



Consultation Paper

**Retail Calls Market Review – Call for Input
on an Assessment of the Three Criteria**

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All responses to this consultation should be clearly marked:-
“Reference: Submission re ComReg YY/NN” as indicated above,
and sent by post, facsimile, e-mail or on-line at www.comreg.ie
(current consultations), to arrive on or before 5.30 pm on
Tuesday 31 October 2006, to:

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1 Executive Summary

Introduction

- 1.1 On 01 September 2004 ComReg published a national consultation on the markets for Retail Fixed Calls (ComReg Doc 04/95), and on the 22 March 2005 ComReg notified to the European Commission (EU Commission) and published the response to consultation (ComReg Doc 05/26). The notified measures were accepted by the EU Commission, in correspondence to the Chairperson of ComReg dated 25 April 2005. The process is referred to throughout this document as the ‘initial review’.
- 1.2 ComReg has decided that, before issuing a Final Decision, it was appropriate to re-examine and update the market analysis and the conclusions contained in the initial review. This will allow ComReg to fully consider any change in the market from the time of the initial review. This process is referred to throughout the document as the ‘current review’.
- 1.3 In light of the EU Commission’s consultation¹ on *The Recommendation* and its preliminary view that the retail calls markets are no longer susceptible to ex-ante regulation, ComReg has decided that it is appropriate to first assess whether the markets for fixed calls meet the three criteria and thus decide whether *ex ante* regulation is warranted. Such an assessment focuses on the general structure and characteristics of a market in order to identify those markets, the characteristics of which are such that they need to be analysed in more detail.

Market definition

- 1.4 ComReg therefore proposes to define four markets for retail calls from a fixed location. These are:
 - Retail residential domestic calls from a fixed location;
 - Retail residential international calls from a fixed location;
 - Retail non-residential domestic calls from a fixed location; and
 - Retail non-residential international calls from a fixed location.
- 1.5 The geographical scope of the retail calls markets is likely to be Ireland.
- 1.6 The key changes since the initial review is the proposal to identify a split between residential and non-residential markets, in line with *The Recommendation*.
- 1.7 Another significant change is that further analysis has been carried out on whether Voice over Broadband (VoB) should be included in the retail calls markets. The proposal is that VoB would be included only in the non-residential market. The differentiation is based on distinct levels of broadband penetration.
- 1.8 Furthermore, additional analysis was carried out on the degree of substitution between calls from a fixed location and calls from a mobile. ComReg maintains the view that calls from fixed locations are not in the same relevant market as calls from mobile.

¹See: http://europa.eu.int/information_society/policy/ecomms/doc/info_centre/public_consult/review/recommendation_final.pdf.

Assessment of the three criteria

- 1.9 In this review, ComReg has presented its preliminary assessment as to whether the retail fixed calls markets are susceptible to *ex ante* regulation. ComReg seeks views on whether, in the presence of wholesale inputs (CPS and SB-WLR²); efficient and sustainable entry may be possible.
- 1.10 In relation to the second criterion, whether the retail call markets tend towards effective competition, ComReg has examined eircom's market share in the respective markets; retail call prices, and the impact of VoB among non residential users³. At this point, evidence may indicate that the international non-residential calls market is tending towards effective competition. The competitive conditions are less clear for the remaining three markets. ComReg has not taken a final position but seeks views from interested parties. All three exhibit market shares that, by reference to established case-law, would still be consistent with a finding of SMP. While eircom's market share has fallen, and may well continue to fall, it may not yet have done so at a sufficient rate as to clearly indicate a tendency towards effective competition. ComReg therefore particularly welcomes views from interested parties as to whether this criterion has been met.
- 1.11 ComReg has identified that some potential restrictions of competition may still exist, for example, through excessive pricing, predatory pricing and price squeeze strategies of eircom (which remains dominant in the interconnection markets) but where such strategies constitute an abuse of dominance, ComReg seeks views as to whether competition law provides the appropriate instruments to effectively address such market failures.

² Carrier Pre Select and Single Billing Wholesale Line Rental – See Annex B for a glossary of terms.

³ Voice over Broadband is a managed type of Voice over Internet service (VoIP) and is one of a sub-group of VoIP services.

2 Introduction

Background

- 2.1 On 01 September 2004 ComReg published a national consultation on the markets for Retail Fixed Calls (ComReg Doc 04/95), and on the 22 March 2005 ComReg notified to the EU Commission and published the response to consultation (ComReg Doc 05/26). The EU Commission accepted the notified measures, in correspondence to the Chairperson of ComReg dated 25 April 2005. This process is referred to throughout the document as the ‘initial review’.
- 2.2 ComReg has decided that, before issuing a Final Decision, it is appropriate to re-examine and update the market analysis and the conclusions contained in the initial review. This will allow ComReg to fully consider any change in the market from the time of the initial review. This process is referred to throughout the document as the ‘current review’.
- 2.3 In light of the EU Commission’s consultation⁴ on *The Recommendation* and its preliminary view that the retail calls markets are no longer susceptible to *ex-ante* regulation, ComReg has decided that it was appropriate to first assess whether the markets for fixed calls meet the three criteria and thus decide whether *ex ante* regulation is warranted. Such an assessment focuses on the general structure and characteristics of a market in order to identify those markets, the characteristics of which are such that they need to be analysed in more detail.
- 2.4 The current review has involved collecting and updating data, and extending some elements of the analysis to take account of changing conditions. As part of the current review, ComReg issued specific data directions⁵. ComReg also issued an Information Notice inviting further input⁶ which is referred to as the ‘call for input’ throughout the document.
- 2.5 The initial review generally incorporated market information to the end of 2004, where this information was available, and looked ahead two years in considering how the markets were likely to develop. This current review has updated market information to the end of 2005, and in some cases has included data for the first quarter of 2006. As recommended in *The Guidelines*⁷ the current review considers the market prospectively, and considers how the market is likely to change over the next two years.
- 2.6 ComReg is now inviting responses to this updated market analysis, and to the proposals and views contained herein. The intention is to consider responses and publish a Final Decision, which will also be notified to the EU Commission.
- 2.7 ComReg would welcome comments from all interested parties on the questions posed in this market review and will accept written comments on or before 5.30 pm Tuesday 31 October 2006. Under Article 5 of the Framework Regulations and in order to

⁴ See http://europa.eu.int/information_society/policy/ecommm/doc/info_centre/public_consult/review/recommendation_final.pdf

⁵ Calls Data Direction – dated 08 March 2006 and 24 May 2006, VoIP Data Direction – dated 11 May 2006 and Customer Categorisation Data Direction 02 March 2006.

⁶ Information Notice “Retail Access and calls market review” doc 06/10, 24.02.06

⁷ Commission's Guidelines on Market Analysis and Significant Market Power (“The Guidelines”). OJ C 165/03. Paragraph 20.

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- promote further openness and transparency, ComReg will publish the names of all respondents subject to maintaining confidentiality.
- 2.8 ComReg has also recently published consultations on the Retail Fixed Narrowband Access Markets see Document Number 06/39 and the Payphone Market Review - see Document Number 06/40⁸.
- 2.9 There is a glossary of terms in Annex B of this document.

Structure of this document

2.10 The remainder of this consultation document is structured as follows:

- **Section 3** presents ComReg's preliminary conclusions on the definition of the markets for fixed retail calls. This section consists of a review of the market definition procedure and its scope, as well as demand- and supply-side assessments at the retail level;
- **Section 4** presents ComReg's assessment of the three criteria for the retail fixed calls markets and presents ComReg's preliminary view on whether the markets are susceptible to *ex ante* regulation;
- **Section 5** provides details with regard to the submission of comments on this consultation document.

Q. 1. Are there additional factors that in your opinion require analysis by ComReg? If yes, please indicate precisely what they are. In respect of the factors analysed, is there additional analysis that in your opinion must be carried out. If yes, please indicate precisely what that is.

⁸ Available from the ComReg website www.comreg.ie.

3 Relevant Market Definition

Background

3.1 The initial consultation document (04/95) described the procedures which were followed by ComReg in undertaking market reviews and outlined the regulatory basis of the exercise. The current review follows the same procedures, and focuses on changes in the markets since the publication of the initial review.

Scope

3.2 ComReg adopted the EU Commission's approach as its starting point, such that the review was concerned with the ability of customers to make telephone calls on the public fixed telephone network.

3.3 A consideration of the functional scope of the retail calls markets examined the following:

- Are fixed access and fixed calls in the same relevant market?
- Are calls from fixed locations in the same relevant market as calls from mobile?
- Are fixed to mobile calls in the same relevant product market as fixed domestic calls?
- Are operator assisted calls in the same relevant product market as direct dialled calls?
- Are calls from payphones in the same relevant product market as calls from a land line?
- Are calls to Internet in the same relevant product market as calls to fixed domestic calls?
- Are other non-geographic numbers such as premium rate and freephone calls in the same relevant product market as fixed domestic calls?
- Are fixed SMS in the same relevant market as fixed domestic calls?
- Are Voice over Internet Protocol calls in the same relevant market as fixed domestic calls?
- Are local and national fixed calls in the same relevant market?
- Are fixed international calls in the same relevant market as fixed domestic calls?
- Are there separate relevant markets for residential and non-residential customers?
- What is the geographic scope of the markets?

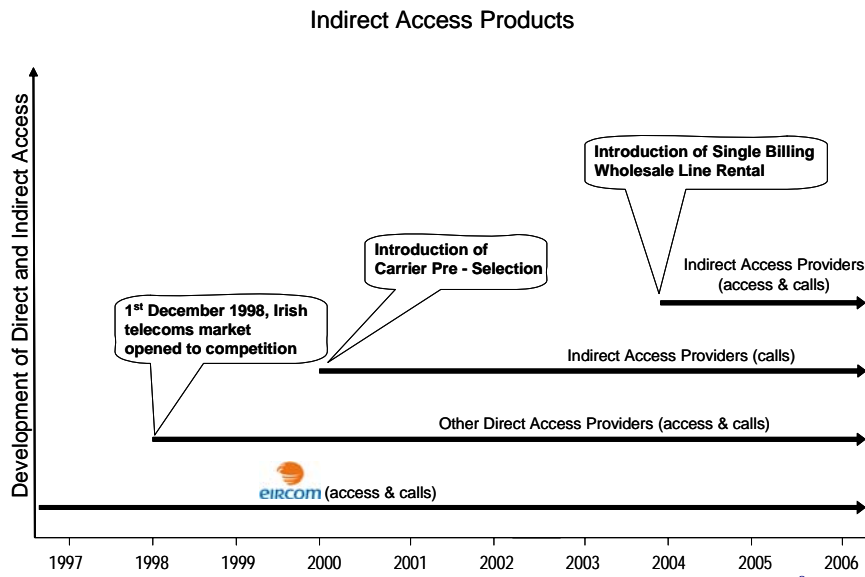
3.4 Each of these questions is reviewed below, with the focus on change in the markets since the time of the initial review.

Is there a single market for fixed access and fixed calls?

Introduction

3.5 In the initial review, ComReg proposed to define separate markets for retail access and retail calls.

- 3.6 Demand-side analysis preliminarily concluded that access and calls were complementary, and are not functional substitutes. It was noted that there is no functional substitutability between access and calls. The relationship between the two is vertical, and they perform different functions. Furthermore, it was noted that while many users have a preference for purchasing access and calls from the same provider due to lower transactional costs and the ease of a single bill, consumers continue to acquire call services from alternative service providers for some/all of their outgoing calls e.g. international calls. If a provider of access and calls attempted to raise its price of some/all of these outgoing calls above the competitive level, they would be constrained by the ‘alternative provider’. On the demand-side, therefore, fixed access and fixed calls cannot be seen as close demand-side substitutes.
- 3.7 In terms of the supply-side, it was noted in the initial review that there was greater potential, absent regulation, for an access provider to enter the calls markets than for a calls provider to enter the access market. It was suggested that the main area of potential change on the supply-side was likely to be the development of combined calls and access products, and that this could change the conclusions on supply-side substitutability. ComReg noted that this would be monitored.
- 3.8 As part of the current review and in considering changes in the markets since the initial review, ComReg has examined in detail changes in the supply and demand of access and calls products. This is presented below.
- 3.9 The key question that remains relevant in the current review is whether the ability to purchase access and calls together is sufficient to render them in the same market. In the context of the Irish market, this means that ComReg needs to examine the extent to which the prevalence of a single calls and access product is such that calls and access should be considered as a single market
- 3.10 Figure 3.1 below shows the development of wholesale indirect access products over the period 1997-2006. End users have been able to buy calls separately from access, from an operator other than eircom, since the introduction of Carrier Pre select (CPS) in 2000. In 2004, SB-WLR was introduced to allow retail customers to buy a bundled access and calls product from other operators competing with eircom.



⁹ Source: ComReg.

3.11 The impetus for the introduction of SB-WLR was that separate billing for access and calls acted as a constraint on the development of competition. This was because many customers can see the advantage of and wish to receive a single bill for both products from a single operator.

3.12 ComReg has analysed change in the retail fixed calls markets in terms of :

- a) Service take-up;
- b) Customer awareness; and
- c) Bundled services.

3.13 Each of these issues will be considered in turn.

(a) Service take-up - Take-up of combined calls and access products

3.14 In assessing purchasing patterns of access and calls, ComReg has examined the take up of:

- SB-WLR (which facilitates the provision of access and calls together) compared to CPS (which facilitates the provision of calls only).
- eircom's talktime product (bundled access and calls) compared to calls separately.

3.15 ComReg has assessed the pattern of growth in SB-WLR lines within the overall take-up of indirect access. If there is a strong increase in SB-WLR lines as a proportion of all lines, then it would indicate a possible tendency towards convergence of access and calls products.

3.16 Indirect access accounts for approximately 11% of all PSTN¹⁰ and ISDN BRA lines, and around 5% of ISDN FRA and PRA lines¹¹.

3.17 As shown in Figure 3.2 below (which presents the take up of indirect access products) there has been rapid growth of SB-WLR since its launch, and the single billing product now accounts for more than half of all indirect access products. From June 2004 to May 2006, SB-WLR has increased by over 250,000 lines while CPS has decreased by approximately 120,000 lines. This would indicate that while there has been migration from CPS-only to SB-WLR, nearly half of CPS-only subscribers have remained despite the availability of a single billed product.

¹⁰ Public Switched Telephone Network – see annex B for a glossary of terms.

¹¹ Integrated Services Digital Network Basic Rate Access, basic rate access (BRA), fractional rate access (FRA) and primary access (PRA). See annex for a glossary of terms.

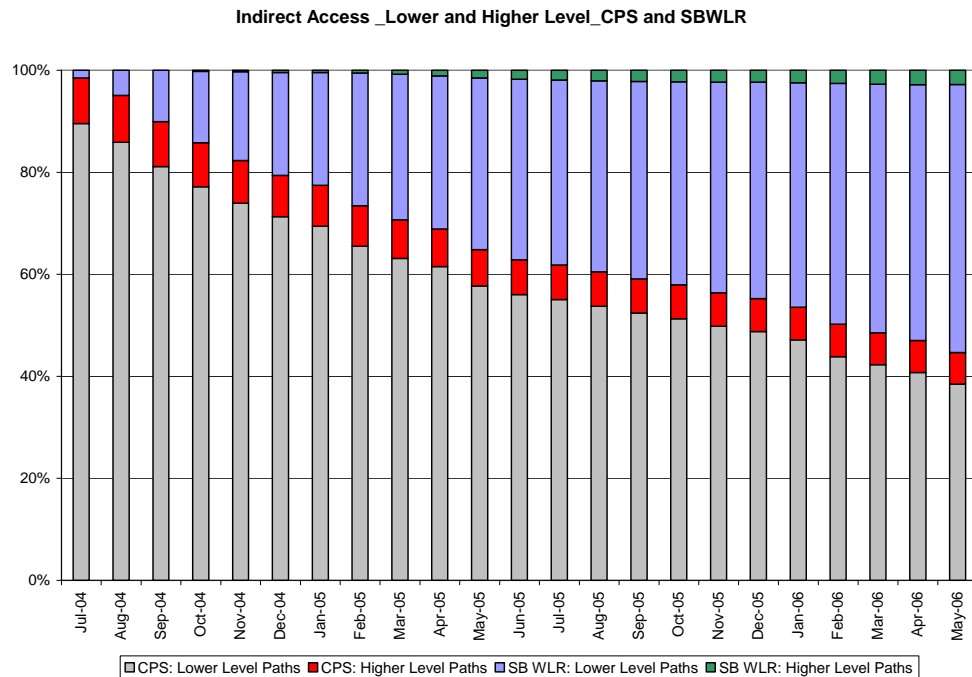


Figure 3.2: Take Up of CPS and SB-WLR¹².

3.18 Also, at the time of publication of this document there were thirteen CPS providers and seven providing services via SB-WLR¹³. Subsequent to the launch of SB-WLR, some operators have retained CPS-only offerings and some even began offering CPS only¹⁴. Furthermore, consumer survey results¹⁵ showed that 15% of corporates are provided with fixed line services by eircom *and* another provider. This would indicate that there is still demand for access and calls on their own and therefore that there may be a separate market for calls.

3.19 eircom offers a bundle of line rental and calls, marketed as ‘talktime’. This bundled package was introduced on 1 June 2004, and there were 52,000 packages sold by the end of June 2004. eircom announced that it had sold 238,000 talktime packages by March 2005¹⁶.

3.20 ComReg’s assessment is that both the OAOs’ SB-WLR product and eircom’s calls and access bundle have shown strong growth in the market. The preliminary conclusion therefore to be drawn from this analysis is that while the take up of single billing products has grown since their introduction, enough customers still buy the products separately, and enough operators still offer them separately, to render calls and access in separate markets.

¹² Source: ComReg.

¹³ This does not include resellers.

¹⁴ It should be noted that SBWLR subscribers also acquire CPS in combination with line rental.

¹⁵ Millward Brown IMS – SME and Corporate ICT Research. Wave 3.

¹⁶ eircom group plc, quarterly 1 results to 30 June 2004. 27 August 2004. Slide 10 and quarter 3 results to December 2005, slide 6 available at http://investorrelations.eircom.net/pdf/3rd_quarter_results_2005_presentation.pdf

(b) Customer awareness

3.21 In June 2005¹⁷ ComReg published a survey which showed that 75% of SMEs (Small and Medium-sized Enterprises) and 94% of large corporates were aware of single billing. More recent survey data¹⁸ shows that switching activity has increased significantly, while only 16% of SMEs had switched provider in 2004, 45% had done so in 2006 (and 40% of corporates had switched in the same time period).

3.22 Awareness among residential users who were *not* currently using single billing remains relatively high. In response to the question of whether users were aware of single billing the following results were found among residential users.

Are you aware of SB_WLR?		
	Aware	Unaware
Q2 2005	41%	59%
Q1 2005	41%	59%
Q4 2004	50%	50%

Table 3.1: Survey Findings on Awareness of SB-WLR.

3.23 It also must be noted that the survey question was directed at customers who did not use SB-WLR, and as the penetration of SB-WLR increases, the pool of potential respondents decreases.

3.24 Examples of other indicators of awareness include:

- At Q1 2006¹⁹ the main reason given by consumers for switching back to eircom was that “it was too much hassle to receive two bills.”
- In Q4 2005, those who do not avail of single billing cited lack of awareness as the main reason for not using the service.

3.25 ComReg’s assessment of consumer survey data indicates that, as would be expected, overall awareness of single billing has increased since the time of the initial review.

(c) Bundled services

3.26 A significant development since the time of the initial review is that operators are offering bundles which include a broader range of services than access and calls, with some offering data and TV in the bundle as well²⁰. ComReg notes examples from other countries of plans to introduce bundles which would incorporate voice, data, TV and mobile²¹. While the demand for calls and access bundles may be increasing, this does not automatically preclude a finding of separate markets for calls and access

¹⁷ amárach Half 1 2005 survey.

¹⁸ Millward Brown IMS: May/June 2006. Over half of respondents had switched in the previous 12 months.

¹⁹ amárach Q1 2006 survey.

²⁰ Examples include ntl and Magnet.

²¹ Merger between virgin and ntl - see http://en.wikipedia.org/wiki/Fixed_mobile_convergence.

respectively²². Despite the increase in availability and take-up of bundled packages, calls and access are still often purchased separately.

Preliminary Conclusion

- 3.27 ComReg has analysed patterns of change in the retail markets for fixed calls and access. The focus has been on assessing the extent to which the development of a combined calls and access product has merged the access and calls markets. It can be noted that SB-WLR is increasing as a proportion of all indirect access lines, and now represents over 50% of indirect access lines. Also, customer awareness of single billing has increased overall since the initial review. This would suggest that with increased awareness there is potential for the continued growth of SB-WLR. However, it should also be noted that at the end of March 2006, CPS-only lines accounted for 11% of all access paths and SB-WLR (which combines CPS and SB-WLR) represented 10%. Therefore, while the proportion of indirect access paths has grown, it is still a small part of the overall market.
- 3.28 This suggests that even if the price for calls or access sold separately were to increase by a small but significant amount it is unlikely that customers would switch in sufficient numbers to fixed calls/access *convergent products* such as to render that price increase unprofitable.
- 3.29 In the initial review, ComReg noted the trend towards bundling access and calls and this has been re-examined in the current review. More recently, there is a trend towards offering bundles which are flexibly structured, and could include elements of access, calls, data and broadcast. Many operators offer a package which is customised. However, each element of the bundle (whether access, calls, data or TV) can be, and often is, bought separately. Even if the price of the access and calls elements sold separately were to increase by a small but significant amount, it is not clear that customers would switch in sufficient numbers to a *bundled product offering* such as to render it a close enough substitute.
- 3.30 In accordance with *The Recommendation*, ComReg proposes to define separate markets for telephone services from a fixed location as distinct from the market for narrowband access.

Q. 2. Do you agree that retail calls and retail narrowband access are in separate markets? Please elaborate your response.

Are calls from fixed locations in the same market as calls from mobiles?

- 3.31 In the initial review, ComReg concluded that calls from fixed locations and calls from mobile locations were not in the same market. Fixed and mobile calls were characterised as complementary products rather than as substitutes as it was shown (from analysis of call minute data and consumer surveys) that consumers made both fixed and mobile calls depending on where they were located.

²² This is supported by ECJ/CFI case law e.g. *Airtours v. Commission*.

3.32 This was because:

- From the demand-side calls from a mobile were generally (but not always) more expensive than calls from a fixed line, and this affected demand substitution. Functional differences, particularly the ability to deal with data, and the mobility functionality, indicated that there should be separate markets.
- Supply-side substitution in response to a small but lasting price increase was seen as unlikely, not least because of the regulated access to spectrum and the cost and time involved to provide mobile services²³. In addition, a mobile provider seeking to enter the calls market would need to provide a product which matched the quality of a fixed line, at a competitive price.

