



Commission for  
**Communications Regulation**

## Irish Communications Market

### Quarterly Key Data Report

March 2008

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**Corrigendum for the December 2007, Quarterly Key Data Report, ComReg Doc 07/106**

- Pg. 33 of the December 2007 report: “At the end of September 2007, there were over 4.9 million 2G and 3G mobile subscriptions in Ireland...mobile penetration based on population in Ireland was 114%.” These figures have been restated as HSDPA data should be included under broadband subscriptions rather than mobile subscriptions. The figures should be 4.85m and 112%.

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## 1 Overall Market Data

Data presented in this report is based on quarterly questionnaires completed by authorised operators for the period from 1<sup>st</sup> October 2007 to 31<sup>st</sup> December 2007. The report is based on submissions from 67 operators, which represent the most significant market activity.

### Number of Authorisations

Figure 1.1.1 - Total Number of Authorisations

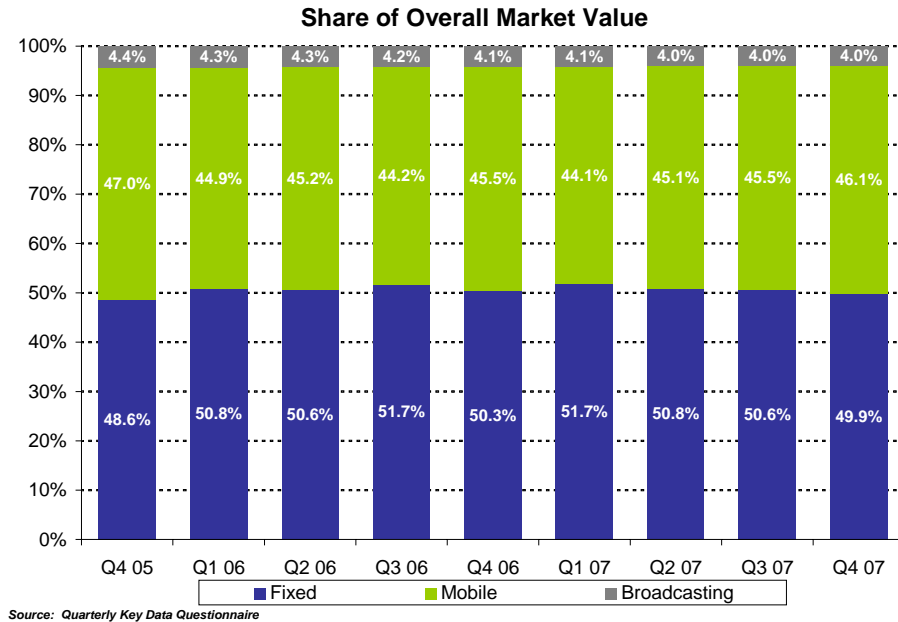
Total Authorisations	March 2008
No. of fixed and wireless authorisations	366
No. of mobile telephony authorisations	5
No. of broadcasting authorisations (incl. Cable TV, MMDS, Deflectors)	90
Total Number	461

Before providing networks or services to third parties, operators are required to submit a notification to ComReg for the purposes of compiling a register of authorised operators. At the date of publication there were 461 authorised undertakings in Ireland. It should be noted that the list above refers to the number of general authorisations granted by ComReg under the European Framework for Authorisations, and does not necessarily reflect the total number of commercially active organisations or entities currently operating in the market. The total number includes a number of undertakings who are authorised to use license-exempt spectrum for the provision of services.

## Overall Electronic Communications Revenues<sup>1</sup>

Data presented in Figure 1.2.1 examines the proportion of industry revenue attributable to the provision of fixed line, mobile and cable broadcasting services.

**Figure 1.2.1 – Fixed, Mobile & Broadcasting as a % of Total Revenues<sup>2</sup>**



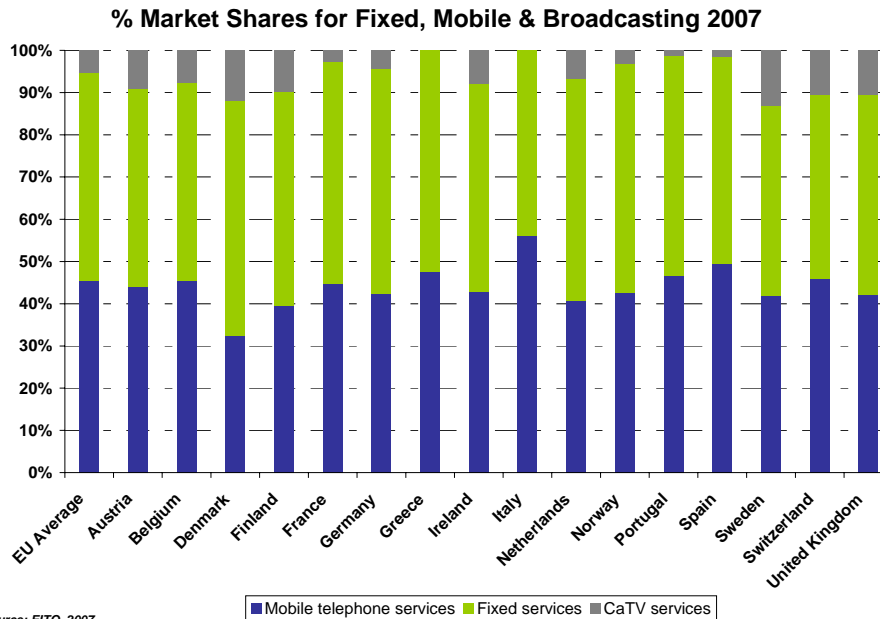
Overall electronic communications network and service revenues at the end of December 2007 were over €1.14bn for the quarter. For the twelve months to December 2007 total revenues were €4.54bn. Industry revenue increased by 0.6% in the quarter and by 3% compared to Q4 2006. Increased industry revenue this quarter was again driven mainly by growth in the mobile industry.

