Proposal on bundles margin squeeze test

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Content

Executive summary

eircom is currently subject to a 'not to unreasonably bundle' obligation in the fixed voice access (FVA) market at the retail level, which consists of two separate obligations. The first obligation requires eircom to offer all retail FVA services (including calls) as stand-alone products, and the second obligation requires that the revenues of a bundle of services including fixed access, calls and other services covers the sum of the costs of inputs to the bundle and relevant retail costs net of any efficiency that arises from bundling. This second obligation is called the net revenue test (NRT) and is meant to ensure replicability of bundled offers by efficient competitors.

ComReg has previously consulted on the principle of moving the SB-WLR (single bill-wholesale line rental) obligation as well as the NRT from retail to wholesale markets (ComReg 15/82 and ComReg 16/39). It is now consulting in more detail on replacing the NRT element of the 'not to unreasonably bundle' obligation with a similar test—i.e. margin squeeze test on bundles (a 'bundles MST') in relevant wholesale markets, and has engaged Oxera to assist in this process.

ComReg has specifically asked Oxera to consider what the form and scope of the new bundles MST should be, and the relevant wholesale markets in which the bundles MST should be anchored or implemented.

Relevant wholesale markets to impose the bundles MST

Our analysis concludes that the form and scope of the bundles MST in relevant wholesale markets should be similar to the current NRT. This is because the current NRT—although it is a remedy that has historically been anchored in retail markets—is structured in a very similar way to a traditional margin squeeze test aimed at preventing leverage of market power from wholesale to retail markets. Indeed, its aim is to ensure that OAOs (other authorised operators) can earn a sufficient margin between wholesale and retail prices in order to be able to replicate the retail bundles sold by eircom and compete effectively against them.

In order to be effective in dealing with eircom's ability and incentive to leverage market power from wholesale markets to retail markets, the bundles MST should be anchored (or implemented) with respect to the wholesale inputs required by various OAOs and where eircom has significant market power (SMP). These SMP wholesale inputs currently include:

- FACO market nationally;
- the 3a market nationally;
- the 3b market in Regional Wholesale Central Access Market (in Urban 3b markets where eircom does not have SMP).

This should allow OAOs to compete with eircom in the retail market and supply bundles including voice, broadband and other services nationally.

The changing retail competitive dynamics

The market evidence collected as part of the WLA and WCA market review suggests that the retail broadband market in some exchanges could be

considered competitive even if the WCA wholesale market is deregulated (see section 4.1).[1]

ComReg includes these 'competitive' exchanges in the Urban Wholesale Central Access Market. Exchanges that do not meet the criteria used to define 'competitive' exchanges are included in the Regional Wholesale Central Access Market.

Based on the classification of exchanges into Urban or Regional WCA exchanges (as defined in ComReg 16/96)[2] and LEA or outside LEA exchanges (as defined in ComReg D04/13)[3] we identify three exchange zones:

- *Zone 1*—the Urban WCA Exchanges;
- *Zone 2*—the Regional WCA Exchanges within the LEA, i.e. LEA Exchanges minus Urban WCA Exchanges (ComReg refers to these exchange areas as Regional Area 1 WCA Exchanges);
- *Zone 3*—the Regional WCA Exchanges outside the LEA that closely correspond to the outside LEA Exchanges (ComReg refers to these exchange areas as Regional Area 2 WCA Exchanges).

Thus, with few exceptions, urban WCA exchanges are a subset of exchanges within the LEA. Regional WCA exchanges, in turn, contain some LEA exchanges and outside LEA exchanges. This is because the competitive criteria defined in ComReg 16/96 for exchanges to be classified as urban WCA exchanges are stricter compared with the criteria used to define LEA exchanges in ComReg D04/13 (see Table 4.1 and Table 4.2 for details on these criteria).

The design of the bundles MST remedy at the wholesale level

Our analysis takes account of current market developments in the three exchange zones and the bundles market, and considers whether changes are required to the methodological decisions underpinning the calculation of cost components in the proposed bundles MST compared with the NRT.

We recommend that the proposed bundles MST should reflect the varying level of competition in the three exchange zones via different forms of the bundles MST. In particular, as the level of relative competition and OAO investment increases from Zone 3 to Zone 2 to Zone 1, the level of pricing flexibility available to eircom should also increase. These differences in competition in the three exchange zones are reflected in the MST through differences in the:

- operator cost base (downstream cost benchmark) to estimate retail costs (section 5.2);
- level of service aggregation to apply to the MST (section 5.3);
- cost standard applied to estimate retail costs (section 5.4);
- relevant wholesale inputs to calculate wholesale costs (section 5.6).

[1] But assuming that the WLA and FACO wholesale markets continue to be regulated.
[2] ComReg (2016), 'Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products', 16/96, 11 November.
[3] ComReg (2013), 'Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4', D04/13, 8 February.

We also discuss:

- the treatment of unregulated services in the MST, including eir Sport (section 5.5);
- the timing of the test—i.e. the duration over which the test is applied based on the appropriate ACL (average customer lifetime), the inclusion of promotion costs, and the cohort of customers included in the test (section 5.7);
- other possible options for revisions (section 5.8).

Two important changes in the way the MST is structured compared with the NRT are the treatment of bundles consisting of unregulated services, and the inclusion of eir Sport in the MST. We discuss these points further below.

Bundles consisting of unregulated services

We recommend that, as with the current NRT, the proposed bundles MST should include the total service long-run incremental costs (LRIC) of the unregulated service on a stand-alone basis (including applicable avoidable retail costs) in calculating the total costs of a bundle.

We also propose that the bundles MST requires that the cost of the bundle, including the total service LRIC (or average avoidable costs, AAC, in exceptional circumstances) of the unregulated service on a stand-alone basis, should be covered by the retail revenues of the bundle including the unregulated service. In other words, the additional margin, if available, from the retail service(s) based on regulated wholesale input(s) for bundles including the unregulated service may be used to cover (part or all of) the costs of the unregulated service in the same bundle. This additional flexibility in the MST compared with the NRT reflects market developments and may enhance consumer welfare by providing a greater variety of bundles and/or lower prices for these bundles.

At the same time, ComReg could review on an ongoing basis how competition in these adjacent unregulated services and for bundles including unregulated services develops.

Treatment of eir Sport

Finally, we note that eir Sport is an unregulated service that is bundled with fixed broadband, and should be included in the MST like other unregulated services. In doing so, the specific features of this service should be taken into account and the incremental costs of including this service should capture appropriate costs to ensure that a similar service can be replicated by OAOs.

We propose that eir Sport's net costs should be included in the proposed bundles MST (see section 5.5.2). This is equal to the total costs of eir Sport, less the revenues earned from other retailing of the eir Sport service. In this regard the 'net costs' and can be thought of as a proxy for the incremental cost incurred by eircom to supply eir Sport in bundles. The inclusion of the net costs of eir Sport in the bundles MST therefore amounts to testing whether the margins earned across the different forms of distribution of eir Sport in aggregate cover the costs of eir Sport.

1 Introduction

ComReg has previously consulted on the principle of moving the SB-WLR obligation as well as the NRT to wholesale markets (ComReg 15/82 and ComReg 16/39).[4] It is now consulting in more detail on replacing the NRT element of the 'not to unreasonably bundle' obligation with a similar test—i.e. a 'bundles MST' in relevant wholesale markets—and has engaged Oxera to assist in this process.

This report sets out proposed changes to the existing NRT for fixed voice (or broadband) bundles on eircom in Ireland given recent market developments and the Wholesale Local Access and Wholesale Central Access market review (the 'WLA and WCA market review').[5] The main proposed changes are to:

1. move the anchor of the test—i.e. the market(s) where the obligation not to impose a margin squeeze on bundles is imposed from retail to relevant wholesale markets;
2. provide additional pricing flexibility to eircom to reflect increasing retail competition for bundles in some exchange areas, and OAO investment in infrastructure.

This report is organised as follows.

- Section 2 provides an overview of the current regulation of bundles via the NRT, and the motivation for imposing this test via a bundles MST in relevant wholesale markets.
- Section 3 reviews recent market and regulatory developments in the fixed voice and broadband markets, and lists three types of exchange areas based on differences in the level of competition in the broadband market as identified in the WLA and WCA market review.
- Section 4 discusses if a bundles MST is required in all three exchange areas, and for different bundles of services (for example, double- and triple-play bundles). It then discusses the wholesale markets in which to anchor the bundles MST.
- Section 5 proposes how to implement a bundles MST in the different exchange zones.

[4] ComReg (2015), 'Market Review: Wholesale Fixed Voice Call Origination and Transit Markets', 15/82 (D05/15), 24 July. ComReg (2016), 'Pricing of eircom's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision', 16/39 (D03/16), 18 May.
[5] ComReg (2016), 'Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products', 16/96, 11 November.

2 Current and proposed regulation of bundles

This section covers the following.

- Section 2.1 describes the existing NRT, and an overview of the current regulation of bundles.
- Section 2.2 discusses the motivation for moving the NRT to wholesale markets via a bundles MST on eircom in relevant wholesale markets.

2.1 Overview of the existing NRT

The 'not to unreasonably bundle' obligation in the FVA market at the retail level consists of two separate obligations.[6]

The *first obligation* requires eircom to offer all retail FVA services (including calls) as stand-alone products. This aims to ensure that consumer choice is not limited through tying,[7] and to allow OAOs to compete on stand-alone fixed access and call services (in addition to bundles consisting of fixed access, calls, and other services such as broadband) in the retail market. This allows OAOs to supply these services in the retail market. For example, OAOs can use SB-WLR, currently regulated on a cost-orientated price control basis, to compete for voice-only subscriptions.[8]

The *second obligation* requires that the revenues of a bundle of services including fixed access, calls and other services, cover the sum of the costs of inputs to the bundle and relevant retail costs net of any efficiency that arises from bundling. This NRT is meant to ensure replicability of bundled offers by potential competitors. The test:

- addresses the risk of horizontal and vertical leverage[9] of market power from wholesale to retail markets, and from the retail FVA market to other prospectively competitive retail services bundled with FVA services. These different potential mechanisms to leverage market power are explained further in section 2.2.1;
- ensures that the sale of bundles does not undermine wholesale retail-minus (or cost-oriented charge control) remedies imposed in stand-alone wholesale markets. These remedies are in place to ensure that eircom cannot leverage its market power vertically from wholesale to retail markets and foreclose competition via a margin squeeze.

We note that since the NRT was introduced, ComReg has conducted several consultations that have proposed and implemented various modifications to the NRT.[10] For example, in its 2013 Decision, ComReg proposed that 'a revised

[6] ComReg (2014), 'Market Review: Retail Access to the Public Telephone Network at a Fixed Location for Residential and Non Residential Customers', 14/89, 28 August.
[7] This would be the case if eircom were to stop providing a voice-only retail service. Furthermore, consumer choice may be limited if customers could only purchase eircom's FVA service if they are also required to purchase other services (e.g. broadband). This practice is known as tying (or pure bundling). In this context we note that eircom's USO also requires it to provide a voice-only retail service.
[8] ComReg 16/39 (D03/16), 'Pricing of eircom's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision', 18 May 2016.
[9] Bundling by dominant operators may give rise to competition concerns as the dominant operator can leverage its market power across related markets. For example, an operator with SMP in the supply of wholesale FACO could leverage this market power into related markets by bundling FACO based retail services (i.e. fixed access and calls) with related services such as broadband, and offering the bundle at a discount. This may make it difficult for potential competitors to replicate these bundles at a competitive price.
[10] For example, ComReg (2011), 'Review of the appropriate price controls in the markets of Retail Fixed Narrowband Access, Wholesale Physical Network Infrastructure Access and Wholesale Broadband Access: Further specification of certain price control obligations in the markets of Retail Fixed Narrowband Access

more flexible NRT would be applied for bundles sold/offered in certain urban exchanges located within the Large Exchange Area (LEA).[11] We discuss this below.

Variation in the NRT between exchanges within the LEA and outside the LEA

ComReg assessed the structural and investment conditions in different areas in Ireland and found that geographic areas differ based on criteria such as technical decisions made by eircom, the presence of alternative infrastructure providers (e.g. Virgin Media) and the use of certain wholesale inputs (e.g. LLU). On this basis, ComReg classified exchange areas into two categories with different levels of competition:[12]

- exchanges in the LEA—exchanges typically served by eircom's current and next generation access networks, as well as Virgin Media's cable network and/or LLU-based service providers;
- exchanges outside the LEA—exchanges in which competition is largely based on reselling eircom's wholesale access products, and typically not covered by Virgin Media's cable network or eircom's NGA network. These are the more suburban, rural and remote areas, with higher costs for potential entrants and where the prospects for entry by a further LLU operator are limited.

Table 2.1 below provides an overview of the main modifications to the NRT in ComReg's 2013 Decision. At the heart of these methodological decisions and changes lies the need to ensure that consumers benefit from the potential for price reductions, providing the incumbent firm with sufficient flexibility and incentives to compete, and encouraging both OAOs and the incumbent to invest in infrastructure. Oxera assisted ComReg in assessing the changes and the economic justifications for the various methodological decisions underlying the adjustments to the NRT in Oxera's February 2013 report for ComReg.[13]

In this report we build on that analysis and discuss some further potential adjustment to the methodological decisions underpinning the implementation of key parameters for the proposed bundles MST. These proposed adjustments are based on current and/or prospective market and regulatory developments.

and Wholesale Physical Network Infrastructure Access', 11/72, 10 October; ComReg (2010), 'Consultation and draft direction: further specification of the obligation not to unreasonably bundle pursuant to D07/61', 10/01, 6 January.

[11] ComReg (2013), 'Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4, D04/13, 8 February, para. 3.7.

[12] ComReg (2013), 'Wholesale Broadband Access: Price control obligation in relation to current generation bitstream', 13/90, 19 September, section 4.

[13] Oxera (2013), 'Conceptual framework for the assessment of eircom's bundles: Adjustments to the net revenue test', Updated report prepared for the Commission for Communications Regulation to inform Decision, February.