3.33 ComReg noted in the initial review that these markets were evolving rapidly, and signalled that they would be kept under review. In the current review, ComReg has again noted the detailed submissions from respondents as part of the initial review, and has undertaken further analysis of change in the level of substitutability.

3.34 Since the time of the initial review, there have been no decisions of either the Irish Competition Authority or the EU Commission which would change the original contention that there are separate markets for fixed and mobile services. Recent merger decisions of the EU Commission have relied on the market definitions contained in *The Recommendation*²⁴. None of the recent decisions appear to have departed from the *Vodafone Airtouch / Mannesmann* decision²⁵ where the EU Commission, as in previous decisions²⁶, confirmed the existence of a distinct product market for the provision of mobile telecommunications services.

3.35 This position is mirrored in Ireland, where, for example, the Competition Authority cleared eircom's acquisition of Meteor. The decision clearing the acquisition did however note the possibility of an emerging market for fixed/mobile convergent products²⁷.

“The Competition Authority believes that the level of substitution has not reached the point where the different products can be considered to be in the same market. There is no evidence that the level of substitution has changed significantly since the most recent determinations by ComReg and the Commission that fixed line and mobile telecommunications services are in separate markets.”

²³ Alternatively, an operator could acquire a MVNO arrangement however this process is lengthy and it is unlikely that the operator could sign up a sufficient number of subscribers to have a constraining effect on a fixed line operator.

²⁴ EU Commission Recommendation of 11 February, 2003 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 the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

²⁵ Decision of 12 April, 2000 in case COMP/M.1795 - *Vodafone Airtouch / Mannesmann*.

²⁶ For example Decision of 13 October, 1999 in case COMP/M.1439 – *Telia / Telenor*, see paragraph 94.

²⁷ Merger determination of the Competition Authority (M/05/050). Proposed acquisition of Meteor Mobile Communications Limited by eircom Group plc 18 November, 2005.

3.36 While most European NRAs (including those with a higher mobile penetration rate and/or lower fixed penetration rate than Ireland²⁸) have recognised, in their notifications to the EU Commission, some level of fixed mobile substitution, none has concluded that there is a single market for fixed and mobile services²⁹.

Demand-side analysis

3.37 In order to extend the analysis of possible demand-side substitution, as part of the current review ComReg has examined recent trends in the following areas :

- a) Call volume;
- b) Price;
- c) Functionality; and
- d) Consumer behaviour.

(a) Call volume

3.38 ComReg has analysed the call volume for both fixed and mobile services, and the results show that there is a clear increase in the number of calls from mobiles and a slight decrease in call volumes from fixed access. In the period from quarter one³⁰ 2004 to quarter one 2006, fixed minute volumes decreased by 10% while in the same period there was an increase in mobile minutes by 37%. Examination of the data indicates that there was an overall increase in total call volumes, so that the overall calls market, measured by minutes, has increased. This is presented in Figure 3.3 below.

3.39 The take up of 3G services is currently *de minimis*³¹, as noted in the Access Market Review³² ComReg does not consider at this point that Internet access provided from mobile access to be a functional substitute for access from a fixed location (this is due to *inter alia* limited content, smaller screen and lower interactivity). Further, the higher pricing of 3G internet access would preclude it from being considered a strong substitute.

²⁸ Portugal, Sweden, UK, Finland, Spain, Austria, Netherlands have a higher mobile penetration rates than Ireland - see Irish Communications Market: Quarterly Key Data- June 2006. ComReg Document Number: 06/28 for a comparative analysis of mobile penetration among Member States. Belgium, Spain, France, Italy, Austria, Portugal and Finland have lower fixed penetration rates than Ireland. See IPSOS report produced for the European Commission DG Information Society 2004 for a comparative analysis of fixed penetration.

²⁹ See CIRCA - Communication & Information Resource Centre Administrator.htm for Notifications and Comments from individual NRAs in respect of the relevant markets.

³⁰ Quarter 1 refers to the months of January, February and March of the respective year.

³¹ Around 6% of mobile phone users according to amárach consulting, July 2006.

³² Reference: Retail Narrowband Access Market Review (ComReg Document Number: 06/39).

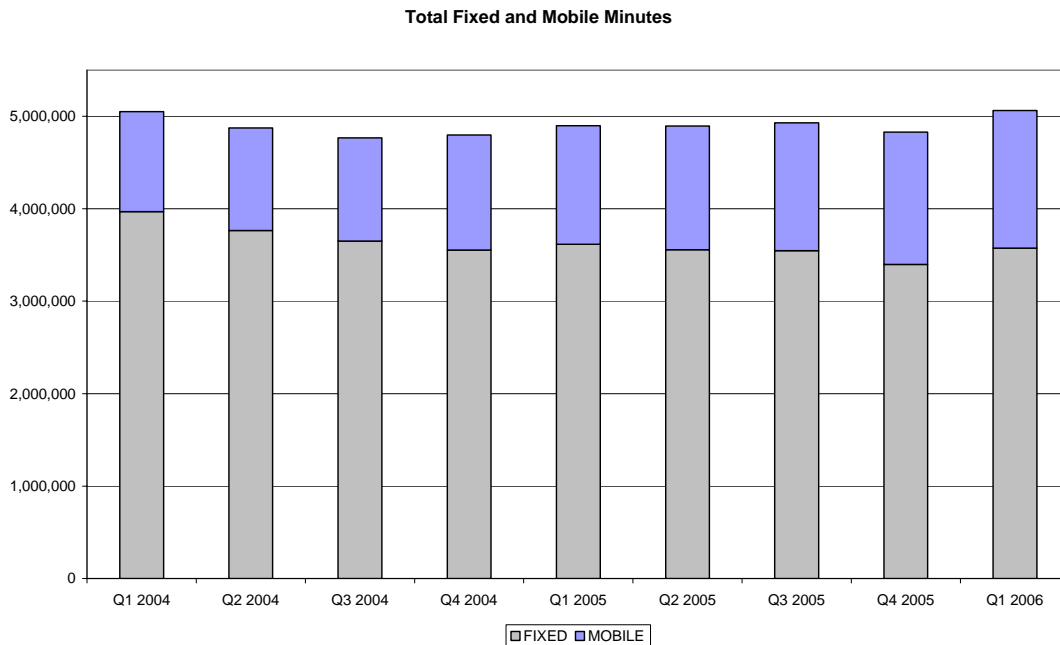


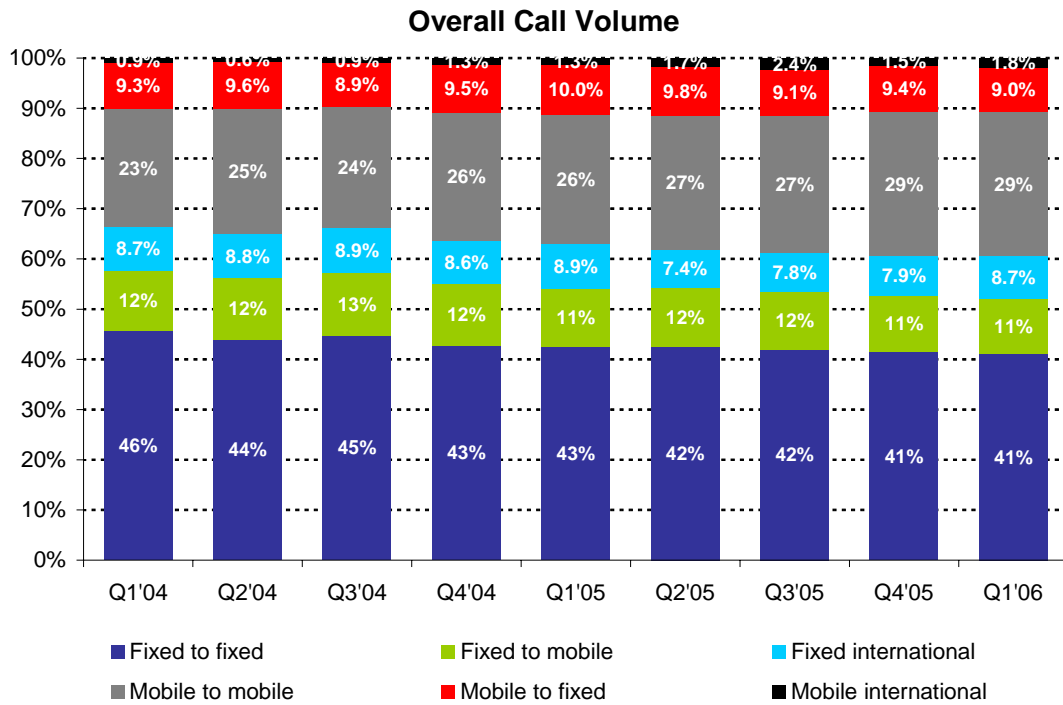
Figure 3.3: Call volume by Fixed and Mobile Access

- 3.40 Analysis of call type identifies that the most notable change in calls from a fixed location is the fall in *calls to the Internet* which decreased by 27 % in the same time period. Calls to the Internet are likely to have fallen, not as a result of fixed mobile substitution but rather due to the migration of customers from narrowband to fixed broadband services.
- 3.41 In a paper on mobile competition, Professor Hausman (MIT) measured the substitution from fixed-line telephony to wireless telephony in Ireland since 2001³³. Hausman explains that fixed line, *non-Internet* minutes in Ireland decreased by 18% while mobile penetration increased in the same period by the same proportion.
- 3.42 However, a key element of Professor Hausman's paper is that if consumers are able to use 3G mobile phones which offer data rates/speeds comparable to fixed-line services, then in terms of voice and data access these services may be considered as functional substitutes. ComReg would not agree that mobile 3G services constitute a sufficient threat at the moment, currently 3G usage in Ireland is very limited³⁴, and 3G Internet access is not equivalent to fixed-line data access in terms of functionality and pricing. ComReg believes at this point, that if there were a lasting price increase by a hypothetical monopolist supplier of fixed calls, a sufficient number of fixed line subscribers would *not* be in a position to switch to 3G services (due to low penetration), so as to act as a constraint. Thus a single calls market is not justified at this point.

³³ Jerry Hausman, From 2G to 3G: Wireless Competition for Inter-Related Services, AEI-Brookings Joint Center Report, at 114, <http://www.aeibrookings.org/admin/authorpdfs/page.php?id=225>.

³⁴ Around 6% of mobile phone users according to amárach consulting, July 2006.

3.43 Overall call volumes made from mobile networks (particularly calls to fixed locations, off-net and on-net) have increased.³⁵ In the assessment of the overall traffic pattern from fixed and mobile access and in an attempt to identify areas of development, ComReg has noted that by differentiating by call type, while fixed-to-fixed calls have fallen as a percentage of total calls and mobile-to-mobile has increased as a percentage of the whole. However, international calls from mobiles and fixed access have remained relatively stable. This can be seen from Figure 3.4 below. This may indicate that there is a greater level of fixed mobile substitution for certain calls types e.g. local as opposed to international calls.



Source: Quarterly Key Data Questionnaire

Figure 3.4: Analysis of Overall Voice Traffic³⁶

Preliminary conclusion: Call volume

3.44 Analysis would suggest the trends outlined above on their own are not enough to prove sufficient substitutability to render fixed and mobile calls in the same relevant market at this time. Clearly there was a joint variation in the decrease in domestic fixed calls in the same time period as the increase in calls from mobile, but there is not a clear co-relation from which ComReg could impute causality. In order to extend the analysis, ComReg considered the impact of change in the price of fixed and mobile calls since the time of the initial review.

(b) Pricing Analysis

3.45 In the initial review, it was noted that one of the main reasons why a user would choose to make a fixed call rather than a mobile call was price. In general, there was a significant price premium associated with calling from a mobile compared with a fixed line. The continuing existence of the price premium would suggest that fixed

³⁵ Calls from mobiles increased by 37% for the period between Q1 2004 and Q1 2006. Source: ComReg Market Analysis Data.

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originated and mobile originated calls are not subject to a common pricing constraint³⁷.

3.46 ComReg has carried out a pricing comparison of fixed and mobile calls. Pricing evidence indicates that for comparable usage packages, mobile prices were on average more expensive than fixed prices – this is illustrated in Figure 3.5 below. The red line on the graph below represents the average³⁸ price per minute on High User mobile packages which shows that some calls e.g. calls to mobile may be cheaper for some mobile users.

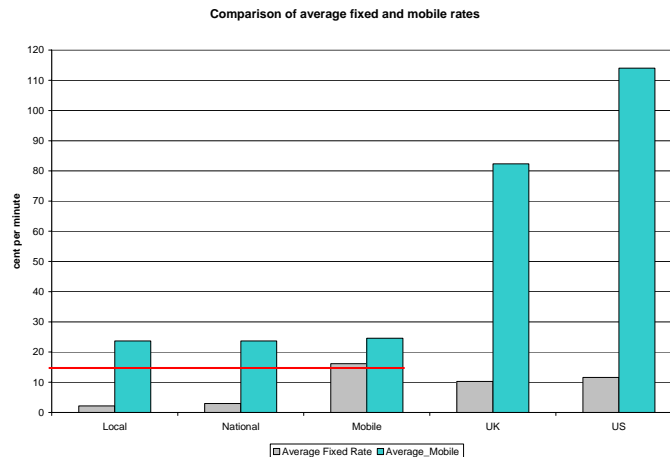


Figure 3.5: Fixed Mobile Pricing Analysis³⁹

3.47 Calls from fixed access are on average cheaper. As illustrated by Figure 3.5 above, fixed-to-fixed (local and national) charges are currently approximately 10% of the level of mobile-to-fixed (local and national) charges. Similarly, in relation to calls to many international destinations (US and UK are presented above), average fixed-originating charges appear to be approximately 10% of average mobile-originating charges. It is only in relation to calls to mobiles that fixed-originating charges are comparable to mobile-originating charges.

3.48 An analysis of pricing suggests that the price advantages and disadvantages of making a fixed call as opposed to a mobile call vary significantly for different types of user, and indeed for different types of call. As Figure 3.5 shows, the cost of making an international fixed call is significantly cheaper than making an international call from a mobile. On the other hand, for some users, the cost of making a mobile to mobile domestic call may be lower than making a fixed to mobile domestic call. Although the cost of making a mobile to mobile domestic call may be lower than the cost of making a fixed to mobile domestic call, there is still a significant price differential between consumers making local/national and international calls to a fixed location from a

³⁷ It is recognised that a like-for-like comparison is difficult because the tariff structures and bundling possibilities differ between fixed and mobile. ComReg's analysis has taken this into account as far as possible.

³⁸ Vodafone and O2 were chosen based on market share.

³⁹ Tariffs are taken from operators web sites and are inclusive of VAT. Average Mobile Price is based the average tariffs charged per operator by package, divided by total number of packages. Average Fixed Rate is based on the standard rate provided by the eircom, BT Ireland and Smart. Fixed to Mobile Rate is based on the weighted average tariff. Weighted by market share. Fixed Access Charge (€24.18) *12 months is divided by the average number of calls per annum - as provided by Teligen Pricing methodology.

fixed line and from a mobile respectively. This price differential between fixed and mobile calls to a fixed location is unlikely to be off-set by cheaper mobile to mobile calls alone.

3.49 The tariff structures for fixed and pre-paid mobile services are different. This is primarily due to the need for an access element to be included in any call pricing analysis⁴⁰. Access and call services are inextricably linked, for a person to make a fixed call, they must have fixed access for which they generally must pay €24.18. Beyond this, the variable cost - the cost of the actual call - is relatively low. Therefore the marginal cost will be lower for consumers who make a higher volume of calls and vice versa. To overcome the high line rental cost the vulnerable user scheme (which is aimed at low volume users as opposed to susceptible ones, as the name might suggest)⁴¹ is available to those who make very low volumes of fixed calls at low rates. This can be compared to a pre-paid mobile service tariff structure, where the access and call tariffs are bundled. Therefore, for very low volume users, mobile pre-paid tariffs may be lower, which may represent 'mobile only' houses. It should be noted however that low volume are not representative of the market as a whole and for the average user, fixed call rates are lower than mobile.

3.50 ComReg would therefore infer that at the margins, for example for a user who makes very few calls, it may be worth substituting mobile prepaid for fixed. However, this is not representative of the market as a whole, and fixed call rates are still generally lower than mobile.

3.51 Over the past few years, mobile prices have been declining at a faster rate than fixed calls. ComReg's analysis indicates that between February 2003 and February 2006 mobile prices fell by approximately 34% compared with a fall of 9% for fixed services⁴². Despite this price decrease, mobile prices are still substantially higher than fixed for local/national/international calls to a fixed location and as such if the price of fixed calls were to increase by 5-10% it is still unlikely that the price differential would justify customer switching in sufficient numbers to mobile calls. Consumers may switch to mobile calls on a case by case basis such as for calls to mobile numbers but this would likely indicate an element of complementarity between fixed and mobile calls rather than sufficient interchangeability such as to render them in the same relevant market.

Preliminary conclusion: Pricing analysis

3.52 ComReg's view on pricing is that the differential between fixed and mobile call prices is being reduced, and this is most evident in the calls to mobiles segment of the domestic calls market. However, on the basis of price, there are still very few users

⁴⁰ Figure 3.5 above includes line rental divided by the average number of calls per user.

⁴¹ Subsequent to introduction of a price cap in 2003, a "Vulnerable Users" scheme was introduced by eircom in June 2003. It is targeted at low fixed users, including those who may qualify for the eircom social benefit scheme. Under this scheme, which is optional, increases in the size of vulnerable users' telephone bills where they have a relatively low usage will be limited. This scheme works as follows: if a user currently spends less than €10 a month on calls the scheme entitles the user to the first €6.46 worth of calls free. It should be noted that once a customer's bill is over €10 per month the call rates double after €5. All figures are inclusive of VAT.

⁴² Source: Teligen data. Also ComReg notes that in any pricing analysis, since fixed calls are regulated they are presumed to be competitive, but mobile prices may not be at competitive rates.

for whom all mobile calls would compare favourably with all fixed calls. The key reflection of trends in pricing is most likely to be the decision to use fixed or mobile almost on a call-by-call basis. This would indicate complementarity rather than substitutability.

(c) Functionality

- 3.53 In the initial review, it was suggested that fixed and mobile were not close functional substitutes. It was noted that there may be one-way substitution from fixed to mobile, as a fixed call can only be made or received from its fixed access point, while a mobile call is independent of location. In the eyes of the consumer a mobile phone affords the consumer convenience and flexibility as it is independent of location whereas fixed calls can only be used at a fixed access point. As a contribution to the initial review process, eircom made available a consultancy report⁴³ which suggested that fixed calls and mobile calls were substitutes rather than complements for retail customers. The report suggested that fixed and mobile calls would become increasingly substitutable. ComReg has considered the findings of this report in detail, but while recognising that substitution is occurring in the market, believes that it is not occurring at a sufficient rate to justify the definition of a single market.
- 3.54 Under the assessment of whether VoIP is a substitute for a fixed call, ComReg at this point suggests that two forms of mobile voice over IP (i) Voice over Unlicensed Mobile (Wireless) Access (“VoUMA”); and (ii) Voice over Licensed Wireless – incl. 3G and (pre)Wi-Max based services are not functional substitutes for a fixed calls. At this point neither of these products is commercially available in Ireland. This is examined in further detail below.
- 3.55 Since the time of the initial review, there has been widespread interest in the notion of a converged fixed/mobile market. As there are currently no converged products or services available in the Irish market, ComReg must rely on a prospective assessment of the likelihood of a converged market developing within the next two years.
- 3.56 It was noted that a number of operators were trialling services, but none claimed that service would be launched commercially within the next two years⁴⁴. It should be noted that ComReg has recently published a consultation on Geographic Number Allocations for Hybrid Fixed-Mobile Telecoms Services⁴⁵. The outcome of which will influence ComReg’s decisions in respect of converged fixed /mobile services and geographic number allocation.
- 3.57 When operators were asked⁴⁶ to identify the main areas of potential convergence between fixed and mobile services, it was suggested by one operator that a converged fixed/mobile market may develop in the future depending on the success of development of the communications technology. However, they also noted that these products were not currently available in Ireland, nor was it clear if or when they would be developed, and if developed, what their specification and prices would be, and/or their target customers. The view was that any such fixed/mobile converged market was ‘entirely speculative’.

⁴³ Indecon (2003) Issues Affecting Appropriate Market Definition for Selected Electronic Communications Services.

⁴⁴ Submission provided October 2005.

⁴⁵ ComReg Document Number 06/33.

⁴⁶ 2005 Market Analysis Data Direction – Issued by ComReg in October 2005 to all ECN and ECS providers.

3.58 ComReg notes that a number of EU countries have seen launches of ‘converged’ fixed-mobile products, where the consumer is charged at fixed rates when she is in her ‘home cell’ (an area including her address plus a radius surrounding this) while being charged at mobile rates when she is outside this cell.

3.59 ComReg has assessed whether such a product should now be considered as part of the fixed calls market. It has previously been argued that mobile calls and access are not in the same market as fixed equivalents due to there being insufficient substitutability between them, with the different pricing patterns, quality issues plus the fact that fixed access is seen as a much better vehicle for data services being key issues in this. While the converged product would negate the issue about pricing, the quality, and, particularly, the difficulty in providing data services through mobile, issues remain and would suggest that such a product may not be in the same market as fixed services.

3.60 In any case, such converged products do not currently exist in Ireland, and thus are unlikely to have any significant impact on competition over the period of the current review. ComReg would note that take-up of such services in other countries has been relatively limited so far. Should such products be launched over the period of the review and start to have a significant impact on the market, ComReg can review the market at that point.

Preliminary conclusion: Functionality

3.61 ComReg is of the preliminary view that fixed and mobile calls are not sufficiently strong functional substitutes to justify their inclusion in the same market.

(d) Consumer behaviour

3.62 ComReg suggests that some consumers will be slower to switch away from their fixed line as a result of tacit benefits associated with their fixed line e.g. comfort with existing technology and a lack of interest in new communication developments, privacy in making a call and projecting a sense of stability and security to customers. ComReg would welcome respondents’ views as to whether such switching barriers may exist and how significant they may be.

3.63 Furthermore, consumer survey findings⁴⁷ suggest there are distinct call patterns from fixed and mobile hand sets. Consumers are more likely to make a call from a mobile for shorter calls. For a five minute call – as opposed to a two minute call - respondents were more likely to call a landline and less likely to call a mobile. This would reinforce the point above that the decision to use fixed or mobile appears to take place on a call by call basis which would indicate complementarity rather than effective substitutability.