In Q4 2007 fixed line revenues accounted for 49.9% of total electronic communications revenues, a slight decrease since last quarter. In contrast the mobile industry's share of revenue increased from 45.5% in Q3 2007 to 46.1% in Q4 2007.

<sup>1</sup> For further detail on terms and definitions see ComReg Document Number 08/2222a Explanatory Memorandum to Quarterly Key Data Report.

<sup>2</sup> The following services are accounted for in the total revenues figure: fixed (interconnection, retail narrowband services, leased line & managed services including PPC revenue as well as other revenues ((including web-hosting, co-location services, directory publication & other services)) broadband), mobile (connection, voice and data services, roaming) and broadcasting (including cable/MMDS broadcasting services, connection, rental and other charges).

Figure 1.2.2 – 2007 Market Shares for Fixed, Mobile & Broadcasting Services



Source: EITO, 2007

The European Information Technology Observatory (EITO) produces an annual Information and Communications Technology (ICT) market analysis report. Estimated year end data for 2007 is used to give a comparative, cross-country analysis of the telecoms market. Figure 1.2.2 is based on estimated 2007 data and analyses the ICT market value of sixteen European countries, breaking down the overall analysis by fixed, mobile and cable TV services. Denmark, Switzerland, Sweden and the UK are the only countries with more than 10% of cable TV services. Italy and Greece have an insignificant cable market.

Ireland has the same share of fixed services (both voice and data) as the EU average. The only country that has greater than half of its ICT market value related to mobile services is Italy with 56%. Denmark has the lowest mobile share among the countries analysed, while Ireland has 43%<sup>3</sup> which is just below the EU average.

<sup>3</sup> The methodology and calculations used by EITO may differ from those used by ComReg. ComReg estimates Q4 mobile share of total revenue as 46.1%.



## Overall Call Volumes

Figure 1.3.1 - Share of Total Voice Call Volumes (Minutes)<sup>4</sup>

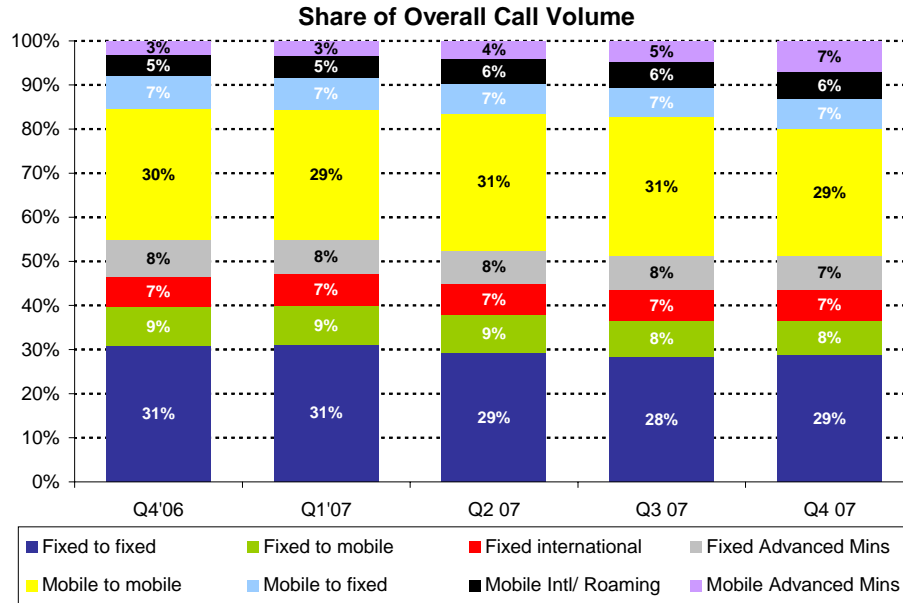


Figure 1.3.1 profiles volumes of voice calls by call type for both fixed and mobile voice on a quarterly basis. Voice minutes for the quarter totalled over 4.54 billion minutes. This was a less than 1% increase on the previous quarter when total voice minutes were just under 4.54 billion minutes. Traffic originating on a fixed line network accounted for 51% of all voice minutes, while mobile originating voice minutes accounted for the remaining 49%.

<sup>4</sup> Fixed advanced minutes include premium rate services minutes, freephone minutes, operator services minutes, national and international virtual private network minutes. Mobile advanced minutes include premium rate services minutes and other mobile minutes such as voicemail, DQ, call completion minutes etc.

## Pricing Overview

This section examines Ireland's current and previous rankings based on comparison of prices for specific consumer baskets in a number of EU countries. Data on PSTN<sup>5</sup> and mobile basket prices is provided to ComReg by Teligen who use an OECD-approved methodology to compare fixed (PSTN) and mobile tariffs.

This format follows a basic three-step process consisting of:

- the construction of one or more baskets of telephone services;
- the pricing of those baskets; and
- the conversion of the individual currencies to standard units (i.e. US Dollars or euros and Purchasing Power Parities (PPPs)).

Countries are then ranked based on PPPs, with the least expensive country ranked 1<sup>st</sup>.

The charts presented in this section provide an overview of Ireland's ranking relative to other EU member states since the revision of the OECD baskets in February 2006. Individual pricing charts for each basket for August 2007 are analysed under the heading "Pricing Data" in the specific mobile and fixed sections of this document. Ireland's position is ranked in relation to other EU member states.

For further information on Teligen's methodology please see the accompanying memorandum ComReg 08.