Table 2.1 Main NRT modifications introduced in the 2013 bundles decision (D04/13)

New test feature	Modification	Economic rationale for change
Definition of LEA	Less stringent NRT in urban areas (within the LEA)	Ensure that the competitiveness of eircom retail is not undermined within the LEA and that OAOs have appropriate incentives to invest in their own infrastructure
Level of aggregation	From a single-product (bundle-by-bundle) NRT to a combinatorial test—i.e. bundle-by-bundle and portfolio NRT within the LEA No change outside the LEA	Use a two-part NRT (with a lower cost standard for the bundle-by-bundle NRT) within the LEA to provide eircom retail with more flexibility in meeting competition as OAOs invest in infrastructure deeper into the network
Cost standard for regulated products	Within the LEA: from ATC to LRIC for retail call costs in the bundle-by-bundle NRT ATC for all regulated products in the portfolio NRT Outside the LEA: no change	Cost standard changes to reflect higher level of competition within the LEA, and to ensure that OAOs have appropriate incentives to invest in their own infrastructure
Cost standard for unregulated products	From assuming cost equal to 'retail price' to LRIC (or AAC in exceptional circumstances) both within and outside the LEA	Cost standard changes to make them analogous to competition law as competition has evolved sufficiently in unregulated services or that eircom's position is not strong (e.g. in the case of mobile services)
Wholesale inputs used to replicate bundles	From assumption that OAOs always use WLR and Bitstream to WNI (average wholesale network inputs) within the LEA Outside the LEA: no change (i.e. always WLR and Bitstream)	To recognise and encourage investment by OAOs in LLU and NGA leading to prospectively lower wholesale access and, consequently, lower retail prices

Source: Oxera, based on ComReg (2013), 'Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4, D04/13, 8 February.

2.2 Motivation for a wholesale bundles margin test

Future regulation in Ireland will be based on the 2014 European Commission Recommendation on electronic communication markets susceptible to ex ante regulation. These markets include:[14]

- Market 1: wholesale call termination on individual public telephone networks provided at a fixed location;
- Market 2: wholesale voice call termination on individual mobile networks;
- Market 3a: wholesale local access (WLA) provided at a fixed location;

[14] See ANNEX to the COMMISSION RECOMMENDATION on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services.

- Market 3b: wholesale central access (WCA) provided at a fixed location for mass-market products;
- Market 4: wholesale high-quality access provided at a fixed location.

In addition, ComReg regulates the (wholesale) FACO (fixed access call origination) market following the finding that eircom continues to have SMP in this market, and to move the obligation to supply SB-WLR to this market.[15]

Regulated access in these markets combined with the NRT allows OAOs using SB-WLR or broadband to compete for customers who buy voice (or broadband) services as part of a bundle. Below, we discuss how the control of different wholesale inputs by eircom means that it has the ability and incentive to engage in a margin squeeze (section 2.2.1). This provides the motivation to move the NRT to wholesale markets as consulted on in ComReg 15//82 (D05/15).[16]

2.2.1 Wholesale inputs controlled by eircom may be used to leverage market power

Wholesale access products that can be used to provide analogue voice services over eircom's copper access network (i.e. a traditional POTS service) are:

- SB-WLR—included in the FACO market, this allows service providers to issue a single bill to customers for both calls and line rental charges through the purchase of a bundled WLR and Call Origination product;[17]
- white label access (voice access)—this service is unregulated and builds on the SB-WLR service. It allows an OAO to purchase an end-to-end voice service without the need to have its own interconnection infrastructure, as eircom manages all switching and captures all CDR (call detail record) on behalf of the OAO;[18]
- full LLU (local loop unbundling) or ULMP (unbundled local metallic path)—included in Market 3a, provides OAOs with the exclusive use of the copper loop between an eircom exchange facility and customer premises.

In addition, voice services may be provided over broadband networks using a managed VoB (voice over broadband) service, which, as mentioned above, is included in the FACO market by ComReg. This technology is used by Virgin Media to provide voice services over its cable network and may be used by OAOs in the future. OAOs can use the following wholesale fixed access products to provide VoB services:

- full or shared LLU—included in Market 3a, shared LLU (also referred to as line share) allows OAOs to rent the high-capacity frequencies within the copper loop between an eircom exchange facility and a customer's premises. This can be used to provide broadband services;

[15] ComReg (2015), 'Market Review: Wholesale Fixed Voice Call Origination and Transit Markets', 15/82 (D05/15), 24 July.
[16] ComReg (2015), 'Market Review: Wholesale Fixed Voice Call Origination and Transit Markets', 15/82 (D05/15), 24 July.
[17] We note that the CPS service can also be bought without WLR, in which case the user can buy all or a portion of calls (e.g. national or international) from one provider (usually an OAO), and line rental from another provider (usually eircom). OAOs have continued to migrate their customers from CPS only to SB-WLR or WLA.
[18] ComReg (2011), 'Wholesale Call Origination and Wholesale Call Termination Markets: Response to Consultation Document No. 10/76 and decisions amending price control obligations and withdrawing and further specifying transparency obligations', D07/11, 15 September. The WLA-voice wholesale product is unregulated but the key underlying wholesale inputs of the service (call origination, termination and transit) are regulated.

- VUA (virtual unbundled access)—included in Market 3a, available in exchanges where eircom has rolled out its NGA network;[19]
- WBA (wholesale broadband access) or SABB (stand-alone broadband)—included in Market 3b, WBA allows OAOs to rent non-physical access by purchasing wholesale bitstream access, and resell eircom's broadband product provided over its DSL or NGA network.

We note that in Ireland eircom is:

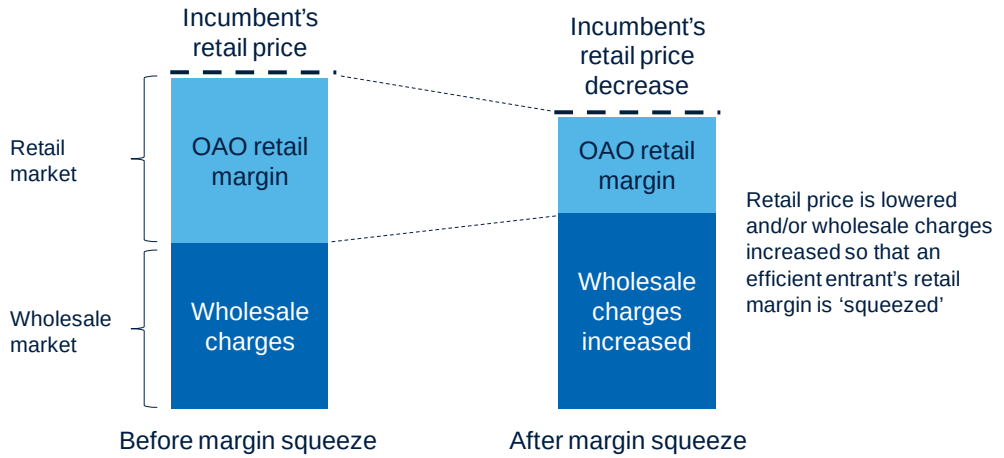
- the only supplier of WLA or 3a wholesale inputs used to provide fixed voice and data access between the customer premises and the local exchange. ComReg has provisionally found that eircom has SMP in the Wholesale Local Access Market in the WLA and WCA market review;
- the main supplier of WCA or 3b wholesale inputs. Other operators, such as BT, which supplies 3b wholesale inputs, do so based on eircom 3a wholesale inputs. ComReg has provisionally found that eircom has SMP in the Regional Wholesale Central Access Market in the WLA and WCA market review;
- the only operator with ubiquitous national copper network covering all exchanges in Ireland;
- vertically integrated, with its downstream arm competing against OAOs that rely on access to these wholesale inputs.

This means that eircom would have the ability and incentive to leverage its market power vertically from wholesale markets where it has SMP and engage in a margin squeeze—i.e. reduce the retail margin available to OAOs as they match eircom retail prices in a competitive retail market. It can do this by either increasing wholesale charges (if these are not regulated) and/or decreasing the retail price (as illustrated in Figure 2.1). Indeed, the definition of a margin squeeze is a form of vertical leveraging whereby a 'vertically integrated company attempts to exploit a position of dominance in an input market to restrict competition in a competitive downstream market.'[20]

This provides the main rationale for moving the NRT to relevant wholesale markets as a bundles MST remedy.

[19] We note that these eircom NGA access products also have variants that include POTS support.
[20] See Niels, G., Jenkins, H. and Kavanagh, J. (2001), *Economics for Competition Lawyers*, Oxford University Press, p. 239.

Figure 2.1 Margin squeeze mechanics



Source: Oxera.

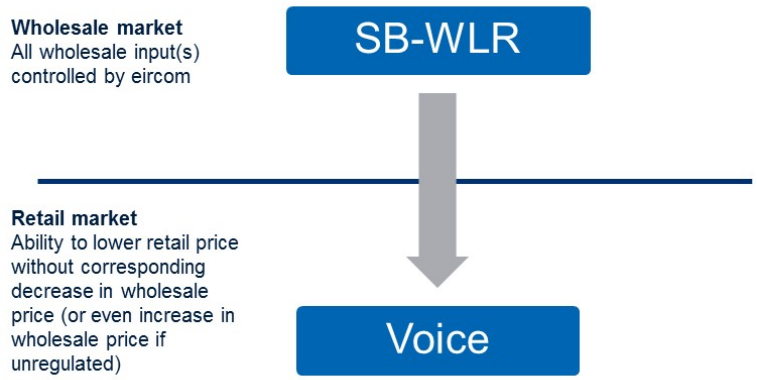
In order to identify potential competition concerns that can arise via a margin squeeze based on eircom's SMP in wholesale markets (irrespective of whether eircom has SMP in the retail fixed voice market), it is useful to consider the types of services available at the retail level and the underlying wholesale inputs required to supply these services. In general, these could be:

1. a single retail product using a single wholesale input for which eircom has SMP—for example, access and call origination (voice service) provided using SB-WLR;
2. a retail bundle consisting of multiple retail services and where OAOs require eircom wholesale inputs to supply each component of the retail bundle—for example, a voice and broadband bundle provided using SB-WLR and WBA (or NGA bitstream/VUA);
3. a retail bundle consisting of multiple services and where OAOs require eircom wholesale inputs to supply at least some components of the retail bundle—for example, a fixed voice, broadband and mobile service bundle.

A single retail product using a single wholesale input

This situation is illustrated in Figure 2.2 below. In this case, eircom could vertically leverage its SMP in wholesale access to the retail market via a margin squeeze. In the absence of regulation, eircom could increase the wholesale price of SB-WLR (if unregulated) or lower the retail price of voice services to a point where OAOs would not be able to supply this service profitably in the retail market. A similar situation exists wherever an entity with SMP in wholesale inputs also competes downstream in the retail market for the same product.

Figure 2.2 Margin squeeze for single retail product

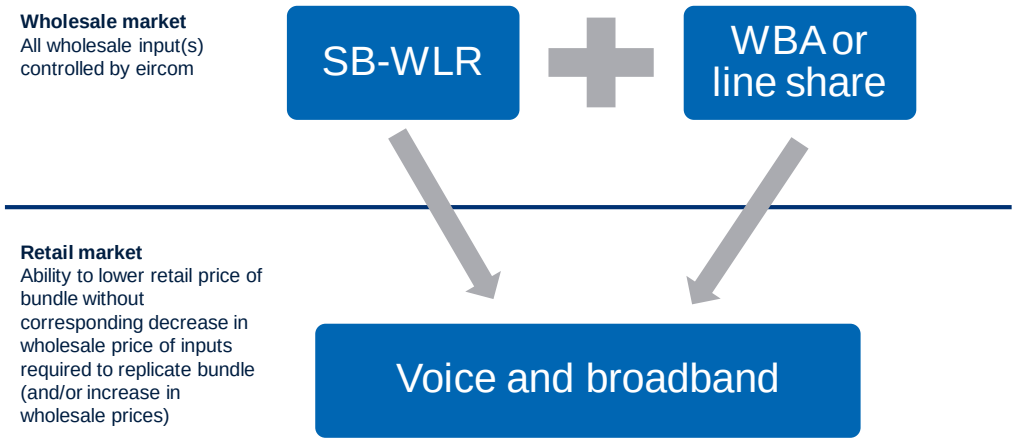


Source: Oxera.

A retail bundle consisting of multiple services and where OAOs require eircom wholesale inputs to supply each component of the retail bundle

This situation is illustrated in Figure 2.3.

Figure 2.3 Margin squeeze for retail bundles (voice and broadband)



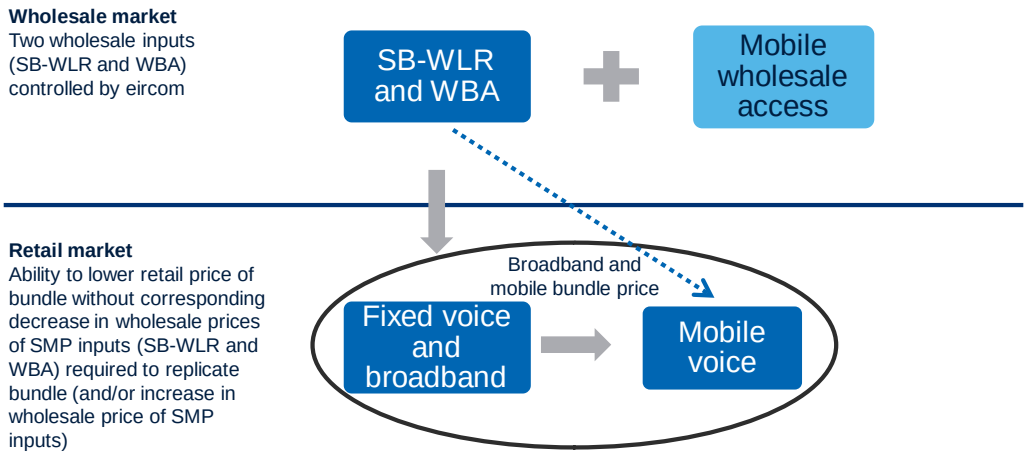
Source: Oxera.

The analysis of a bundling situation where eircom has SMP in all upstream inputs used to supply bundles in the retail market and also competes in the downstream retail market for bundles is similar to the stand-alone case. In the absence of regulation, eircom could vertically leverage its SMP position in the wholesale markets to the retail market. Thus, the margin squeeze may allow the SMP operator to extend its dominance to bundles in addition to stand-alone retail services.

A retail bundle consisting of multiple services and where OAOs require eircom wholesale inputs to supply at least some components of the retail bundle

Finally, replication of a retail bundle may require a wholesale input in which eircom has SMP as well as an unregulated wholesale input. This situation is illustrated in Figure 2.4.

Figure 2.4 Margin squeeze for retail bundles (fixed voice, broadband and mobile)



Source: Oxera.

In this case, there is the dual risk that eircom is either: able to leverage its market power into other retail services (such as mobile services when sold in bundles) in which it does not have market power (a 'diagonal' leverage of market power (shown by the dashed blue arrow in Figure 2.4); and/or maintain (or exploit) its wholesale market power in regulated services by undermining wholesale SMP remedies in those markets. If unregulated retail services are not covered in a bundles MST then eircom could sell these bundles (including unregulated services) at a loss undermining wholesale SMP remedies and any margin squeeze tests which only cover regulated services. This would be the case even if eircom passed a margin squeeze test which only covers regulated services.

