recover its actually incurred costs.

The choice is, then, between FAC adjusted for efficiency or BU-LRAIC+ adjusted for passive infrastructure. International practice shows both allocation methods are still in use. Both are reasonable; either is possible. In Regional Area 1, efficiency is the key to regulated pricing so the BU-LRAIC+ approach is preferable. In Regional Area 2, the reverse situation applies. Overall, we consider that BU-LRAIC+ is the preferred option, because it will be future proof, take utmost account of the European Commission Recommendation and promote overall consistency.

6.4.3 Cost Model

In D11/14, ComReg chose to use a hybrid model, using elements of Top Down modelling with Bottom Up adjustments. Specifically, the hybrid model is based on Top Down data from Eircom's accounts, but it incorporates network dimensioning and engineering rules and assumptions in order to apportion the costs in the model.

This approach prevents Eircom being rewarded for investments that do not take place, especially Outside the LEA, while it still gives incentives to Eircom to actually invest in those areas. As long as Eircom can objectively justify the actual cost invested (adjusted for efficiency), any further investment can be recovered.

The argument for this model could maintain some validity with regard to Regional Area 2 (which corresponds closely with the former "Outside the LEA" category), since the competitive situation has not changed. However, the circumstances in the Urban WCA Market and Regional Area 1 are different, as there is competition in the Urban WCA Market and at least upcoming competition in Regional Area 2 through CGA (LLU) and NGA (VUA) products.

The primary use of Top Down modelling necessitates a national model, which means that various adjustments will be needed to meet ComReg's requirements within the Regional Areas. For Regional Area 1 the adjustments would be towards the BU-LRAIC+ approach, while for Regional Area 2 the TD/FAC would be calculated. This is likely to be difficult, both in disaggregating the input data and in making the modelling adjustments within zones A and B.

The alternative and recommended approach, as described previously, is to transition to a BU-LRAIC+ model, for both Regional Areas. Such a model would

fully meet the needs of price regulation in Regional Area 1, and can relatively easily be adjusted to meet any different needs in Regional Area 2. The model should preferably include both Current Generation services and Next Generation services. This would balance the different competitive situations in the whole country creating a future-proof model that sends the right build-or-buy signals while preserving the right objectives for the least competitive area.
As a fall back option, since Regional Area 1 and Regional Area 2 are similar to the former LEA/Outside the LEA, it may be possible to adjust the current model to incorporate both areas and apply the model in a similar way as formerly applied to the LEA/Outside the LEA application. However, considering the concerns voiced by the European Commission in 2014, we do not recommend this option.

It is, of course, not unheard of to use separate models for services that are in different markets, but we haven't come across geographical model separation – i.e. using different models in different areas but for the same service. We consider this cumbersome, non-transparent and likely open to much discussion.

6.4.4 Depreciation method

Since ComReg has been using HCA, it has used straight line or linear depreciation to date. Linear depreciation is most commonly used where demand is stable and the main concern is cost recovery. Such a situation applies in Regional Area 2, but is less true for Regional Area 1.

Straight line depreciation is also not uncommon with CCA, however in Bottom-up models the use of an annuity is more common so as to ensure that the same capital charge is taken each year. If asset prices are changing significantly the annuity may also be tilted to reflect the annual price trend.

Given the complementarity of products in markets 3a and 3b it makes sense to use the same depreciation method in both markets.

Another issue here is the treatment of fully depreciated assets in the regulatory asset base. In Regional Area 2, where there is no prospect of competition and the main regulatory concern is excessive pricing, account should be taken of historic depreciation of assets to ensure Eircom does not over-recover its costs. This largely relates to passive infrastructure.

6.4.5 Principles of the Margin Squeeze Test

In D11/14, ComReg made the following main choices:

- For the test inside the LEA: a model using a combination of the Similarly Efficient Operator model and the Equally Efficient Operator (EEO) model, whereby the EEO principle is applicable for marketing/billing/product management cost.

- For the test Outside the LEA: a model based on the Similarly Efficient Operator
- The test in the LEA is on a portfolio basis
- The test outside the LEA is on a product-by-product basis
- For the SEO cost base, 25% market share is chosen as an operator volume base
- The instrument used is a DCF Model

The arguments behind these choices reflected the different competition landscapes in the LEA and Outside the LEA. Inside the LEA, the EEO/SEO principle was validated by the fact that the retail competitors to Eircom are multinationals that would have similar scale and scope overall (and provide a lot of bundles). The portfolio approach aimed at providing the SMP operator with some flexibility in pricing individual services in a more competitive environment. Outside of the LEA, the SEO principle was seen as more appropriate since it took into account that only a number of small operators were active. Nevertheless, the threshold of market share was set at 25% to avoid inefficient entry. The product-by-product approach reflects the competitive landscape as well and aims at preventing foreclosure and/or obstruction of new entry.

The use of a DCF Model is consistent with the margin squeeze tests developed for NGA services. It is forward-looking.

With regard to the outcomes of the new Market Review, the main change is the change in competitive areas.