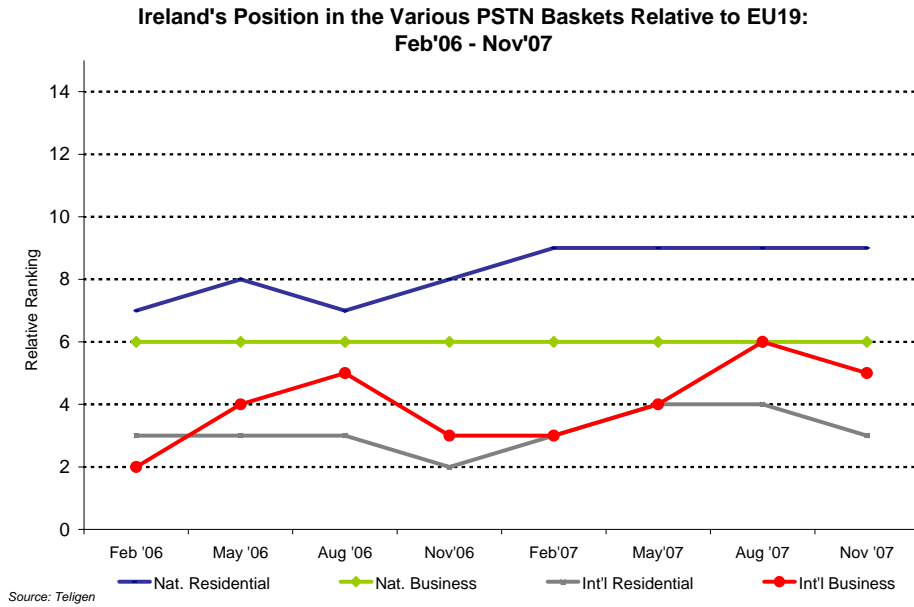
### 1.1.1 PSTN Baskets

Figure 1.4.1 shows the movement in Ireland's position relative to other EU countries in all PSTN baskets since February 2006, where the least expensive country based on the methodology is ranked 1<sup>st</sup>. Ireland remains less expensive than the average basket cost across all of the PSTN services analysed. This quarter the national residential and national business call baskets remained in the same ranked positions as in August 2007, at 9<sup>th</sup> and 6<sup>th</sup> respectively. The national business basket has ranked at 6<sup>th</sup> position consistently since February 2006 while the national residential has remained at 9<sup>th</sup> position for the last four quarters. The international residential basket has moved one position to 3<sup>rd</sup> place, while the international business basket has also moved one place since August 2007 and is now ranked 5<sup>th</sup>.

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<sup>5</sup> The PSTN refers to a public switched telephone network or copper telephony network, on which calls can be made. A PSTN line is more commonly known as a copper telephone line.

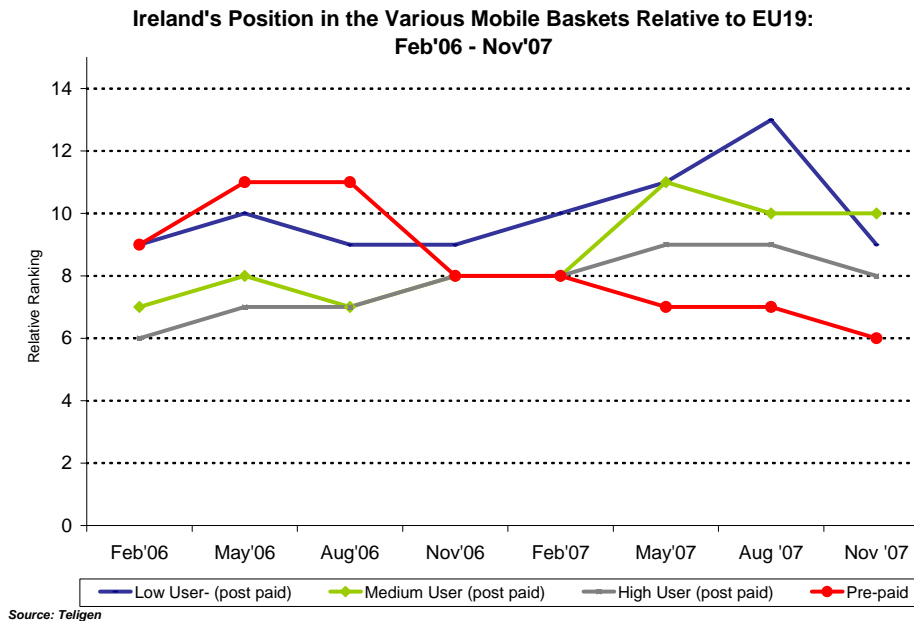
**Figure 1.4.1 – Ireland’s Position in the Various PSTN Baskets**



**1.1.2 Mobile Baskets**

Figure 1.4.2 shows the movement in Ireland’s position in all mobile baskets since February 2006 relative to the EU, where the least expensive country is ranked 1<sup>st</sup>. The medium user basket was the only basket where the rank did not change this quarter, remaining in 10<sup>th</sup> position among the 19 EU-member states analysed. The low user post-paid basket jumped from 13<sup>th</sup> to 9<sup>th</sup> position, while the high user and pre-paid baskets both moved one place to 8<sup>th</sup> and 6<sup>th</sup> respectively.