In the remainder of this report, we discuss the wholesale markets to anchor the bundles MST, and the structure and composition of the proposed bundles MST taking into account recent market developments and regulatory reviews.

3 Key market and regulatory developments

The previous section presented the regulation currently in place. This section considers recent market and regulatory developments, and how these should be reflected in the proposed bundles MST. The section is organised as follows.

- Section 3.1 reviews relevant regulatory proposals in the WLA and WCA market review.[21]
- Section 3.2 summarises the main market developments.
- Section 3.3 (based on the developments outlined in sections 3.1 and 3.2) concludes that there are differences in retail competitive conditions in different exchange areas, which should be reflected in the proposed bundles MST.

3.1 Regulatory proposals in the WLA and WCA market review

The market evidence collected as part of the WLA and WCA market review suggests that the retail broadband market in some exchanges could be considered competitive even if the WCA wholesale market is deregulated, but the WLA and FACO wholesale markets continue to be regulated (see section 4.1). ComReg includes these exchanges in the Urban Wholesale Central Access Market. Exchanges that do not meet these criteria are included in the Regional Wholesale Central Access Market.

Table 3.1 presents the number of exchanges classified as within and outside the LEA, as well as the number of Urban and Regional WCA (Wholesale Central Access) exchanges. The table also indicates the number of premises included in each area. While exchanges within the LEA account for around 31% of all exchanges, they cover 73% of all premises nationally. By comparison, about 7% of exchanges are located in Urban WCA Exchange areas and these cover 38% of all premises.

Table 3.1 Number of exchanges and premises by type of area, based on criteria for Urban and Regional WCA Exchange areas

Area	Exchanges	Premises
National exchanges	1,204 **(100%)**	2,012,077 **(100%)**
of which:		
LEA	369 **(31%)**	1,467,511 **(73%)**
non-LEA	835 **(69%)**	544,566 **(27%)**
Urban WCA	88 **(7%)**	772,254 **(38%)**
Regional WCA	1,116 **(93%)**	1,239,824 **(62%)**

Note: Figures in parentheses show the proportion of national exchanges and premises within and outside the LEA and Urban and Regional WCA exchanges.

Source: Oxera based on data supplied by ComReg.

Table 3.1 shows that the distribution of the proposed Urban and Regional WCA Exchanges is different from that of exchanges within and outside the LEA. Based on the classification of exchanges into Urban or Regional WCA exchanges and LEA or outside LEA exchanges, we identify three exchange zones:

[21] ComReg (2016), 'Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products', 16/96, 11 November.

- *Zone 1*—the Urban WCA Exchanges;
- *Zone 2*—the Regional WCA Exchanges within the LEA, i.e. LEA Exchanges minus Urban WCA Exchanges (ComReg refers to these exchange areas as Regional Area 1 WCA Exchanges);
- *Zone 3*—the Regional WCA Exchanges outside the LEA that closely correspond to the outside LEA Exchanges (ComReg refers to these exchange areas as Regional Area 2 WCA Exchanges).[22]

Thus, with few exceptions, urban WCA exchanges are a subset of exchanges within the LEA. Regional WCA exchanges, in turn, contain some LEA exchanges and outside LEA exchanges. This is because stricter competitive criteria have to be met for exchanges to be classified as urban WCA exchanges compared with the criteria for LEA exchanges (see Table 4.1 and Table 4.2).

Table 3.2 shows how many exchanges would be classified in each of the three zones, based on the criteria to identify Urban and Regional WCA Exchange areas.

Table 3.2 Number of exchanges in the three zones, based on criteria for Urban/Regional WCA Exchange area areas

Exchange category	Number of exchanges	Premises
Zone 1 (Urban WCA Exchange area)	88 **(7%)**	772,254 **(38%)**
Zone 2 (Regional Area 1 WCA Exchange)	285 **(24%)**	697,524 **(35%)**
Zone 3 (Regional Area 2 WCA Exchange)	831 **(69%)**	542,300 **(27%)**

Note: Figures in brackets show the proportion of national exchanges and premises in Zones 1–3.

Source: Oxera, based on data provided by ComReg.

3.2 Market developments

This section presents the key fixed voice and broadband market developments at both the retail and wholesale level, as these services are often sold together in bundles. We also present market shares for different sub-national areas (exchanges within and outside the LEA and Urban / Regional WCA exchanges) where data is available.

The data presented below is based on Irish Communications Market Quarterly Key Data Reports for different years (supplied by ComReg), and additional data on market shares by different exchanger areas (also supplied by ComReg). This data presents the number of subscriptions of different services reported at the end of the relevant period.

3.2.1 Developments at the retail level—increasing sale of bundles

Fixed voice services are increasingly sold in bundles

Fixed voice is increasingly taken up as part of a bundle. Figure 3.1 shows the evolution of the proportion of fixed voice subscriptions as a stand-alone product and in a bundle since 2010. There is a clear trend of increasing sales in bundles, with around three-quarters of fixed voice subscriptions in Ireland part of a bundle

[22] There is not an exact correspondence between Regional WCA Exchanges outside the LEA and outside LEA Exchanges because four of the outside LEA Exchanges are now classified as Urban WCA Exchanges.

as of Q2 2016. This evolution shows that service providers increasingly compete for subscribers on the basis of bundled services.

Figure 3.1 Proportion of fixed voice subscriptions—stand-alone and within a bundle from 2010 to 2016 [✂]

[✂]

Note: These are figures for all of the Republic of Ireland—i.e. on a national basis.

Source: Oxera based on ComReg.

Triple-play bundles are increasingly popular, but double-play remains the most popular bundle

As at Q4 2013, double-play bundles (combining fixed voice and broadband services) accounted for about [✂] of bundle subscriptions, while triple-play bundles (combining fixed voice, broadband and TV) for about [✂]. This has changed and the popularity of triple-play bundles has increased. As at Q2 2016, the most popular bundle subscription was still double-play (approximately [✂] of all bundle subscriptions) but triple-play bundles had increased in popularity (approximately [✂] of all bundle subscriptions) compared with previous years. This evolution is presented in Figure 3.2 below.

Figure 3.2 does not present quad-play bundles (combining fixed voice, broadband, TV and mobile) or fixed voice and TV bundles. There were no reported subscribers of these bundles before 2014. The take-up of these bundles has increased recently, but they are still a relatively small proportion of the total bundles market. The share of these bundles as a proportion of total bundles as at Q2 2016 (approximately [✂]) is presented in Figure 3.3.

These market developments suggest that operators in Ireland increasingly compete on the basis of their ability to supply different bundles of services. Related market developments also suggest that competition is increasing in the bundles market. These developments include:

- the launch of IPTV over eircom's NGA network;
- the substantial decrease in eircom's retail market share in supplying bundles including fixed voice[23] and other services such as broadband. This is discussed in section 3.2.2;
- the entry of Sky (traditionally a supplier of TV services) into the broadband and telephony market using BT's wholesale services;
- the commercial agreement by Vodafone to purchase BT's residential broadband and telephony customer base and to use BT's network in addition to eircom's bitstream products;
- the launch of SIRO, a joint venture between Vodafone and ESB that aims to roll out a fibre to the building network in 50 regional towns. This service would also enable access seekers to provide IPTV services over the same network..[24]

[23] Fixed voice includes both access and call. This can be provided using FACO, for example.
[24] See Siro website, 'Roll Out Map', http://siro.ie/roll-out/, accessed on 23 November 2016.

Figure 3.2 Evolution of top 3 fixed voice bundles from 2010 to 2016 (% share of total bundle subscriptions) [✂]

[✂]

Note: These are figures for all of the Republic of Ireland—i.e. on a national basis.

Source: Oxera, based on ComReg.

Figure 3.3 All fixed voice bundles in Q2 2016 [✂]

[✂]

Note: These are figures for all of the Republic of Ireland—i.e. on a national basis.

Source: Oxera, based on ComReg.

3.2.2 Developments at the retail level—decrease in eircom's market share

eircom's stand-alone fixed voice market share is decreasing, but it is still the largest provider of stand-alone fixed voice services

Overall, there has been some increase in retail competition in the provision of stand-alone fixed voice services, with Vodafone's share increasing from [✂] in 2010 to [✂] in 2016, as shown in Figure 3.4. However eircom is still by far the largest provider of retail fixed voice services on a stand-alone basis, with [✂] of the market share.

Figure 3.4 Stand-alone fixed voice market shares (calls and access) from 2010 to 2016[✂]

Note: These are figures for all of the Republic of Ireland—i.e. on a national basis.

Source: Oxera based on ComReg.

eircom's market share of bundles is decreasing. Virgin Media and eircom now have similar retail market shares in fixed voice bundles

Compared with the provision of stand-alone fixed voice services (access and calls), competition in the provision of fixed voice services when sold as part of a bundle has increased substantially. Since 2014, Virgin Media holds a similar share of the market, around [✂] nationally. Vodafone and Sky are also important competitors, with substantial market shares of [✂] and [✂] respectively as at Q2 2016 (see Figure 3.5).

Correspondingly, eircom's market share for fixed voice services (whether sold on a stand-alone basis or in bundles) has also decreased (see Figure 3.6).

Figure 3.5 Market shares bundles including FACO from 2010 to 2016 [✂]

Note: These are figures for all of the Republic of Ireland—i.e. on a national basis.

Source: Oxera, based on ComReg.

Figure 3.6 Fixed voice market shares—stand-alone or bundles (2010 to 2016) [✂]

Note: These are figures for all of the Republic of Ireland—i.e. on a national basis.

Source: Oxera, based on ComReg.

eircom continues to be the largest provider of broadband services nationally, but it is not the largest provider of broadband services in the Urban WCA Market

Table 3.3 below presents retail broadband market shares based on number of subscriptions within and outside the LEA in the presence of 3a (WLA) regulation but assuming that the 3b (WCA) market is deregulated. Table 3.4 does the same for Zones 1, 2 and 3.

This follows the European Commission's modified greenfield approach, which is included in the Commission's Recommendation on relevant markets and SMP analysis..[25] In the WCA (3b) market review, this requires national regulatory authorities (NRAs) to assume that there are no ex ante SMP remedies in the WCA(3b) market but that ex ante remedies in other markets further upstream continue to apply.

The market share estimates in the absence of 3b regulation assume that eircom no longer supplies WCA, which includes wholesale bitstream and stand-alone broadband services. Customers currently served by an OAO using WCA wholesale inputs revert back to eircom. With these assumptions (which result in a higher market share for eircom compared with the current situation in which eircom has to supply both 3a and 3b inputs), we observe that eircom continues to be the largest player nationally with around [✂] of the broadband market share. Virgin Media, despite its limited geographic reach nationally, is not far behind with [✂].

However, this national picture hides differences in competitive conditions in the broadband market across exchange areas.

- In the LEA, eircom has [✂] of the retail broadband market share compared with Virgin Media's [✂]. In addition, retail operators supplied by BT (e.g. Sky) and Vodafone also have substantial retail broadband market shares of [✂] and [✂] respectively. Further market developments, such as the planned roll-out of SIRO, suggest competition could further increase in the LEA.
- Outside the LEA, eircom has [✂] of the broadband market share if WCA (3b) regulation is removed—i.e. customers currently served by an OAO using WCA wholesale inputs revert back to eircom (see Table 3.3).
- In contrast in Zone 1 (the Urban WCA Exchange area), eircom has a lower retail broadband market share ([✂]) compared with Virgin Media ([✂]). Retail operators using BT's network and Vodafone also have substantial broadband market shares of [✂] and [✂] respectively.
- Zone 2 (the Regional Area 1 WCA Exchange Area 1) is less competitive compared with Zone 1 (the Urban WCA Exchange area). eircom has the highest market share of [✂], although Virgin Media, retail operators using BT's network and Vodafone are also present.

[25] See European Commission (2014), 'Explanatory note Accompanying the document Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services', staff working document, 9 October, section 2.2.

- Zone 3 (the Regional WCA Exchange Area 2) is similar to outside the LEA, and eircom is effectively the only supplier with [✂] of the market share in the absence of 3b regulation (see Table 3.4).

Table 3.3 Fixed broadband retail market share estimates within and outside the LEA with 3a regulation and no 3b regulation as of Q1 2016, based on numbers of retail lines [✂]

	eircom	Virgin Media	Retail operators on BT's network	Vodafone	SIRO
National	[✂]	[✂]	[✂]	[✂]	[✂]
Inside the LEA	[✂]	[✂]	[✂]	[✂]	[✂]
Outside the LEA	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Oxera, based on ComReg.

Table 3.4 Fixed broadband retail market share estimates in Zones 1, 2 and 3 with 3a regulation and no 3b regulation as of Q1 2016, based on numbers of retail lines [✂]

	eircom	Virgin Media	BT	Vodafone	SIRO
National	[✂]	[✂]	[✂]	[✂]	[✂]
Zone 1 (Urban WCA Exchange area)	[✂]	[✂]	[✂]	[✂]	[✂]
Zone 2 (Regional Area 1 WCA Exchange)	[✂]	[✂]	[✂]	[✂]	[✂]
Zone 3 (Regional Area 2 WCA Exchange)	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Oxera, based on ComReg.

3.2.3 Developments at the wholesale level—OAOs (except Virgin Media) depend on regulated wholesale inputs to provide voice and broadband services

The differences in retail market shares suggest competitive differences in the retail market between different areas. These differences are also reflected in the relative use of different wholesale inputs by the OAOs. Figure 3.7 shows the evolution of the use of different WCA (3b) wholesale products by OAOs from 2010 to 2016, and Figure 3.8 does the same for WLA (3a) wholesale products.

We note that, nationally:

- OAOs predominantly still replicate eircom's bundles by using SB-WLR for voice access and either bitstream (WBA) or line share for the broadband component. In addition, a small proportion uses VUA or LLU to provide voice and broadband services, and SABB to provide broadband services.
- There is an increase in the use of NGA wholesale services by OAOs. These services include NGA with WLR, SABB or stand-alone broadband (NGA), and VUA with WLR. As discussed in section 3.2.4, this shift is observed in exchanges within the LEA and in Zones 1 (Urban WCA Exchange area) and 2 (Regional Area 1 WCA Exchange).

This data shows that the majority of OAOs (except Virgin Media and Vodafone connections based on SIRO's network) that have entered the retail fixed voice and broadband markets and won market share depend on regulated wholesale inputs to provide voice and broadband services—whether on a stand-alone basis or in bundles with each other or other services.