The Urban WCA Market is effectively competitive and will be deregulated. In Regional Area 1 there is the presence of an alternative operator but without ex-ante regulation there is still scope for anti-competitive behaviour by the SMP operator. Therefore, it is imperative to retain a margin squeeze test to prevent the substantial lessening of competition and/or foreclosure. This margin squeeze test can have the characteristics of the test that was used in the LEA as the same arguments apply. In view of emerging competition, the arguments for the portfolio approach are still valid and the SMP operator can be allowed some flexibility.

Regional Area 2 has the same characteristics in terms of competition as the former Outside the LEA area. Therefore, the applicable margin squeeze test needs to be the test that has been used Outside the LEA. There is still a real concern for this market to be foreclosed by preventing any entry to small operators.

As to the product-by-product test, there is the question of the direction that the market for current generation bitstream services will take. In some countries, there has been a visible decline in demand for bitstream, as alternative operators

move to other solutions. However, we understand that in the Irish market, the demand for bitstream services is relatively stable and this is not expected to change until the NBP has become operational, which is not expected to occur within the regulatory period.

An alternative for the product-by-product test, in case there is a slowing of demand and visible migration to other alternatives (e.g. VUA) could be the following a key-product-by-key-product test. This would align with the concept of "copper anchors" as proposed by the European Commission. This approach would focus on the necessary key products and make sure there is no price squeeze.

However, especially considering the fact that the bitstream market in this zone is not in substantial decline, there is a real possibility of the SMP operator introducing new services that would be outside of the margin squeeze test. Therefore, such a test needs to be complemented by an obligation for Eircom to put new intended offerings to ComReg for an assessment whether to include this offering in its margin squeeze test, and then, subsequently test it for anti-competitive properties. An ex-ante product-by-product test would avoid any after-testing.

6.4.6 Cost Standard

In D11/14, ComReg chose the Average Total Cost as the appropriate Cost standard. This standard aligns with the actual (expected) cost and is in line with the DCF Model and the Margin Squeeze Test for NGA.

As to the retail cost of the retail Margin Squeeze Test, ATC is still valid. As we recommended changing the cost methodology for the wholesale cost to BU-LRAIC+, we recommend therefore using Long Run Average Incremental Cost as the Cost Standard for the wholesale cost.

6.4.7 Summary of Methodology

In conclusion, the following methodology is proposed:

Areas of Methodology	Proposed approach
Cost accounting	BU-LRAIC+
Cost allocation	BU-LRAIC+
Cost model	BU-LRAIC+ for both Areas of the Regional WCA Market
Depreciation method	(Tilted) Annuity
Principles of the margin squeeze test	Maintain
Cost standard	LRAIC+

CHAPTER 7. RESULTS OF ANALYSIS AND RECOMMENDATIONS

This Chapter presents the conclusion of the analysis of revisiting the main decision points of Decision D11/14 and concludes with our recommendations. This can be summarized as follows:

TABLE 1. Summary of Decision Points and Recommendations

DECISION D11/14	OBJECTIVE/RESULT	REVISIT RESULT
Market review		
1. National market	Changes in geographical development not stable enough; Differentiation of pricing remedies in LEA and Outside LEA	Outcome new market review: two markets. One market known as the Urban WCA Market is effectively competitive, One market known as the Regional WCA Market
2. Delineation of LEA and Outside LEA	Different competitive circumstances; Differentiation of remedies	Delineation of Urban WCA Market (no regulation) and Regional WCA Market within which Regional Area 1 and Regional Area 2 (differentiated pricing remedies)
3. Main Competition problems	LEA: squeeze; Outside LEA excessive pricing	Regional Area 1: squeeze/excessive pricing; Regional Area 2: excessive pricing/preventive foreclosure
Obligations		
4. National cost orientation obligation	Better prevention of excessive pricing than retail minus; Safeguard against consumer harm	General cost orientation obligation in Regional WCA Market to ensure cost orientated prices; alleviates risk of excessive pricing, preserve competition and allow for efficient entry
5. Additional cost orientation obligation Outside LEA	Extra safeguard against excessive pricing in limited competitive area; Safeguard against consumer harm	Extra safeguard against excessive pricing in Regional Area 2, a limited competitive area; Safeguard against consumer harm

DECISION D11/14	OBJECTIVE/RESULT	REVISIT RESULT
6. Retail Margin Squeeze Tests for both LEA and Outside Lea	Safeguard against foreclosure or substantial lessening of competition in both areas – preserves incentives for entry Outside LEA; Safeguard against consumer harm	Safeguard against foreclosure or substantial lessening of competition in both areas of Regional WCA Market – preserves incentives for entry in Regional Area 2; Safeguard against consumer harm
7. WBA Price Floors	Margin squeeze prevention between WPNIA and WBA services to keep incentives to invest in LLU or other infrastructure; Prevent anti-competitive pricing, price dumping and foreclosure	Keep margin squeeze test between market 3a and 3b nationally (based on market 3a remedy) to preserve competition, keep investment incentives in LLU, NGA and other infrastructure and prevent foreclosure; keep these wholesale margin squeeze tests in the Regional WCA Market.
Methodology		
8. Historic Cost Accounting adjusted for efficiency + WACC	Ensure cost recovery of actual investments; no risk of sweating assets (Outside LEA) without actual investment; Practical: in line with incumbents books N.B. BU-LRAIC+ for access network services	It is timely to go totally forward looking and BU-LRAIC+ to have a streamlined regulatory regime for both CGA and NGA services; enhanced transparency, consistency and predictability for the future.
9. Fully allocated Cost	Cost recovery for incumbent preserves investment incentives; Signal: consistent with recorded investments and the principle of causality	BU-LRAIC+ with attention to depreciated legacy assets that are non-reusable.
10. Hybrid cost model	Based on Top Down Data and Eir dimensioning with adjustments; Prevents recovery of cost not made (OLEA investments)	One cost model promotes transparency and is future proof (in line with the NGA models). Also in line with the EC Recommendation.