**Figure 1.4.2 – Ireland’s Position in Various Mobile Baskets**

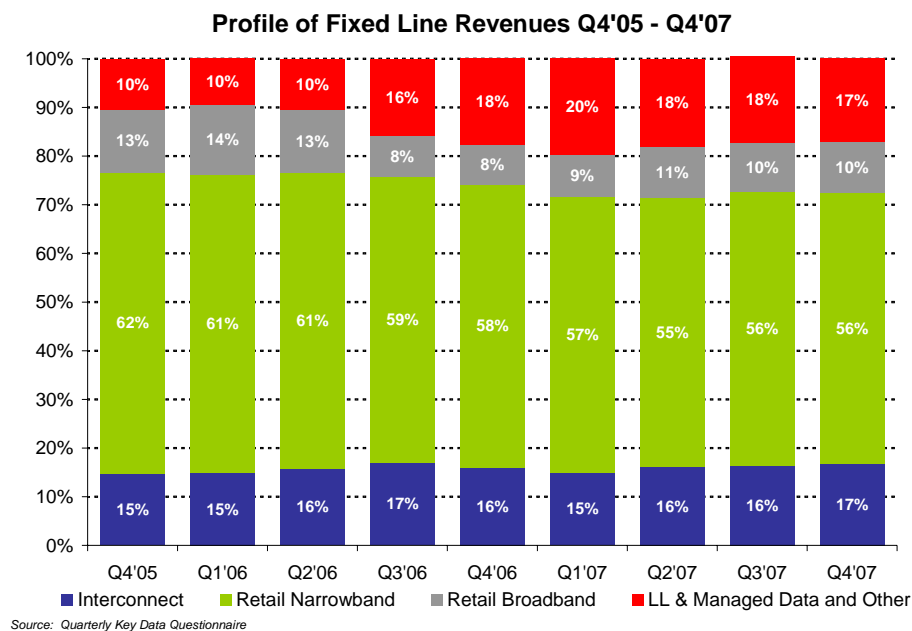


## 2 Fixed Market Data

### Total Fixed Line Revenues

Figure 2.1.1 shows that fixed line revenues totalled over €572 million in Q4 2007, a decrease of 1% since the last quarter. Only wholesale revenues (from interconnect services) saw an increase in Q4. Revenues from retail narrowband remained constant as did those of retail broadband. Other retail revenues (from leased lines, managed data and other advanced data services) saw a decrease in the period.

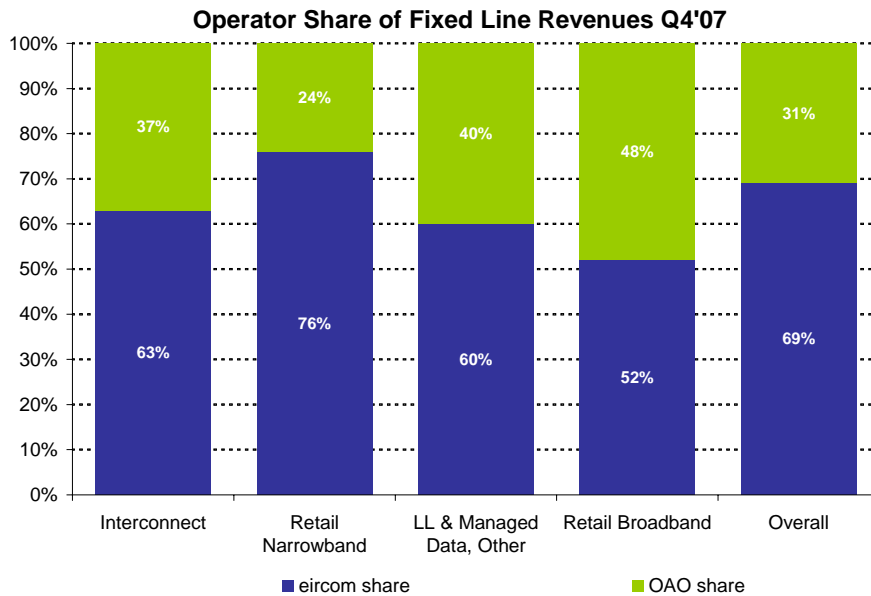
Figure 2.1.1 – Profile of Fixed Line Revenues



#### 2.1.1 Authorised Operators' Share of Overall Fixed Line Revenues

Figure 2.1.3, below, shows the market shares of the incumbent and other authorised operators (OAOs) in each of the fixed line service categories set out, above, in Figure 2.1.1. Market shares are grouped within a number of revenue categories to link related services; however this classification does not necessarily reflect the specific markets identified in ComReg's Market Review process.

**Figure 2.1.2 – Operator Share of Fixed Line Revenues<sup>6</sup>**



Source: Quarterly Key Data Questionnaire

Eircom’s overall share of fixed line market revenue has remained constant since the last quarter but has declined by 2% since the same period in 2006. This decline is predominantly a result of increased OAO activity in the market (specifically in the Leased Line & Managed Data sector), but is also due to ongoing improvements in the quality of data returned by all operators<sup>7</sup> in their responses to the Quarterly Report questionnaire. Figure 2.1.3, below, shows Eircom’s market share on a quarterly basis from Q4 2006 to Q4 2007.

<sup>6</sup> Eircom’s retail broadband share is calculated using DSL, FWA and Satellite revenues.

<sup>7</sup> Updated data received by Broadworks, BT Ireland, Glantel, Icarus, Perlico and Rainbow for the first time since Q2 2007. Q3 2007 data used for EU Networks, Fast Wireless, Glantel and Pure Telecom.