3.64 Also respondents were more likely to use their mobile to call another mobile.

	Two Minute Call	Four Minute Call
Call their mobile from your mobile	36%	26%
Call their mobile from a landline	15%	17%
Call their landline from your mobile	2%	2%
Call their landline from a landline	26%	37%

Table 3.2: Shorter and Longer Communications Preferences

⁴⁷ amárach Consulting April 2006. Residential Survey.

Preliminary conclusion: Consumer behaviour

3.65 ComReg would suggest that there are distinct consumer behaviour characteristics which would render fixed and mobile calls to be in separate markets. ComReg would welcome respondents' input on whether these differences are significant.

Supply-side analysis

3.66 *The Guidelines* suggest that ComReg may also take into account the likelihood that undertakings not currently active in the fixed calls markets may decide to enter the market, within a reasonable time frame, following a relative price increase. In circumstances where the overall costs of switching production to the product in question are relatively negligible, then that product may be incorporated into the product market definition.

3.67 ComReg maintains that it is unlikely that a fixed call provider would respond to a price increase of mobile services as they would need to establish an entirely new mobile network, not least because of the regulated access to spectrum and the cost and time involved.⁴⁸

3.68 Additionally, in the absence of regulation it remains unlikely that a mobile operator would enter the fixed calls as they would need to provide a product which matched the quality of a fixed line, at a competitive price. This would require either the construction of a new greenfield access network or the development of a mobile (or other wireless) product which more closely resembled the fixed access product in terms of price and quality⁴⁹. ComReg is not aware of any mobile operator actually considering such a move, nor has a mobile operator entered in the past. As noted in *The Guidelines*, supply-side substitution must be real, mere hypothetical substitution is not sufficient for the purposes of market definition⁵⁰.

Preliminary Conclusion: Overall

3.69 ComReg has carried out a detailed assessment of changes in the markets which would impact on the substitutability of fixed and mobile calls, both from the demand (e.g. in the eye of the consumer) and supply-side. Since the time of the initial review, the markets have been characterised by an overall increase in call volumes, within which a decrease in calls to the internet can be seen, and an increase in domestic mobile calls. It is likely that some of this change is due to substitution, where a user makes a mobile call instead of a fixed call, and some is due to other factors, such as an increasing penetration of broadband.

⁴⁸ Alternatively, an operator could acquire a MVNO arrangement however this process is lengthy and it is unlikely that the operator could sign up sufficient number of subscribers to have a constraining effect on a fixed line operator.

⁴⁹ In ComReg's view, 3G offers the possibility of higher quality of service on mobile, as high speed data can be delivered through a mobile handset. Four licences were granted to 3G operators (Vodafone, O2, 3 in 2002 and Smart in 2005). All of the former three networks have launched commercially but the product is at a very early stage of development in Ireland. Experience from the introduction of 3G in other countries has shown that the price differential between mobile and fixed is increased, at least in the early stages of the product's life. This suggests that while 3G may compare well with fixed on a functional level, it is unlikely, in the short term, to compare favourably on price.

⁵⁰ See paragraph 52 of *The SMP Guidelines*.

- 3.70 The price differential between fixed and mobile calls has been reduced, and in fact mobile may be cheaper for some calls for some users, however on the whole calls from fixed access are generally cheaper than those from mobile access. It is still the case that, for most types of customer and most types of call, mobile is more expensive than fixed. Charges for fixed calls are currently approximately 10% of the level of mobile-to-fixed (local and national) charges. Similarly, in relation to calls to many international destinations, average fixed-originating charges appear to be approximately 10% of average mobile-originating charges. It is only in relation to calls to mobiles that fixed-originating charges are comparable to mobile-originating charges. In summary, ComReg is of the preliminary view that although the cost of making a mobile to mobile domestic call may be lower than making a fixed to mobile domestic call, it is still the case that for consumers making local/national/international calls to a fixed location there is a significant price differential between calls from a fixed line and calls from a mobile. Thus for a significant portion of consumers' needs they are unlikely to switch from fixed to mobile in sufficient numbers.
- 3.71 Functionally, a mobile call can substitute for a fixed call in a way that a fixed call cannot substitute for a mobile call. In the eyes of the consumer a mobile phone affords the consumer convenience and flexibility as it is independent of location whereas fixed calls can only be used at a fixed access point. However, the price differential between fixed and mobile calls nonetheless limits the scope for fixed-mobile substitution on such a scale so as to render them in the same relevant market. The introduction and widespread dissemination of converged products and services in the Irish market could change this conclusion, but according to the views of operators, this is not likely within the timeframe of this review.
- 3.72 For these reasons, ComReg's preliminary conclusion is that there would appear to be an element of complementarity between fixed and mobile calls however they are not effective substitutes at this time, and so are not in the same relevant market.

Q. 3. Do you agree that fixed and mobile call services should be considered to be in separate markets? Please detail your response.

Are fixed to mobile calls in the same relevant market as fixed to fixed calls?

- 3.73 ComReg proposed that fixed to mobile calls were in the same relevant market as fixed to fixed calls because:
- On the demand-side, there is a single market for calls from a fixed location – a customer does not purchase the ability to buy calls to mobile separately from all other calls.
 - A supply-side analysis shows that there is likely to be supply-side substitution. If a hypothetical monopolist of fixed-to-fixed calls wants to offer calls to mobile, it is just a matter of concluding an agreement with the mobile operator for terminating calls.
- 3.74 ComReg notes that all respondents agreed with this assessment, and that there have been no significant changes in the market.

Q. 4. Do you agree that fixed to mobile calls and fixed to fixed calls should be considered to form part of the same relevant market? Please detail your answer.

Are operator assisted calls in the same relevant product market as other calls?

3.75 ComReg's conclusion was that operator assisted (OA) calls were best treated as services ancillary to the calls which made up the fixed calls market(s), rather than as a part of that market. As ancillary services to the market, they would be subject to the obligations and remedies that may be found to be appropriate for the calls in the market to which they are ancillary.

3.76 There have been no major changes in the market which would indicate that this view should be revised.

Q. 5. Do you agree that operator assisted calls should be considered to be an ancillary service to direct-dialled calls? Please detail your response.

Are calls from payphones in the same product market as other fixed line calls?

3.77 In the initial review, ComReg proposed that calls from payphones were in a separate market and that a separate market review should be undertaken. This was because consumers purchase payphone calls as a bundle of access and calls, and as a consequence this service did not fit into the access or calls market alone.

3.78 ComReg has conducted a separate review of payphone services which has been published in parallel with the Retail Narrowband Access market review⁵¹.

Q. 6. Do you agree that calls from payphones should not be considered to be in the same relevant market as other land line calls? Please detail your response.

Are calls to the internet in the same relevant market as fixed domestic calls?

3.79 ComReg proposed that calls to the Internet should be defined in the same relevant market as fixed domestic calls because:

- It would be relatively straightforward for a supplier of fixed domestic calls to switch production, and vice versa, should a hypothetical monopolist impose a price increase for Internet calls.

⁵¹ Consultation: Market Analysis: Wholesale and Retail Payphone Market Review. ComReg Document 06/40.

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- Customers generally purchase a cluster of call types from their supplier and there are no differences in purchasing calls to the Internet that differentiate such calls from any other call type. Pricing, terms and conditions of supply and payment terms for calls to the Internet do not vary substantially from voice calls.
- Supply-side substitution is likely to increase between calls to Internet and voice calls, and so they are not in a separate market.
- ComReg maintains that narrowband and broadband access are distinct and exist in different markets⁵² and that calls to the Internet are in a separate market to broadband access.

3.80 The considerations outlined above leads to the conclusion that Internet access calls and domestic calls, both made from a fixed location, form part of the same relevant market.

Q. 7. Do you agree that calls to Internet and fixed domestic calls should be considered as sufficiently similar to form part of the same relevant market? Please detail your answer.

Are calls to other (i.e. non-internet) non-geographic numbers and fixed domestic calls in the same retail market?

3.81 ComReg proposed that there was supply-side substitution between calls to non-geographic numbers and domestic voice calls, and so they did not fall within separate markets.

3.82 There has been no significant change in this market, and it can be noted that all respondents to the initial review agreed with this conclusion.

Q. 8. Do you agree that calls to other non-geographic numbers and voice calls are sufficiently similar so as to be included in the same relevant market? Please detail your answer.

Are fixed SMS calls in the same relevant market as fixed domestic calls?

3.83 In the initial review, ComReg proposed that fixed SMS and calls from a fixed location should not be included in the same market. This was because :

- Not all handsets used for fixed calls can support SMS functionality⁵³; and

⁵² ComReg maintains that 'always on' is the most significant functional difference between DSL access and dial-up; a further key difference is the difference in the speed (bit rate) of the connection. This view is supported by ComReg's conclusion of its review of the wholesale broadband access market (Market Analysis: WBA – Document Number 04/83), where narrowband and broadband services were identified to be in separate markets from the demand-side due to functional and pricing characteristics.

⁵³ The user must have a SMS enabled phone or have an eircom mailbox (where the SMS is delivered via text to speech).

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- The pricing structures are different⁵⁴.
- 3.84 ComReg noted the nascent level of development of the service⁵⁵. Operators generally supported this view.
- 3.85 It can be noted that the take up of Fixed SMS has not changed significantly since the initial review⁵⁶. Despite low take up ComReg has identified a high level of awareness of fixed SMS. Survey data⁵⁷ shows that at the end of 2004, 49% of fixed line households were *aware* of fixed SMS however of those who were aware [the 49%] only 17% had ever used the service.
- 3.86 A recent industry report pointed out that although European fixed line players have been interested in the SMS market which has grown significantly for mobile phone users, it still only represents a fraction of the billions of texts sent worldwide each year⁵⁸.
- 3.87 However, despite fixed SMS not being included in the fixed calls markets at this point ComReg maintains its view that it is appropriate to examine it at the wholesale level as it could rather be considered as an ‘added value’ call product. Currently, fixed SMS is addressed through the Wholesale Line Rental provision for non-discrimination. In the market analysis process, this issue is addressed in the Interconnection Market Review⁵⁹.
- 3.88 ComReg maintains that fixed SMS should not be defined as falling within the same relevant market as voice calls at this time.

Q. 9. Do you agree with ComReg’s analysis of fixed SMS calls? Please detail your response.

Are local and national fixed calls in the same relevant market?

- 3.89 ComReg proposed that local and national calls should be defined in the same market because:
- From the demand-side, although customers may choose to differentiate between international and national calls when buying CPS, they do not normally differentiate between local and national. This is reflected in tariff packages, where a number of operators are providing single tariffs for both local and domestic calls.

⁵⁴ eircom’s fixed SMS services is subject to promotion and is free with TextTime Unlimited for land line to land line. It costs 10c (inc. VAT) to send an SMS from a fixed line to a mobile. The length of the SMS is limited by a specified number of characters.

⁵⁵ Fixed SMS was introduced in Ireland by eircom at the beginning of 2003. http://mmm.eircom.ie/press/PressRelease_Target.asp?id=240&y=2003&archived=1

⁵⁶ Source: Quarterly Market Analysis Questionnaire.

⁵⁷ Source: amárach Trends Survey: November 2004.

⁵⁸ Source: Informa Report: Fixed Carriers Intensify fight for SMS Revenues. January 31 2006.

⁵⁹ Market Analysis - Interconnection Markets, Response to Consultation and Consultation on Draft Decisions – Document 05/37.

- There is a strong possibility of supply-side substitution in response to a 5-10% price increase.
 - There is a commonality of wholesale inputs required for the provision of local and national calls.
- 3.90 ComReg notes that all respondents agreed that local and national calls should be defined in the same relevant market, and maintains that there is no change in the market which needs to be further examined.

Q. 10. Do you agree that local and national calls should be considered to be in the same relevant market? Please detail your response.

Are fixed international calls in the same market as fixed domestic calls?

3.91 ComReg proposed that international calls and domestic calls should be defined as falling within separate markets because:

- Customers view international services differently from domestic services because of the relatively higher cost and the lack of functional substitutability.
- On the supply-side, competitive conditions are different to those for the provision of domestic calls. For example, there are CPS operators which concentrate almost exclusively on the international market and there are international providers operating in the international market only.

3.92 ComReg considered whether the international market should be further divided. It concluded that, while different international routes are promoted differently and have different competitive structures, domestic and international interconnection mean that the range of routes offered can be extended with relative ease and without significant cost. There are no perceived barriers to switching services from one route to another (where the necessary inputs at the terminating end are available). It was, therefore, proposed that the international market should not be sub-divided further.

3.93 ComReg notes that all respondents agree that international calls are in a separate market from domestic calls.

Q. 11. Do you agree that international calls should be considered to be in a separate relevant market to local and national calls? Please detail your response.

Are there separate relevant markets for residential and non-residential customers?

3.94 In the initial review, ComReg proposed that residential and non-residential customers belonged in the same relevant market because:

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- From the demand-side, there are no barriers to switching based on user type – in response to a price increase a residential user could switch to a non-residential package and vice versa. Furthermore, there is not a sufficiently significant price or functional difference between residential and non-residential calls to justify the definition of separate calls markets.
- Also, there was a high degree of supply-side substitution in that, once issues relating to the cost of access have been addressed, a provider of non-residential calls could easily enter the market to provide residential calls and vice versa.
- It was recognised in the initial review that this conclusion differed from *The Recommendation*, which proposed that separate markets could be defined for residential and business customers.

3.95 The Explanatory Memorandum notes that:

‘It is common to distinguish between business and residential markets because the contractual terms of access and service may vary. In addition, it will not normally be possible for a supplier to the business market to respond to price increases by a hypothetical monopolist in the residential market because the economics of serving customers in the two locations may be significantly different. Therefore it is appropriate to distinguish end user categories in the markets defined.’⁶⁰

3.96 ComReg signalled its intention to monitor whether differentiated residential and non-residential services were likely to develop.

3.97 ComReg has carried out further analysis of the markets since the time of the initial review. ComReg has revisited two key questions.

- First, is there a business market which can be defined distinctly from a residential market?
- Secondly, should some parts of the non-residential calls market be narrowly defined to take account of different sets of customer characteristics?

3.98 A data direction was issued to all operators in May 2006. The data direction requested information on means of customer categorisation, pricing, product types, switching and purchasing patterns and also supply-side considerations.

3.99 As part of the current review ComReg has examined possible differences between residential and business customers for retail calls.

3.100 Looking first at the demand-side, the functional element of retail calls demanded by residential users is similar to that demanded by business users. However, there are distinctions which remain, in that in some cases non-residential customers are allocated an account manager and that larger accounts are tendered for while this is never the case for residential packages.

⁶⁰ Page 17 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 communication networks and services.

3.101 ComReg has considered the following factors:

- a) Pricing analysis; and
- b) Ability to switch between customer categories.

(a) Pricing analysis

3.102 An assessment of pricing indicates that similar options are available to residential and business users, e.g. both have a choice of base rates (which are standard) and discount schemes and tariff plans (which are generally differentiated based on calling patterns and minimum spend). Tariff discounts generally depend on volume of calls rather than on customer type. However from the information submitted to ComReg it would seem that the number of consumers on pricing plans as opposed to base rates has increased since the initial review, this has motivated ComReg to assess whether it is appropriate to maintain a single market. These pricing plans are designed by operators to match the distinct residential and non-residential calling patterns and demand characteristics (which vary depending on the time of day and duration of call etc). ComReg would suggest that even where the base rate is available to all, in practice customers with higher usage are likely to receive greater discounts and the effective rates by user can vary.

3.103 It would appear from this that non-residential packages require higher volumes of usage before discounts would apply and the more one spends the lower the effective rate. In that regard there may be little incentive for residential customers to switch packages in response to a small but permanent price increase due to the barriers to switching e.g. minimum spend levels. This is supported by consumer surveys which show that among residential users for the first quarter in 2006 (Q1 2006) the average *bi-monthly* bill was €103.49 and €104 in Q2 2005⁶¹ which can be compared to an average *monthly* fixed line spend of €549 among SMEs and €3,230 for Corporates⁶².

3.104 As *The Guidelines* note:

“Differences in pricing models and offerings for a given product or service may also imply different groups of consumers.....However, in order for products to be viewed as demand-side substitutes it is not necessary that they are offered at the same price.”

3.105 ComReg is of the preliminary view that there is a growing trend in the markets away from base rates to pricing plans and discount scheme and that effective price differences would indicate separate markets.

(b) Ability to switch between customer categories

3.106 In the initial review, ComReg noted that there was an element of self-selection in categorising users as residential or non-residential. That is, for most operators, there was no barrier for a user to be on a ‘residential’ or a ‘business’ offer. This means that, in response to a price increase in residential calls, a user could simply reclassify as a non-residential customer, and vice versa.

3.107 Of the twelve operators surveyed in relation to customer categorisation, four provided services to non-residential users only, and two provided services only to residential

⁶¹ amárach, Survey Results, April 2006.

⁶² Business Telecommunications Survey Wave 2, 2005. 06/04a.

- users. This would indicate that operators serving only one category of customer may experience switching barriers from the supply-side.
- 3.108 The results of the data direction indicated also that there has been some change in the way in which operators categorise and maintain the categorisation. In some cases,
- i) Residential consumers are precluded from taking up non-residential packages where some operators demand of a non-residential user a VAT number or company's registration office (CRO) number which is particularly important in their view for legal and contractual reasons in the event of debt recovery.
 - ii) In other situations, non-residential users are prevented from taking up residential packages in situations where operators provide unlimited flat rate residential packages; generally non-residential users are precluded from taking up these offerings. These contractual terms may represent switching barriers which would preclude substitution. Having noted this, some operators do not categorise their customers, but rather the end user self selects themselves and there are not switching barriers between the two markets.
 - iii) As noted above, pricing plans and discount schemes which require a minimum spend have been designed by operators to match calling patterns distinct to residential and non-residential users and in practice act as a constraint. ComReg recognises some area of overlap, but is of the preliminary view that this could not represent sufficient level of substitution to justify a single market⁶³.
 - iv) Furthermore, there are a number of operators which market to residential or non-residential users only. This would indicate that the demand and/or supply conditions may be different.
- 3.109 This means that, in a significant proportion of the market, a residential user would not be able to switch to a non-residential offer (and vice versa) if there were a price increase. This would indicate that residential users and non-residential users should be in different markets. This is supported by submissions in response to the customer categorisation Data Direction which showed that the number of (a) non-residential customers availing of residential tariffs/plans/discounts schemes; and (b) residential customers availing of non-residential tariffs/plans/discounts schemes was *de minimis* and did not seem to correspond to price changes of the relevant tariff package.
- 3.110 In considering supply-side substitution, the initial review proposed that a supplier of calls to residential users could easily switch to supply non-residential users (and vice versa) given a lasting price increase. Some operators did not recognise any difference in providing calls to residential and non-residential users once access had been addressed (which is common for residential and non-residential services) while most operators did identify marketing, billing and other administrative arrangements which would preclude substitution. It was noted that switching to the provision of residential calls would involve increased personnel numbers in provisioning and customer care, extended customer care hours and improvements to financial systems and credit control functions. Another operator recognised distinctions in relation to costs (resulting from different sized customer base), routes to market, product development and funding. They noted that the residential market required scale and is a bigger risk

⁶³ Less than 1% of eircom's residential customers are on non-residential packages and vice versa.

given lower margin per customer and the higher costs to sell, promote and deliver customer service. Another identified that switching to supply residential services implies moving to mass market, high volume supply and in many cases lower margin products which had implications⁶⁴. In their view, this would take in excess of two years and would not be justified by a 5-10% price increase of residential calls.

- 3.111 The analysis which has been carried out suggests that there has been some shift in the market towards a more defined separation between a residential and non-residential market.
- 3.112 On the demand-side residential customers are unlikely to have the incentive to switch to non-residential packages given that the plans appear to be designed to match the needs of higher volume business callers and a minimum spend is typically required before they can avail of these packages. While some non-residential customers (generally SoHo or small SMEs) may have the incentive to avail of some residential packages they are precluded from doing so in a number of cases (e.g. eircom's and IFA's unlimited Talktime packages). Similarly residential customers may be precluded from taking up non-residential packages e.g. a VAT or CRO number is demanded from three operators. On the supply-side it appears that switching from servicing non-residential users to residential users would entail adjustments to marketing, billing and other administrative arrangements, greater risk, higher costs in terms of customer service and significant time delays. Given there are obstacles to customers easily switching from residential to non-residential packages and significant differences have been identified in terms of the economics of serving residential and non-residential customers respectively, it therefore appears appropriate on balance to define separate markets for residential and non-residential customers of calls services.
- 3.113 ComReg maintains that the differentiation is finely-balanced, and that the case for either side is not overwhelming. It is therefore proposed to consult on the possibility of there being separate markets for residential and non-residential customers of calls services.
- 3.114 ComReg accepts that there is some overlap between high-end residential users and SoHo or small SMEs, however on the whole there are sufficient differences from the demand- and supply-side to suggest that it is appropriate to define separate markets for residential and non-residential users. This is supported by submissions⁶⁵ in response to the customer categorisation Data Direction which showed that the number of non-residential customers availing of residential tariffs/plans/discounts schemes and vice versa was not significant to justify the definition of a single market.

Should separate sub markets be identified for the non-residential calls market?

- 3.115 One respondent to the initial review argued strongly that there should be a distinction between residential and non-residential customers. It emphasised that its concern was with companies at the largest end of the business market and government agencies, which it characterised as undertaking competitive tendering for calls services, having a professional procurement function, and being able to exert countervailing buyer

⁶⁴ For example (i) obtaining finance (ii) automation of customer handling processes, (iii) larger call centres for customer services (iv) greater standardisation of products and tariffs (v) change in focus towards mass marketing and brand awareness (vi) investment in management personnel.

⁶⁵ From the submissions provided it would seem that less than 1% of residential subscribers are on non-residential packages and vice versa.