DECISION D11/14	OBJECTIVE/RESULT	REVISIT RESULT
11. Retail margin squeeze test LEA SEO/EEO	EEO for marketing/billing/product management cost since multinational competitors have similar scale/scope overall (bundles)- SEO for other cost; Consistent with NGA MST	Maintain principles of the current Retail margin squeeze test in both areas of the Regional WCA Market but keep consistency with the NGA MST.
12. Retail margin squeeze test Outside LEA SEO	Appropriate for marginally competitive area, where only a number of small operators are active	Maintain principles of the current Retail margin squeeze test in both areas of the Regional WCA Market but keep consistency with the NGA MST.
13. Retail margin squeeze test LEA – portfolio analysis	Allows incumbent some flexibility in pricing individual services in a more competitive environment; Competitors are in a position to replicate, being multinationals	Applicable for Regional Area 1.
14. Retail margin squeeze test Outside LEA – product-by-product analysis	In the absence of competition, aims to prevent foreclosure/obstruction of new entry	Applicable for Regional Area 2.
15. For SEO cost-base, 25% market share as operator volume base	Avoids inefficient entry	Consistency with NGN services required.
16. Cost standard Average Total Cost	No real concerns about future exclusions/exit; align with actual (expected) cost; In line with DCF Model and MST for NGA	Arguments (balance between cost recovery and preventing over recovery + consistency with other models) apply and therefore LRAIC+ is recommended for wholesale cost. For retail cost, ATC is valid.
Other issues		
17. Promotions	Within margin squeeze tests	Still applicable for Regional WCA Market. Urban WCA

DECISION D11/14	OBJECTIVE/RESULT	REVISIT RESULT
		Market is subject to ex-post regulation in the event of anti-competitive behavior by any operator.
Instruments		
Bitstream Cost Model	Prevents under/over recovery of cost	We advocate a single model for CGA and NGA services over all zones to promote consistency and to incorporate in a logical manner the build-or-buy signals that are appropriate for a moving landscape from legacy based copper services to NGA services.
DCF Model for margin squeeze tests	Determines appropriate margin by looking forward; adjustments for scale and scope to reflect new entrant	
WBA Price Floors Model	Stimulate alternative operator investment – signal: build/buy; Updates with a view to broadband usage/throughput rate. Key elements: per port charges and bandwidth levels	

The outcomes of the new market review (competitive landscape) are described in Chapter 6.

Cost orientation

The national cost orientation obligation is no longer relevant, considering that the Urban WCA Market is to be deregulated. We recommend a general cost orientation obligation for the Regional WCA Market with a view to ensure cost recovery of no more than actual incurred costs in both zones. Preventing excessive pricing, enabling the emerging competition in Regional Area 1, preventing excessive pricing and preserving efficient entry incentives in Regional Area 2 are the main objectives here.

We recommend imposing an additional cost orientation obligation in Regional Area 2 to prevent excessive pricing and to safeguard against consumer harm. As long as Eircom is allowed to recover its (forward looking) cost, incentives for efficient entry (albeit maybe with assistance from the NBP) are not impeded.

Competitive safeguards

We recommend maintaining retail margin squeeze tests in Regional Area 1 and Regional Area 2 to support the main objectives for these zones. Additionally we recommend maintaining the wholesale margin squeeze test between market 3a and market 3b services on a national basis. The main objective of the latter is to prevent foreclosure of market 3a services (both CGA and NGA). This means keeping the WBA Price floors and modeling nationwide.

As to the principles of the margin squeeze tests, we recommended maintaining the existing approach. For the retail margin squeeze test in Regional Area 1, the test used for the LEA is appropriate since its main objective is the same. For the retail margin squeeze test in Regional Area 2, the test used for Outside the LEA is appropriate.

Methodology

We recommend moving from a TD/FAC model based on HCA to a Modern Equivalent Asset approach in the form of a BU-LRAIC+ model based on CCA. TD information can still be used in these models, as well as (efficient) cost allocation. The main point of attention would be the fully/partially depreciated legacy assets that will not be replaced within the so-called Regulatory Asset Base. The depreciation on these assets should be excluded to avoid double cost recovery.

We also recommend such a model to include both CGA and NGA services (single model approach). ComReg already has important parts of such a model (NGA, DCF model, WBA Price Floor model), which could make an integrated effort proportionate.

This methodology would be in line with the EC Recommendation, the trend in Europe, as well as sending the right build-or-buy signals in a moving landscape from CGA to NGA.