**Figure 2.1.3 – Eircom’s Market Share**

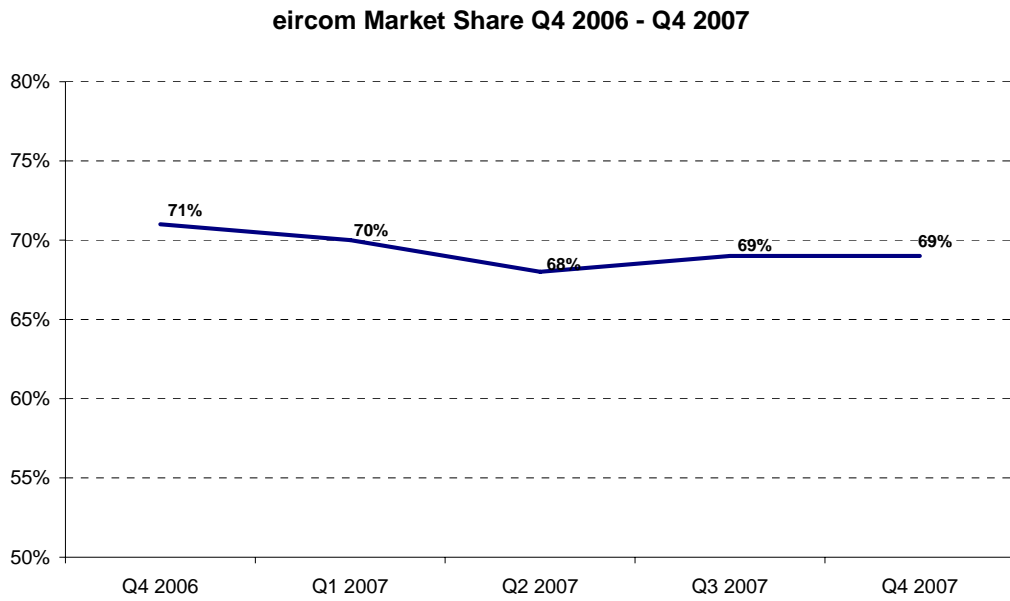
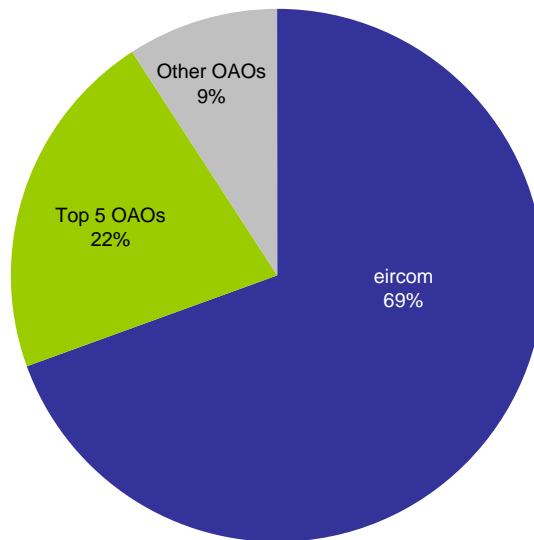


Figure 2.1.4, below, outlines revenue market share in Q4 2007 by breaking out the total fixed market in terms of shares held by the incumbent fixed line operator, the top 5 OAOs, and all other OAOs of fixed line revenue.

**Figure 2.1.4 – Revenue Market Share for Incumbent Operator, Top 5 OAOs and all Other Market Operators**

**Revenue Market Share of Fixed Line Operators, Q4 2007**



There was no change in the split of market share in Q4 2007. After Eircom, the largest revenue-earning operator in the market, with a 69% market share, ComReg estimates that the next five largest operators in terms of revenue contribute a further 22% of industry revenue, with the remaining 9% generated by all other operators in the fixed line market. Eircom's market share has fallen by 2% since Q4 2006 and this fall off in the incumbent's market share has been taken up by the top 5 OAOs.

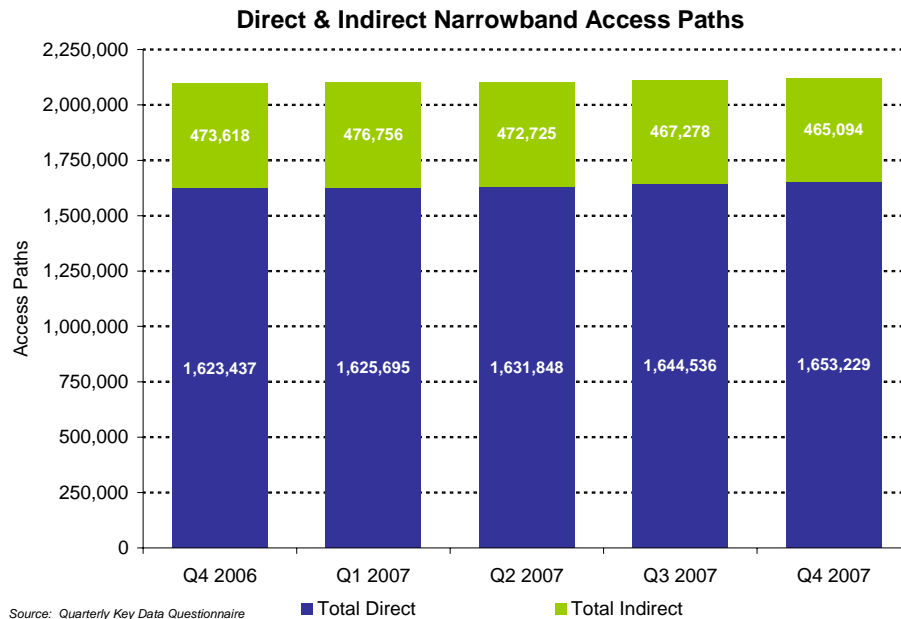
Figure 2.1.4 is presented as additional analysis of the fixed market, and should not be interpreted as a definitive statement of market shares, in particular fixed line market segments.

## Fixed Line Access

### 2.1.2 Access Paths

Figure 2.2.1 presents the total number of narrowband fixed access paths (PSTN and ISDN) broken out by direct and indirect access<sup>8</sup>. There were just over 2.1 million direct and indirect PSTN and ISDN access paths in the Irish market in Q4 2007, which was a marginal increase since Q3 2007. Analysys research for Ireland has indicated that “population growth, as a result of immigration, has helped to increase the number of fixed connections” in Ireland<sup>9</sup>. ComReg includes direct access provided by means of Local Loop Unbundling (LLU) in direct access paths, based on the assumption that the line is directly controlled by an alternative operator. Indirect access paths totalled over 465,000 in Q4 2007, a 0.5% decrease since Q3 2007, and this represents a 2% fall since Q4 2006. In Q4 2007, indirect access accounted for 22% of all access paths in the fixed market.<sup>10</sup> This figure has been remained constant for over 2 years.