- power. That respondent recommended that a separate corporate market should be defined.
- 3.116 In its previous analysis, ComReg considered whether it was possible to define distinct markets on the basis of a measure such as turnover, or number of employees, or total telecoms spend. ComReg researched also the extent to which other NRAs have considered ways in which a narrower definition of the largest users of calls services could be constructed. The consensus was that it was not feasible within the standard market definition principles used by NRAs and the EU Commission. The data submitted to ComReg would indicate that operators have distinct means of categorising a corporate user⁶⁶. Also there would be practical difficulties associated with such definitions as companies grow and reduce in size, which would result in a fluid delineation of the market.
- 3.117 In relation to supply-side considerations, a number of operators submitted that the distinction which existed between the provision of residential and non-residential services, was not as evident for differences in the provision of services between SMEs and Corporates. However, they did recognise some barriers to switching from Corporates to SMEs in terms of rating and billing systems, customer care for a large number of customers with lower ARPU⁶⁷ and process flow rather than project management focus. ComReg is not aware of any operator which provides to SMEs or Corporates only, while some do provide to residential only.
- 3.118 ComReg's concern with defining a market which is characterised by very large corporates is that, in order for a separate market to be defined, it would have to be the case that a hypothetical monopolist could price discriminate between large customers and all other customers. This is likely to be because non-residential consumers can easily switch between the various non-residential packages on offer irrespective of size. According to market definition principles, defining a market on the basis of customer characteristics depends on whether a sufficient number of customers could switch suppliers in a way which would make it unprofitable for a hypothetical monopolist of the relevant service(s) to raise the price to all customers. If price discrimination is possible between customer types, then this would indicate separate markets. In ComReg's view, it would not be possible in the non-residential calls market in Ireland to price discriminate by customer category. Further, this would have to be evaluated on a case-by-case basis. ComReg also suggests that the differences between low end businesses (SoHos and small SMEs) and Corporates are greater in relation to access than to calls. This has been addressed in the Access Market Review⁶⁸ and the definition of lower and higher level narrowband access markets.
- 3.119 While ComReg recognises differences between high end corporate users and SMEs, it is suggested that these differences are not significant enough to define a separate Corporate market. It is proposed therefore that a narrower market definition should not be adopted.

Preliminary conclusion

- 3.120 ComReg has carried out further detailed analysis of the calls market in order to address whether separate residential and non-residential markets should be defined,

⁶⁶ This varied from, telecoms spend of €50,000 or €18,000, number of employees or the number of users.

⁶⁷ Average Revenue Per User.

⁶⁸ Market Review: Fixed Narrowband Access. Comreg Document Number 06/39.

and then whether conditions in the non-residential market indicate that a narrower market definition may be appropriate. The analysis has included information from further data direction to operators.

- 3.121 On the demand-side, ComReg suggests that there may be sufficient differentiation on function or price to justify the definition of separate markets for residential and non-residential customers.
- 3.122 However, on the supply-side, ComReg's assessment of change in the market since the time of the initial review suggests that there is more separation of the residential and non-residential markets than was found previously. ComReg maintains that the differentiation is finely-balanced, and that the case for either side is not overwhelming. On balance, it is proposed that separate markets should be defined for residential and non-residential customers of calls services.
- 3.123 In considering the extent to which separate sub-markets should be identified within the non-residential market, ComReg reviewed proposals to define a large corporate calls market. In order for a separate market to be defined, it would have to be the case that a hypothetical monopolist could price discriminate between a certain category of customer and all other customers.

Q. 12. Do you agree that there are separate markets for residential and non-residential calls? Please detail your response.

Q. 13. Do you think that it is appropriate not to define separate sub markets for the non-residential calls market? Please detail your response.

Are VoIP Calls in the same relevant market as all fixed calls?

- 3.124 In the initial review, ComReg proposed that Voice over Internet Protocol (VoIP) calls should be considered part of the retail calls market only where such calls were carried over the public telephone network. ComReg noted the negligible take-up of VoIP services in Ireland at that time, and proposed that the situation would be monitored.
- 3.125 Since the time of the initial review, the EU Commission has accepted the proposals by a number of NRAs to include VoIP services within the retail calls markets⁶⁹. However, the potential inclusion of VoIP services in the calls market was contingent⁷⁰ on the NRA considering a number of issues such as :
- Broadband Penetration;
 - Price-elasticity of calls;
 - Penetration of IP-telephony in the retail broadband market;
 - IP-telephony connection cost;
 - Position of the incumbent in the provision of IP-telephony services;
 - Ability to price-discriminate call tariffs depending on type of access;

⁶⁹ Notably ARCEP (France), BNetzA (Germany), OPTA (The Netherlands), and PTS (Sweden). See: <http://forum.europa.eu.int/Public/irc/infso/ecctf/library?l=/commissionsdecisions&vm=detail&sb=Title>

⁷⁰ http://forum.europa.eu.int/irc/DownLoad/kdebA5JDmrGlvm7-8p0RCF-9gqmf-Hc9icN_qGsw5eG-H5Du_mTzTIsSIIgcUG_Mvf4B2O-5TFDmrHih-o4v4/SG%20GrefeFR%202005%200221%200226%20final%20EN1.pdf

- Pricing constraint from PSTN to IP services.
- 3.126 ComReg has carried out further detailed research into the VoIP market, in order to establish how change in the market has impacted on the manner in which VoIP calls could act as demand or supply-side substitutes for retail fixed narrowband calls, and so be considered part of the calls market. The research has considered each of the issues recommended by the EC. This research has focused on :
- a) Functionality;
 - b) Consumer behaviour;
 - c) Pricing; and
 - d) Competitive conditions of supply.

(a) Functionality

3.127 The immature nature of the VoIP market at the time of the initial review meant that it was difficult to characterise the various VoIP offerings in the market other than through their common use of Internet Protocol (“IP”) technologies. In the period since then however, service offerings have become more mature and differences between the various forms of VoIP-based offerings have become apparent. The four major sub-groups identified by ComReg are:

- (a) (i) Voice over Internet (“VoI”);
- (a) (ii) Voice over Broadband (“VoB”),
- (a) (iii) Voice over Unlicensed Mobile (Wireless) Access (“VoUMA”); and
- (a) (iv) Voice over Licensed Wireless – incl. 3G and (pre)Wi-Max based services.

(a) (i) VoI

3.128 Under the definition of “public telephone service” in the Universal Service Regulations, VOI services do not constitute part of the relevant calls market. Specifically, VOI offers are accessible only through the installation of software on a computer and are available on a limited customer basis, that is, on a closed user group basis⁷¹. Contrary to VoB and traditional voice telephony services, VOI does not have a number range, ancillary services or service mediation. VOI calls are carried over the public internet and are not able to guarantee any quality of service (QOS).

3.129 Typically, these services are offered on a “disintermediated” basis. This means that the service is set-up and managed by the end-user without any direct involvement by an intermediary/service provider. VoI services generally require a PC/client device to run some type of installed software and a higher level of IT awareness may be required on the part of the end-user. It can be noted that PC penetration in Ireland at 55%⁷² of households is still below the EU 15 average of around 63%.

3.130 ComReg does not believe that calls made using a VoI service are a functional substitute for other fixed calls, and thus is of the initial view that such calls should not be included in the same market as other retail fixed calls.

⁷¹ I.e. “on-net” calls only – (e.g. GoogleTalk or Skype-to-Skype calls).

⁷² CSO information society and telecommunications report 2005.

(a) (ii) VoB

- 3.131 VoB calls are facilitated over a broadband connection from a fixed location⁷³ to end-users on the same network as well as end-users connected to other networks, such as the PSTN. This capability to call (and be called from) other networks means that these services typically need to be “mediated”⁷⁴ with a service provider providing some form of interconnection/peering with other networks. To facilitate this interconnection, VoB services use the same numbering system as used by the PSTN⁷⁵ with end-users generally also availing of a telephony device (IP phone or standard phone + ATA⁷⁶) to make VoB calls. In light of the definition of “public telephone service” in the Universal Service Regulations, VoB services may constitute part of the relevant calls market. Quality of Service for VoB will be dependent on the quality of the customer’s broadband internet connection, which will be guaranteed by the ISPs terms and conditions.
- 3.132 Taken together, these characteristics would indicate that calls made using VoB services are, in principle, sufficiently interchangeable or substitutable with other fixed calls in terms of objective characteristics and intended use. However, VoB calls depend on a broadband connection.
- 3.133 ComReg is, in accordance with paragraph 44 of *The Guidelines*, obliged to assess the degree of substitutability not only in terms of the objective characteristics, prices or intended use but also in terms of competition and or the structure of the demand and supply on the market in question. Products which are to a small degree interchangeable do not form part of the relevant market. ComReg is of the view that while a call made using a VoB service is functionally similar to other voice calls, its dependence on broadband access, and on broadband penetration, may remove it from the retail narrowband market. This is discussed in more detail below.

(a) (iii) VoUMA

- 3.134 The third sub-category of VoIP-based offerings that ComReg examines is services that make use of VoUMA. VoUMA is a technology that facilitates the carrying of VoIP calls, usually only over short distances, using an unlicensed spectrum wireless interface (e.g. WiFi or Bluetooth). ComReg is not aware of any offerings in Ireland that use this technology and has not been provided with any data from operators to suggest that such commercial offerings exist.

⁷³ The broadband connection used to provide VoB calls may be a private managed IP broadband connection (e.g. a leased line) or over a standard broadband connection offering access to the Public Internet (e.g. unmanaged ADSL, cable broadband, FWA link). Service offerings that fall into the VoB category would include Blueface’s Freedom call packages, SkypeOut/In, and eircom’s Business IP+ voice services.

⁷⁴ A mediated service is one where a service provider acts as a mediator to manage the communications capability between end-points by providing some or all of call set-up, connection, termination and party identification functions, often generating or modifying dialling, signalling, switching, addressing or routing functions for the end-user.

⁷⁵ The PSTN uses E.164, an international numbering plan for public telephone systems developed by the ITU in which each assigned number contains a country code (e.g. 353), a national destination code (e.g. 01), and a subscriber number (e.g. 8049600). E.164 numbers can be either geographic or non-geographic, both of which are used by VoB services.

⁷⁶ Analogue Telephone Adaptor.

3.135 ComReg would welcome further information from respondents on potential commercial development in Ireland. ComReg notes that in other countries offerings are emerging that combine this technology with mobile/GSM technology⁷⁷. These offerings tend to emphasise the mobile functionality provided – with the focus of the customer proposition on providing the end-user with a mobile-like experience. Hence, although these offerings leverage VoIP technologies, ComReg suggests it is more appropriate to consider them as mobile calls. As discussed earlier in this current review, it is proposed that, at this time, calls made from mobile phones are not in the same relevant market as fixed calls.

(a) (iv) Voice over Licensed Wireless

3.136 The final sub-category of VoIP-based offerings is Voice over Licensed Wireless. This category includes VoIP services over a wireless connection operating in licensed spectrum such as 3G or (when available) WiMax.

3.137 ComReg is not aware of any commercial offerings of this nature in Ireland and has not been provided with any data from operators to suggest that such commercial offerings are likely to be launched within the timeframe of the current review. However, ComReg notes that some international mobile operators have recently announced plans to trial these services in other jurisdictions⁷⁸. As with VoUMA, ComReg expects these offerings to emphasise the mobile functionality provided and as such, believes it more appropriate to consider the substitutability of these offerings under the assessment of whether calls made from mobiles are in the same market as fixed calls. ComReg welcomes further response on this.

Preliminary Conclusion: Functionality

3.138 ComReg has identified four categories of call which use IP technology, and has assessed their functional substitutability with retail fixed voice calls. It should be noted that this review is concerned with the retail offer which is purchased by end-users. This should be differentiated from the decision of an operator to carry calls over IP transmission, where the end user is unaware of what transmission technology is being used. In this review, the question of substitutability is between VoIP calls as a retail product and PSTN retail fixed calls. The operator's choice of transmission technology is not an issue.

3.139 It is proposed that VoUMA and VoLW should be considered in the same manner as mobile calls, and at present, would not be part of the retail fixed calls market. In the case of VoI disintermediated calls, the PC-based nature of the call means that it is not likely that customers would switch to this product in response to a price increase in retail fixed calls.

3.140 In considering VoB calls, ComReg believes that the characteristics of VoIP calls are such that the call itself is a functional substitute for a retail fixed call. For the user, the call looks and feels like a retail narrowband fixed call. However, there are two key issues to consider further. First, if VoB is considered as a product which is dependent on broadband, should it be included within this market? And second, although the calls may be seen as functionally substitutable, would sufficient customers switch given a price increase in retail fixed calls?

⁷⁷ E.g. BT Fusion.

⁷⁸ 'Skype teams up for 3G' http://www.lightreading.com/document.asp?doc_id=88948.

3.141 In order to address these questions, ComReg has analysed consumer behaviour and pricing in the VoB market. In proposing that VoB calls are functional substitutes for retail fixed calls in a way which the other categories of VoIP calls are not, ComReg is minded to continue the analysis considering only VoB calls. However, in most cases comparative data is available only for the VoIP market overall, not for categories of IP calls within the market. It is considered that this data provides a useful guide to patterns of consumer behaviour, and so forms part of the analysis below. It is noted that the VoB segment is only one form of VoIP. This means that when considering consumer awareness and other survey data, the VoB segment – which is the only type of VoIP ComReg, is considering from here on – is significantly smaller than the overall VoIP figure.

(b) Consumer Behaviour

3.142 Paragraph 45 of *The Guidelines* states that

“products which may be capable of offering the same service may be found to be in different markets in view of their different perceptions by consumers as regards their functionality and end use”.

3.143 In order to further assess whether VoB calls should be included in the retail fixed calls market, ComReg has analysed patterns of consumer behaviour in terms of :

- (b) (i) Take-up of broadband; and
- (b) (ii) Take-up of VoIP.

b (i) Take-up of broadband

3.144 Analysis of VoIP usage in other countries indicates that, as would be expected, countries with strong consumer adoption of VoIP also have a high degree of broadband penetration. Based on data available from a number of regulatory authorities in the EU, the following table ranks a number of countries in order of the proportions of broadband subscribers who use VoIP services.⁷⁹ As the table indicates, while the uptake of VoIP appears contingent on broadband infrastructure, other factors may also be important.

Country	Broadband per capita (December 2005) ⁸⁰	VoIP users as % of broadband subscribers
France	15.2%	17% (2004)
Norway	21.9%	14% (2005)
Sweden	20.3%	12% (2005 estimate)
Denmark	25%	6.5% (2005)
Germany	13%	5% (2005)
UK	15.9%	5% (2005)

Table 3.3: Broadband and VoIP Penetration – Comparative Analysis

⁷⁹ Data sourced from the NRA in each country.

⁸⁰ Source: OECD, June 2006 and Sourced from the European Commission’s 11th Implementation Report.

- 3.145 Broadband per capita is above the EU-15 average of 15% in all of these countries with the exception of Germany. Strong take-up of broadband has been stimulated by a range of factors. The growth in local loop unbundling has been the main stimulus in France (30% of broadband lines), Denmark (14% of broadband lines), Sweden (28% of broadband lines) and Norway (26% of broadband lines). Alternative platform competition, particularly in the cable sector, has been the main driver in the UK where cable operators have rolled out broadband voice services to their customers as part of triple play packages.
- 3.146 Platform competition appears to have driven usage of VoIP in the United States too. Research by Changewave⁸¹ found that 14% of US consumers with fixed line phones at home used VoIP by July 2005, a doubling in usage year-on-year.
- 3.147 According to the EU Commission, broadband penetration will also be the catalyst in the late-moving markets for the move to VoIP⁸². In Ireland, by March 2006 there were estimated to be over 330,000 broadband subscribers in Ireland, up from almost 132,000 subscribers in December 2004 and with an approximately 8% penetration on a per capita basis⁸³. This doubling in broadband take-up is indicative of strong consumer demand for broadband. eircom has indicated that it is on course to reach its target for broadband subscribers of 500,000 by the end of 2007⁸⁴. This is around 12% penetration on a per capita basis.
- 3.148 ComReg recognises there are specific factors which may help drive more rapid adoption of broadband in Ireland in the period under review. These are:
- *Local Loop Unbundling*. The proportion of DSL lines delivered over fully unbundled loops currently stands at around 2%, well below the EU average of 17%. Since the period of the initial review of the retail calls and access market, there has been renewed interest in local loop unbundling among access seekers. By the end of March 2006, there were almost 9,300 local loops unbundled, which represents strong growth although from a low base. Nevertheless ComReg recognises that there are enormous challenges ahead for both the industry and the regulator to deliver a stronger rate of increase in unbundled loops than currently exists.
 - *Alternative platform competition* (particularly cable). By the end of March 2006 around 10% of the total broadband market was being delivered over cable broadband networks. Given that over 80% of homes in Ireland are passed by cable networks, cable operators are well placed to deliver broadband to a wide customer base. The recent take-over of both Chorus and ntl by Liberty Global may spur further growth in cable broadband take-up, given Liberty Global's commitments in relation to broadband.⁸⁵

⁸¹ Changewave Research report: VoIP and Consumer Home Telecom, July 15th 2005.

⁸² Commission letter to ARCEP

⁸³ Source: ComReg internal information.

⁸⁴ http://investorrelations.eircom.net/pdf/3rd_quarter_results_2005_presentation.pdf

⁸⁵ "From the Liberty Global perspective the proposed acquisition appears to present an opportunity to develop Broadband and VoIP services in Ireland on a more cost-effective alternative access platform." As set out in M/05/024 UGC (Chorus) / Ntl; Determination of the Competition Authority, 4th November 2005.

- 3.149 However given the analysis of other member states above, this would suggest that even by the end of 2007 with a doubling of broadband subscribers from its present rate, broadband take-up in Ireland would still be below the current EU average.

b (ii) Take-up of VoIP

- 3.150 The EU Commission has noted recently that current low broadband penetration should not necessarily preclude IP telephony from being considered a substitute for retail fixed calls. NRAs are called upon to make a prospective analysis of the relevant markets, and consider whether new offers *could be made available* in the market that may be substitutable with the retail telephony services. From the perspective of objective characteristics and likely intended use, VoIP calls services can be offered in competition to narrowband calls. ComReg has recently issued a number of operators with national numbers for the provisioning of such services.
- 3.151 ComReg has therefore considered whether there are factors in the VoIP calls market which could stimulate the market even though the level of broadband penetration is likely to remain low over the lifetime of this review.
- 3.152 An examination of more mature VoIP markets may provide an insight into the potential take up in Ireland. European surveys⁸⁶ show that IP telephony investment is growing and will continue to grow strongly among European enterprises in 2006. These surveys cite that currently, 28% of enterprises say that they have more than 600 handsets in use and 40% say they will invest in more than 600 handsets within the next year. Of particular note is the high activity both current and planned among French enterprises⁸⁷ with UK and German enterprises trailing.
- 3.153 Furthermore, industry expertise would indicate that there will be greater take up of VoIP in the future, particularly among corporates. A Yankee Group survey⁸⁸ noted that 26% of MNCs⁸⁹ stated that implementing IPT/VoIP was one of the top three issues driving their global networking strategy. This is supported by another finding that 93% of European enterprises surveyed have IP telephony activities underway or planned⁹⁰ 16% of enterprises have fully deployed IP telephony infrastructure.
- 3.154 In terms of traffic there appears to be evidence of a trend towards a growing take up of VoIP services. International VoIP traffic has grown from less than 10 million to 30.8 billion minutes from 1997 to 2004. VoIP traffic grew by 35% in 2004, a solid increase

⁸⁶ 2005 Global Network Strategies Survey: Security, Voice/Data Convergence and Business Continuity-Driven European Enterprise Planning 15 DEC 2005.

⁸⁷ Among French enterprises, 54% plan to buy 600 or more IP telephony handsets in the next 12 months.

⁸⁸ 2005 Global Network Strategies Survey, Part 2: MNCs' Managed Service Needs and Supplier Preferences, 16th March 2006.

⁸⁹ Multi National Companies.

⁹⁰ Yankee Group 2005 European Global Network Strategies Survey.

- of over 26% in 2003⁹¹. European VoIP traffic grew by a more conservative 15% in 2004.
- 3.155 The above analysis shows continued demand for VoIP services across Europe which may be indicative of potential demand in Ireland.
- 3.156 VoIP products first become commercially available in Ireland at the beginning of 2005. The take up of these services so far is minimal. At the end of 2005, the penetration of IP Telephony (managed and unmanaged) among broadband users was less than 1%⁹².
- 3.157 Since the beginning of 2006, a number of operators have launched commercial products provided over a private (managed) IP network. These services leverage either investment that customers have already made or are planning to make in connecting their sites together using IP technology. They are primarily aimed at corporate and government customers. eircom currently provides IP services over managed networks, and has suggested⁹³ that it would be extending its VoIP service to offer them over private broadband which uses DSL, so that smaller companies would also be able to avail of these services⁹⁴. Furthermore, eircom has indicated that it plans to launch a residential service⁹⁵.
- 3.158 In the context of assessing behaviour among Irish consumers, ComReg identified that according to survey⁹⁶ results, VoIP awareness among residential users is high, especially considering its recent introduction. Around 35% of respondents who use the Internet state that they have heard of VoIP. Furthermore, 11% of those surveyed who have heard of VoIP have used it to make a call over the internet⁹⁷.
- 3.159 Among Irish SMEs and Corporates, there also seems to be a high level of awareness of VoIP. Survey results⁹⁸ show that 46% of SMEs with Internet access and 81% of large corporates (over 100 employees) had heard of VoIP. Furthermore, there seems to be concerted VoIP marketing activity particularly targeted at corporate users, with 54% of large corporates and 12% of SMEs with Internet access being approached by a VoIP provider in 2005.
- 3.160 Survey findings for the second half of 2005 indicate that about 3% of SMEs and 32% of Corporates were using VoIP. This can be compared to the results from the first half of 2005 which showed that about 2% of SMEs and 14% of Corporates were using VoIP.

⁹¹ Source: Telegeography 2006. Global Traffic Statistics and Commentary. VoIP included all cross-border voice calls on the IP network but terminated on the PSTN, PC to PC communications and private network traffic are excluded.

⁹² Source: ComReg data – this has increased from .01% in the first quarter of 2005.

⁹³ Source: ComReg Market Analysis Data Direction, 2005.

⁹⁴ “eircom offer VoIP to business customers” – ENN electric news. November 16, 2005.

⁹⁵ <http://www.prnewswire.co.uk/cgi/news/release?id=137493>

⁹⁶ Residential research Q4 2005 (ámarach trend survey).

⁹⁷ These respondents are generally male aged between 25-44 years of age and from the Connaught/Ulster regions.

⁹⁸ SME/corporate research on VoIP – IMS Millward Brown survey – H1 and H2, 2005.

- 3.161 Take-up of VoIP in Ireland is therefore growing across the market, with strongest growth at the large end of the business market. While actual VoIP use remains very low in the residential market, and amongst small businesses, almost a third of large corporates are now using IP telephony. Awareness of the product is growing across the market, suggesting that customer awareness is not likely to inhibit eventual take-up.