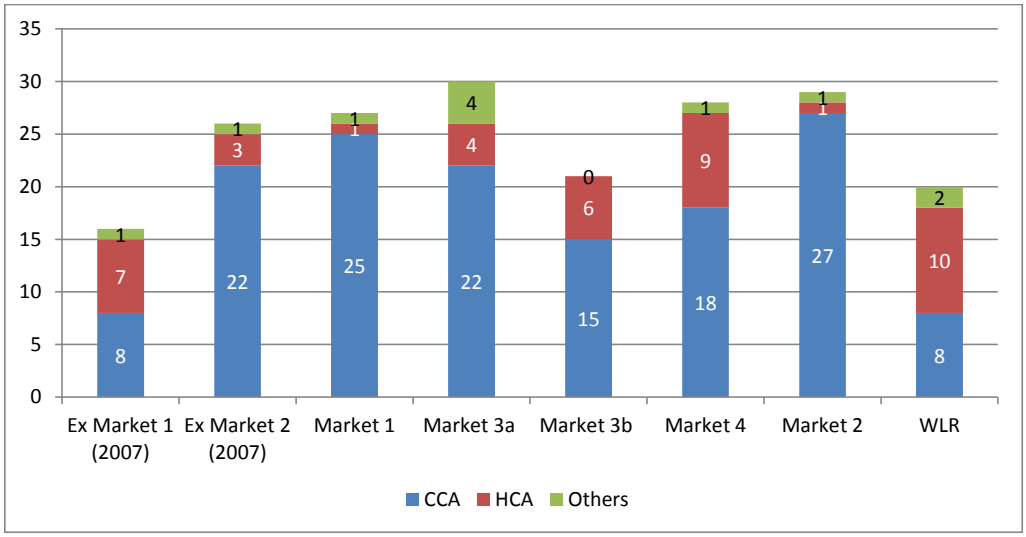
If outcomes of such a model still result in problematic price increases in Regional Area 2, it is important to further investigate the causes, since we do not expect more overrecovery to be possible under our recommended approach. However, as an alternative, ComReg could also choose a glide path approach to adapt prices to moving actual circumstances. This is not contrary to the EC Recommendation.

We recommend using the Tilted Annuity depreciation method and the BU-LRAIC+ cost methodology. We believe that in view of the market circumstances in the Regional WCA market this is in line with the objective of predictability and maintenance of stable copper prices.

ANNEX I BEREC REPORT ON REGULATORY ACCOUNTING PRACTICE 2015

Figure B. Cost base BEREC Report 2015

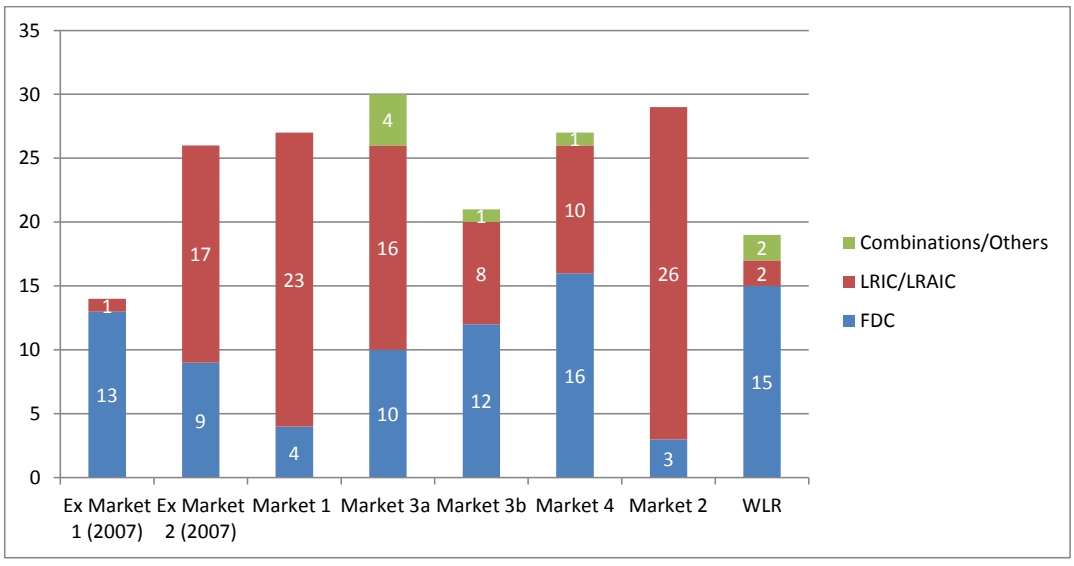
Figure 2 – Cost base used in 2015 in the Markets listed in Recommendation 2014/710/EU, in Market 1 and 2/2007 and for the WLR service



Source: BEREC RA database 2015

Figure C. Allocation methodology BEREC Report 2015

Figure 4 – Allocation methodology used in 2015 in the Markets listed in Recommendation 2014/710/EU, in Market 1 and 2/2007 and for the WLR service