Figure 3.7 Evolution of the usage of different WCA (3b) wholesale access products from 2010 to 2016 on a national basis [✂]

Note: OAOs use both WCA (3b) wholesale access products and WLA (3a) wholesale access products. This figure shows OAO usage of the former and Figure 3.8 shows OAO usage of the latter. OAO usage of WCA and WLA wholesale access products is therefore split between the two figures.

Source: Oxera, based on ComReg.

Figure 3.8 Evolution of the usage of different WLA (3a) wholesale access products from 2010 to 2016 on a national basis [✂]

Note: OAOs use both WLA (3a) wholesale access products and WCA (3b) wholesale access products. This figure shows OAO usage of the former and Figure 3.7 shows OAO usage of the latter. OAO usage of WCA and WLA wholesale access products is therefore split between the two figures. VUA Standalone is not included, as its proportion within total wholesale access remains below [✂] in 2010–16.

Source: Oxera, based on ComReg.

3.2.4 Developments at the wholesale level—different wholesale inputs are used in different exchange areas and there has been a shift to NGA services in the LEA

Table 3.5 presents the use of different wholesale access products by OAOs in the LEA and outside the LEA in 2016, and Table 3.6 does the same for Zone 1 (Urban WCA Exchange area), Zone 2 (Regional Area 1 WCA Exchange) and Zone 3 (Regional Area 2 WCA Exchange). We note that:

- usage varies in the LEA and outside the LEA, with almost all fixed voice and broadband services outside the LEA and in Zone 3 provided using CGA plus WLR. In the LEA and in Zones 1 and 2, OAOs use a combination of CGA, VDSL and line share plus WLR to provide fixed voice and broadband services;
- there has been a shift to NGA services in the LEA and in Zones 1 and 2. This will make it easier to roll out managed VoB in these exchange areas compared with Zone 3. However, managed VoB is likely to be sold in a broadband bundle, and may not be a substitute for customers who continue to purchase unbundled fixed voice-only services. As noted previously, about [✂] of fixed voice subscriptions as of Q2 2016 are still sold on a stand-alone basis (Figure 3.1).

Table 3.5 Use of different wholesale access products by OAOs in the LEA and outside the LEA in 2016 [✂]

	Inside the LEA	Outside the LEA
CGA bitstream with WLR or SABB	[✂]	[✂]
NGA bitstream with WLR or SABB (Cabinet or exchange launched VDSL)	[✂]	[✂]
Full LLU (Active ULMP and GLUMP including Standalone)	[✂]	[✂]
Shared LLU (Line Share)	[✂]	[✂]
VUA with WLR (Active VUA PB, POTS-Based—FTTH and FTTC)	[✂]	[✂]
Standalone VUA (Active VUA, Standalone—FTTH and FFTC)	[✂]	[✂]
FTTH	[✂]	[✂]

Source: Oxera, based on ComReg.

Table 3.6 Use of different wholesale access products by OAOs in Zones 1, 2 and 3 in 2016 [✂]

	Zone 1 (Urban WCA Exchange area)	Zone 2 (Regional Area 1 WCA Exchange)	Zone 3 (Regional Area 2 WCA Exchange)
CGA bitstream with WLR or SABB	[✂]	[✂]	[✂]
NGA bitstream with WLR or SABB (Cabinet or exchange launched VDSL)	[✂]	[✂]	[✂]
Full LLU (Active ULMP and GLUMP including Standalone)	[✂]	[✂]	[✂]
Shared LLU (Line Share)	[✂]	[✂]	[✂]
VUA with WLR (Active VUA PB, POTS-based—FTTH and FTTC)	[✂]	[✂]	[✂]
Standalone VUA (Active VUA, Standalone—FTTH and FFTC)	[✂]	[✂]	[✂]
FTTH	[✂]	[✂]	[✂]

Source: Oxera, based on ComReg.

3.3 Conclusion

ComReg's preliminary findings in the WLA and WCA market review are that: no operator has SMP in the Urban WCA Market; and eircom has SMP in the WLA Market nationally and in the Regional Wholesale Central Access Market—i.e. Zone 2 (Regional Area 1 WCA Exchange) and Zone 3 (Regional Area 2 WCA Exchange). Separately, ComReg has found that eircom continues to hold SMP in the FACO market nationally.[26]

In addition to the analysis presented above, we note that irrespective of whether eircom has SMP in the fixed retail voice market, at least for the current three-year review period:

- OAOs (except Virgin Media in the LEA and Vodafone based on SIRO) will be largely dependent on various eircom wholesale inputs to provide voice and

[26] ComReg (2015), 'Market Review: Wholesale Fixed Voice Call Origination and Transit Markets', 15/82 (D05/15), 24 July.

broadband services (whether on a stand-alone basis or in bundles with each other or other services);

- eircom is likely to have a large retail market presence in the provision of stand-alone and bundled fixed voice and broadband services.

This means that eircom will be capable of leveraging its market power vertically from wholesale markets where it has SMP and engage in a margin squeeze. To assess the appropriate bundles MST in different exchanges to address this concern, the following questions should be addressed.

- Is a bundles MST required for all three exchange Zones (Zone 1, 2 and 3) and bundles of services? Which wholesale markets (3a, FACO and/or 3b) should the proposed bundles MST be anchored or implemented in? We consider these questions in section 4.

- How should the form of the bundles MST vary across different exchange zones to reflect differences in comparative retail broadband and bundles competition? We consider this question in section 5.

4 Is the bundles MST required in all exchange areas and wholesale markets?

This section is organised as follows.

- Section 4.1 starts by analysing how differences in retail competitive conditions across Zone 1 (Urban WCA Exchange area), Zone 2 (Regional Area 1 WCA Exchange) and Zone 3 (Regional Area 2 WCA Exchange) affect eircom's ability to leverage market power from wholesale inputs to bundles of services in the retail market.
- Based on this analysis, section 4.2 discusses if a bundles margin squeeze test is required in all three exchange zones.
- Section 4.3 considers the wholesale markets in which the bundles MST should be anchored (i.e. the wholesale markets where the obligation not to engage in margin squeeze should be imposed).

4.1 Differences in competitive conditions and eircom's ability to leverage market power

Our analysis of the differences in competitive conditions and eircom's ability to leverage market power is organised as follows.

- Section 4.1.1 compares the criteria to define exchanges within the LEA and the Urban WCA Exchange area to illustrate how these definitions imply different levels of retail competition in these exchange areas.
- Section 4.1.2 discusses how competition for bundles varies across the three exchange zones, and how this may affect eircom's ability to leverage market power vertically and/or diagonally from wholesale markets based on the mechanisms discussed in section 2.2.1.
- Section 4.1.3 discusses how the availability of regulated wholesale inputs varies across the three exchange zones.

4.1.1 Criteria used to define exchanges within the LEA and Urban WCA Exchanges

Table 4.1 shows the criteria currently used to identify exchanges within the LEA, and Table 4.2 presents the proposed criteria to determine exchanges within the Urban WCA Exchange area.

Table 4.1 Criteria to identify exchanges within the LEA

Criterion 1	where Virgin Media is present and at least one OAO uses LLU/VUA; **or**
Criterion 2	where at least two OAOs use LLU/VUA; **or**
Criterion 3	where Virgin Media is present and eircom Wholesale supports broadband to <20% of premises; **or**
Criterion 4	NGA launch (with six months' notification); **or**
Criterion 5	additionally and exceptionally, on a case-by-case basis, where:
	5a. the exchange is surrounded by Qualifying Exchange(s); or
	5b. the exchange has fewer than 500 hundred residential homes and is located either adjacent to, or, in reasonable proximity to, Qualifying Exchange(s); **or**
	5c. the exchange is determined, to the satisfaction of ComReg, to have an economic affinity with adjacent Qualifying Exchange(s).

Note: Oxera, based on ComReg proposes to include EVDSL (Exchange launched VDSL) in the LEA. See ComReg (2015), 'Prospective inclusion of exchanges in the Larger Exchange Area: EVDSL and the LEA', 15/85, 30 July.

Source: Oxera, based on ComReg.

Table 4.2 Criteria to identify the Urban WCA Market in the WLA and WCA market review

Criterion 1	An Exchange Area in which at least three Primary Operators[1] would be capable, within a sufficiently short period, of providing either broadband services at the retail level to End Users, WCA or WLA in the Exchange Area, absent regulation in the WCA Market; **and**
Criterion 2	An Exchange Area in which eircom would provide broadband services at the retail level to less than 50% of End Users within that particular Exchange Area, absent regulation[2] in the WCA Market; **and**
Criterion 3	An Exchange Area where one or all of the Primary Operators providing retail broadband services to End Users using inputs from the WLA Market provide a total greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA market; **and**
Criterion 4a	An Exchange Area in which each Alternative Network Operator[3] has the network coverage to, within a sufficiently short period, provide retail broadband services to End Users to more than 30% of the premises in that particular Exchange Area (or currently provides greater than 30% of End Users with retail broadband services), absent regulation in the WCA market; **and**
Criterion 4b	An Exchange Area in which each Alternative Network Operator providing retail telecommunication services to End Users provides greater than 10% of End Users within that particular Exchange Area, absent regulation in the WCA Market.
Criterion 5	*Exceptionally, on a case-by-case basis, where an Exchange Area*
	(i) fails no more than one of criteria set out from (2) to (4) above and fails the criterion by a small margin (i.e. less than 10% percent of the percentage specified);[4] **or**
	(ii) fails no more than one of criteria set out from (2) to (4) above and where an Alternative Network Operator provides telecommunication services either at the wholesale level or at the retail level which equates to more than 60% of End Users within that particular Exchange Area; that Exchange Area will be deemed to have satisfied the relevant criterion.

Notes: [1] Primary Operators are operators with a current national retail market share of >20% or potential network entrants—i.e. SIRO or Virgin Media. [2] In the absence of regulation in the WCA Market, it is assumed that customers currently served by an access seeker using WCA inputs revert back to eircom (which, in the absence of regulation, is not required to provide WCA products). [3] At present, Virgin Media and SIRO are the only alternative network operators considered in this assessment. [4] For example, the requirement for eircom's market share to be less than 50% (Criterion 2) could be altered to 55% under Criterion 5 (i.e. 110% of the requirement set out in Criterion 2).

Source: Oxera, based on ComReg (2016), 'Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products', 16/96, 11 November, para. 10.157.

Comparing the criteria used to include an exchange in the Urban WCA Market (Zone 1) with the criteria used to include an exchange in the LEA shows that competition is expected to be stronger in the Urban WCA Exchange Area compared with the LEA at both the wholesale and retail levels. For example:

- to qualify for inclusion in the LEA, an exchange has to meet just one of the criteria listed in Table 4.1, whereas (with minor exceptions) all five criteria have to be met for an exchange to be classified as an Urban WCA Exchange;
- the requirements that need to be met for an exchange to qualify as an Urban WCA Exchange are also stricter than for the LEA—i.e. there is more competition in the Urban WCA Exchanges. For example, criterion 1 to qualify as an LEA requires the presence of Virgin Media and at least one OAO using LLU/VUA, whereas criterion 4a for an Urban WCA Exchange requires an alternative network coverage above 33%;
- eircom's retail market share in the absence of regulation in the WCA (3b) market is an important determinant of whether an exchange is defined as an Urban WCA Exchange in the WLA and WCA market review—see criteria 2, 4b and 5 above (as explained in section 3.2.2, this follows the European Commission's modified greenfield approach). Criterion 2, for example, requires that in the absence of 3b regulation, eircom's market share does not exceed 50%. This is not the case for exchanges defined as within the LEA.

4.1.2 Differences in competition for bundled services in the three exchange areas

The classification of exchanges into Urban and Regional WCA Exchanges is based on an analysis of the presence of alternative network operators (Virgin Media and SIRO) and retail market shares of eircom and OAOs in the broadband market. This variation in the retail broadband market is also expected to be reflected in the competitive conditions for fixed voice bundles including broadband (and other services), for the following reasons.[27]

- Almost all fixed voice bundles include broadband. As at Q2 2016, only [✂] of bundles (excluding stand-alone broadband) did not include broadband (these were fixed voice and TV bundles).
- Almost all broadband bundles include voice services. As at Q2 2016, only [✂] of broadband bundles did not include fixed voice (these were broadband and TV bundles), and as at Q2 2016, only [✂] of all broadband connections were supplied on a stand-alone basis. This proportion of stand-alone broadband subscriptions has also been falling in recent years, and broadband is increasingly supplied in bundles. Taken together this means that just over [✂] of all broadband connections are bundled subscriptions with fixed voice.

This variation in competitive conditions in the bundles market (proxied by the variation in competitive conditions in the retail broadband market) means that eircom's ability to leverage market power from relevant wholesale inputs it controls and in which it has SMP to retail bundles is also likely to vary across the three exchange zones. This ability is likely to depend on the retail demand for

[27] The data presented is sourced from Irish Communications Market Quarterly Key Data Reports for different years. This data has been supplied by ComReg and presents the number of subscriptions of different services reported at the end of the relevant period.

different bundles and stand-alone services, and consumer switching patterns in response to eircom's bundling price strategy. A consumer subscribing to an alternative operator's bundle could:

- switch all services to eircom;
- unpick the bundle and subscribe only to eircom's fixed voice (or broadband) service (as long as these were available on a stand-alone basis, at an equivalent price); or
- decide not to switch (assuming that the subscriber does not have a high willingness to pay for the feature included in eircom's bundle, or if switching costs are high).

For example, eircom could include mobile services at a discount in a fixed voice and broadband bundle—two markets in which it is dominant at the wholesale inputs level—hoping to extend its market power to triple-play bundles including mobile services by leveraging its market power diagonally across these markets as explained in section 2.2.1. However, its ability to do so will depend on consumer demand for and propensity to buy stand-alone mobile services supplied by competing mobile operators (such as Vodafone and Three) and different bundles of services sold by these operators (e.g. a streaming music subscription service bundled with a mobile subscription). If consumers are willing to unpick eircom's bundles in response to these competitive offers by mobile operators then eircom may not be able to leverage its market power as effectively as it would be able to otherwise.

These differences in the competitive conditions across the three zones and the presence of alternative infrastructure providers is also reflected in the retail market share data (see section 3.2.2) and the use of wholesale inputs. For example, as noted in section 3.2.4, almost all fixed voice and broadband services in Zone 3 are provided using CGA plus WLR, whereas in Zones 1 and 2, OAOs use a combination of CGA, NGA and line share plus WLR to provide fixed voice and broadband services.