Preliminary Conclusion: Consumer behaviour

- 3.162 ComReg has carried out an actual and prospective analysis of the take-up of broadband and VoIP, and has considered potential lessons from the experience in other countries as well as developments within the Irish market. The preliminary conclusion is that even the most optimistic forecasts place Ireland's broadband penetration below the current EU-15 average by the end of 2007. The take-up of VoIP is largely dependent on broadband take-up. Analysis of more mature markets indicates that, even in markets where VoIP is better established, only a small proportion of broadband users use VoIP. It should be noted that ComReg is concerned in this analysis, not with VoIP overall, but with VoB, which is a subset of the VoIP market. This means that analysis relates only to a segment of a market which is already very small.
- 3.163 However, ComReg recognises that customer awareness is positive, and that in some segments of the market, there has already been strong growth in the use of VoIP calls. There is clear differentiation between the residential and non-residential markets, and use in the non-residential market is led by the largest firms.
- 3.164 In the residential market, ComReg does not believe that penetration of broadband and consequently VoB will be sufficiently high within the lifetime of this review to facilitate substitution in sufficient number and to render fixed calls and VoIP calls within the same market. However, it is noted that penetration at the high end of the business market may already be reaching the sort of level where substitution is a possibility, and growth across the non-residential market is strong. This suggests that VoB calls could substitute for retail fixed calls in the non-residential market within the lifetime of this review.

(c) Pricing

- 3.165 ComReg has carried out an analysis of pricing in order to ascertain whether, in the event of a price increase in fixed retail calls, a consumer would be likely to switch to a VoB service. VoB tariff structures are similar to that of fixed narrowband calls and include Pay As You Go (PAYG) options and flat rate packages.
- 3.166 ComReg has compared eircom's fixed calls and VoB PAYG rates which indicate that the fixed call rates are higher than VoB for both national and international calls. However the fixed:VoB ratio is most significant for International calls which shows that of all types of calls, international VoB calls are the lowest. ComReg's initial conclusion from this is that if there were a lasting price increase by a hypothetical monopolist of fixed telephony, the pricing of VoB would not inhibit demand-side substitution.
- 3.167 The pricing models applied to the VoB services currently on the market are characterised by Pay As You Go (PAYG) charging with free 'on net' calls. This strategy typically encourages take up due to reduced risk and switching costs. As the market matures, flat rate packages characterised by a value orientated flat rate are

likely to become more prevalent. Some evidence of these price movements can be seen in Ireland e.g. Blueface, BroadbandTalk, Skytel. Additionally, in more mature markets, flat rate is the more common pricing model e.g. the UK, US and France.

- 3.168 Evidence within the retail fixed calls market suggests that consumers have in the past promptly shifted from call services characterised by PAYG price models to flat rate services⁹⁹. This would indicate that consumers are relatively price sensitive and that new price structures do not constitute a significant barrier to switching.
- 3.169 In relation to IP telephony costs, an analogue terminal adaptor (ATA) is the main piece of equipment that a consumer requires to use VoB. This device acts as a bridge between the existing phone and the broadband router/modem, allowing the end user to make calls as they would on a normal phone line. ATAs range in price from €75 - €77.50. Other operators provide Customer Premises Gateway (CPG), which they subsidise. The CPG plugs into the broadband connection and the analogue phone plugs into the CPG.

Preliminary conclusion on pricing

- 3.170 It is ComReg's view that the price of a call would not constrain customers from switching from retail fixed calls to VoB, and evidence from the fixed call market suggests that different pricing models are not an issue.
- 3.171 However, while the actual cost of a call may be similar between fixed telephony and VoB calls, VoB requires a broadband connection and an ATA. These are not direct call costs, but are technically required to avail of VoB calls. Thus, even although the actual calls using VoB can be purchased in a similar way to fixed telephony calls, and may be a similar price, there is extra functionality and extra expense associated with making the VoB call which must be taken into account. ComReg suggests that this constraint is applicable mainly in the residential market, and would be of less significance in the non-residential market.

(d) Competitive conditions of supply

- 3.172 Supply-side substitutability should consider whether a price increase in fixed retail calls would induce firms active in supplying VoB calls to switch to supply fixed retail calls.
- 3.173 For a provider of VoB calls to enter the fixed calls market in response to a price increase by a hypothetical monopolist, the provider is likely to be reliant on the purchase of wholesale inputs. It can be noted that VoB providers already target fixed call customers, and, in the event that the price of fixed calls were to increase by 5-10%, then it is likely that VoB providers would intensify their efforts to win over an increasing share of the voice market. Further, some providers of fixed calls have signalled their intention to introduce their own VoB offerings in a bid to retain customers¹⁰⁰. This would lead ComReg to propose that there may be some degree of supply-side substitution between the supply of fixed calls and the supply of VoB calls. However, it should be noted that a consideration of the potential to switch the supply of calls cannot be carried out in isolation from a consideration of access issues. Mere

⁹⁹ For example, eircom with TalkTime, BT Ireland with Talk Plus.

¹⁰⁰ eircom, Press Release 16 November, 2005.

hypothetical supply-side substitution is not sufficient for the purposes of market definition¹⁰¹.

- 3.174 The VoB provider would be limited by the availability of broadband access, which at this point, in ComReg's view, is too low among residential users to enable a sufficient number of residential lines to be supplied to exert a constraint on a hypothetical monopolist.

Overall preliminary conclusion on VoB

- 3.175 ComReg has carried out detailed analysis of the developing VoIP market in order to ascertain whether VoB calls should be considered part of the retail calls market or not.

- 3.176 The preliminary conclusions are :

- In terms of functionality, a VoB call may be substitutable for a fixed call, but VoI, VoUMA and VoLW are not. This indicates that the possibility of VoB calls being part of the retail fixed calls market needs to be considered further.
- VoB is dependent on broadband access. Broadband is not considered to be substitutable for narrowband at this time because the penetration rates in Ireland are very low. Because the broadband base is relatively low compared to other member states, even high projected growth rates do not bring Ireland up to the current EU-15 average. This is compounded by experience in other countries, where VoIP users remain a small proportion of broadband users, and VoB users are a proportion of VoIP users. This would suggest as outlined in the above analysis that VoB should not be part of the same market as retail fixed calls at this time in the residential market. However, there is increasing penetration and potential substitutability in the non-residential market.
- Pricing models between fixed calls and VoB may be converging, and the cost of the calls is broadly similar. However, customers need two levels of investment to switch to this market. First, they need to have a broadband connection. Secondly, they need to buy an adaptor. This suggests that customers would face significant switching costs, and so for residential users, the products would not be in the same market. However, pricing is less of a constraint in the non-residential market.
- There may be some degree of supply-side substitution between fixed retail calls and VoB calls, but the different access requirements are likely to act as a constraint.

- 3.177 Overall, then, ComReg proposes that, at this time, VoB calls should not be included in the same market as fixed retail calls for residential customers. However, demand and supply conditions are sufficiently different in the non-residential market to suggest that VoB calls are likely to form part of the same market as retail fixed calls within the lifetime of this review. It is recognised that this is a rapidly evolving market, and that any significant change, for example in market growth or in new product launch, should trigger further review.

- 3.178 ComReg will closely monitor developments with respect to VoB as regards the competitive constraint it may exert on traditional telephony. If evidence appears that

¹⁰¹ at paragraph 52 of the SMP Guidelines.

VoB take-up is increasing such that it could be part of the residential market definition, then ComReg will consult further on this issue.

Q. 14. Do you agree that Voice over Broadband (VoB) should NOT be included in the same relevant market as fixed residential calls, but IS included in the same market as fixed non-residential calls. Please expand in your response.

Relevant geographic market

- 3.179 In the initial review ComReg noted that the conditions of supply of call services are homogeneous across Ireland. These are inextricably linked with the supply of access. In particular, while the calls services provided by some entities other than eircom are not available across the whole of Ireland, they all compete with eircom's call services where they are available. eircom's call services are provided on the same terms and conditions, including price, across Ireland. ComReg adds that the General Authorisation¹⁰², which is required by any undertaking which intends to provide an electronic communications network or service in Ireland, is national in scope. As a result, any operator authorised to provide call services can do so on a national basis which would suggest national markets.
- 3.180 In response to the 'Call for Input' one operator contended that in the period since the initial review there is an increasing incidence of property developers entering into what it described as 'exclusive agreements' for operators to provide access networks and call services. It was suggested that there were agreements with property developers for the purpose of providing customised access and call services, which also precluded other operators from servicing customers located in these developments which should be viewed as being sub-geographic markets. It was suggested that sub-markets should be defined, and that the delineation of the market should be where there are no competing sources of supply, i.e. the scope of the OAO's network.
- 3.181 Following established European case law and guidance, ComReg approaches the definition of the relevant geographic market by identifying "*a clearly defined geographic area in which [the product] is marketed and where the conditions of competition are sufficiently homogeneous for the effect of the economic power of the undertaking concerned to be able to be evaluated*"¹⁰³ and "*which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas*"¹⁰⁴.
- 3.182 Similar to product market definition, defining relevant geographic markets involves first identifying possible demand- and supply-side substitutes for the relevant or focal area by way of the hypothetical monopolist test. In that regard, ComReg considers whether a price increase by a hypothetical monopolist of a property development

¹⁰² European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2003.

¹⁰³ *United Brands v. Commission*, Case 27/76 [1978] ECR 207, [1987] 1 CMLR 429, para. 11.

¹⁰⁴ European Commission, Notice on the Definition of the Relevant Market for the Purposes of Community Competition Law, OJ [1997] C372/5, para. 8.

- where it has exclusive access infrastructure would induce customers to switch to access providers located outside the relevant area/development or if providers located elsewhere could easily switch to supplying customers in the relevant area/development. If such demand/supply-side substitution is possible and likely to occur in response to small price changes, then it is appropriate to expand the scope of the geographic market.
- 3.183 There is a significant level of uncertainty, however, regarding the actual level of “exclusivity” conferred by these agreements and the nature of any corresponding constraints on demand- and supply-side substitution from/to these developments. The hypothetical monopolist test is accordingly difficult to apply here. Notwithstanding this, it is also possible to determine the boundaries of the geographic market by looking at pricing and other commercial behaviour and identifying whether common pricing constraints apply across different areas such that they should be included in the same geographic market. Even if it is not clear that demand- and supply-side substitution could take place from/to these developments, the conditions of competition across different areas may nonetheless be sufficiently similar for them to be categorised as forming part of the same relevant geographic market.
- 3.184 A key issue which would indicate that the markets for retail call services from a fixed location is likely to be national is that some operators who have entered into these agreements appear to set prices and market their service offerings on a national basis, regardless of the cost of provision in an individual development. Billing and marketing systems would also appear to pose an obstacle to certain operators offering a more localised pricing policy. The relatively low incidence of exclusive agreements would further suggest that any costly changes to billing and marketing systems may not be practical for these operators at present. As outlined above, the operators also have general authorisations to operate throughout the State and as such there is nothing to prevent an operator from operating on a national basis.
- 3.185 On that basis, while the exclusive contracts might limit customers in a particular development switching to suppliers located in other areas or suppliers located in other areas switching to a particular development in response to a 5-10% price increase¹⁰⁵, it is still not clear that competitive conditions are sufficiently different in those developments for them to be considered as separate geographic markets. It would appear from the information provided to ComReg to date that service offerings, pricing behaviour and marketing arrangements within these developments are largely determined at the national level. This is further reinforced by the fact there appear to be certain obstacles to these operators switching to a more localised pricing policy, e.g., in terms of marketing and billing arrangements. It is also possible that any operator that attempted to offer higher prices in a specific area would suffer negative media exposure, which might have a negative effect on its brand. Accordingly, this makes it less likely that such differential pricing would occur.
- 3.186 Given that the competitive conditions in these developments do not appear to be sufficiently distinct from the national markets and that the operators engaging in these agreements appear to determine their commercial terms and conditions largely at the national level, ComReg is of the view that the relevant geographic markets are likely to be national.

¹⁰⁵ It should be noted, however, that such restrictions on demand- and supply-side substitution have not been sufficiently demonstrated to date.

3.187 While ComReg does not believe that the issue of exclusive access involves any exertion of market power, it will keep this under review as it may have implications in respect to consumer choice and service levels.

Preliminary Conclusion

3.188 From discussions with operators to date, ComReg makes the following observations:

- The incidence of exclusive access agreements between property developers and operators for the purposes of providing access networks and call services in particular developments would appear relatively low and the level of exclusivity conferred by these agreements is uncertain;
 - Even if it is not clear that demand- and supply-side substitution could take place from/to these developments in response to small price changes, it is still not clear that competitive conditions are sufficiently different in those developments from those that apply nationally for them to be considered as separate or sub-geographic markets.
 - Service offerings, pricing behaviour and marketing arrangements within these developments appear to be largely determined at the national level and there are constraints to operators determining these factors on a more localised basis.
- 3.189 ComReg's preliminary conclusion is that the relevant geographical markets are likely to be Ireland.

Q. 15. Do you agree that the relevant geographic market for the retail fixed call markets is Ireland? Please expand in your response.

Overall conclusions from the market definition

3.190 The analysis which has been carried out indicates that:

- Fixed access and fixed calls are not in the same relevant market;
- Calls from fixed locations are not in the same relevant market as calls from mobile;
- Fixed to mobile calls are in the same relevant product market as fixed domestic calls;
- Operator assisted calls are ancillary to the market in which the call takes place;
- Calls from payphones are not in the same relevant product market as calls from a land line;
- Calls to Internet are in the same relevant product market as calls to fixed domestic calls;
- Other non-geographic numbers such as premium rate and freefone calls are in the same relevant product market as fixed domestic calls;
- Fixed SMS calls are not in the same relevant market as fixed domestic calls;
- Local and national fixed calls are in the same relevant market;
- Fixed international calls are not in the same relevant market as fixed domestic calls;
- There are separate relevant markets for residential and non-residential customers; and

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- Voice over Internet Protocol calls are in the same relevant market as fixed domestic calls for non-residential customers, but are not in the same relevant market for residential customers.

3.191 ComReg therefore proposes to define four markets for retail calls from a fixed location :

- Retail residential domestic calls from a fixed location
- Retail residential international calls from a fixed location
- Retail non-residential domestic calls from a fixed location
- Retail non-residential international calls from a fixed location

3.192 The geographical scope of the retail calls markets is likely to be Ireland.

4 Retail Market Definition in the Presence of Wholesale Regulation - Assessment of the three criteria

Introduction

4.1 In light of the EU Commission's consultation¹⁰⁶ on *The Recommendation* and its preliminary view that the retail calls markets are no longer susceptible to ex-ante regulation, ComReg has decided that it is appropriate to first assess whether the markets for fixed calls meet the three criteria and thus decide whether *ex ante* regulation is warranted. Such an assessment focuses on the general structure and characteristics of a market in order to identify those markets the characteristics of which are such that they need to be analysed in more detail.

4.2 The three criteria are:

1. Whether a market is subject to high and non-transitory entry barriers. To meet this criterion, there must be barriers to entry;
2. Whether a market has characteristics such that it will not tend over time towards effective competition. To meet this criterion, it must be proved that the market does not tend towards effective competition; and
3. The sufficiency of competition law by itself (absent ex ante regulation). To meet this criterion, it must be shown that competition law can not adequately address any potential market failure.

4.3 The market must meet *all three* criteria to justify regulation.

4.4 The markets for fixed calls are included in the *The Recommendation*. This means that, as a listed market, there is a presumption that the three criteria are met. The EU Commission's is now consulting on a new recommendation, and in the draft text, it is proposed that the fixed calls markets should not be susceptible to *ex-ante* regulation. It is up to NRAs to assess the particular circumstances of their own national markets.

4.5 Given that an assessment of the three criteria referred to in *The Recommendation* must be a prospective one and as it would constitute a preliminary step in the full market analysis of the retail calls markets; ComReg must conduct its assessment within a set review time period. ComReg is of the view that it is appropriate to adopt a two year period for its prospective assessment.

4.6 In its analysis ComReg has adopted a 'modified greenfield approach' in that (i) all regulations which are unrelated to SMP are assumed to be maintained, (such regulations include specific obligations, which are imposed on the universal service provider, such as a uniform tariff requirement); (ii) all SMP related regulations which are unrelated to the fixed calls value chain are assumed to be in place. Such regulations include the existence of SB-WLR and CPS obligations which are proposed to be imposed in the Retail Fixed Narrowband Access Market Review¹⁰⁷. In addition, there is a proposal to oblige eircom to provide origination, transit and termination products on a cost orientated basis by virtue of its SMP in the relevant interconnection

¹⁰⁶See http://europa.eu.int/information_society/policy/ecommm/doc/info_centre/public_consult/review/recommendation_final.pdf

¹⁰⁷ ComReg Document Number 06/39.

markets¹⁰⁸. These products are currently (and are proposed to be in the future) available to all operators on a non-discriminatory basis. The analysis is therefore carried out in the presence of wholesale regulation.

- 4.7 ComReg has examined the four fixed calls markets defined. Where appropriate, the specifics of the individual markets are considered, particularly in the assessment of the dynamics of the market.

Q. 16. Do respondents agree that a two year prospective period for this review is correct?

First Criterion:

Barriers to entry and to the development of competition

Methodology – assessment in the presence of regulation

- 4.8 As noted by the EU Commission¹⁰⁹, the first of the three criteria that must be identified by NRAs in order for a market to be susceptible to *ex ante* regulation is that the market is subject to high and non-transitory entry barriers.

- 4.9 In the consultation recently commenced by the EU Commission, it was stated that there was an important qualification in relation to this first criterion. That is, NRAs should examine:

“...whether high entry barriers are likely to be non-transitory in the context of a modified Greenfield approach (i.e. in the absence of regulation in the market concerned under this regulatory framework but including regulation which exists outside this framework).” (Emphasis added).

- 4.10 ComReg interprets this qualification as meaning that ComReg should seek to determine whether or not high entry barriers exist and are they likely to persist over time (taking into account dynamic factors) and not taking in to account the existence and effect of *ex ante* regulation specifically applying to the relevant retail calls markets. It is in ComReg’s view, appropriate for it to adopt this qualification in its analysis because then one is at the same time attempting to address the ultimate and more fundamental question of whether SMP regulation is appropriate in the relevant retail calls markets.

- 4.11 In other words, if entry barriers are not high and not persistent in the absence of regulation, then regulation may not be justified¹¹⁰. ComReg furthermore interprets the EU Commission’s qualification as meaning that ComReg can and should take into account the existence of *ex ante* regulation applying in other electronic communications markets, which may have an effect on the relevant retail calls

¹⁰⁸ ComReg Document Number 05/37.

¹⁰⁹ Page 9 of the Explanatory Memorandum to the Draft Recommendation.

¹¹⁰ On this basis, the first criterion would not have been fulfilled. The three criteria are cumulative – all three should be fulfilled to render a market susceptible to *ex ante* regulation - and thus one would not have to examine the two remaining criteria.

markets (in addition ComReg should be able to take into account non-sector specific regulation). ComReg believes that this approach is consistent with the approach recommended by the EU Commission. In this regard, the Draft Recommendation provides further support for the view that this approach is correct where it states:

“Therefore, even in the presence of wholesale regulation, the retail market for access to the public telephone network at a fixed location remains susceptible to ex ante regulation.

As regards the retail calls markets at a fixed location, the conclusion is different. Wholesale regulation, including carrier selection and Carrier Pre-Selection obligations, significantly reduce the barriers to entry in these markets”¹¹¹.

- 4.12 The above comments are made in the context of the EU Commission’s preliminary view that retail calls markets are no longer considered susceptible to *ex ante* regulation. However, the comments also appear to imply that the effect of regulation at the wholesale level is relevant to assessing whether high and non-transitory entry barriers exist in the relevant retail calls markets.
- 4.13 The wholesale regulation which impacts the fixed calls markets is the existence of SB-WLR and CPS obligations which are proposed to be imposed in the Retail Fixed Narrowband Access Market Review¹¹². In addition, there is a proposal to oblige eircom to provide origination, transit and termination products on a cost orientated basis by virtue of its SMP in the relevant interconnection markets¹¹³. These products are currently (and are proposed to be in the future) available to all operators on a non-discriminatory basis.
- 4.14 Accordingly, ComReg proposes to examine the first criterion identified by the EU Commission taking into account the presence of *ex ante* regulation in related wholesale markets, but not taking into account the presence of *ex ante* regulation specifically applying to the relevant retail calls markets.
- 4.15 ComReg would however welcome specific comments in relation to its interpretation of the approach recommended by the EU Commission in its draft revised Recommendation. ComReg would also welcome the views of interested parties in relation to ComReg’s proposed approach.

Q. 17. Do you agree with ComReg’s interpretation of the EU Commission’s comments and do you believe that it is correct for ComReg to proceed in the manner it proposes?

¹¹¹ Page 29 of the Explanatory Memorandum to the Draft Recommendation.

¹¹² ComReg Document Number 06/39.

¹¹³ ComReg Document Number 05/37.

Assessment of the First Criterion:

4.16 With respect to the first criterion, and according to the EU Commission's Draft Recommendation on relevant markets¹¹⁴, two types of barriers to entry and to the development of competition in the electronic communications sector appear to be relevant: (a) structural barriers; and (b) legal or regulatory barriers.¹¹⁵

4.17 A structural barrier to entry exists when, given the level of demand, the state of the technology and its associated cost structure are such that they create asymmetric conditions between incumbents and new entrants impeding or preventing market entry of the latter.

4.18 For instance, high structural barriers may be found to exist when the market is characterised by:

- Substantial economies of scale, scope and density; and
- High sunk costs.

4.19 *The Recommendation* notes that legal or regulatory barriers are not based on economic conditions, but result from legislative, administrative or other state measures that have a direct effect on the conditions of entry and/or the positioning of operators on the relevant market¹¹⁶. One example is access to spectrum. ComReg is not aware of any legal or regulatory barriers (such as the availability of spectrum or other non SMP obligations) which pose as a barrier to entry into the retail fixed calls markets, however ComReg would welcome respondents' views if they do not agree.

4.20 ComReg therefore analyses structural barriers under the following headings:

- a) Level of sunk costs required for entry;
- b) Economies of scope and scale;
- c) Control of infrastructure not easily duplicated;
- d) Technological advantages or superiority;
- e) Barriers to switching for consumers; and
- f) Product/service diversification.

4.21 In this respect ComReg will therefore examine whether the industry has experienced entry and whether entry has been or is likely in the future to be sufficiently immediate and persistent to limit any market power.

4.22 If respondents believe that it is appropriate to assess barriers to entry, structural or legal, under additional criteria, ComReg would welcome details of such suggestions.

¹¹⁴ Pages 9-10 of the Explanatory Memorandum to the Draft Recommendation.

¹¹⁵ It is also possible that certain (strategic) barriers to entry may arise as a result of the actions and reactions of the incumbents to new entry. Where the incumbent engages in behaviour directly aimed at retaliating against and/or deterring new entry this may also need to be taken into account when examining the height of entry barriers. The scope for such strategic behaviour to arise and to negatively affect existing or potential competition is, however, taken into account in the discussion on the third criterion below.

¹¹⁶ See page 10 of the Commission Recommendation in accordance with Directive 2002/21/EC.