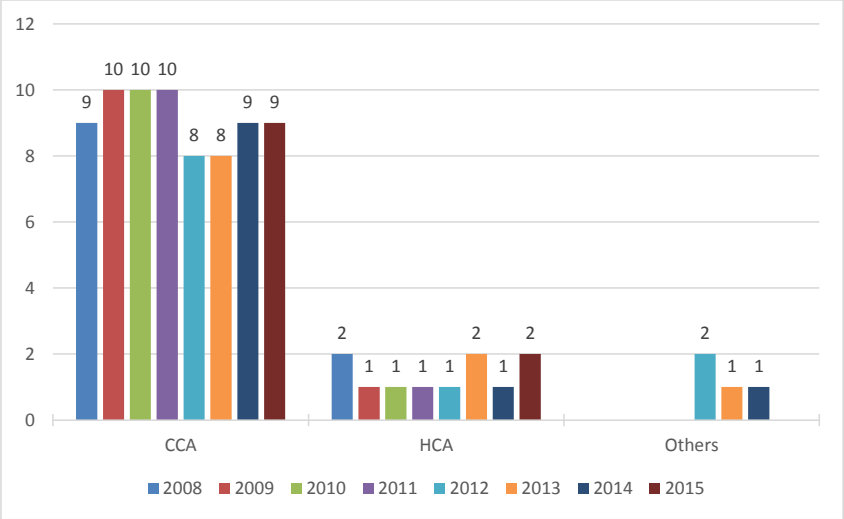


Source: BEREC RA database 2015

BEREC includes a trend analysis for the cost base used in Market 3b since 2008, however this only includes 11 countries. We will zoom in on countries further in this chapter. The trend overview is shown in Figure X.

Figure D. Cost base trend market 3b BEREC Report 2015

Figure 17 – Cost Base for Wholesale central access (Mkt 3b)



Source: BEREC RA database 2015
Number of countries: 11

BEREC concludes that this market shows a similar trend to Market 3a (especially LLU). The market is characterized by the prevailing use of network elements subject to rapid technological change, whose asset value in real terms can be expected to decrease over time using a CCA cost base. BEREC does observe that one NRA moved from HCA to CCA and back to HCA.

The trend analysis on the allocation methodology in Market 3b shows the even spread between FDC and LRIC although there is a slight increase in the use of LRIC.

As far as the combination of cost base and allocation methodology is concerned, BEREC finds the following in 2015 in comparison to the two previous years:

"Market 3b 2014-Market 5/2007:
In 2015 the combination CCA/LR(A)IC is applied by 28 per cent of respondents (32 per cent in 2014 and 20 per cent in 2013), HCA/FDC by 20 per cent (25 per cent in 2014 and 24 per cent in 2013) and CCA/FDC by 32 per cent (29 per cent in 2014 and 12 per cent in 2013). The market is not regulated in 6 countries. "

BEREC also attempted to find out the main motivation behind the choice of the costing methodology. Although this attempt is not too structured, BEREC makes a number of interesting observations:

"For Market 3b the promotion of "strict cost orientation" is also associated with avoiding excessive wholesale price and margin squeeze.59 Moreover when "avoid margin squeeze" is the main motivation also promoting competition and investment are mentioned. When "other" is indicated as a main motivation in this market, the rationale is also to follow the EC Recommendation."

"On the basis of respondent's answers a strict cost orientation as an objective covers all three combinations of cost base and accounting methodology used by most NRAs (CCA and LR(A)IC, CCA/FDC, HCA/FDC). Generally, it seems that there were multiple ways to achieve a certain regulatory objective."

ANNEX II INTERNATIONAL COMPARISON SELECTED COUNTRIES

1. France Case FR/2016/1832 (market 3a) and Case FR/2016/1833 (market 3b)

These notifications were on the details of remedies differentiated according to areas in a national market.

On market 3a:
The relevant geographic market was defined as national. The price control for access to the copper local loops was based on "current economic costs" in order to i) take into account the fact that the physical lifetime of civil engineering is longer as compared to the level anticipated in 2005, ii) send a strong signal on the copper-to-fibre transition, and iii) limit the increase in LLU unit costs, which would otherwise penalise the last copper users.

On market 3b:
The geographic scope of the market was considered to be national although competitive conditions varied depending on the number of network operators who were in the position to offer a LLU-based bitstream. ARCEP identified a geographic area where only one operator was able to provide a bitstream offer and a second geographic area where several operators were able to provide such a product. ARCEP stressed that precise and stable boundaries between the two areas could not be distinguished since the number of unbundled MDFs may substantially change in the timeframe of the market analysis. ARCEP designated Orange as the undertaking holding SMP and imposed the following obligations: (i) provision of bitstream over its copper network (although not over fibre); (ii) non-discrimination; (iii) cost-orientation (for those areas where Orange was the only wholesale supplier of DSL); (iv) cost accounting and accounting separation; and (v) transparency.

ARCEP proposed to set at the beginning of 2016 price caps for the provision of a number of wholesale services for both 2016 and 2017. The notifications therefore only concerned a modification of the timeline of the revision of regulated rates. In its reply to the request for information, ARCEP confirmed that the "current economic costs" methodology used to determine the price caps remained unchanged compared to the last review of markets 3a and 3b, notified to the Commission under FR/2014/1602-03. In 2016 ARCEP planned to launch a major review of the cost model used in the context of its copper local loop regulation.