Retail competition from OAOs that have made some investments in their own infrastructure assets (thus enabling them to self-supply certain inputs to supply different service bundles) will constrain the ability of eircom to leverage its wholesale market power. These OAOs will need to purchase fewer wholesale inputs from eircom to supply retail bundles. For example, if an OAO were to invest in its own VoB platform it would no longer be dependent on buying eircom's SB-WLR service in some exchange areas to supply voice services (although the OAO would still have to purchase wholesale broadband access from eircom, unless it also invested in its own network).[28]

Retail competition from alternative network operators like Virgin Media and SIRO will also constrain eircom's ability to leverage its wholesale market power because such infrastructure based competition is not dependent on wholesale access inputs provided by eircom. Again such retail competition is more prevalent in Zones 1 and 2 where these alternative operators have network coverage (or are likely to expand network coverage).

[28] We note that the initial costs of setting up a VoB platform are about €10m, but the operating costs associated with providing the service are likely to be low (ComReg (2015), 'Eircom's Wholesale Access Services: Further specification and amendment of price control obligations in Market 4 and Market 5 and further specification of price control obligation in Market 2', 15/67, 3 July, para. 10.58). The high initial costs may mean that this is not a commercially feasible option for smaller OAOs.

One approach to tailor regulation to this heterogeneity in competition would be to follow a 'flagship product' approach. In this approach, regulation is implemented for service bundles that are the focus of competition in the market—for example, bundles including TV services. Other service bundles that have just been launched or are not the focus of competition (or popular) are not regulated. Revenue shares may be used to identify these flagship product(s).[29] However, this approach requires the definition and subsequent monitoring of the flagship product, which may change as the market develops.

Another approach (the proposed approach) is to tailor the design of the proposed bundles MST in a way that provides eircom with more pricing flexibility in exchange areas and service bundles for which it faces relatively more competition. Such an approach would automatically reflect changing market dynamics without the need to continually redefine the test. For example, the portfolio-based approach (as described in section 5.3) in Zones 1 and 2 allows eircom the freedom to recover total costs (ATC) over all the service bundles it sells in Zone 1 and separately in Zone 2. As such, bundles including 'new' services (e.g. quad-play bundles including mobile services or triple-play bundles including TV services), are not forced to recover their ATC of provision individually. This means that popular bundles that are likely to be the focus of competition and generate higher revenues are given more weight in the portfolio test. New retail services and bundles that generate lower revenues are given proportionately lower weight in the portfolio test, and eircom has more freedom in how to recover the costs of providing these bundles. The portfolio approach would also automatically reflect changing market dynamics without the need to continually redefine the test.

A margin squeeze test for stand-alone fixed voice services

eircom has [✂] of the national retail stand-alone fixed voice services market (see Figure 3.4). We also note that OAOs currently supply stand-alone fixed voice services almost exclusively using SB-WLR, a wholesale input controlled by eircom. Following this, ComReg, found that eircom has SMP in the FACO market and has imposed an obligation to supply SB-WLR on a stand-alone and cost-oriented basis.[30]

4.1.3 The availability of wholesale inputs in the three exchange areas

eircom's ability to leverage market power from wholesale fixed access inputs that it controls and has SMP in to bundles including fixed voice and broadband services is also likely to vary with the availability of these inputs. As shown in Table 4.3, the set of regulated wholesale inputs (3a, 3b and FACO) and the services that can be delivered using these different wholesale inputs vary across different exchange zones (assuming deregulation of the 3b market in Zone 1).

In Zone 1 (Urban WCA Exchange area) and Zone 2 (Regional Area 1 WCA Exchange) NGA-based wholesale inputs can be used to provide different bundles of services. The same NGA input (e.g. VUA) can be used by OAOs to supply voice (using VoB) and TV (using IPTV), in addition to broadband services. Furthermore, OAOs can use SB-WLR to provide voice services. This is not the case for Zone 3 (Regional Area 2 WCA Exchange) where NGA wholesale inputs are not available, as these areas are not covered by eircom's

[29] BEREC BoR (14) 190, 'BEREC Guidance on the regulatory accounting approach to the economic replicability test (i.e. ex-ante/sector specific margin squeeze tests)', 5 December 2014.
[30] ComReg (2015), 'Market Review Wholesale Fixed Voice Call Origination and Transit Markets', 15/82 (D05/15), 24 July.

NGA network. Voice services in these exchanges are provided using SB-WLR, and this is likely to remain the case during the current three-year review period.

There is also more OAO investment in own infrastructure in the Urban WCA Exchanges (Zone 1). This is reflected in the proposed deregulation of the WCA market in the Urban WCA Market in ComReg 16/96.[31]

Table 4.3 3a, 3b and FACO—products, use and availability by exchange type—assuming deregulation of Market 3b in Zone 1 (Urban WCA Exchange area)

	3a	3b	FACO
eircom wholesale inputs	Shared LLU, Full LLU, VUA, VUA standalone	Bitstream (CGA or NGA) SABB (CGA or NGA)	SB-WLR
Availability	National in principle, but NGA wholesale services restricted to Zones 1 and 2—i.e. where FTTC/FTTH is available		
Zones where regulated	National (Zones 1, 2 and 3)	Zones 2 and 3	National (Zones 1, 2 and 3)
Can be used to provide:	broadband and VoB	broadband and VoB	voice

Source: Oxera, based on ComReg.

These differences in competition for bundled services and the availability of wholesale inputs in the three exchange areas help to determine:

- if a bundles MST is required in all three exchange zones (see section 4.2);
- the wholesale markets in which to anchor the proposed bundles MST (see section 4.3);
- how the design of the bundles margin test should vary across the three exchange zones (if it is implemented in all three zones) (see section 5).

4.2 Is a bundles margin test required in all exchange zones?

4.2.1 Zone 1 (Urban WCA Exchange area)

Following the discussion above, eircom's ability to leverage market power from the wholesale inputs it controls to retail bundles in Zone 1 may be comparatively constrained given higher levels of retail competition.

However, competition by OAOs (except Virgin Media and Vodafone connections based on SIRO's network) in Zone 1 is and will likely be based on 3a and FACO (SB-WLR) wholesale inputs during the current three-year review period (assuming the 3b market is deregulated in Zone 1 following the findings of the WLA and WCA market review). eircom can leverage its market power from the provision of these wholesale inputs to retail bundles to the extent that consumer demand is for bundles of broadband, fixed voice and/or other services. In order to compete, OAOs will have to supply these bundles of services using one or more wholesale input supplied by eircom.

Without the proposed bundles MST, eircom could engage in a margin squeeze in Zone 1 by setting the retail price of bundles to margin-squeeze OAOs, even though individual wholesale access inputs are regulated. Zone 1 contains about [✂] of the total premises (see Table 3.2) and being margin-squeezed in Zone 1

[31] ComReg (2016), 'Market Reviews: Wholesale Local Access (WLA) provided at a Fixed Location Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products', 16/96, 11 November.

may also affect OAO competitiveness in Zones 2 and 3 if reduced scale of operations in Zone 1 leads to an increase in OAO retail costs. This would mean that OAOs (dependent on eircom wholesale inputs) will not be able to compete effectively in Zones 2 and 3 as their retail margin will be reduced in Zones 2 and 3 as well. In the extreme, OAOs dependent on eircom wholesale inputs may have to exit the market and this would mean that in Zone 3 eircom remains as the only provider of retail fixed voice and broadband services. In Zones 1 and 2 alternative network operators (Virgin Media and SIRO) will continue to impose a degree of competitive constraint on eircom, but there will be fewer operators in the market, and less choice for customers.

We also note that ComReg proposes to deregulate the WCA (3b) market in Zone 1 following the WLA and WCA market review. This provides eircom with the option of not supplying 3b wholesale inputs in Zone 1; or supplying 3b wholesale inputs at an unregulated price which may be higher or lower than the current price. If eircom does not supply 3b wholesale inputs in Zone 1 market then based on the findings of the WLA and WCA market review the retail broadband market is still competitive. If eircom increases the price of 3b wholesale inputs in Zone 1, OAOs need not buy these inputs and can compete with eircom by purchasing 3a inputs which are regulated, charge-controlled and covered by the proposed bundles MST.[32]

Given that eircom could margin-squeeze OAOs that are dependent on one or more wholesale inputs from eircom, we consider that the imposition of a bundles MST in Zone 1 is reasonable.

4.2.2 Zone 2 (Regional Area 1 WCA Exchange)

The exchanges in this zone are similar to exchanges previously defined as within the LEA, but eircom will face less competition in this zone as Urban WCA Exchanges (with relatively more retail broadband and bundles competition) are no longer included in this group of exchanges.

The alternative infrastructure operator Virgin Media is present in Zone 2 but its retail broadband market share (a good proxy for its bundles market shares as most broadband subscriptions are sold in bundles) is much lower in Zone 2 ([✂]) compared with Zone 1 ([✂]). Correspondingly, eircom's retail broadband market share (a proxy for its bundles market shares) is much higher in Zone 2 ([✂]) compared with Zone 1 ([✂]), as presented in Table 3.4.

OAOs in Zone 2 have access to the same wholesale inputs available in Zone 1, which include NGA-based wholesale inputs, but the use of LLU, line share and VUA is considerably lower in Zone 2 compared with Zone 1. Instead, OAOs mainly compete based on bitstream services (CGA and cabinet launched VDSL) in Zone 2 (see Table 3.6).

eircom could leverage its market power in wholesale markets in Zone 2 (following the mechanisms described in section 2.2) and there are fewer retail market constraints on eircom in Zone 2. Following this, it would be appropriate to impose a bundles MST remedy in Zone 2. Furthermore, given the current market structure, it is uncertain if more retail competition will develop in these exchanges within the three-year review period.

[32] We note that if eircom decreases the price of 3b wholesale inputs below the efficiently set 3a charge control in urban exchanges then this may distort investment incentives for OAOs. But this would also mean that eircom is deliberately making a loss on these services (assuming the 3a charge control is set at an efficient level). eircom is likely to lose retail market share and gain wholesale market share by following this pricing strategy.

4.2.3 Zone 3 (Regional Area 2 WCA Exchange)

Zone 3 closely corresponds to outside LEA exchanges as defined in the NRT, and eircom has [✂] of the retail broadband market share in this Zone (see Table 3.4). OAOs are dependent on CGA wholesale inputs and SB-WLR to compete with eircom (see Table 3.6), and there are no alternative infrastructure providers in these exchanges.

Based on the available evidence, these exchanges are not competitive currently or in the three-year review period, and it would be appropriate to impose a bundles MST remedy in Zone 3.

4.3 Wholesale markets to anchor the bundles MST

In order to be effective in dealing with the competition concerns identified above, the bundles MST should be anchored (or implemented) with respect to the wholesale inputs required by various OAOs to compete with eircom and in wholesale markets where eircom has SMP. These wholesale inputs include (see Table 3.5 and Table 3.6):

- FACO (principally SB-WLR) and 3a (WLA) inputs, which are proposed to be regulated on a cost-oriented charge control nationally (or on the basis of a MST in some cases) and other complementary remedies (non-discrimination, transparency, etc.);
- 3b (WCA), which is proposed to be deregulated in the Urban Wholesale Central Access Market (Zone 1) and regulated on a cost-oriented charge control basis in the Regional Wholesale Central Access Market (Zones 2 and 3).

Further specification of margin squeeze test in FACO

The majority of the OAOs (except Virgin Media in the LEA) depend on SB-WLR to provide retail voice services, whether sold in a bundle or as a stand-alone service. As ComReg notes for FSPs (fixed service providers):[33]

> As such, SB-WLR has become the main wholesale product used by FSPs to provide competing retail fixed calls and access services

Reflecting this and its own analysis, ComReg's recent FACO decision proposes to impose, among other price control remedies, an MST on the FCAO market. As ComReg explains:[34]

> Similarly, in the FACO Decision, eircom has been designated with SMP. As noted in the FACO Decision, in Chapter 11, eircom's strong position in both the downstream RFTS markets and the FACO markets means that eircom not only has the ability, but also has an incentive, to engage in vertical leveraging and / or foreclosure type behaviours. For example, to impede downstream competitors through price (e.g. excessive / discriminatory pricing) and / or non-price anticompetitive behaviours. eircom could leverage its market power into adjacent vertically or horizontally related markets through price and non-price means with the effect of foreclosing or excluding competitors in downstream retail and/or upstream wholesale markets. ComReg considers that in the context of the FACO markets a margin squeeze between FACO and downstream prices could undermine the effectiveness of a FACO product offering and, in doing so, could harm competition in downstream markets by eliminating competing service

[33] ComReg (2014), 'Market Review Wholesale Fixed Voice Call Origination and Transit Markets', 14/26, 4 April, para. 9.65.
[34] ComReg (2016), 'Pricing of eircom's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision', 16/39 (D03/16), 18 May, para. 10.45.

providers, distorting competition or indeed discouraging the entry of new service providers. Therefore, the obligation not to cause a margin squeeze was imposed on eircom in the FACO Decision.

This obligation in FACO to supply SB-WLR, the price control obligation, and the MST for bundled services including fixed voice and other services will allow OAOs using SB-WLR to continue to compete for customers who buy voice services as a stand-alone service or as part of a bundle. The proposed bundles MST would be a further specification of the price control obligation not to cause a margin squeeze in the FACO market.

Further specification of MST in Markets 3a and 3b

As discussed in section 3, there has been a move to NGA services in the LEA, and ComReg's preliminary findings in the WLA and WCA market review is that:

- the retail broadband market is competitive in the Urban Wholesale Central Access Market (Zone 1) without 3b regulation (but with 3a and FACO regulation).
- eircom continues to have SMP in the Regional Wholesale Central Access market (Zones 2 and 3);
- eircom continues to have SMP in the Wholesale Local Access market nationally.

In light of these findings, the proposed bundles MST should be imposed (or anchored) in all geographic wholesale markets where eircom has SMP. These include:

- the FACO market nationally;
- the 3a market nationally;
- the 3b market in Regional Area 1 and 2.

This should allow OAOs to compete with eircom in the retail market and supply bundles including voice, broadband and other services nationally.

In the next section, we discuss how the form of the MST in the three zones should vary to reflect the differences in retail competition, as discussed above.

5 Implementing the bundles MST in different exchange zones

As discussed in the previous section, a bundles MST anchored in the relevant geographic wholesale FACO, 3a and 3b markets is aimed at addressing the same competition concerns currently addressed by the NRT. The bundles MST is therefore similar to the NRT, and the starting point of our design of the bundles MST is the current NRT.

Structure and components of the current NRT

In effect, the NRT is a margin squeeze test and requires that the retail revenues of a bundle (and portfolio in the LEA) cover the sum of the wholesale costs of inputs to the bundle (and portfolio in the LEA)[35] and relevant retail costs net of any efficiency that arises from bundling. Table 5.1 presents the different revenue and cost components of the NRT.