Figure 2.2.1 - Fixed Access Paths



8 Indirect access paths relate to telephone lines provided to customers by means of carrier pre-select only or wholesale line rental. Carrier pre-select allows the user to receive all or a portion of calls from one provider and line rental from another provider (usually Eircom). Wholesale line rental (also known as single billing) allows the user to receive every aspect of telephone service, including all calls and line rental from one single supplier.

9 Analysys Research (2007) The Acceleration of fixed-mobile substitution in Western Europe: facts and figures. p. 38

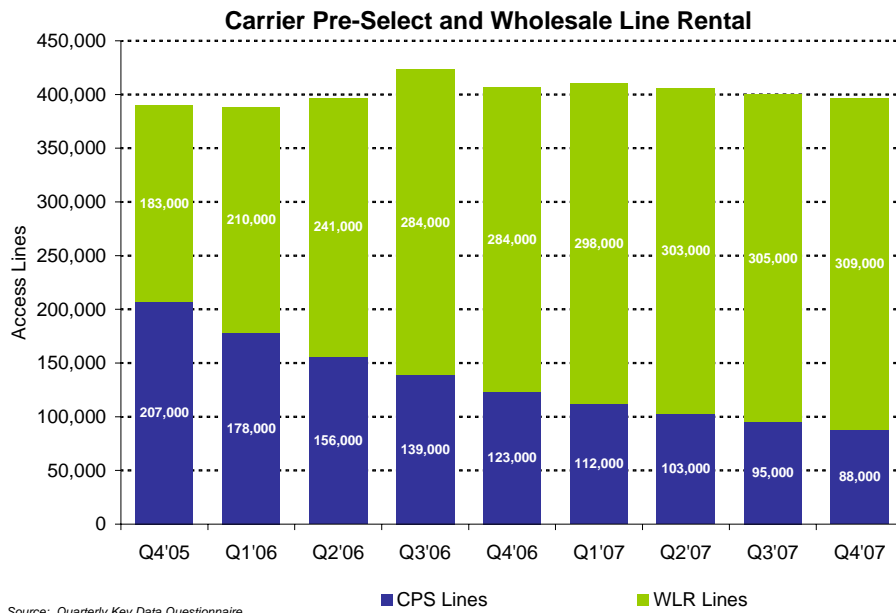
10 Access paths are not synonymous with access lines as for example in the case of ISDN paths, there may be more than 1 path provided via a single ISDN line.



2.1.3 Indirect Access Lines

Figure 2.2.2 illustrates the overall number of PSTN and ISDN lines provided by means of either Carrier Pre-Selection (CPS) only or Wholesale Line Rental (WLR). Unbundled local loops, which are considered to enable OAO direct access, are not included in this figure. In Q4 2007, there were just under 400,000 active lines, enabling OAOs to provide services to customers by reselling elements of Eircom’s copper network. The number of indirect access lines has decreased by 1% in overall terms this quarter. Year on year, indirect access lines for the 12 months to the end of December 2007 decreased by 2%. This chart shows how OAOs are continuing to migrate their customer base to single-bill services, i.e. WLR rather than CPS-only (i.e. calls only) services to customers. WLR lines managed by OAOs now account for 78% of indirect access lines compared to 47% in Q4 2005. Despite the overall decrease in indirect access lines, WLR lines continue to see incremental growth, which may suggest a migration of CPS customers to WLR.

Figure 2.2.2 - Indirect Access Lines<sup>11</sup>



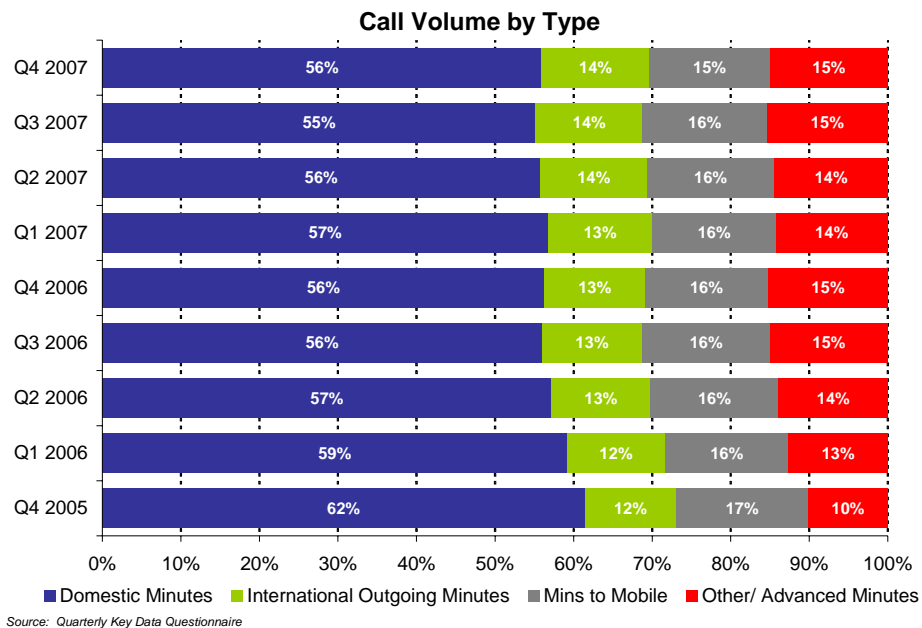
11 Number of lines are rounded to the nearest thousand.

### Fixed Voice Call Volumes

Fixed call traffic in Q4 2007 was just over 2.33bn minutes, which was a marginal decrease since Q3 2007 and a fall of 4% since Q4 2006. VoIP minutes account for less than 1% of this total as of Q4 2007<sup>12</sup>.