The European Commission commented on these as follows:
The Commission takes note of the fact that ARCEP is developing a new costing methodology that ARCEP intends to apply as of the beginning of the next regulatory period, i.e. end of June 2017, as far as the wholesale local and central access markets are concerned. In this respect, the Commission calls on ARCEP to take full account of its Recommendation on Non- discrimination and Costing when

developing the new cost model. The Commission further highlights that the deadline foreseen by the Recommendation on Non-Discrimination and Costing for implementing the recommended costing methodology is 31 December 2016. ***Although current wholesale access prices are well within the price band foreseen*** *in the Recommendation on Non-Discrimination and Costing and therefore access prices are likely to remain broadly stable also following the review of the cost model, the Commission asks ARCEP to implement the new costing methodology within the planned time horizon and without further delay.*

Interim observation 1: Despite the fact that the wholesale prices are well within the price band of the Commission, it still insists on its new methodology to be in place within the planned time horizon. This implies that the Commission places a lot of emphasis on predictability and transparency.

The original decisions FR/2014/1602 (market 3a) and FR/2014/1604 elicited no comments from the European Commission.

Market 3a (national in scope) described the "current economic costs" concept as described above. For market 3b, ARCEP proposed to differentiate price remedies according to the two geographic areas characterised by different competitive conditions, as identified in the product market definition. In the geographic areas where Orange is the only operator providing DSL WBA, ARCEP considered it justified and proportionate to impose an obligation on Orange to apply cost oriented prices (access rates should be based on the long term incremental costs of an efficient operator). In the geographic areas where at least one alternative operator, in addition to Orange, provides a wholesale bitstream offer (based on LLU or on alternative infrastructure such as FTTx or cable), ARCEP explained that there is a sufficient constraint on Orange's access tariffs and as a result, it proposes to not impose ex ante price regulation. ARCEP will thus intervene ex post only in case of eviction tariffs. ARCEP intends to yearly revise the boundaries of the two geographic areas on the basis of Orange's cost data.

ARCEP introduced three tariff zones in its decision on the wholesale terminating segments of leased lines (Case FR/2014/1604):

Copper-based offers on traditional interfaces (LPT offers) will be subject to cost orientation. Concerning copper access, ARCEP proposed progressive and partial lifting of price control to start in 2015. ARCEP considered 3 tariff zones: (i) **a 'cost-oriented tariff' monopolistic zone** corresponding to MDFs which are not unbundled, i.e. where Orange is the only operator proposing copper bitstream business offers; (ii) **zones, where infrastructure-based competition has recently developed**, i.e. MDFs where there is at least one alternative operator in addition to Orange proposing copper bitstream business offers with repair times

less than 4 hours, and which have been unbundled for less than 7 years and where **ARCEP mandates 'non-eviction tariffs'**; and (iii) **zones, where infrastructure-based competition has materialised (where the price control would be lifted)** corresponding to MDFs where there is at least one alternative operator in addition to Orange proposing copper bitstream business offers with repair times less than 4 hours and which have been unbundled for at least 7 years (ARCEP indicated that in those areas, more than 50% of DSL access with repair time less than 4 hours are provided by alternative operators on the basis of LLU). ARCEP will review annually the boundaries of the de-regulated areas.

The European Commission commented on the methodology for geographical differentiation (areas), but not on the obligations proposed.

2. Czech Republic Case CZ/2015/1753 (market 3a) and Case CZ/2015/1754 (market 3b)

The Commission commented on market 3a (national market, LLU regulated based on BU-LRIC+), specifically with regard to the treatment of civil engineering:

The Commission reiterates its comment in the latter case that in the model used all assets are valued at current costs as if they were newly purchased (either at the current price of the same asset or the price of the modern equivalent asset). Thus, civil engineering assets (ducts, trenches) are valued on the same basis as other assets such as the active equipment and transmission material (cables). The Commission insists that the economic characteristics of these assets (i.e. the underlying competitive process and the scope for replicability) ***can be significantly different****. The Commission, therefore, underlines that such a cost model runs the risk of not properly reflecting the distinct economic characteristics of the relevant assets.*

Interim observation 2: The Commission pays specific attention to the valuation of civil engineering assets, and will require an analysis on replicability.

With regard to market 3b (national market, no price control, both for copper and NGA, but for a margin squeeze test), the Commission commented as follows:

The Commission understands the reasons for CTU for not imposing a price control remedy in Market 3b and for not applying a geographic segmentation to the market. This is justified, amongst others, by the fact that competitive constraints are applied at a national level, notably by Wi-Fi (and by cable in urban areas). Nonetheless, the Commission observes that the upcoming implementation of vectoring technology by the SMP operator may increase take-up by households of

higher speed broadband, including in areas where no alternative cable or FTTx networks are present.

As a result, the Commission notes, as at the time of the market analysis, that ***for certain geographic areas where cable and FTTx are not present, there might be the risk that the SMP operator will find it increasingly attractive to apply excessive prices, particularly for its higher speed products****, which are less constrained by Wi-Fi. In such cases, the current margin squeeze test alone may no longer be able to prevent excessive prices at wholesale level.*

In conclusion, the Commission reiterates its previous comment that CTU maintains a close observation of geographic price variations at retail and wholesale level, not just in the aggregate for the whole wholesale market but also for different brackets of products, and to analyse the appropriateness of future price control on Market 3b should the need arise.

Interim observation 3: The Commission will be in favour of preventing excessive pricing in less competitive areas and will look for more than a margin squeeze test. This strengthens the case for stricter regulation in less competitive areas.