(a) Level of sunk costs¹¹⁷ required for entry

- 4.23 ComReg has analysed actual and potential barriers to entry in the fixed calls markets. When assessing barriers to entry into the fixed calls markets, ComReg must take into consideration the cost structure and investment incentives of alternative operators. These are also likely to change over time as operators develop their trademark/reputation and customer base.
- 4.24 A number of wholesale products are available which give new entrants the possibility to make their investments in a step-by-step manner. This approach, where two or more access products at different levels of the network hierarchy are simultaneously available to alternative operators such that they can make their investments incrementally has been called the ‘ladder of investment’¹¹⁸.
- 4.25 The means by which an operator can enter the fixed calls markets are outlined in Figure 4.1 below.

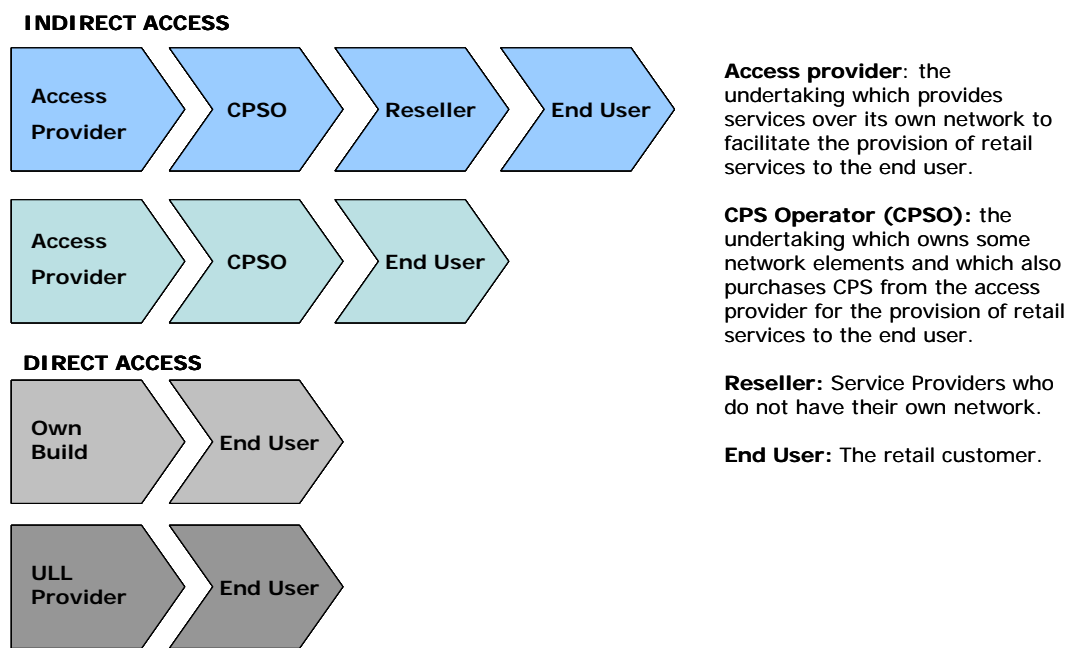


Figure 4.1: Means of entry into the Fixed Calls Markets

- 4.26 For the various means of access by which an operator might enter the fixed calls markets outlined above, ComReg has assessed the associated level of sunk costs. These are discussed as follows.

(i) Indirect access

Access provider → CPS operator → reseller → end user

- 4.27 The most basic way an operator can enter the fixed calls markets is by reselling CPS minutes (purchased from a CPS operator, a CPSO) to the end user. In this case, little or no infrastructural investment is required.

¹¹⁷ A sunk cost is a cost, which is not recoverable.

¹¹⁸ For further details see ERG Common Position on the approach to appropriate remedies in ECNs Regulatory Framework.

- 4.28 Resellers are those operators which do not have their own network but who purchase the wholesale product from a third party authorised operator (the CPSO).
- 4.29 Many CPSOs support a host of service providers offering call services through CA, CS and CPS. All service providers offering a calls package, including resellers, are authorised through the notification process¹¹⁹ by ComReg and are required to comply with the conditions of a general authorisation¹²⁰. While resellers do not have a direct interconnect relationship with the access provider, they manage their customers' calls service through their host operator.
- 4.30 Among others, BT Ireland and Verizon resell CPS minutes on to resellers. However, entry into the markets is not currently possible via the resale of CPS minutes purchased *directly* from the access provider (which is typically eircom) and sold to the end user. Minutes must be purchased via an intermediate party e.g. the CPS operator. Currently eircom does not provide minutes directly to resellers. Therefore, while the sunk costs associated with this form of entry are likely to be low, it is not clear to what extent these resellers can pose an effective competitive constraint to eircom over the period of this review. ComReg now assesses the sunk costs associated with entry by the CPS operator.

Access provider → CPS operator → end user

- 4.31 To enter the fixed calls markets an operator can purchase CPS minutes from eircom, the access provider. These calls are initially routed by the access provider and handed over to the alternative operator at the agreed point of interconnection, for routing to the point of termination. To provide retail services the alternative operator must acquire one or more of its own switches, which generally are connected to each other and also interconnect with eircom's network. In such a scenario, CPS traffic is charged by eircom based on the number of switching nodes through which the traffic travels. Therefore, the lower in the network hierarchy at which the OAO interconnects, the greater the economies that can be achieved as this limits the amount of traffic which traverses the access provider's network.
- 4.32 However, this also requires more investment in the form of sunk costs e.g. more switches, interconnect links etc. An OAO interconnects its switches via capacity circuits. Generally, these circuits represent the most significant sunk cost associated with entry, when built by the entrant itself. However, these sunk costs can be overcome by renting these circuits on a per annum basis. The pricing of these lines is similar to or lower than leased lines and are available on a national basis. Furthermore, ComReg suggests that the cost of switching equipment is not significant enough to impede/prevent entry. Generally, switches have a lifespan of approximately five to ten years, and with new technological developments this can be further extended. Therefore, an investment in a switch may be recoverable upon exit out of the market.
- 4.33 This option would therefore suggest that the initial costs of entry for a CPS operator are not prohibitive and new entrants could incur the relevant infrastructural

¹¹⁹ Regulation 4(3) and Regulation 4(1) of the Authorisation Regulations: European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2003 – S.I. No. 306 of 2003.

¹²⁰ Regulation 8(3) of the Authorisations Regulations: European Communities (Electronic Communications Networks and Services)(Authorisation) Regulations 2003 – S.I. No. 306 of 2003.

investments on an incremental basis consistent with the ‘ladder of investment’ model outlined above.

- 4.34 In an expert report on the Recommendation¹²¹ it was noted that international markets may be more affected by the availability of CPS than domestic. The report suggests that this is due to the fact that *‘[f]or international calls, part of the value chain (conveyance and termination) is located in other countries. Alternative operators often are affiliated to incumbents of other countries or large international carriers, which have their own international backbone networks as well as international transit and far-end termination arrangements that are as least as good as the ones of the domestic incumbent given their often superior international traffic volumes. This ensures lower costs on some routes and allows them to offer better retail tariffs than the incumbent. The impact of CS/CPS is therefore particularly pronounced for outgoing international calls. Once CS/CPS is mandated, outgoing domestic calls and outgoing international calls should be analysed separately and attributed to different retail markets’*. ComReg seeks views from respondents as to whether they agree with such a proposition and whether this may result in different conclusions for different markets in respect to the first criterion.
- 4.35 Even with the CPS product in place, a CPSO may be subject to asymmetric costs to the access provider which, in turn, may represent a barrier to entry. ComReg notes, that CPSOs may suffer a cost disadvantage in handling local calls when compared to eircom. Calls which originate and terminate on the same eircom local exchange which have a direct link between them, may suffer from a routing inefficiency. A local call which is originated and terminated by eircom is switched at the local exchange. On the other hand, when a CPS customer makes a local call, the call is originated and carried to the local eircom exchange and at that point it is then routed to the appropriate CPSO’s nearest tandem switch. That tandem switch routes the call back to the same local exchange, the call is then routed to the correct destination for termination. This means that it costs a CPSO more to carry a local call than eircom. ComReg suggests that if eircom chooses to reduce its call tariffs and move towards costs, CPSOs may be unable to compete.
- 4.36 ComReg notes that while it is possible to try to mitigate this potential asymmetry there is no solution that does not have some adverse consequences. For example, one could implement a system whereby eircom carries all local calls under a revenue share agreement. However this may reduce incentives to expand infrastructure and could potentially distort price away from cost. Also it would be difficult to apply the proposal to all of those call types and only those where the problem exists.
- 4.37 ComReg seeks views from respondents whether such a cost disadvantage has or may become a factor which may impede/prevent entry into the calls markets.
- 4.38 There are currently thirteen CPS operators providing retail services nationally (some of which provide SB-WLR also). These operators have made different levels of infrastructure investment. Some operators interconnect higher up the eircom network at the tertiary level; while others are directly interconnected with a number of eircom’s primary nodes. This would therefore suggest that the costs of interconnection are not an insurmountable obstacle for CPS operators.

¹²¹ A Review of certain markets included in the Commission's Recommendation on Relevant Markets subject to ex ante Regulation An independent report by Martin Cave, Ulrich Stumpf and Tommaso Valletti. July 2006

4.39 Depending on its strategy, a CPS operator can incur considerable sunk costs at the outset, coupled with lower operational costs thereafter. On the other hand, ComReg notes that entry into the markets is also possible without significant upfront costs and that an operator can then move up the ‘ladder of investment’ as it expands its customer base, investing more into its network over time. ComReg therefore suggests that the level of sunk costs for CPS operators is unlikely to substantially constrain new entry from occurring within the timeframe of the review, namely two years. However, ComReg would welcome views from respondents on whether such costs in reality represent a significant barrier to new CPS operators entering or expanding in the fixed calls markets and the timeframe over which such entry/expansion could occur.

(ii) Direct access

Own build → end user

4.40 A new entrant can also enter via the transmission of call services over direct build which is the provision of calls via ULL or own build (via cable, FWA, FTTH¹²²). This entrant would use their own network to carry calls.

4.41 Should an operator decide to enter the markets via direct access, it will require significant investment in a switched access network. Most of this will be sunk costs, as costs will not be recoverable if the entrant decides to exit the markets. A potential entrant has to consider whether prices would be high enough and if it would be able to attract a sufficient customer base for it to recover sunk costs.

4.42 Furthermore, the cost and time required to replicate eircom’s switched network to enable call conveyance represents a significant barrier to entry. This would include high sunk cost associated with the installation and interconnection of local (RSU), primary, secondary and tertiary exchanges, in-depth network design and management etc.

4.43 There are a number of operators that provide some call services via own build including eircom, BT Ireland, Colt, Magnet and ntl. From the information available to ComReg, approximately 7% of retail call traffic is carried over OAO direct build. However, eircom is the only operator which provides services nationally over its own network. ComReg suggests that, on the basis of the extremely low retail call traffic currently associated with OAO direct build and the significant costs of replicating eircom’s switched network, market entry through direct access which would have a significant impact, on a national basis is not feasible within the timeframe of the review (2 years). Views from respondents are however appreciated on the likely extent of market entry through direct access over the forthcoming two years.

ULL¹²³ → end user

4.44 In order to offer a competing fixed calls service equivalent to eircom’s, an OAO would have to un-bundle in excess of 1,100 exchanges (which would include RSUs¹²⁴ and primary exchanges) each of which involves considerable time and costs, and to provide physical connectivity to each of those exchanges. However, ComReg also notes that if an operator unbundled up to sixty exchanges this could reach in excess of

¹²² Fibre to the Home – See Annex B for a glossary of terms.

¹²³ Unbundled local loop - See Annex B for a glossary of terms.

¹²⁴ Remote subscriber units.

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- 50% of eircom's existing customer base¹²⁵. This may be possible within the timeframe of the review. However, it is questionable whether it would be economically feasible for the provision of voice services or narrowband access alone.
- 4.45 ULL has been predominantly used to date for the provision of broadband access. ComReg notes that operators are now offering bundled voice and broadband services e.g. Magnet and Smart.
- 4.46 While there has been recent growth in the ULL market, (approximately 9,300 lines at the end of March, 2006) the take up is still low with ongoing provisioning problems associated with the existing LLU product and number portability and LLU and LLU line share only recently having been introduced¹²⁶. Further, local loop unbundling requires time and high investments in connecting to the exchanges, a large portion of which are sunk.
- 4.47 Thus the availability of ULL, may not diminish barriers to entry into the fixed calls markets. ComReg suggests that entry on a national basis may not be likely to be feasible within the timeframe of the review (2 years). ComReg's proposal would be to monitor the impact of ULL on the relevant markets, and review its analysis if necessary. Views are, however, sought from respondents on the feasibility of entry occurring on a sufficient scale in the fixed calls markets based on LLU products over the period of this review.

Voice over broadband

- 4.48 As noted in the market definition section, VoB calls are included in the non-residential markets but not in the residential markets for calls. The difference is based on distinct levels of current and projected broadband penetration.
- 4.49 In relation to VoB services, ComReg considers that these include offerings that facilitate voice calls over a fixed broadband connection. The broadband connection used to provide VoB calls may be a private managed IP broadband connection (e.g. a leased line) or over a standard broadband connection offering access to the public internet (e.g. unmanaged ADSL, cable broadband, FWA link).
- 4.50 ComReg notes that an operator can provide VoB over own build or ULL and in such a scenario may incur significant sunk costs to enter the markets, as outlined above. However, the provision of VoB services is also possible over an existing broadband connection. Where a VoB provider does not have to guarantee quality of service itself, but rather can depend on the broadband provider, the cost of entry into the calls markets is minimal or significantly reduced. It is not clear however, what particular problems or costs are associated with VoB providers relying on broadband providers to guarantee their quality of service and to what extent VoB providers are likely to rely on this means of entering the calls markets over the period of this review.
- 4.51 Once the broadband connection is in place, the VoB provider connects the end user to their switch. This is done by either selling (or subsidising) an adaptor +ATA¹²⁷ to the

¹²⁵ See response by eircom LTD to Access Seekers Market requirement document local loop unbundling. <http://www.comreg.ie/fileupload/publications/eircom0501.pdf> for more details.

¹²⁶ Ref LLU Status Report.

¹²⁷ Analogue Telephone Adaptor (ATA).

- retail user. This converts the voice call into digital packets (using the special SIP¹²⁸ protocol) for transmission over the internet.
- 4.52 The call is then decoded and is sent on as an ordinary call over the PSTN. This is done through a Customer Premises Gateway (CPG) which routes traffic to their switch and transmits it onto the dialled number. There are a number of VoB operators which have started offering services over the past two years which have typically entered based on existing broadband connections (including Voice Ireland, Skytel, Blueface, Smart Telecom, Digiweb and eircom¹²⁹).
- 4.53 The prospect of VOB providers being able to enter the markets over an existing broadband connection suggests that the costs of entering the fixed calls markets are unlikely to preclude entry over the period of this review. In any case whether entry by VoB providers is likely to occur to an appreciable scale over the period of the review will depend on a number of factors such as broadband penetration and likely customer switching cost between VoB and traditional telephone services¹³⁰. ComReg would seek views from respondents on the viability and likelihood of VoB providers entering the calls markets on a significant scale over the period of this review.
- 4.54 With regards to sunk costs as a barrier to entry, based on the above discussion ComReg's preliminary conclusions may be summarised as follows;
- The most basic way an operator can enter the fixed calls market is by reselling CPS minutes (purchased from a CPS operator, a CPSO) to the end user. In this case, little or no infrastructural investment is required. However, for this to be possible there must be entry by a CPS operator into the market.
 - There are currently thirteen CPS operators providing retail services (some of which provide SB-WLR also). ComReg suggests that there are various possibilities for CPS operators to enter the calls markets depending on where on the 'ladder of investment' a CPS operator chooses to locate. ComReg would appreciate respondents' views on the feasibility of entry by CPS operators occurring on a sufficiently large scale within the timeframe of the review, namely two years.
 - ComReg suggests that there are significant sunk costs associated with the provision of call services via own build and/or ULL which are unlikely to give rise to significant entry in voice services over the period of the review. Respondents' views would however be appreciated on the feasibility of entry via direct build and/or LLU occurring on a sufficiently large scale over the period of the review.
 - ComReg proposes that the sunk costs associated with the provision of VoB by way of an existing broadband connection are unlikely to be significant. However entry is dependent on broadband penetration and the likely customer uptake of this service. Comments would however be welcomed on the likely extent and viability of entry by VOB providers occurring over the timeframe of this review.
 - ComReg seeks respondents' views on whether sunk costs may be only an issue for market entry which is based on offering calls on owned infrastructure, which is the

¹²⁸ Session Initiation Protocol (SIP).

¹²⁹ For a full list see <http://www.comreg.ie/erau/default.asp>.

¹³⁰ See section 3 for further analysis.

case for direct build and LLU. For CPS, resale CPS and for VoB, it is questioned whether respondents view that sunk costs are unlikely to act as an insurmountable barrier to entry.

4.55 ComReg considers below whether barriers to entry associated with economies of scale, scope and density exist in relation to the fixed calls markets.

(b) Economies of scope and scale and density

4.56 According to the *Explanatory Memorandum* :

“ ...high structural barriers may be found to exist when the market is characterised by substantial economies of scale, scope and density and high sunk costs. Such barriers can still be identified with respect to the widespread deployment and/or provision of local access networks to fixed locations”¹³¹

4.57 Economies of scale generally refer to the cost advantage which a large-scale operator may have over a smaller operator in the situation where the marginal cost of production decreases as output quantity increases. Economies of scope refer to the potential efficiencies which may be gained through supplying a range of goods and services, while economies of density refer to potential efficiencies associated with supplying customers who are geographically concentrated.

4.58 The theoretical economic literature generally agrees that there are economies of scale, scope and density in the access network under monopoly – or close to monopoly – supply conditions¹³². Discussing the economies of established national networks, it can be noted that for some network elements, in particular local loop, the cost of duplicating an incumbent’s facility may be prohibitively high. Further, a new entrant must often cover a much higher long-run total service incremental cost, which has to be recovered from a smaller customer base. Another advantage arises from vertical integration, where the incumbent can achieve economies through its ownership of local, national and international networks, and from areas such as network planning, operations and maintenance.

4.59 It is ComReg’s view that economies of scale, scope and density still constitute a barrier to entry in the retail access markets, and would constitute a barrier for operators seeking to offer a calls service based on direct access. It should be noted that around 7% of calls traffic is carried over OAO direct build. However, for operators seeking to offer calls via indirect access, ComReg does not consider that economies of scale, scope and density act as a major constraint – such as to prevent entry.

4.60 Relative to other operators, eircom Retail provides a high, albeit falling, volume of calls and can therefore spread its operational costs¹³³ over a larger customer base. Further, it may be suggested that the indirect access operator cannot achieve similar economies of scope as the incumbent as it is dependent on the incumbent effectively

¹³¹ 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 communication networks and services page 10.

¹³² See for example, the World Bank’s “Telecommunications Regulation Handbook” ed by McCarthy Tétrault.

¹³³ CPS and WLR charges; Product Management; Marketing and sales – customer acquisition cost – barriers to switching; Provisioning; Billing; Repair and miscellaneous.

- reselling its products. This means that the OAO relying on indirect access cannot achieve similar scope efficiencies as an operator providing services directly over its own network through the production and development of a range of products.
- 4.61 Conversely it could be argued that there are a number of other operators active in the fixed calls markets, which have a global presence and may be in a position to gain a significant customer base (i.e., a minimum efficient scale) within a sufficiently short period of time so as to benefit from economies of scale.
- 4.62 Furthermore, wholesale inputs are available to OAOs for the provision of multiple retail services including broadband services. While there may be barriers to entry into the narrowband access markets, there does not seem to be significant barriers preventing calls operators from providing a portfolio of services equivalent to that of the incumbent. While there are a large number of operators which offer calls only, the largest five calls providers all offer a similar range of services to eircom at the retail level. ComReg does note that unlike most operators, eircom, the incumbent, is mandated to offer a wide range of wholesale products, which could result in mitigating the extent to which economies of scope pose a barrier to entry to OAOs.
- 4.63 ComReg's proposal therefore is that it could be argued that economies could be achieved in the supply of calls using direct access, but are much less significant in the supply of calls over indirect access.
- 4.64 ComReg however would seek respondent's views on whether, in the presence of wholesale regulation, any operator has substantial economies of scale and scope and density. Further, ComReg would appreciate any information respondents may have regarding the minimum efficient scale associated with servicing fixed calls markets.

(c) Control of infrastructure not easily duplicated

- 4.65 It was noted in the initial review that, economically, it is not feasible for any other operator to replicate eircom's access network. As outlined above, the level of call traffic currently carried over OAO direct build remains minimal and is unlikely to significantly increase over the period of the review.
- 4.66 The question arises, however, as to whether in the presence of wholesale regulation any operator has a significant technological/infrastructural advantage in the provision of call services and whether this advantage acts as a significant barrier to entry in the fixed calls markets. It could be argued that indirect access products significantly reduce the level of sunk network investment required by CPS operators. On the other hand, it may be argued that continued dependency of indirect access providers on eircom's network poses problems in terms of network management, etc.
- 4.67 ComReg would appreciate respondents' views on whether in the presence of wholesale regulation any operator has a significant technological/infrastructural advantage and whether this advantage acts as a substantial barrier to entry in the fixed calls markets.

(d) Technological advantages or superiority

- 4.68 In the presence of wholesale regulation, ComReg has no reason to believe that any entity has a technological advantage. The switched infrastructure used to provide call services is owned and operated by close to fifty operators (which includes resellers, CPSOs and direct access providers). ComReg welcomes input which may support or contradict this proposition.

(e) Barriers to switching for consumers

- 4.69 ComReg assesses whether barriers to entry exist in the markets as a result of switching barriers among users.
- 4.70 Examples of costs a consumer may incur as a result of switching provider could include: the threat of a penalty clause in a long term contract, an upfront connection fee or the time/effort required. In the case of VoB, a broadband connection might for example constitute a switching cost or indeed the inability for VoB providers to guarantee QoS¹³⁴, provide emergency services¹³⁵ or for energy conscious consumers, the need to leave their broadband connection on permanently¹³⁶.
- 4.71 However, evidence would suggest that switching barriers have fallen and may not be significant over the period of the review. Evidence includes;
- Consumer survey data, which would indicate barriers to switching are falling and are no longer significant¹³⁷;
 - Awareness of SB-WLR is high among residential and non-residential users¹³⁸;
 - eircom cites high levels of winback¹³⁹.
- 4.72 This data would suggest that there may not be any barrier if a consumer proactively decides to switch however, ComReg has noted a certain level of reluctance among consumers in actually switching. As the incumbent operator, eircom may have an advantage in this respect. ComReg notes that over 50% of non-residential users have *never* switched operator¹⁴⁰. While 85% of residential users had not switched in the preceding twelve months¹⁴¹.
- 4.73 However, it would seem from consumer surveys that while an operator's reputation is an important factor when users are choosing their fixed line provider, other factors such as price and customer service rank higher¹⁴². Furthermore, while eircom as the incumbent has an established brand other operators may have a global brand or have leveraged their brand from unrelated sectors e.g. BT Ireland, Verizon, Cable and Wireless, Irish Farmers Association (IFA) Telecom, UTV internet.