Table 5.1 Revenue and cost components of the current NRT

	Revenue	Cost
Access, calls and broadband	(R1) Monthly bundle price	*(W) Wholesale costs*: 1. Access input costs 2. Price of calls—origination, transit and termination (i.e. the network cost for an end-to-end call on the eircom network)
	(R2) Monthly out-of-bundle calls revenues	*Retail costs for:* (C1) Retail line rental derived from the SB-WLR regulated retail-minus price control (C2a) Calls—either average total costs (ATCs) including common costs outside the LEA or (C2b) LRIC in the LEA (i.e. ATC less common costs less fixed indirect costs) (C3) Broadband derived from the WBA regulated retail margin squeeze price control
	(R3) Monthly out-of-bundle other revenues	(C4) Mailbox costs if applicable
If a bundle includes unregulated services		
Unregulated services (services that do not rely on retail fixed narrowband access)	Incremental revenues, if any, over average customer lifetime (which potentially vary for different unregulated products)	(C5) LRIC of relevant service or AAC in exceptional circumstances (i.e. if no significant impact on competition) and applicable avoidable retail costs

Source: Oxera, based on ComReg (2013), 'Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4', D04/13, 8 February, section 5.5.

The proposed bundles MST in wholesale markets will consider the same revenue and cost components as the current NRT, and our assessment is that the calculation of the total monthly bundle revenue (R1+R2+R3 in Table 5.1) and portfolio revenue (the combined revenue of different bundles) in the proposed

[35] This is a weighted average of the monthly LEA bundle cost where the weights are the volumes of each bundle sold.

bundles MST is the same as the current NRT. The calculation of the various revenue components does not change. This is not the case for the cost components.

While the same cost components as the current NRT should be included in the proposed bundles MST, various methodological decisions underpinning the calculation of these cost components should be reviewed based on the differences in competitive conditions across the three zones, as discussed in section 5.1. The differences in competitive conditions in the three zones are reflected in:

- the operator cost base (downstream cost benchmark) to estimate retail costs (section 5.2);
- the level of service aggregation to apply to the MST (section 5.3);
- the cost standard applied to estimate retail costs (section 5.4);
- the treatment of unregulated services in the MST, including eir Sport (section 5.5);
- the relevant wholesale inputs to calculate wholesale costs (section 5.6).

We then discuss:

- the timing of the test—i.e. the duration over which the test is applied based on the appropriate ACL (average customer lifetime), the inclusion of promotion costs, and the cohort of customers included in the test (section 5.7);
- other possible options for revisions (section 5.8).

5.1 MST in the different exchange zones

5.1.1 Current NRT position

The NRT allows for differing remedies within the current boundaries of the LEA and outside the LEA, with a more flexible NRT for exchanges in the LEA (see Table 2.1).

5.1.2 Standard for proposed bundles MST

The varying level of competition in the three exchange zones suggests that different forms of the bundles MST will be appropriate in these three exchange zones instead of the same bundles MST. As the level of relative competition and OAO investment increases from Zone 3 to Zone 2 to Zone 1, the level of pricing flexibility available to eircom should also increase. Recent market developments presented in section 3.2 are useful to inform how this level of flexibility should vary across these different exchange areas, as discussed in the sections below.

This is different from the current NRT, which only varies across the LEA and outside the LEA, and provides eircom with greater pricing flexibility in the LEA. The proposed bundles MST provides eircom with more pricing flexibility in Zone 1 (Urban WCA Exchanges) compared with Zone 2 (Regional Area 1 WCA Exchanges), and more pricing flexibility in Zone 2 compared with Zone 3 (Regional Area 2 WCA Exchanges).

5.2 Downstream cost benchmark applied to retail costs

This refers to the type of operator cost base used to calculate the retail costs in the MST—i.e. the retail costs associated with line rental, calls and broadband

(C1, C2 and C3 in Table 5.1). The operator cost base can be one of the following types.

- EEO (equally efficient operator): this is based on incumbent retail costs—i.e. in this case, it would mean that retail costs for the relevant products are calculated based on eircom's costs. The assumption is that potential entrants (OAOs) enjoy the same scale and scope economies in the provision of retail services as eircom.
- SEO (similarly efficient operator): this is based on incumbent retail costs adjusted for the fact that OAOs may not enjoy the same scale and scope economies in the provision of retail services as eircom. This may be because OAOs serve fewer customers and/or supply fewer services, and hence their unit retail costs may be somewhat higher than eircom.
- REO (reasonably efficient operator): in this benchmark the retail costs of the typical entrant are used. In practice, this is often similar to the SEO standard.

The choice of the cost benchmark in the MST will depend on the state of competition in the market (for example, competition from infrastructure-based providers and OAOs), and the competition dynamics in the bundles market. In general an EEO cost standard should provide more flexibility compared with an SEO or REO standard, as the EEO standard is based on eircom's retail costs. These may be lower than retail cost estimates based on the SEO or REO standard if eircom enjoys larger scale and scope economies compared with OAOs. We consider these factors below after reviewing the position adopted in the current NRT.

In the bundles MST we propose the SEO standard instead of the REO standard because relevant OAO retail cost data is generally not available. In the absence of OAO data, SEO retail cost estimates (based on relevant data provided by eircom) should be a good proxy for REO-based estimates. However, if OAOs provide relevant and robust data on retail costs then it may be appropriate to use REO data on a case-by-case basis.

5.2.1 Benchmark used in the current NRT

The current NRT applies the EEO standard for calls. Retail costs for line rental are derived from the SB-WLR regulated retail minus price control (as mentioned, ComReg has replaced this with a cost-oriented charge control nationally). For current and next generation broadband access, the NRT uses a mix of EEO and SEO in the LEA, and it uses a SEO standard outside the LEA for current generation broadband. This provides eircom with more flexibility in the LEA compared with outside LEA, as mentioned in section 5.1.2.[36]

[36] ComReg (2014), 'Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream', D11/14, 9 July.

5.2.2 Standard for proposed bundles MST

Table 5.2 Proposed bundles MST downstream cost benchmarks for calls and broadband in the different exchange areas

Service	Current NRT	Proposed bundles MST
Calls and line rental in Zones 1, 2 and 3	EEO and retail minus	EEO
Zone 1		
NGA broadband	Mix of EEO and SEO	EEO
CGA broadband	Mix of EEO and SEO	EEO
Zone 2		
NGA broadband	Mix of EEO and SEO	No change
CGA broadband	Mix of EEO and SEO	
Zone 3		
CGA broadband	SEO	No change

Note: If OAOs provide relevant and robust data on retail costs then it may be appropriate to use REO data on a case-by-case basis. In the absence of OAO data, SEO retail cost estimates (based on relevant data provided by eircom) should be a good proxy for REO estimates.

Source: Oxera.

Calls and line rental

We note that the level of retail competition for voice services continues to increase, and this is reflected in the decrease in eircom's market share in both the stand-alone voice market and bundles voice market. Thus, an EEO standard for voice (calls, access and line rental) like the current NRT remains appropriate.

Broadband

Zone 1 (Urban WCA Exchanges)

Given that retail broadband is competitive in Zone 1 (in the absence of 3b regulation but with 3a and FACO regulation), and that eircom is not the largest provider of broadband services in Zone 1, a move to EEO from a mix of EEO and SEO for NGA and CGA broadband would be appropriate in Zone 1.

Zone 2 (Regional Area 1 WCA Exchanges)

With regard to the cost benchmark used to estimate retail costs associated with broadband services in Zone 2, we recommend that the MST uses a mix of EEO and SEO[37] standards in Zone 2 (for both current and next generation broadband) as is currently the case in the NRT.

This is consistent with the approach taken by ComReg in the wholesale (current and next generation) WCA (3b) market in 2013 where, reflecting the presence of large OAOs in the LEA (which includes the Regional Area 1 Exchanges), ComReg considers that a smaller margin may be appropriate and proposes that the MST for stand-alone bitstream access in that market be based on a mixture of SEO and EEO. The EEO benchmark is applied to marketing/advertising costs, billing costs, and product management costs, as these OAO costs:[38]

[37] If OAOs provide relevant and robust data on retail costs then it may be appropriate to use REO data on a case-by-case basis. In the absence of OAO data, SEO retail cost estimates (based on relevant data provided by eircom) should be a good proxy for REO estimates.
[38] ComReg (2013), 'Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream', 13/90, 19 September, paras 7.25–26.

are most susceptible to such scale/scope advantages especially in the context of bundled offers (with fixed voice, mobile voice, broadband, IPTV, etc.) which are more often sold in the LEA

The proposed cost benchmarks in Zones 1 and 2 are also justified by the current and prospective developments in the bundles market discussed above. As consumers increasingly prefer triple-play (fixed voice, broadband and TV/mobile) to double-play bundles (fixed voice and broadband), OAOs using their own infrastructure or wholesale NGA access provided by eircom are likely to be in a stronger competitive position to supply these bundles. Moreover, these OAOs can exploit economies of scope in supplying these other services (i.e. their unit costs of providing triple-play bundles are likely to be lower, as they exhibit cost advantages from providing other related products).

Zone 3 (Regional Area 2 WCA Exchanges)

Zone 3 corresponds to exchanges classified as outside the LEA. This area remains less competitive in terms of retail broadband and there is no prospect of infrastructure competition developing in these exchanges within this review period, hence the SEO.[39] standard remains appropriate in Zone 3. This also reflects the presence of a number of operators that are smaller than eircom, such as IFA Telecom, Magnet, and Digiweb, in this exchange area. These smaller operators will not enjoy the same scale and scope economies as eircom and an SEO (or REO if data is available) standard allows for this smaller scale.[40]

We note that as voice and broadband services are increasingly sold in bundles, these services will share common retail costs and it may be appropriate to use the same downstream cost standard for both services. However, a move to an EEO standard for all broadband services in all zones, as is proposed for voice services, will not reflect the differences in competitive constraints faced by eircom in the different exchange types. The proposed downstream cost benchmarks for broadband services aim to reflect these differences in competitive constraints faced by eircom in the bundles MST.

5.3 Degree of service aggregation

5.3.1 Service aggregation in the current NRT

The current NRT applies a two-stage combinatorial test—i.e. it applies the test at different levels of product aggregation, as well as a one-stage test:

- LEA: two-stage test, one at the product bundle-by-bundle level and the other at the portfolio level;
- outside the LEA: one-stage test at a bundle-by-bundle level.

5.3.2 Standard for proposed bundles MST

Deciding on the degree of product aggregation requires a balance between the objective of promoting entry and investment by OAOs into retail access and broadband markets, using self-supplied wholesale inputs where appropriate, and providing eircom with sufficient investment incentives and pricing flexibility. Hence, when making this decision, the considerations are similar to those for relaxing the test on other fronts (the cost benchmarks and standards discussed

[39] If OAOs provide relevant and robust data on retail costs then it may be appropriate to use REO data on a case-by-case basis. In the absence of OAO data, SEO retail cost estimates (based on relevant data provided by eircom) should be a good proxy for REO estimates.
[40] ComReg (2013), 'Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream', 13/90, 19 September, para. 7.22.

above). In general, an aggregated portfolio approach provides more pricing flexibility to the SMP operator, as it allows it to offset the losses in some bundles with the profits in others. Such an approach may be appropriate in areas where there is relatively more competition, as we discuss further below.

Table 5.3 Product aggregation in the proposed bundles MST

	Current NRT	Proposed bundles MST
Zone 1 (Urban WCA Exchange area)	Two-stage test: first stage at product bundle-by-bundle and second at portfolio level	One stage portfolio level test
Zone 2 (Regional Area 1 WCA Exchange)	Two-stage test: first stage at product bundle-by-bundle and second at portfolio level	No change
Zone 3 (Regional Area 2 WCA Exchange)	One-stage test at product bundle-by-bundle level	No change

Source: Oxera.

Zones 2 and 3 (Regional WCA Exchanges)

Given the current competitive dynamics in the fixed voice bundles market, we recommend the same two-stage test in Zone 2 and one-stage test (at the bundle-by-bundle level) in Zone 3 for the proposed bundles MST as the current NRT. This is based on the fact that even though the take-up of double-play bundles is decreasing and the take-up of triple-play bundles is increasing, double-play bundles are still the most popular bundles in the Irish market. A move to a one-stage portfolio test (for all double- and triple-play bundles) in Zones 2 and 3 at the present time is therefore likely to allow eircom to use double-play bundles to cross-subsidise triple-play bundles (or vice versa). As a result, other operators that do not offer the same range of service bundles may be disadvantaged and find it difficult to compete effectively for customers in the provision of double- and/or triple-play services.

Zone 1 (Urban WCA Exchanges)

In Zone 1, eircom's ability to use double-play bundles to cross-subsidise triple-play bundles and leverage market power in this way is constrained because, as discussed previously, retail broadband services are competitive (without 3b regulation but with 3a and FACO regulation).

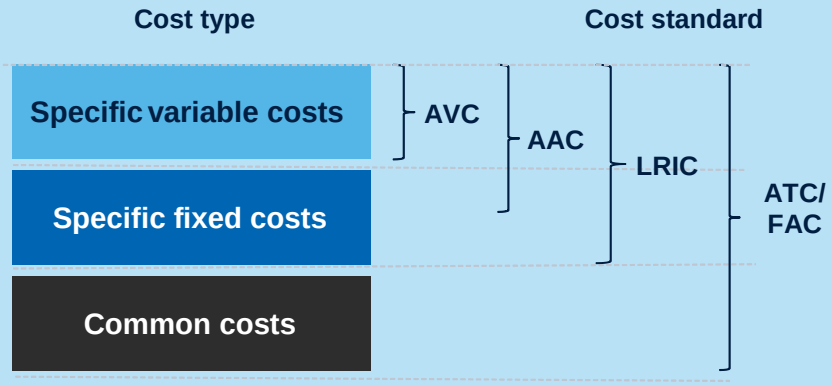
We also note that triple-play (fixed voice, broadband and TV/mobile) bundles have become more popular and eircom's market share in this segment of the market is considerable lower in Zone 1. OAOs have also invested more in their own infrastructure in Zone 1 as discussed in section 3. This means that OAOs are in a strong market position to supply different fixed voice bundles using their own infrastructure (or using NGA wholesale access provided by eircom). Reflecting this increased competition in Zone 1, a move to an aggregate one-stage portfolio-level test based on ATC (see section 5.4) for all regulated products covering both CGA and NGA services may be appropriate. This approach should provide eircom with the flexibility to compete in the retail market while ensuring that OAOs dependent on eircom wholesale inputs have a sufficient margin over the portfolio of different bundles sold in Zone 1.