3. Lithuania Case LT/2015/1821 (market 3a) and Case LT/2016/1839 (market 3b)

The relevant geographic market was considered to be national. The price control obligation consists of a price cap calculated by means of a Fully Distributed Costs (FDC) cost model applying Historical Cost Accounting (HCA). RRT considered that it would be disproportionate at this stage to adopt a BU LRIC cost model using Current Cost Accounting (CCA), when (i) the transition from copper to NGA has already largely taken place in Lithuania; (ii) civil engineering assets, which are crucial for the deployment of alternative infrastructure, will not be replicated and should therefore not be valued at current costs; (iii) RRT considered that copper prices will remain stable over the next period of review.

The European Commission was critical of the lack of a granular geographic analysis, and invited RRT to carry this out, preferably in a joint analysis of markets 3a and 3b. Furthermore the Commission commented on the proposed costing methodology as follows:

*The Commission notes the reasoning provided by RRT to adopt an FDC costing methodology using Historic Cost Accounting (HCA) to set wholesale access prices. The Commission shares the emphasis on stability to ensure that operators' investment plans can be carried out and can benefit end users as soon as possible. However****, the Commission considers that the methodology chosen by RRT can compromise this stability in the long term.*** *Indeed, in particular the choice of*

HCA for all assets in the cost model can potentially lead to very low access prices. ***An FDC HCA model is unlikely to send the appropriate build or buy signals, in particular when pricing access to legacy assets that may have been substantially depreciated, but which could be replicated in the competitive process, such as technical equipment or the transmission medium****. The more common BU LRIC+ Current Cost Accounting (CCA) model used by other NRAs and recommended in the Commission in its Recommendation on Costing and Non-Discrimination is likely to meet that objective.*

In 2016 RRT notified its decision on market 3b including:
The relevant geographic market was considered to be national. The price control obligation consists of a price cap calculated by means of a Fully Distributed Costs (FDC) cost model applying Historical Cost Accounting (HCA). RRT considers that the FDC method would be more appropriate compared to a BU-LRIC cost model using Current Cost Accounting (CCA), since i) it assures the consistency between regulation of wholesale local access and wholesale central access services, ii) civil engineering assets, which are crucial for the deployment of alternative infrastructure, will not be replicated and should therefore not be valued at current costs; iii) the current method assures the stability of prices.

The Commission remained critical for similar reasons:
On the national market:
The Commission reminds RRT of the responsibility of NRAs to conduct a proper geographic analysis, including the gathering, from all operators active in the market, of all relevant data in order to identify the correct geographic boundaries of their supply. However, an uneven rollout of alternative infrastructures will not necessarily result in the delineation of sub-national geographic markets, which will depend on a number of factors. ***Even with national geographic markets, it may be appropriate to differentiate remedies in different areas, as remedies are likely to be most needed where infrastructure competition is the weakest.***

For this purpose, the Commission further calls on RRT to monitor during the next period of review the take up of the imposed wholesale remedies and thus verify whether they can benefit customers in areas where alternative operators are still not ready to roll out their own infrastructure, or where they are unable to do so. ***If access seekers will continue to disregard access products, including in areas where they are unlikely to roll out their own networks, then it will become necessary for RRT to further investigate whether any aspect of the design of the remedies is not fit for purpose and should be improved.*** *In this regard, conducting a joint analysis of markets 3a and 3b will be crucial, as the appropriateness and proportionality of remedies in the two markets is interdependent and will be conditioned by the results of the geographic survey.*

Interim observation:
The Commission favours differentiation of remedies according to the competitive situation, either through delineation of sub-national geographic markets or through differentiation of remedies.

Interim observation 4:
The Commission sees reason to suggest additional investigation in case "access seekers are disregarding access products". This is a criterion without base in the Recommendation and we haven't seen it used in other notifications. However, the signal is that the design of remedies in these areas need to be "fit for purpose" without discouraging entry.

On the methodology:
"The Commission recalls the importance to achieve stability in the pricing of access in order to ensure that operators' investment plans can be carried out and can benefit end users as soon as possible. However, the Commission considers that the methodology chosen by RRT can compromise this stability in the long term. Indeed, in particular the choice of HCA for all assets in the cost model can potentially lead to very low access prices. A FDC HCA model is unlikely to send the appropriate build or buy signals, in particular when pricing access to legacy assets that may have been substantially depreciated, but which could be replicated in the competitive process, such as technical equipment or the transmission medium. The more common ***BU LRIC+*** *Current Cost Accounting (CCA) model used by other NRAs, in particular with the adjustments for non-replicable assets as recommended in the Commission Recommendation on Costing and Non-Discrimination, is likely to meet that objective."*

Interim observation 5:
The Commission reiterates its point of view here. However, notably, it did not have comments a year earlier when the same implementation of price control was proposed on market 4, the market for wholesale high-quality access provided at a fixed location (Case LT/2015/1823).

4. Poland Case PL/2014/1632 (market 5, now 3b) and Case PL/2015/1780 (market 3b)

In its Notification in 2014, UKE introduced geographical segmentation. It proposed to deregulate in the competitive market, and, for the remaining territory of Poland, impose the obligation of cost orientation based on an LRIC+ methodology.