A factor which may impact fixed voice volumes over the telecoms network is the use of voice over internet services, such as those offered by Skype, and mobile substitution. The year-on-year decrease in total fixed line traffic reported by operators is primarily a result of a fall in absolute volumes of total domestic traffic minutes between Q4 2006 and Q4 2007. This is also reflected in the proportion of total fixed line voice traffic categorised as domestic minutes. Since this analysis began in Q4 2004, the percentage split between domestic, international, mobile minutes and other minutes has remained relatively constant. However, a slow but continued decline in the percentage of domestic minutes is to be noted. Changes in the volumes and profile of fixed line traffic will continue to be monitored by ComReg for evidence of changes in fixed line usage, such as increased fixed-mobile substitution. Figure 2.3.1 illustrates trends in fixed voice call minutes since Q4 2005.

Figure 2.3.1 – Fixed Voice Call Volume<sup>13</sup>



<sup>12</sup> ComReg data provided by operators shows over 9m VoIP minutes for Q4 2007, while total fixed call minutes are over 2bn.

<sup>13</sup> Domestic Calls include local & national calls. Advanced service and other minutes include minutes to premium rate numbers, freephone numbers, callsave, operator services, VPN minutes, payphones and other services.

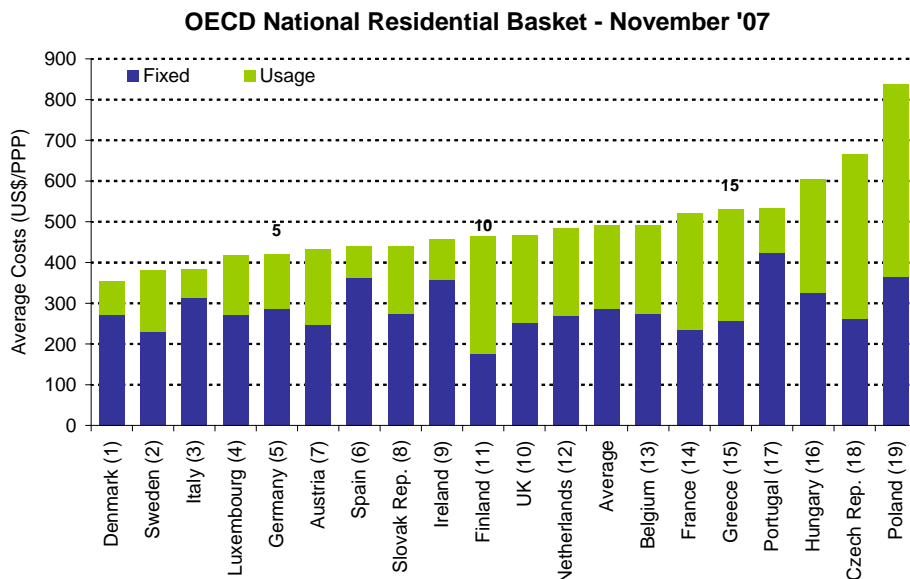
## PSTN Pricing Data

ComReg presents independently-collated Teligen data using an OECD-approved methodology to examine the relative costs of a number of specific baskets of national and international telecoms services for both residential and business users. The data presented includes all EU-25 countries for which data is available.<sup>14</sup> Using this methodology, data is presented using USD (\$) and Purchasing Power Parities (PPPs). The latter provides an indication of the cost of telecoms services in countries analysed in relation to the cost of all other products and services, and take account of exchange rate differences.

### 2.1.4 OECD National Residential Basket

Figure 2.4.1.1 illustrates Ireland's ranking in the national residential basket, based on a basket of calls and fixed costs for usage over a 12 month period. This chart is based on a comparison of the cheapest package or bundled product available for a specific customer usage profile. In many cases this will be a bundled service which will include both line rental and a "bundle" of call minutes for a fixed monthly charge. It should therefore be noted that the "fixed" element in this basket is not an indication of the cost of basic line rental. In November 2007 Ireland remained in 9<sup>th</sup> position, four places better than the EU average in terms of price for this basket. No other country had a significant move in the rankings.

Figure 2.4.1.1 - OECD National Residential Basket – November 2007<sup>15</sup>



Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

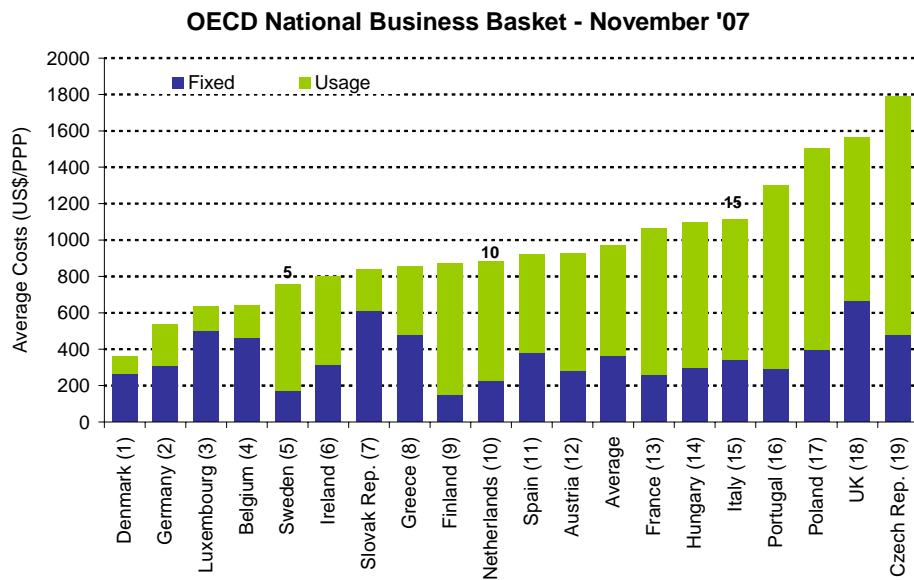
14 This will be determined by whether the EU country is also an OECD member.