5.4 Cost standard for retail activities

The various cost standards that could be used for retail activities are explained in the box below. In effect, these cost standards differ to the extent that fixed and

common retail costs (such as the cost associated with billing systems/call centres, marketing/advertising and product management) which are shared among different services supplied by an operator are allocated to, and considered as part of, the retail costs of a specific service such as calls.

Cost standards



Source: Oxera.

- Average variable costs (AVC)—these are costs that vary with output. They usually refer to small, short-term, discrete output changes.
- Average avoidable costs (AAC)—these are costs that can be avoided if production of an increment of a product ceases, usually in the short run. They may include a proportion of the specific fixed costs if the increment is large.
- Long-run incremental costs (LRIC)—these are costs that can be avoided in the long run if the provision of a given service increment (e.g. calls) ceases. They include all fixed costs of the increment and will include all costs avoided in the long run were the increment no longer to be produced.
  (Please see note below on ComReg's definition of common costs. This means that common costs are generally not included in LRIC).
- Average total costs (ATC)—these are similar to fully allocated costs (FAC). They would cover LRIC plus a proportion of common costs allocated to the product in question.

Note: ComReg regards common costs as costs incurred across the whole organisation, regardless of product, so that the cost cannot be directly attributed to a particular product or service—e.g. general finance function costs, personnel and administration costs, general corporate services costs, CEO salary, regulatory licence fees, redundancy costs/cost of voluntary leaving programmes. Similarly, ComReg considers that there may be additional common costs associated with certain product-related cost categories such as billing and sales and marketing costs, which may not be incremental to a specific eircom product/service. However it would be necessary for eircom to demonstrate why it considers such costs to be a common/indirect cost rather than a direct cost on a case-by-case basis. ComReg regards fixed indirect costs as the indirect costs that do not change with an increase or decrease in output—e.g. general IT depreciation and software licence costs (that do not vary by service volumes), building costs, pension provisions, exceptional items.
(Source: ComReg (2016), 'Pricing of eircom's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision', 16/39 (D03/16), 18 May, para. 10.67.)

Source: European Commission (2009), 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings'.

For example, *if the average avoidable cost standard is used* then only billing and cash collection costs specific to the relevant service and the direct variable customer cost and product development and product management costs will be

included. The costs of the billing system and costs incurred in setting up a call centre to deal with customer queries will not be included, as such costs are not specific to the relevant service, and are therefore not avoidable. Similarly, only the IT development costs to support the specific bundle under consideration will be taken into account.[41]

5.4.1 Standard used in the current NRT

The current NRT applies two cost standards for measuring the downstream (retail) costs of calls:

- LEA: LRIC for calls in the bundle-by-bundle test, and ATC for all regulated products in the portfolio;
- Outside the LEA: ATC for calls;
- the relevant retail costs for line rental are based on the implied regulated retail-minus margin, and for broadband they are derived from the WBA regulated retail margin squeeze price control. This is based on an ATC cost standard.

5.4.2 Standard for proposed bundles MST

Calls and line rental

We recommend the same standards in Zones 1 and 2 for the proposed bundles MST as the current NRT for national calls. In Zone 1, ATC of national calls in the portfolio MST, and in Zone 2, LRIC in the bundle-by-bundle MST and ATC of national calls in the portfolio test. The same cost standard should be applied to line rental to estimate retail costs. We recommend the ATC of national calls for the bundle-by-bundle MST outside the LEA—i.e. in Zone 3. Again, the same cost standard should be applied to line rental.

A move to AAC instead of LRIC of national calls and line rental for the bundle-by-bundle MST is not justified because eircom, despite its recent fall in market share, continues to be by far the largest operator in terms of its national market share. As presented in Figure 3.6, as at Q2 2016, eircom had [✂] of all fixed voice subscriptions (either stand-alone or as part of a bundle), followed by Virgin Media ([✂]) and Vodafone ([✂]). As ComReg notes:[42]

> As the AAC standard does not include provision for (non-avoidable) fixed costs and common costs, it could be argued that this provides the SMP operator with an advantage given the broad range of products and services over which it could conceivably recover such common costs. Entry/expansion by efficient OAOs, albeit with lower economies of scale and scope than Eir, could thereby be impeded.

In Zone 3 (outside the LEA), the competitive dynamics remain the same, with limited competition from alternative infrastructure providers, and no (or very limited) use of line share and full LLU by OAOs. Thus an ATC standard for the bundle-by-bundle MST remains appropriate.

[41] See ComReg (2010), 'Consultation and draft direction: further specification of the obligation not to unreasonably bundle pursuant to D07/61', 10/01, 6 January, Figure 6. This further specifies the NRT obligation, provides some other examples of retail costs included under the AAC standard.
[42] ComReg (2016), 'Pricing of eircom's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision', 16/39 (D03/16), 18 May, para. 10.61.

Finally, the ATC standard also remains appropriate for the bundles MST whenever a portfolio approach is used. This is because, as explained by ComReg in its bundles decision:[43]

> ...if the LRIC cost standard was applied across all bundles the test could result, on an aggregate basis, that the portfolio of bundles would not make an adequate contribution towards common costs, potentially rendering the bundles unprofitable. Consequently, ComReg considers it appropriate that at the portfolio level that the aggregate of all bundles must cover their ATC, which incorporates a share of common costs in addition to the relevant fixed and variable costs. The provision that eircom must recover its ATC at the portfolio level in the LEA and in the bundle-by-bundle assessment outside the LEA, ensures that nationally (i.e., inside and outside the LEA) eircom is not unreasonably bundling RFNA with other services.

Broadband

With regard to the cost standard used to estimate retail costs associated with broadband services, we recommend a LRIC cost standard in Zones 2 for the bundle-by-bundle test, which is the same standard as used for calls and line rental. This reflects current and prospective developments in the bundles market—i.e. the increase in triple-play (fixed voice, broadband and TV/mobile) bundles where OAOs like Sky and Vodafone may have a stronger market position.[44]

We note that the proposed LRIC cost standard for the bundle-by-bundle MST in Zone 2 should apply to all the relevant retail cost categories, including sales costs, marketing/advertising, product management and development, help desk, billing, modems, order handling, and corporate overheads.[45]

Following the same reasoning as for calls above, a move to AAC for the bundle-by-bundle test for broadband (sold in bundles with fixed voice) is premature at this time. ComReg has reached a similar conclusion when considering the retail broadband market (not sold in bundles with fixed voice) in the wholesale current generation bitstream price control consultation, where it says:[46]

> We consider that to apply an AAC cost rule in an ex-ante context could lead to sub-optimal entry conditions with little entry occurring. This would be to the detriment of competition and, in turn, consumers. In addition, the avoidable costs is the relevant measure when assessing whether there is concerns around future exclusion or exit of current efficient competitors from the retail broadband market.'

Finally, we recommend an ATC cost standard for the MST at the portfolio level in Zones 1 and 2, as well as for the bundle-by-bundle test outside the LEA—i.e. in Zone 3. This ensures that, as for calls, eircom recovers its retail costs of supplying broadband services nationally.

[43] ComReg (2013), 'Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4, D04/13, 8 February, p. 23.
[44] These developments are also the reason for the change from an SEO to an EEO and mix of EEO and SEO cost benchmark in Zone 1 and Zone 2 respectively, discussed in section 5.2.
[45] ComReg (2013), 'Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream, 13/90, 19 September, para. 7.12.
[46] ComReg (2013), 'Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream, 13/90, 19 September, para. 7.33.

Table 5.4 Proposed cost standard for retail activities for calls and broadband in the different exchange areas

Service	Current NRT	Proposed bundles MST
Calls and line rental in Zone 1	Calls: LRIC in bundle-by-bundle and ATC in portfolio Line rental: retail minus	ATC in portfolio
Calls and line rental in Zone 2	Calls: LRIC in bundle-by-bundle and ATC in portfolio Line rental: retail minus	LRIC in bundle-by-bundle and ATC in portfolio
Calls and line rental in Zone 3	Calls: ATC in bundle-by-bundle Line rental: retail minus	ATC in bundle-by-bundle
Broadband in Zones 1, 2 and 3	Derived from regulated WBA retail margin squeeze test price control based on ATC—one for CGA and another for NGA	Same as calls and line rental in Zones 1, 2 and 3

Source: Oxera.

5.5 Bundles consisting of unregulated services

The MST will also need to consider the costs of any unregulated services bundled with voice services. We note that the cost standard discussed below in this context is used to estimate the total costs of supplying the unregulated service, not only the retail costs as is the case with regulated products included in the bundle and discussed above. The wholesale costs of regulated products included in the bundle are taken into account separately (see section 5.6).

Treatment of unregulated services in the current NRT

The current NRT uses LRIC as the cost standard for unregulated products (including applicable avoidable retail costs), and AAC in exceptional circumstances on a case-by-case basis when the bundling of the unregulated service will not have a significant impact on competition. In addition, there must be no cross-subsidisation between regulated and unregulated services.

We discuss the treatment of unregulated services in the proposed bundles MST generally in section 5.5.1, and the inclusion of eir Sport in section 5.5.2.

5.5.1 Treatment of unregulated services in the proposed bundles MST

Table 5.5 Treatment of unregulated services in the proposed bundles MST

	Current NRT	Proposed bundles MST
Cost standard	Product LRIC (or AAC in exceptional circumstances) including applicable avoidable retail costs	No change
Cross-subsidisation	No cross-subsidisation between regulated and unregulated services	Allow additional retail margins on services based on regulated wholesale inputs to offer discounts on unregulated retail services (for which the wholesale input is not regulated)

Source: Oxera.

We recommend that, like the current NRT, the proposed bundles MST should include the total service LRIC of the unregulated service on a stand-alone basis (including applicable avoidable retail costs) in calculating the total costs of a

bundle. This is consistent with the competitive dynamics in the market—i.e. a decrease in eircom's share of bundles, and also allows for the fact that eircom will face competition in the provision of unregulated services (like mobile services) from other operators. This means that eircom's ability to leverage wholesale market power into retail markets will be constrained as discussed in section 4.1.2.

Like the NRT, in exceptional circumstances the proposed bundles MST may include the total service AAC of the unregulated service on a stand-alone basis instead of its LRIC in calculating the total costs of a bundle. These are cases where the inclusion of the unregulated service will not have a significant impact on competition.

We also propose that the bundles MST requires that the cost of the bundle including the total service LRIC (or AAC in exceptional circumstances) of the unregulated service on a stand-alone basis should be covered by the retail revenues of the bundle including the unregulated service.

Hence, when a bundle-by-bundle test is proposed in the Regional WCA exchanges (see Table 5.3), as long as the retail service(s) based on regulated wholesale input(s) in a bundle passes the MST, the additional retail price charged to include the unregulated service in the bundle does not necessarily need to recover its own LRIC. Instead, the retail price of the triple-play bundle must cover the total costs of the bundle, including the total service LRIC of the unregulated service. In other words, the additional margin, if available, from the retail service(s) based on regulated wholesale input(s) for bundles including the unregulated service may be used to cover (part or all of) the costs of the unregulated service in the same bundle. This may enhance consumer welfare by providing a greater variety of bundles and/or lower prices for these bundles.

Note that additional margins from bundles not including the unregulated service (e.g. double-play, broadband and voice bundles) may not be used to cover (part or all of) the costs of the unregulated service in a triple-play bundle (e.g. the cost of TV in a triple-play bundle consisting of broadband, voice and TV services) in the bundle-by-bundle test. Such cross-subsidisation from double- to triple-play would only be allowed in the case of a portfolio test. ComReg could also review, on an ongoing basis, how competition in these adjacent unregulated services and for bundles including unregulated services develops.

5.5.2 The treatment of eir Sport

In April 2016, eircom acquired Setanta Sports (rebranded as 'eir Sport'), an international sports pay TV broadcaster. Setanta operated two channels and held exclusive rights to broadcast a number of sport events including BT Sport's Irish rights as well as other sports content (e.g. soccer, tennis, rugby).

eircom currently bundles eir Sport free of charge with eircom fixed broadband connections, and has recently extended a similar offer to a selection of mobile users. We note that eir Sport is an unregulated service that is bundled with fixed broadband, and should be included in the MST like other unregulated services. In doing so, the specific features of this service should be taken into account and the incremental costs of including this service should capture appropriate costs to ensure that a similar service can be replicated by OAOs. The net costs of eir Sport, as explained below, meet this objective.

The net (incremental) cost of eir Sport

eir Sport's net cost calculates the amount of costs to be recovered from bundles in the proposed bundles MST. This is equal to the total costs of eir Sport less the revenues earned from other retailing of eir Sport. In this regard the 'net costs' and can be thought of as a proxy for the incremental cost incurred by eircom to supply eir Sport in bundles. This is similar to the approach adopted by Ofcom when including the costs of BT Sports in the VULA margin squeeze test.[47]

The inclusion of the net costs of eir Sport in the bundles MST therefore amounts to testing whether the margins earned across the different forms of distribution of eir Sport in aggregate cover the costs of eir Sport. These different forms of distribution include, for example, commercial wholesale agreements, eircom broadband subscribers, and distribution via commercial premises such as pubs and clubs. Using the net costs approach is also consistent with an EEO test, as an EEO operator that wants to profitably make a similar offer to its broadband customers would have to incur the equivalent of the net costs of eir Sport to offer a similar bundle of services.

We note that OAOs may not need to replicate the exact retail bundle offered by eircom (i.e. with exactly the same services, service specifications such as broadband speed and price) to compete in the retail market. OAOs may be able to profitably replicate equivalent or similar retail bundles (which are considered as substitutes by consumers) by offering tailored discounts and/or including different service specifications and pricing (for example, different pricing options for different broadband speeds) and by including different types of unregulated services in voice and broadband bundles. For example, OAOs may differentiate their offers (bundled or otherwise) through other content (e.g. Sky Sports/Netflix/ Spotify/movies, etc.) or other aspects of service. At the same time, OAOs (at least those with sufficient scale) also had the opportunity and ability to purchase Setanta.

The net cost approach also takes into account various commercial agreements that eircom has to supply eir Sport. Recently, for example, [✂] and eircom could not agree on wholesale access terms for eir Sport and, therefore, there is currently no wholesale distribution agreement between [✂] and eircom. This is reflected in the net costs calculation, as the costs that have to be recovered from eircom broadband subscribers are larger than they would otherwise have been if eircom had agreed a wholesale deal with [✂]. Similarly, any future changes in the distribution agreements for eir Sport should be taken into account in the net costs calculation.

Following this, the proposed net costs of supplying eir Sport are estimated as the sum of:

1. acquisition costs—tangible and intangible assets, including any content rights acquired in April 2016 when eircom acquired Setanta;
2. free cash flow, as stated in Setanta's business plan pre-acquisition, adjusted for changes in revenues and costs post acquisition.