The European Commission had the following comments:
In assessing the criteria on the basis of which the retail market relating to the 76 communal areas is considered competitive, ***UKE relies, however, largely on the availability of the LLU operator*** *in a given area, without a sufficient assessment of either its actual strength or the forward-looking economic viability of LLU (especially in view of the foreseen migration towards NGA, expected by UKE in the areas in question). Therefore, the Commission invites UKE to take more fully into account and consider for its final measure either only (physical) infrastructures not related to OPL (i.e. suppliers in the retail market that are not based on either LLU- or WBA-based access services purchased from OPL)* ***or safeguarding that the LLU operators do actually exert, and can continue to exert in future, a significant competitive constraint as a "third" infrastructure-based provider at retail level.***

In its Notification in 2015, UKE described its cost methodology further:
The wholesale charges were first calculated on the basis of a bottom-up LRIC. The cost model values civil engineering assets at full replacement costs which is not fully in line with the principles of the Commission Recommendation. As a consequence of a negative margin in all instances UKE, in a second step, proceeded to calculate the wholesale charges on the basis of a "retail minus" methodology. Therefore following the results of the retail minus calculations UKE now proposes to approve the lower charge of either the retail minus, or the LRIC calculated charges.

The European Commission commented:
The Commission notes that the wholesale price calculation by means of a retail minus methodology is a consequence of the wholesale bitstream costs (as calculated by OPL on the basis of its LRIC model) leading to a price squeeze. The Commission notes in this respect that the applied cost model does not fully comply with the requirements set out in the Commission's Recommendation on Non-discrimination and Costing. ***The main differences concern the valuation of civil engineering infrastructure assets.*** *Further to that certain wholesale cost elements included in the price squeeze calculation have since then been corrected downwards according to the most recent cost data.*
In this respect, it is likely that the application of the recommended cost model (including more recent cost data) would have resulted in lower wholesale costs, not causing the margin squeeze which triggered further wholesale price adjustments by means of a retail minus methodology.

In that regard the Commission notes that the application of the recommended cost model should normally be sufficient to avoid wholesale prices which could lead to a margin squeeze and that any ***further adjustment below the calculated costs raises issues of compliance*** *with Article 13 of the Access Directive and the requirement that operators must be allowed a reasonable rate of return on capital employed.*

The Commission would like to point out that the approach to calculating wholesale charges for traditional, lower speed bitstream products should remain consistent with the charges for the newly introduced products, for as long as the former play a role in the competitive process. ***This would normally require the application of the same price control method for all the bitstream products of various speeds.*** *Accurate price signals for wholesale access to different qualities of bitstream, taking into account any relevant differences in supply costs at different qualities, will provide stronger support for investment decision-making by all market actors than artificial price differentials born from different costing approaches – alternative operators will be better able to judge whether additional NGA roll-out investment is more economically rewarding than wholesale central access, while the SMP operator's decision to roll out NGA infrastructure would not be penalised through a non-cost-based reduction in wholesale bitstream revenues.*

Interim observation 6: The main issue here is the correct valuation of civil engineering infrastructure assets. Since not all assets will be replaced, they should not be incorporated at full replacement value. The Commission prescribes its preferred methodology on the Regulatory Asset Base in its Recommendation.

5. Austria Case AT/2013/1476 and Case AT/2013/1475

In 2013, Austria notified decisions for market 4 and market 5 (now: market 3a and 3b). Both geographical markets were considered national. The price control for market 4 is based on a FL-LRAIC model in combination with a margin squeeze test. Market 5 is subjected to a retail-minus price control.

Since the two markets are related, and the Commission addressed them both in their reactions, we will point out the salient points below.

The European Commission issued a serious doubt letter, having, inter alia, the most trouble with the model proposed in market 4, and with the methodology proposed in market 5. On the model:

"Moreover, in case a cost model which took account of, for example, the replicability of assets and a shift to a NGA-network would still result in a price level which risks squeezing access seekers out of the market, the Commission invited RTR to consider whether the competitive situation in certain geographic areas may provide sufficient competitive safeguards, stemming from, in particular, mobile and cable networks, to prevent the SMP operator from setting excessively high wholesale prices. In such scenarios, price control may not be the appropriate remedy and the Commission invited RTR to consider an alternative regulatory approach."

And on the methodology:
The Commission commented that, in principle, regulation of wholesale access prices should be consistent across the value chain. A scenario where RTR would be applying a margin squeeze test, which potentially results in relatively low prices in market 5 while at the same time setting cost-oriented prices in market 4, would therefore not ensure consistency and may be detrimental to promoting investment by alternative operators.

Interim observation :
The Commission seems to favour deregulation, or any other regulation, above a cost model that results in a margin squeeze for access seekers.

Interim observation 7:
The Commission has concerns about the combination of a margin squeeze test (only) in the WBA market when the WPNIA market is regulated via cost orientation. This seems to be similar to the concerns the Commission expressed with D11/14 and seems to strengthen the case for WBA Price Floors.

Despite a BEREC opinion that was supportive of the Austria decision, the Commission decided to issue a formal Recommendation. In summary, the Commission advises deregulation of residential markets, and price control in the form of cost orientation for non-residential markets, unless the Austrian NRA analyses the possibilities of geographical segmentation of markets or differentiation of remedies. The Commission believes this prevents margin squeeze and also ensures consistency between market 4 and 5.