¹³⁴ Quality of Service.

¹³⁵ See section 3 for further analysis.

¹³⁶ http://www.timesonline.co.uk/article/0,,2097-2329830_2,00.html.

¹³⁷ Millward Brown IMS: May/June 2006. Over half of respondents had switched in the previous 12 months. See section 3 of this document for more analysis.

¹³⁸ amárach Q1 2006 survey. See section 3 of this document for more analysis.

¹³⁹ Source: eircom presentation on preliminary 2006 results, 15 May 2006. See section 3 of this document for more analysis.

¹⁴⁰ Millward Brown IMS wave 2 2006.

¹⁴¹ amárach, wave 1 2006 survey.

¹⁴² amárach, wave 1 2006 survey.

- 4.74 Therefore, this reluctance to actually switch may be due to a perception of ‘too much effort’¹⁴³ – which in itself may constitute a barrier to entry or on the other hand may be due to satisfaction with existing services – which in every respect should be possible to replicate.
- 4.75 Also, ComReg questions whether, the cost difference between acquiring a new customer (for an OAO) as opposed to the maintaining of existing customers (for the incumbent), creates an asymmetry of costs such as to constitute a barrier to entry. ComReg welcomes respondents’ position on this point.
- 4.76 ComReg would appreciate any views respondents might have on the nature and likely extent of any barriers to switching in the fixed calls markets.

(f) Vertical integration

- 4.77 A vertically integrated operator may enjoy efficiencies arising from its presence in the upstream and downstream markets. This may constitute a barrier to entry in that a new entrant may perceive a need to enter both the wholesale and retail markets in order to pose a competitive threat. Further, the dependence of downstream competitors on upstream inputs supplied by a vertically-integrated operator means that the incumbent could affect the competitive conditions in the downstream market, and this could act as a disincentive to new entry.
- 4.78 An organisation which is dominant at the wholesale level of a market has the opportunity, if dominant upstream, to leverage market power into downstream markets, thereby adversely affecting competition.
- 4.79 In the case of the retail fixed calls markets, the relevant upstream market would be that associated with obtaining wholesale inputs, and in ensuring that wholesale inputs are available at competitive prices. This market is reviewed in the market review of the interconnection markets and retail narrowband access¹⁴⁴.
- 4.80 There are a number of operators that self supply wholesale call services in addition to those that provide to third parties. eircom is the largest vertically integrated operator, in that it is active at the wholesale and retail levels on a nationwide basis. Also, the preliminary finding in the recent consultation on Interconnection and Retail Fixed Narrowband Access Markets was that eircom has SMP in the markets for call origination and transmission, and like all fixed operators, has SMP for the termination of calls on its own network. To overcome any potential competition problem at the retail level, ComReg has proposed that wholesale inputs should be provided on a non-discriminatory basis.
- 4.81 ComReg suggests that while it is the aim of regulatory intervention is to overcome any barriers to entry into the fixed calls markets resulting from efficiencies gained from being vertically integrated, these obligations may not be sufficiently effective at this point. ComReg notes that the provision of wholesale inputs on a truly equivalent basis is difficult to monitor and enforce. Views are sought from industry as to whether the CPS obligations are sufficiently effective at this point to mitigate any advantage eircom may enjoy as a result of being a vertically integrated operator, with SMP in the associated wholesale market.

¹⁴³ Which is supported by the wave 1 Millward Brown IMS consumer survey and wave 1 and wave amárach survey.

¹⁴⁴ Market Analysis - Interconnection Markets, Response to Consultation and Consultation on Draft Decisions – Document 05/37. Market review: Retail Narrowband Access; ComReg Document Number (06/39).

(g) Product/service diversification

- 4.82 It could be argued that a potential lack of tariff flexibility resulting in OAOs not being able to offer a bundle of fixed telephony services comprising direct access and calls might serve to deter some potential entrants or restrict the expansion of recent entrants. OAOs are to some extent constrained from diversifying their products as they are reselling the incumbents' services and direct providers can offer bundles of direct access with calls and other services such as broadband which gives direct providers a competitive advantage, in the relevant calls markets.
- 4.83 As noted earlier, the sunk costs involved in establishing a direct access network suggest it is very unlikely that a new entrant would choose this way of entering the calls markets. Entry is more likely to occur via an indirect access operator able to offer bundles and different tariff options.
- 4.84 ComReg has accordingly mandated the provision of SB-WLR in order to address this perceived barrier to providing bundles of access and calls services. The take-up of this product indicates that OAOs and end-users find the single billing product attractive¹⁴⁵.
- 4.85 ComReg would therefore appreciate views on whether wholesale measures sufficiently mitigate the impact of product diversification as a barrier to entry.

Preliminary conclusion

- 4.86 The above discussion attempts to consider the extent to which the presence of wholesale inputs facilitates entry in the fixed calls markets. It is clear from the above analysis and the access market review that eircom enjoys significant economies of scale and scope in the access market as a result of its control over the access infrastructure which is not economically replicable over the period of the review.
- 4.87 However, the purpose of the wholesale inputs is to reduce the extent to which eircom's control of the access network acts as a barrier to entry in the fixed calls markets. Furthermore, it is suggested that customer switching costs have fallen in the fixed calls markets and may not pose a significant barrier to new entry. ComReg would therefore appreciate responses to the questions posed in the above discussion and views on whether wholesale inputs are successful in reducing any potentially high and non-transitory barriers to entry associated with entering the fixed calls markets.

Q. 18. Do you consider that the retail fixed calls markets are not subject to high and non-transitory entry barriers (in the presence of regulatory measures in the related wholesale markets)? Please substantiate your response.

¹⁴⁵ See section 3 for data on the take up of SB-WLR.

Second criterion:

Dynamic aspects – is there a tendency to effective competition

- 4.88 In the event that it is found that the market *is* subject to high and non transitory barriers to entry, the second criterion to be examined is whether the market has characteristics such that it will tend towards effective competition without the need for *ex ante* regulatory intervention.
- 4.89 The application of this criterion involves examining the state of competition behind the barrier to entry, taking account of the fact that even when a market is characterised by high barriers to entry, other structural factors or market characteristics may mean that the market tends towards effective competition.
- 4.90 This is for instance the case in markets with a limited, but sufficient, number of undertakings already present in the market having diverging cost structures and facing price-elastic market demand.
- 4.91 In such markets, market shares may change over time and/or falling prices may be observed. It is this structural dynamic element which may push the market to an effectively competitive outcome.
- 4.92 ComReg assesses the second criterion under the following headings:
- a) Market share;
 - b) Existing competition;
 - c) Price developments; and
 - d) Barriers to expansion.

(a) Market Share

- 4.93 ComReg examined the market shares in the domestic and international fixed calls for residential and non-residential customers. It is important to consider the behaviour of market shares over time, as this will indicate trends in the market and will contribute to an assessment of whether or not the market may tend towards competition in the lifetime of this review. Accordingly ComReg has analysed market share data from the time of the initial review to the present, and the view of market developments is therefore based on a period of over two years.
- 4.94 *The Guidelines*¹⁴⁶ suggest that in the case of interconnection, the use of revenues for market share calculation, rather than for example, call minutes, takes account of the fact that call minutes can have different values (i.e. local, long distance and international). ComReg concurs that in the case of the domestic and international calls markets, revenue as a measure of market share is more representative.

¹⁴⁶ At paragraph 77.

Market for residential domestic calls

4.95 At the time of the initial review, eircom's market share of the overall domestic calls market was 87% based on revenue. No single OAO had a market share in excess of 10%¹⁴⁷.

4.96 As it is now proposed to define separate markets for domestic residential and domestic business calls, ComReg has carried out further data analysis. Figures 4.2-5 below show market share trends from the beginning of 2004 to the beginning of 2006.

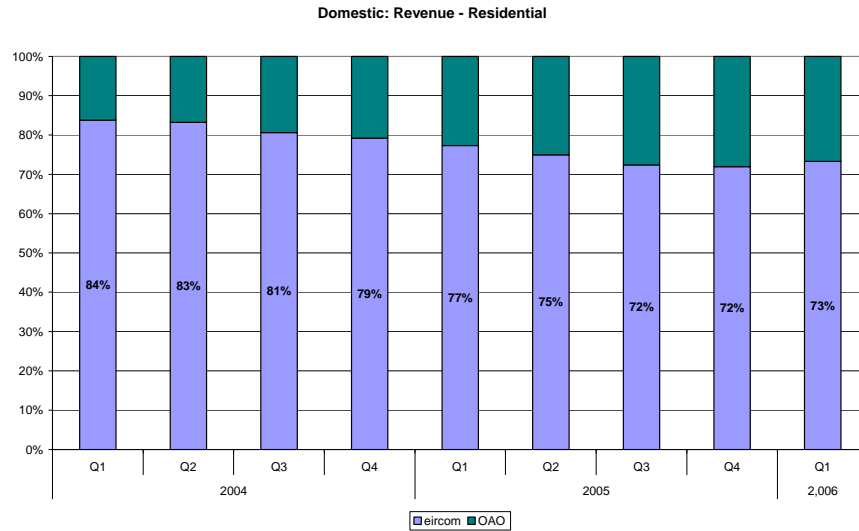


Figure 4.2: Market Share: Domestic: Residential: Revenues

4.97 As the graph shows, the last two years shows a consistent, albeit slow drop in eircom's market share in the residential domestic calls market since the beginning of 2004. In total eircom's market share fell by 11% in the period between the beginning of 2004 and 2006. It is of note that the period when the market share dropped coincided with the introduction of SB-WLR. However, it is important to note that no OAO had over 10% of total market share in the period.

Market for non-residential domestic calls

4.98 By the beginning of 2004, eircom's share of the non-residential domestic market was around 83% by revenue. The figure below shows the market share data from Q1 2004 to Q1 2006.

¹⁴⁷ Irish Communications Market - Quarterly Key Data June 2004 (Document number 04/71).
62 ComReg 06/51

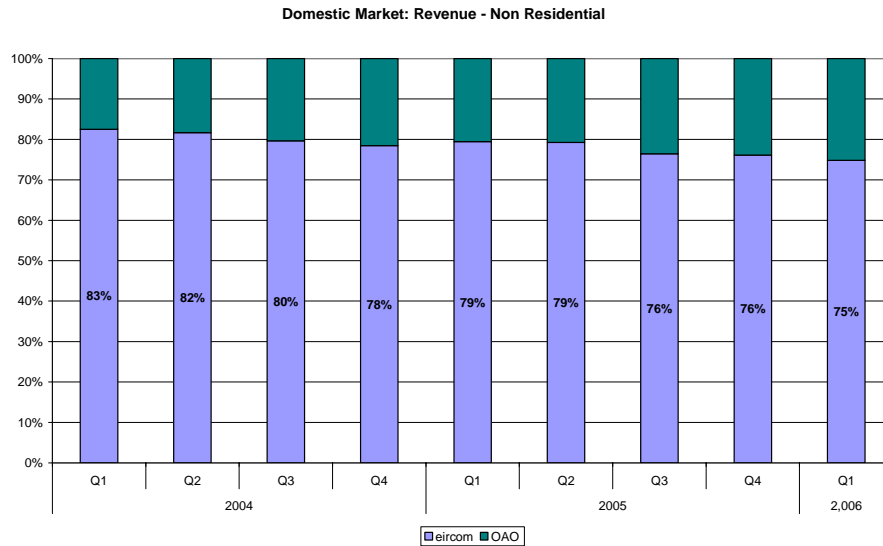


Figure 4.3: Market Share: Domestic: Non-residential: Revenues

4.99 Since the beginning of 2004, eircom’s market share in the non-residential domestic calls market has fallen from 83% to 75%. While eircom’s market share remained high at the end of March, 2006 it seems to be falling, albeit slowly. Two other operators had market share in excess of 10%. The remainder of the market was shared among thirteen other operators.

Market for international residential calls

4.100 At the time of the initial review, eircom's share of the overall international calls market was 68% based on revenue. None of the sixteen OAOs active in the market singularly had a market share in excess of 10%.

4.101 In the residential market, eircom’s market share for international calls was 69% at the beginning of 2004 and seems to have fluctuated around 73% over the past two years. There was a dip in market share when CPS was introduced, followed by recovery, and a similar trend was observed when SB-WLR was introduced. The market share has not fallen below 70%, since the first quarter of 2004.

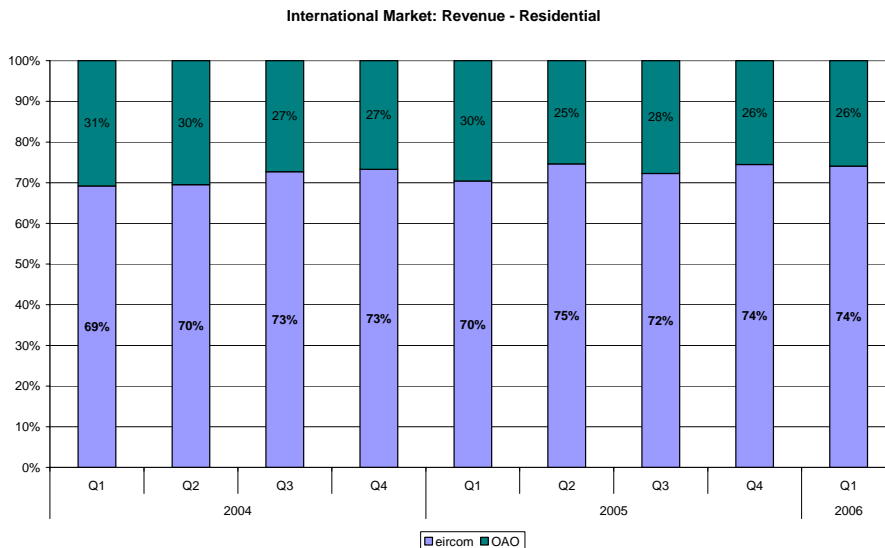


Figure 4.4: Market Share: International: Residential: Revenues

Market for international non-residential calls

4.102 At the beginning of 2004, eircom's share of the international non-residential market was 54%. The chart below indicates that eircom's market share dropped at the end of 2004 to 46%, and has remained at this level since then. At the end of March 2006, there were two operators with a market shares both in excess of 15% in the market.

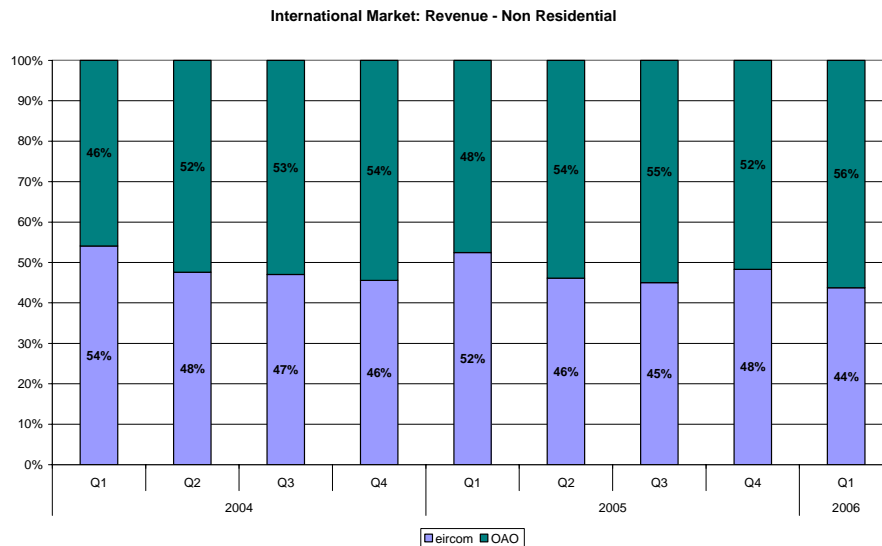


Figure 4.5: Market Share: International: Non-residential: Revenues

(b) Existing Competition

- 4.103 The analysis of market share indicates that eircom's share of the domestic calls market as of end of March 2006 was 73% in the residential market and 75% in the non-residential market, and that it had a 74% share of the international residential calls market, and 44% of the international non-residential market. The main competitors in the residential calls markets are BT Ireland, TalkTalk, Smart and euphony. In the non-residential markets, the main providers are BT Ireland, Verizon Business, Access and COLT telecom. All of those operators offer calls by CPS and some also offer calls over direct access.
- 4.104 A key change in the structure of the markets has been the introduction of SB-WLR. This allows a CPS operator to offer customers a calls and access bundle with a single bill. Many – but not all – CPS operators now offer SB-WLR.
- 4.105 During 2005, the number of SB-WLR lines has increased, while the number of paths associated with CPS has decreased. This is consistent with operators migrating customers from CPS to SB-WLR. It should be noted that SB-WLR always includes CPS calls. It would be expected that this trend will continue, with an increase in SB-WLR, but possibly at the expense of a CPS only service, as OAOs continue to migrate customers to single billing.
- 4.106 There are differences in the levels of competition amongst the four markets which have been defined. The most significant difference is between the international non-residential calls market and the other three markets. While eircom's market share fluctuated in the range of 70-80% during 2005 in both the residential markets, and in the non-residential domestic market, it is significantly lower in the international non-residential market, perhaps indicating a greater level of competition in that market.

- 4.107 As noted above, ComReg proposes that the sunk costs associated with the provision of VoB by way of an existing broadband connection are unlikely to be significant. ComReg suggests that in this respect VoB could potentially have a disruptive effect on the non-residential fixed calls markets. However, this is very much dependent on broadband penetration and the likely customer uptake of this service.
- 4.108 Although not formally in the market (as a result of insufficient substitutability), mobile call providers may be in a position to exercise competitive pressure on the ability of any single retailer to increase prices of fixed call services.

(c) Price developments

- 4.109 ComReg has considered price developments for fixed calls services since 2003. Pricing is presented in terms of both the national average for Ireland and European average. This does not include the fixed access charge.
- 4.110 ComReg notes that all such data should be considered in light of the impact of the existing regulatory pricing constraints. eircom’s prices are currently regulated and any proposed price change must be notified to ComReg.
- 4.111 Also, it should be pointed out that in terms of domestic markets it is somewhat difficult to compare prices nationally as charges in each country are balanced - i.e. higher usage charges will usually be off-set by lower rental charges and vice versa. The comparison of international calls is usage only.

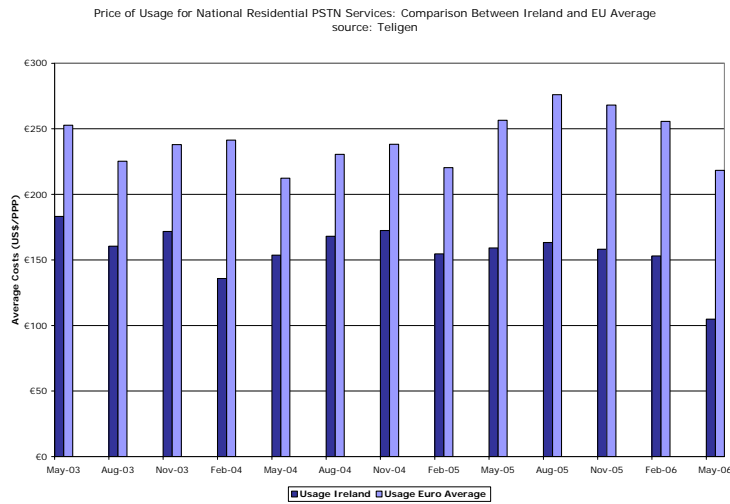


Figure 4.6: Price Developments: Domestic Residential

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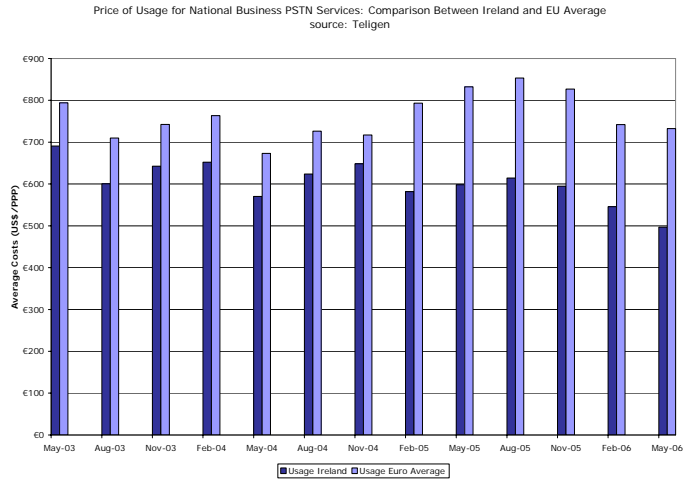


Figure 4.7: Price Developments: Domestic Non-Residential

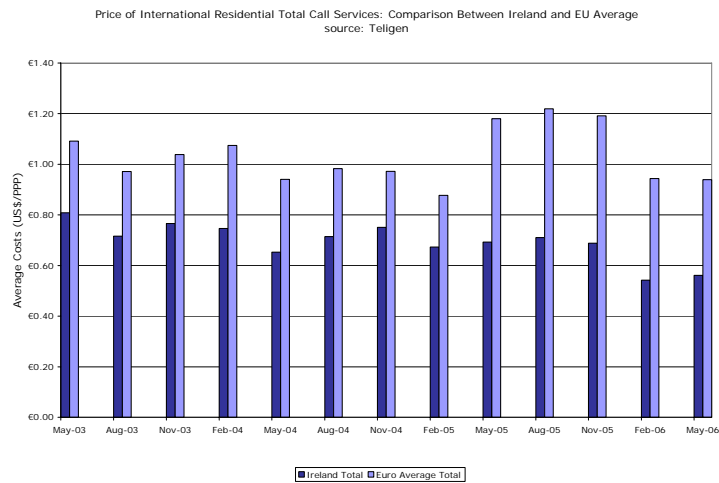


Figure 4.8: Price Developments: International Residential

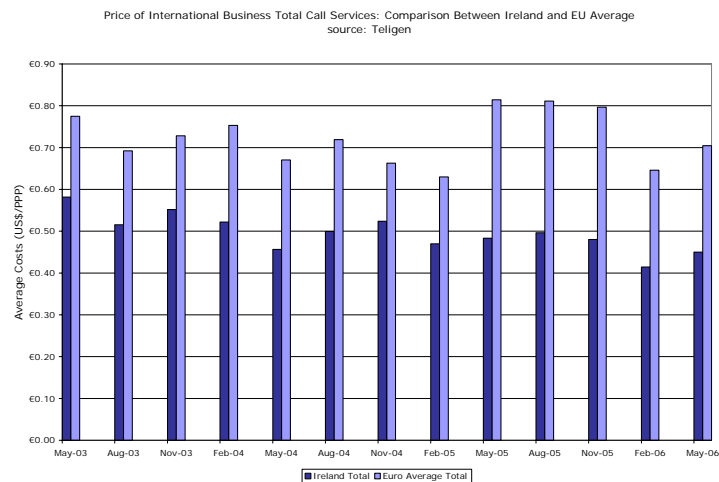


Figure 4.9: Price Developments: International Non-residential

4.112 Pricing developments indicate some adjustments to respond to competitors in the various calls markets over the period 2003-2006. As such, it would appear that a certain amount of pressure has been exerted on fixed call prices. Furthermore, prices

in all markets are lower than the equivalent European average, although this may be accounted for by a divergence in costs across the 25 Member States.