The adjustments to the cash flow post acquisition would include:

1. adjustments to revenue streams from new wholesale agreements (e.g. with other operators, pubs, etc.);

[47] Ofcom (2015), 'Fixed Access Market Reviews: Approach to the VULA margin', 19 March.

2. subtraction of revenue forgone by eircom customers because eircom currently bundles eir Sport free of charge with eircom fixed broadband connections (whereas Setanta's business plan envisaged customers would be charged a fee for accessing the service);

3. additional payments for future TV rights (to be included when such rights are acquired);

4. any cost savings from synergies realised due to the acquisition of Setanta by eircom.

The appropriate time period to recover the net costs of eir Sport

We consider it reasonable that the payments for (future) content rights or ongoing content rights (renewed yearly, for example) be spread over the duration of those rights reflecting the time period over which the content rights generate direct revenues from subscribers. We note that the relevant time period (over which costs are recovered) for ongoing rights renewed yearly will extend beyond the fixed time period for other content rights acquired by Setanta pre-acquisition.

There is also uncertainty in estimating a different, for example longer, time period.[48] Following this, we recommend that content right costs should be spread evenly over the duration of the rights.

In theory, a different cost profile could also be used. For example, fewer costs be recovered through the bundles MST in the short term and more costs towards the end of the relevant time period. This might be justified if the profitability of eir Sport is expected to increase in the future. However, any such adjustment would be subjective, based on eircom's proposed business plans, and might provide an opportunity for regulatory gaming. For example, eircom could use a back-loaded cost profile recovery (where most of the content right costs are recovered in later years) to undermine the bundles MST in the preceding years.

Spreading the costs of the rights evenly over their duration (compared with using a different cost recovery profile) is also consistent with spreading the recovery of direct revenues from eir Sport over the average customer lifetime. This means that any variation in revenues generated over a customer's lifetime or the duration of the rights are averaged out in the bundles MST.

It may also be possible to use a time period longer than the rights' duration to recover some non-content-related acquisition costs (if these can be identified separately). These non-content-related assets acquired by eircom include, for example, fixed assets, customer contracts and customer database. Such an approach was adopted by Ofcom when spreading initial set-up costs for BT Sports over five years based on data on the average customer lifetime. This is longer than the duration of the exclusive sports rights distributed over the BT Sports channel. However, eircom bought an existing platform and did not build one from scratch as BT did in the UK. Hence, there are unlikely to be major initial set-up costs for eir Sport as in the case of BT Sports.

We recommend, therefore, that eir Sport's acquisition costs are recovered over the lifetime of the content rights acquired at the time of the purchase. This assumes that the acquisition value is mainly driven by the exclusive and existing

[48] For example, an alternative approach based on projections of future cash flows based on the forecast number of Setanta subscribers and the costs of content acquired in the future may be highly uncertain.

Setanta content rights acquired by eircom rather than the non-content-related assets.

The appropriate subscriber base over which to recover net supply costs

Determining the appropriate customer base over which the net cost of providing eir Sport is recovered is an important issue. The relevant eircom customer base is used as the denominator for the net costs, and therefore determines the cost of providing eir Sport on a 'per customer per bundle' basis.

Recovering the costs over the entire broadband base would be consistent with the idea that eircom's investment in eir Sport has been made to support its broadband base, as reflected in the fact that it offers eir Sport for free to its broadband subscribers. We note that eircom has a relatively higher national market share compared with other operators in the broadband market over which it can spread these content acquisition costs.

However, we also note that other operators with an established mobile subscriber base, such as Vodafone, could spread content acquisition costs over this base, and Sky with an established TV subscriber base could spread the costs of any content rights it acquires over its existing TV subscriber base.

We therefore consider that it is appropriate to recover the net costs of eir Sport from all eircom broadband subscribers, who, technically, can access eir Sport using eircom's broadband service. This means that eir Sport is considered part of the cost stack of all broadband bundle subscribers.

5.6 Wholesale inputs

5.6.1 Wholesale inputs used in the current NRT

Different wholesale inputs can be used to provide bundles including fixed voice, broadband and/or other services. The costs of these wholesale access inputs for OAOs should be reflected in the MST, as OAOs might use different combinations of wholesale inputs to supply these bundles. For example, fixed voice and broadband bundles may be supplied using LLU/VUA or SB-WLR and current/next generation bitstream. A practical way to reflect this differential use of wholesale inputs by OAOs is to use the cost of an 'average' or 'typical' mix of wholesale inputs for copper and fibre access in the MST.

This is the approach taken in the current NRT. At present, the NRT uses different combinations of wholesale network inputs (WNI) in the LEA and outside the LEA:

- WLR + Bitstream outside the LEA;
- blended WNI (referred to WAWNI—weighted average wholesale network input) in the LEA, with different weights (based on usage) applied to WLR/bitstream and LLU/line share/VUA inputs.

The combinations of wholesale inputs used in the NRT reflect current competitive conditions in different geographic areas, as defined by within the LEA or outside the LEA.

5.6.2 Wholesale inputs used in the bundles MST

We recommend using the same overall approach in the MST, with changes to reflect the availability of regulated wholesale inputs in Zones 1, 2 and 3.

Table 5.6 WAWNI in the proposed bundles MST

	Current NRT	Proposed bundles MST
Zone 1 (Urban WCA Exchange area)	Multiple WAWNIs—one for bundles using NGA wholesale inputs and another for CGA—reflecting the current (and evolving) competitive conditions and OAO usage	Same, but with OAO use of 3b wholesale inputs notionally assumed to use VUA (if using a deregulated NGA bitstream product) or LLU (if using a deregulated CGA bitstream product)
Zone 2 (Regional Area 1 WCA Exchange)	Two WAWNIs—one for bundles using NGA wholesale inputs and another for CGA—reflecting the current (and evolving) competitive conditions and OAO usage	No change
Zone 3 (Regional Area 2 WCA Exchange)	WLR + Bitstream	No change

Source: Oxera.

Zone 1 (Urban WCA Exchanges)

We recommend a similar approach to construct WAWNIs as in the current NRT for Zone 1, i.e. the proposed bundles MST should use multiple WAWNIs—one for NGA and one for CGA wholesale inputs.

The WAWNIs should be estimated based on weights derived from actual OAO usage of different WNIs. The only exception in Zone 1 would be 3b wholesale inputs. It would be appropriate to exclude the 3b wholesale inputs from the WAWNI calculation in Zone 1, assuming that the 3b market is deregulated in Zone 1.

OAOs that continue to use 3b wholesale inputs in Zone 1 could be notionally assumed to use VUA (if they are using a deregulated NGA bitstream product) or LLU (if they are using a deregulated CGA bitstream product) in Zone 1, as VUA/LLU is considered to be the efficient forward-looking technology in Zone 1. This notional usage could be included in the estimation of the NGA- or CGA-based WAWNI.

Zone 2 (Regional Area 1 WCA Exchanges)

We recommend the same approach to construct WAWNIs as in the current NRT, taking into account that changes in competitive conditions (i.e. changes in the use of WNIs by OAOs) should be reflected in the weights of the different wholesale inputs in the WAWNI.

In Zone 2, the competitive dynamics and the use of wholesale inputs by OAOs continue to evolve and the composition of the WNI in these zones should reflect this. For example, once OAOs start using VoB (over copper or fibre), the WNI should reflect the relative weighting of these inputs (based on actual usage) and a margin for VoB should be included.

In light of this, we propose two WAWNIs in Zone 2 (one for bundles using NGA wholesale inputs and one for CGA-based wholesale inputs), with different weights applied to WLR/bitstream and LLU/line share/VUA inputs to reflect the current (and evolving) competitive conditions in Zone 2. Changes in competitive conditions (i.e. changes in the use of WNIs by OAOs) should be reflected in the weights of the different wholesale inputs in the WAWNI.

We note that the wholesale input price for NGA or CGA services may increase (or decrease) as new charge controls are implemented. An increase in the wholesale input price for NGA may reflect adjustments for inflation or a higher allocation of common costs to NGA wholesale inputs compared with CGA wholesale inputs as OAOs migrate to NGA services. It would be appropriate to include these increases in the proposed bundles MST, assuming that the costs are estimated accurately and reflect the efficient forward-looking costs of providing these services.

We note that NGA wholesale inputs like VUA and bitstream access can be used to provide multiple services like voice (using VoB) and TV (using IPTV) services in addition to providing broadband services. This may mean that even if the wholesale price of some NGA wholesale inputs increases it may be commercially and technologically efficient for OAOs to use NGA-based wholesale inputs instead of CGA wholesale inputs. This is because multiple CGA wholesale inputs may be required to provide bundles of services (e.g. voice using SB-WLR and broadband using WBA), and it may not be possible to provide the same quality or functionality of IPTV services over the CGA network compared with the NGA network.

Zone 3 (Regional Area 2 WCA Exchanges)

The competitive dynamics and the use of wholesale inputs in Zone 3 (corresponding to exchanges outside the LEA) have not changed and are unlikely to change. OAOs continue to use SB-WLR and CGA bitstream to supply voice and broadband bundles. Hence, a WLR and Bitstream-based WNI continues to be appropriate.

5.7 Average customer lifetime, promotions and the cohort of customers tested

5.7.1 Average customer lifetime and promotions

The current NRT uses the expected average customer lifetime (ACL) as the reasonable time over which an operator is allowed to recover the costs of a particular bundle (or portfolio of bundles). Any promotion costs are also recovered over the ACL. Theoretically, this is a sound methodology, and we propose the same methodology is used in the bundles MST. However, there may be a case to revise the current ACL or the time period allowed to recover promotion costs.

We note that the ComReg proses to use an ACL of 42 months based on data provided by eircom and some OAOs (representing [✂] of bundles sold in the market). We note that the ACL may vary across operators (OAOs, eircom) and different service bundles (e.g. double- and triple-play bundles). However, ACL data for different bundles of services is generally not available, and hence at present ComReg proposes that the bundles MST should use an ACL of 42 months. It may be appropriate to revise this assumption if OAOs and eircom can provide further data on their expected ACL. Given the increasing prevalence of bundling, we recommend that ComReg seeks these data.

Another factor to consider is that the expected average bundle lifetime may not be the same as the ACL. For some customers, the ACL may be longer than the time spent by the same customer on any one bundle. This would be the case if a customer first subscribes to a promotion for a particular bundle lasting, say, 18 months, and then switches to another bundle with the same operator. In this case, the same customer may avail themselves of multiple promotions and the customer's ACL with the operator will be longer than the time spent by the same

customer on any one bundle. This implies that a proportion of the customers that initially subscribed to the bundle will not pay the full headline price after 18 months.

In light of this, we suggest that there are differences between the expected ACL among different operators or service bundles, or between the expected average bundle lifetimes and the ACL. We recommend that if robust data is available, it would be appropriate to make adjustments to the ACL and/or factor additional discounts offered to subscribers into the cost over the 42-month period.

5.7.2 Timing and cohort of customers tested

There are various approaches to determining the time allowed for the operator to recover its costs in a margin squeeze test, notably the period-by-period and discounted cash-flow (DCF) approaches.

The current NRT follows a forward-looking approach based on a forecast of revenues and costs for relevant bundles over the ACL. The test is applied on both an ex ante and ex post basis—i.e. the forward-looking approach can be checked retrospectively, if, for example, the product outturn is different from forecasts.

We note that this approach is similar to the alternative cohort approach, adopted by Ofcom.[49] The cohort method calculates the net subscriber acquisition costs of a group ('cohort') of customers taking a service at a specific time. These acquisition costs are then compared with the discounted future profits from these subscribers. The group of subscribers is considered profitable if the net present value (NPV) is positive.

In its decision on an alleged margin squeeze in relation to superfast broadband pricing, Ofcom applied a cohort approach on new customers for superfast broadband services.[50] By spreading the acquisition costs (e.g. promotional costs) to a specific cohort of new customers, this approach does not allow the operator (BT) to benefit from a first-mover advantage. For example, an incumbent could raise prices to existing customers while lowering those to new customers, which a new entrant would not necessarily have the ability to do given its smaller and newer customer base.

The current NRT approach is similar to this cohort approach in that it considers the forecast and outturn profitability for subscribers of a particular bundle offer (or portfolio). The NRT checks that eircom's retail pricing for a particular bundle (when launched and on an ongoing basis) provides an appropriate retail margin, which should allow OAOs to compete with eircom in the retail market. The 'cohort' in the ComReg approach is therefore defined by the particular bundle, which may have a mix of old and new subscribers. Theoretically, cross-subsidisation from old to new customers within a bundle may be a problem under this approach, and ComReg could consider adopting a cohort approach, as used by Ofcom, for the proposed bundles MST. In practice, this may not be a problem if most new customers acquired join recently launched bundle offers.

[49] See, for example, Ofcom (2014), 'Decision of The Office of Communications - CW/1103/03/13: Complaint from TalkTalk Group against BT about alleged margin squeeze in relation to superfast broadband pricing', 21 October.
[50] Ofcom (2014), 'Decision of The Office of Communications - CW/1103/03/13: Complaint from TalkTalk Group against BT about alleged margin squeeze in relation to superfast broadband pricing', 21 October, pp. 64–69.

5.8 Other possible options for revision

In addition to the circumstances discussed above, there are other scenarios that may require revision to the NRT and that are relevant to the proposed bundles MST. These are discussed in section 5.4.6 of ComReg's 2013 bundles decision,[51] and we recommend that these are treated in the same way in the proposed bundles MST. These include:

- when the bundle is in response to a competitor's bundle: no proposed change compared with the NRT;
- when a bundle is found unreasonable post launch: no proposed change compared with the NRT;
- past margins: these cannot be banked/carried forward in the NRT. The same is proposed for the MST;
- promotions and promotional discounts: these costs are included in the NRT and the bundle is considered reasonable if the cost of the promotional discount is covered over the ACL. The same is proposed for the MST;
- discretionary promotions/opt-ins: the costs of discretionary promotions/opt-ins are included in the NRT based on the costs of these promotions—depending on the expected take-up of bundles including the promotion. The same is proposed for the MST.

5.9 Conclusion

We recommend that the proposed bundles MST includes the various changes discussed in sections 5.1 to 5.7.

At the heart of these methodological decisions and changes lies the need to balance the regulatory objective of promoting competition in the market leading to lower prices and wider choice for customers—providing eircom with sufficient flexibility to compete in the retail market, and ensuring that investment incentives for both OAOs and eircom are safeguarded.

[51] ComReg (2013), 'Price Regulation of Bundled Offers: Further specification of certain price control obligations in Market 1 and Market 4', D04/13, 8 February.

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