- 4.113 ComReg would appreciate views from respondents on whether they consider these pricing patterns would affect conclusions in respect to the second criterion.

(d) Barriers to expansion

- 4.114 There may be more active competition where there are lower barriers to growth and expansion. While growth and expansion is easier to achieve for individual firms (and in particular for new entrants) in growing markets, it might be inhibited in mature, saturated markets, where customers are already locked in with a certain supplier and have to be induced to switch. The higher the barriers to entry into the market, the more significant barriers to expansion will be in assessing the potential for competition, because with high barriers to entry competition will largely be limited to existing market players.
- 4.115 As outlined above, evidence would suggest that barriers to switching have lowered and may not be significant over the period of the review. However, it could be argued that OAOs, are to some extent constrained from expanding significantly as a result of continued dependency on eircom's network e.g. by not being able to offer differentiated bundles. However, ComReg suggests that wholesale inputs may be sufficiently effective to enable operators to enter the markets and compete in the longer term and there is no evidence which would indicate that these operators would be constrained from expanding their customer base.
- 4.116 However, ComReg would welcome any information respondents may have regarding the cost associated with expanding its provision of fixed calls services.

Preliminary conclusion

- 4.117 In summary, ComReg has examined eircom's market share in the respective markets; retail call prices, and the impact of VoB among non residential users¹⁴⁸. Data may indicate that the international non-residential calls market is tending towards effective competition. At this point however, ComReg has not taken a final position but seeks views from interested parties.
- 4.118 The evidence is less clear for the remaining three markets. All three exhibit market shares that, by reference to established case-law, would still be consistent with a finding of SMP. While eircom's market share has fallen, and may well continue to fall, it may not yet have done so at a sufficient rate as to clearly indicate a tendency towards effective competition. ComReg therefore particularly welcomes views from interested parties as to whether this criterion has been met.

Q. 19. Do you consider that the fixed calls markets have characteristics such that they will tend over time towards effective competition? Please substantiate your response.

¹⁴⁸ Voice over Broadband is a managed type of Voice over Internet service (VoIP) and is one of a sub-group of VoIP services.

Third Criterion:

Relative efficiency of competition law and complementary *ex ante* regulation

- 4.119 If it is found to be the case that the fixed calls markets meet the first two criteria set out above, the final decision as to whether *ex-ante* regulation is appropriate will depend on an assessment of the sufficiency of competition law by itself (absent *ex-ante* regulation) in reducing or removing potential competition problems/market failures and/or in restoring effective competition. In any event, ComReg's conclusions in relation to the first two criteria are preliminary at this juncture and thus the third criterion must be assessed.
- 4.120 The EU Commission has noted that potential restrictions of competition may still arise in the fixed calls markets, for example through price squeeze strategies of incumbent operators that remain dominant on related upstream markets. Where such strategies constitute an abuse of dominance, the EU Commission suggests that competition law potentially provides the appropriate instruments to deal with such market failures.
- 4.121 Predatory prices may be foreseen as a potential problem in the fixed calls markets. The firm with upstream dominance may, for example, be in a position to sustain a strategy of predatory pricing in related markets by way of cross-subsidisation. However, it can be argued that even if a strategy of predation were pursued in the fixed calls markets, it is not clear, in the presence of wholesale regulation, that eircom would be in a position to foreclose competition and increase its prices significantly in the future given the potential for future new entry based on CPS or SB-WLR. If, however, it were to establish a reputation for responding aggressively to new entry in the fixed calls markets by way of predatory pricing this might have the effect of creating strategic barriers to entry into that market and act as a disincentive to new entry. In any event, the competition case law and practice on predatory pricing is well-established¹⁴⁹. Furthermore, there is no general rule that dominant entities should not be able to compete on price and as there is an extremely fine line between low prices that are of benefit to consumers and low prices that are expressly aimed at eliminating competition for the purposes of raising prices in the future, the question arises as to whether *ex-ante* regulation is appropriate or necessary to deal with this potential problem. It is therefore suggested by ComReg that the application of competition law may be well-placed to adequately address any market failures concerned.
- 4.122 Absent wholesale regulation, a dominant firm could also have the incentive to raise wholesale prices to competitors, as there would be no competitive pressure to prevent this. A firm which was dominant in an upstream market could use its market power to leverage into a downstream market. A firm which was dominant in one market could attempt to leverage power horizontally into a related market. Currently remedies in place at the wholesale level help prevent eircom raising the price of its wholesale inputs to downstream competitors. Furthermore, it should be noted that it is an established principle in competition case law and practice that it is not necessary for the dominance, the abuse and the effects of the abuse all to be in the same market for the prohibition under Section 5 of the Competition Act, 2002/ Article 82 of the EU Treaty to apply. Thus competition law is equipped to deal with potential restrictions

¹⁴⁹ AKZO Chemie BV v Commission; Compagnie Maritime Belge Transports v Commission; and Deutsche Post AG.

of competition arising in one market as a result of a dominant position held in one or more associated markets.¹⁵⁰

- 4.123 An example of competition problems associated with a firm with upstream dominance leveraging its position vertically by price means is a margin squeeze. As a margin squeeze arises from the pricing of wholesale inputs and/or downstream outputs the question arises as to whether wholesale regulation is sufficient to deal with this potential problem. A margin squeeze may occur in the following circumstances:
- There is a vertically integrated firm with SMP in the upstream market, so that competitors have some reliance on the firm's upstream input;
 - The margin between the retail price and the price charged for the wholesale element is insufficient to cover the vertically integrated firm's downstream costs (by implication therefore an equally efficient downstream firm would not be profitable);
 - The aggregation of upstream and downstream business may mean that the vertically integrated firm does not incur a loss overall.
- 4.124 As for the predatory pricing section above it can be argued that it is not clear that in the presence of wholesale regulation, a strategy of margin squeeze would be successful in foreclosing competition and increasing prices in the fixed calls markets given the potential for future new entry based on CPS or SB-WLR. It is recognised, however, that were the incumbent to establish a reputation for responding to new entry aggressively by way of a margin squeeze this could create a strategic barrier to entry in the fixed calls markets. Notwithstanding this, it is suggested by ComReg that for the same reasons outlined in the predatory pricing section above competition law may be well-placed to deal with any potential competition problems in that regard.
- 4.125 On the other hand it can be argued that where there is a risk of persistent market failures and frequent and/or timely intervention is necessary and/or where creating legal certainty is of paramount concern, then *ex-ante* regulation may be justified.
- 4.126 ComReg would welcome respondents' input on the potential advantages/disadvantages that could result in the fixed calls markets if competition law was deemed sufficient and *ex-ante* regulation removed. Respondents should clearly set out why competition law would be sufficient / insufficient to deal with any potential competition risks.

Q. 20. Do you believe that competition law is sufficient of itself (absent *ex ante* regulation) to address any observed market failure in the fixed calls markets? Please substantiate your response.

Overall preliminary conclusion

- 4.127 In this review, ComReg has presented its preliminary assessment as to whether the retail fixed calls markets are susceptible to *ex ante* regulation. ComReg seeks views

¹⁵⁰ Commercial Solvents v Commission or Tetra Pak II.

- on whether, in the presence of wholesale inputs (CPS and SB-WLR¹⁵¹); efficient and sustainable entry may be possible.
- 4.128 In relation to the second criterion, whether the retail call markets tend towards effective competition, ComReg has examined eircom's market share in the respective markets; retail call prices, and the impact of VoB among non residential users¹⁵². At this point, evidence may indicate that the international non-residential calls market is tending towards effective competition. The competitive conditions are less clear for the remaining three markets. ComReg has not taken a final position but seeks views from interested parties. All three exhibit market shares that, by reference to established case-law, would still be consistent with a finding of SMP. While eircom's market share has fallen, and may well continue to fall, it may not yet have done so at a sufficient rate as to clearly indicate a tendency towards effective competition. ComReg therefore particularly welcomes views from interested parties as to whether this criterion has been met.
- 4.129 ComReg has identified that some potential restrictions of competition may still exist, for example, through excessive pricing, predatory pricing and price squeeze strategies of eircom (which remains dominant in the interconnection markets) but where such strategies constitute an abuse of dominance, ComReg seeks views as to whether competition law provides the appropriate instruments to effectively address such market failures.
- 4.130 Respondents are asked whether they believe all/some of the fixed calls markets pass the three criteria test and whether all/some of the markets should be subject to *ex-ante* regulation. ComReg would welcome input as to whether there are differences between the identified retail fixed call markets which would justify different approaches being adopted. Respondents are asked to outline in detail the justification and reasoning behind any such approach.
- 4.131 In the event that the retail fixed calls markets are found *not* to be subject to *ex ante* regulation on the basis that wholesale obligations are sufficient, ComReg would welcome input from interested parties on whether existing wholesale obligations are sufficient in themselves or whether there is a need to strengthen or indeed reduce any such intervention.

¹⁵¹ Carrier Pre Select and Single Billing Wholesale Line Rental – See Annex B for a glossary of terms.

¹⁵² Voice over Broadband is a managed type of Voice over Internet service (VoIP) and is one of a sub-group of VoIP services.

- Q. 21. Do you believe that the retail fixed calls markets meet all the three criteria? Or, is it your view that one/some of the criteria are not met. Please substantiate your response.**
- Q. 22. Do you believe that there are sufficient differences between the individual retail fixed calls markets¹⁵³ to justify adopting different conclusions in respect to the assessment of the three criteria? Please substantiate in detail what those differences are; and how they justify different approaches. Please substantiate your response.**
- Q. 23. Do you believe that existing wholesale regulation is sufficient to preclude the need for specific *ex ante* regulation in the fixed calls markets? Or, on the other hand, is there a need for additional wholesale regulation, if so respondents are asked to substantiate their response. If respondents believe that wholesale regulation should be reduced, again they are asked to provide detailed justification and reasoning.**

¹⁵³ Retail residential domestic calls from a fixed location, retail residential international calls from a fixed location, retail non-residential domestic calls from a fixed location, retail non-residential international calls from a fixed location.

5 Submitting Comments

- 5.1 All comments to this consultation are welcome. However, it would make the task of analysing responses easier if comments were referenced to the relevant question numbers from this document.
- 5.2 The consultation period will run from 19 September to 31 October 2006, during which time ComReg welcomes written comments on any of the issues raised in this paper.
- 5.3 ComReg appreciates that many of the issues raised in this paper may require respondents to provide confidential information if their comments are to be meaningful. Respondents are requested to clearly identify confidential material and, if possible, to include it in a separate annex to their response. Such information will be treated as strictly confidential.
- 5.4 Having analysed and considered the comments received, ComReg will review the Market Review for Retail Fixed Calls and publish a response to the consultation which will *inter alia* summarise the responses to the consultation.
- 5.5 In order to promote further openness and transparency, ComReg will publish the names of all respondents and make available for inspection responses to the consultation at its Offices.

Q. 24. Please provide any further comments which you feel are relevant to this Consultation.

Annex A: Consultation Questions

- Q. 1. Are there additional factors that in your opinion require analysis by ComReg? If yes, please indicate precisely what they are. In respect of the factors analysed, is there additional analysis that in your opinion must be carried out. If yes, please indicate precisely what that is.5
- Q. 2. Do you agree that retail calls and retail narrowband access are in separate markets? Please elaborate your response.11
- Q. 3. Do you agree that fixed and mobile call services should be considered to be in separate markets? Please detail your response.21
- Q. 4. Do you agree that fixed to mobile calls and fixed to fixed calls should be considered to form part of the same relevant market? Please detail your answer.22
- Q. 5. Do you agree that operator assisted calls should be considered to be an ancillary service to direct-dialled calls? Please detail your response.22
- Q. 6. Do you agree that calls from payphones should not be considered to be in the same relevant market as other land line calls? Please detail your response.22
- Q. 7. Do you agree that calls to Internet and fixed domestic calls should be considered as sufficiently similar to form part of the same relevant market? Please detail your answer.23
- Q. 8. Do you agree that calls to other non-geographic numbers and voice calls are sufficiently similar so as to be included in the same relevant market? Please detail your answer.23
- Q. 9. Do you agree with ComReg’s analysis of fixed SMS calls? Please detail your response.24
- Q. 10. Do you agree that local and national calls should be considered to be in the same relevant market? Please detail your response.25
- Q. 11. Do you agree that international calls should be considered to be in a separate relevant market to local and national calls? Please detail your response.25
- Q. 12. Do you agree that there are separate markets for residential and non-residential calls? Please detail your response.31
- Q. 13. Do you think that it is appropriate not to define separate sub markets for the non-residential calls market? Please detail your response.31
- Q. 14. Do you agree that Voice over Broadband (VoB) should NOT be included in the same relevant market as fixed residential calls, but IS included in the same market as fixed non-residential calls. Please expand in your response.42
- Q. 15. Do you agree that the relevant geographic market for the retail fixed call markets is Ireland? Please expand in your response.44
- Q. 16. Do respondents agree that a two year prospective period for this review is correct?47
- Q. 17. Do you agree with ComReg’s interpretation of the EU Commission’s comments and do you believe that it is correct for ComReg to proceed in the manner it proposes?48

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- Q. 18. Do you consider that the retail fixed calls markets are not subject to high and non-transitory entry barriers (in the presence of regulatory measures in the related wholesale markets)? Please substantiate your response..... 60
- Q. 19. Do you consider that the fixed calls markets have characteristics such that they will tend over time towards effective competition? Please substantiate your response..... 67
- Q. 20. Do you believe that competition law is sufficient of itself (absent *ex ante* regulation) to address any observed market failure in the fixed calls markets? Please substantiate your response. 69
- Q. 21. Do you believe that the retail fixed calls markets meet all the three criteria? Or, is it your view that one/some of the criteria are not met. Please substantiate your response. 71
- Q. 22. Do you believe that there are sufficient differences between the individual retail fixed calls markets to justify adopting different conclusions in respect to the assessment of the three criteria? Please substantiate in detail what those differences are; and how they justify different approaches. Please substantiate your response. 71
- Q. 23. Do you believe that existing wholesale regulation is sufficient to preclude the need for specific *ex ante* regulation in the fixed calls markets? Or, on the other hand, is there a need for additional wholesale regulation, if so respondents are asked to substantiate their response. If respondents believe that wholesale regulation should be reduced, again they are asked to provide detailed justification and reasoning. 71
- Q. 24. Please provide any further comments which you feel are relevant to this Consultation. 72

Annex B: Glossary of Terms

Access Line	A circuit that connects a subscriber to a switching centre.
Analogue	The direct representation of a waveform, as opposed to digital which is a coded representation. An analogue signal is one that varies continuously (e.g. Sound waves). Analog signals vary along two parameters, amplitude (strength) and frequency (tone). The unit of measurement is the Hertz, or cycle per second.
Bandwidth	The physical characteristic of a telecommunications system that indicates the speed at which information can be transferred. In analogue systems, it is measured in cycles per second (Hertz) and in digital systems in binary bits per second. (Bit/s).
Bits per second	Basic unit of measurement for serial data transmission capacity; abbreviated as K bps, or kilobit/s for thousands of bits per second; M bps or megabit/s for millions of bits per second; G bps, or gigabit/s for billions of bits per second; T bps or terabit/s or trillions of bits per second.
Broadband	A service or connection allowing a considerable amount of information to be conveyed, such as television pictures. Generally defined as a bandwidth > 2Mbit/s Broadband Integrated Services Digital Network (B-ISDN). The capability to integrate any type of communications signals (voice, data, image or multimedia) and carry them over a single broadband channel of 150-mbps and above, 4k (B-ISDN) regardless of their content.
Cable Modem	A cable modem is a device that enables a PC to be linked to a local cable TV line for internet/data services.
Carrier Pre-selection (CPS)	The facility offered to customers which allows them to opt for certain defined classes of call to be carried by an operator selected in advance (and having a contract with the customer), without having to dial a routing prefix or follow any other different procedure to invoke such routing.
Dial-up	Connections made to a data network using the switched network to provide a voice band or data bearer.
Digital	The coded representation of a waveform by, for example, binary digits in the form of pulses of light, as opposed to analogue which is the direct representation of a waveform.
Digital Subscriber Line (DSL)	A family of technologies generically referred to as DSL or xDSL, which are capable of transforming a normal telephone line into a high-speed digital line. These include ADSL (Asymmetric DSL), SDSL (Symmetric DSL), HDSL (High data rate DSL) and VDSL (Very high data rate DSL). DSL enabled lines are capable of supporting services such as fast Internet access and video or TV on-demand.
Direct Access	The situation where a customer is directly connected to a telecommunications operator by a wire, fibre-optic or radio link to connect that customer to the public telecommunication network. This includes access via LLU.
Directory Enquiry Service (DQ)	Directory information service which is operator assisted and involves the operator looking up entries on a database.
Fibre Optic Cable	A transmission medium that uses glass or plastic fibres rather than copper wire to transport data or voice signals. The signal is imposed on the fibres via pulses (modulation) of light from a laser or a light-emitting diode (LED). Because of its high bandwidth and lack of susceptibility of interference, fibre-optic cable is used in long-haul or

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	noisy applications.
Fixed telephone Services	Means the provision to end-users at fixed locations of a service for the originating and receiving of national and international calls, including voice telephony services and may include, in addition, access to emergency 112 services, the provision of operator assistance, directory services, provision of public pay telephones, provision of service under special terms or provision of special facilities for customers with disabilities or with special social needs but does not include value added services provided over the public telephone system.
Flat Rate Internet Access (FRIACO)	The provision of a Flat Rate Internet Access Call Origination via a wholesale un-metered Internet access product.
Fixed Wireless Access (FWA)	A system that connects subscribers to the public switched telephone network (PSTN) using radio signals as a substitute for copper wires for all or apart of the connection between the subscriber and the switch.
Indirect Access	Where a customer's call is routed and billed through operator A's network even though the call originated from the network of operator B. It is the generic term for both easy access and equal access.
Integrated Services Digital Network (ISDN)	A network based on the existing digital PSTN which provides digital links to customers and end to end digital connectivity between them. ISDN2 provides a maximum bandwidth of 128kbit/s.
Interconnection services	Services provided by one telecommunications organisation to another for the purpose of the conveyance of messages and information between the two systems and including any ancillary services necessary for the provision and maintenance of such services.
Internet protocol (IP)	Packet data protocol used for routing and carriage of messages across the internet.
Internet telephony	A specific type of VoIP service that uses the public Internet to carry the IP traffic (also referred to as Voice over the Internet).
ISP	Internet Service Provider
Leased line	A leased line is a telephone line that has been leased for private use. In some contexts, it's called a <i>dedicated</i> line. A leased line is usually contrasted with a <i>switched line</i> or <i>dial-up line</i> .
Local Loop	The access network connection between a customer's premises and the local exchange. This usually takes the form of a pair of copper wires.
Local Loop unbundling (LLU)	LLU was mandated by the EU in December 2000. It requires those operators designated as having significant market power) to make their local networks (i.e. the link between the end-user and the remote concentrator) available to other telecommunications companies.
Mediated service	Service where a service provider acts as a mediator to manage the communications capability between end-points by providing call set-up, connection, termination and party identification features, often generating or modifying dialling, signalling, switching, addressing or routing functions for the end-user.
Modem	A device which converts digital signals from a data-transmitting terminal into modulated analogue signals which can be carried by a public telephone network.
Narrowband	A service or connection allowing only a limited amount of information to be conveyed, such as for telephony. This compares with broadband which allows a considerable amount of information to be conveyed.

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Originating network	The network to which a caller who makes a call is directly connected.
Other Authorised Operators (OAOs)	Companies, other than eircom, which operate telecommunications systems.
Premium rate services (PRS)	Services, including recorded information and live conversation, run by independent service providers. All calls to these companies are charged at a higher rate than ordinary calls to cover the companies' costs in providing the content of the call and the operator's cost for the special network facilities needed.
Private circuits	Point-to-point circuits for customers exclusive use covering speech, data or image communications.
Public switched telephone network (PSTN)	The telecommunications networks of the major operators, on which calls can be made to all customers of all PSTNs.
Public telecommunications network	A telecommunications network used, in whole or in part, for the provision of publicly available telecommunications services.
Resellers	Service Providers who do not have their own network.
Switch	Relates to a telecommunications network comprising at least one exchange and capable of routing signals and messages from one line to all other lines comprised in the network.
Telecommunications	Conveyance of speech, music and other sounds, visual images or signals by electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical means.
Third generation mobile systems (3G)	A European 3G mobile communications system provides an enhanced range of multimedia services (e.g. high speed Internet access).
Transit	A transit service is a conveyance service provided by a network between two points of interconnection. It is, therefore, a service that links two networks that are not in themselves interconnected.
Voice over Internet protocol (VoIP)	The generic name for the transport of voice traffic using Internet Protocol (IP) technology. The VoIP traffic can be carried on a private managed network or the public Internet (see Internet telephony) or a combination of both. Some organisations use the term 'IP telephony' interchangeably with 'VoIP'.
Voice telephony service	A service available to the public for the commercial provision of direct transport of real-time speech via the public switched network or networks such that any user can use equipment connected to a network termination point at a fixed location to communicate with another user of equipment connected to another termination point.
Virtual private network (VPN)	These are used by a company or private group to make inter-site connections either for telephone speech or data as if there were dedicated leased lines between these sites. The equipment used is located within the public telecommunications operators' premises and forms an integral part of the public network but is software-partitioned to allow for a genuinely private network
Wireless Local Area Networks (WLAN)	Also known as 'hotspot' services. A WLAN access point provides Internet connection and virtual private network (VPN) access from a given location e.g. public places, such as airports, hotels, and coffee shops. Access is facilitated via the user's own portable computer.