15 Residential tariffs include VAT. VAT rates vary between member states.

2.1.5 OECD National Business Basket

As with the residential basket, this chart is based on a comparison of the cheapest business package or bundle available for a set number of voice calls over a 12 month period, and in many cases will include a fixed charge for access as part of a bundled service. It should therefore be noted that the “fixed” element in this basket is not an indication of the cost of basic line rental. Ireland remains in 6<sup>th</sup> position in the rankings and is still seven places better than the EU average in terms of price. All other countries maintain their previous positions in this basket.

Figure 2.4.2.1 - OECD National Business Basket – November 2007

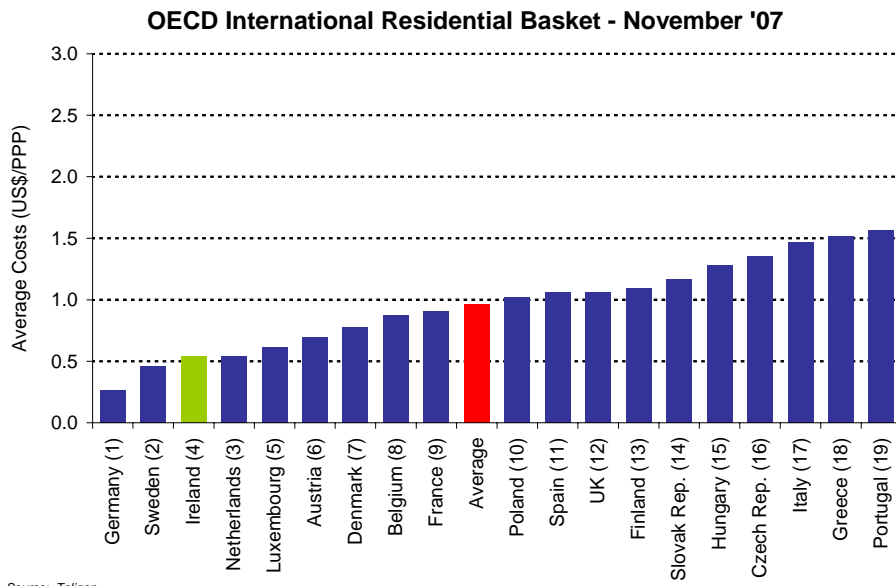


Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

2.1.6 OECD International Residential Basket

Figure 2.4.3.1 shows that Ireland has moved up to 3<sup>rd</sup> position this quarter in terms of the cost of three-minute peak international calls and five-minute off-peak international calls from one country to all other countries in the basket. Ireland has jumped one place since the last quarter, and is now seven places better than the EU average in terms of price.

Figure 2.4.3.1 - OECD International Residential Basket – November 2007<sup>16</sup>

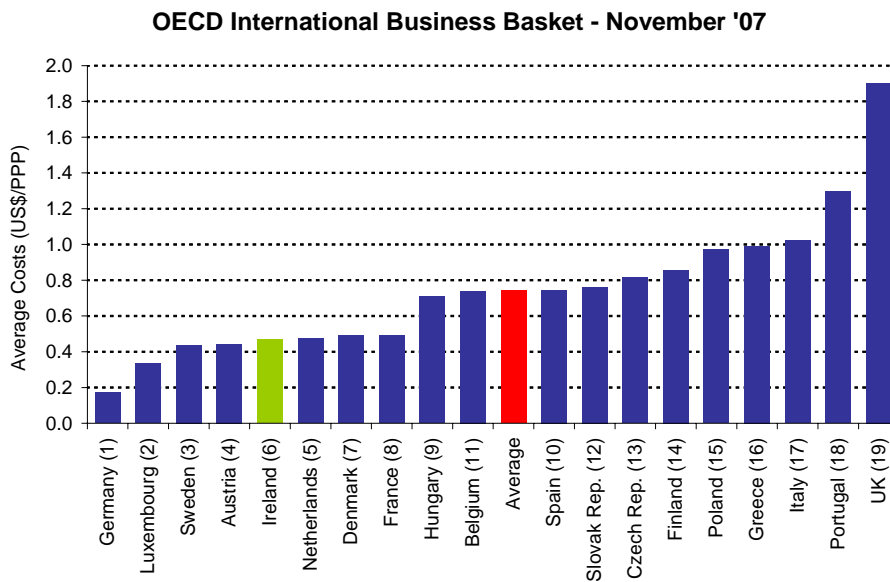


Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

2.1.7 OECD International Business Basket

Ireland climbed one position to 5<sup>th</sup> among EU countries analysed in the international business basket and is now six places ahead of the EU average in terms of price.

Figure 2.4.4.1- OECD International Business Basket – November 2007



Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

<sup>16</sup> Residential tariffs include VAT. VAT rates vary between member states.

### 3 Internet and Broadband

#### Total Internet Subscriptions

At the end of Q4 2007, there were a total of over 1.2 million active internet subscriptions in Ireland. This is a 3% growth on the previous quarter. Narrowband, both metered and flat rate, continues to decline and this drop off is being matched by uptake in broadband and mobile broadband in particular in this quarter. Table 3.1.1 shows the total number of narrowband and broadband subscriptions to internet services in Ireland.

**Table 3.1.1 – Total Number of Active Internet Subscriptions in Ireland**

<b>Subscription Type</b>	<b>Q4 07 Subs</b>	<b>Quarterly Growth Q3 07- Q4 07</b>	<b>Year-on-Year Growth Q4 06- Q4 07</b>
Metered Narrowband	278,600	-15%	-35%
Flat Rate Narrowband	48,300	-15%	-45%
ADSL Broadband <sup>17</sup>	549,600	+8%	+45%
Other Broadband <sup>18</sup>	336,600	+17%	n/a
<b>Total Internet Subscriptions</b>	<b>1,213,100</b>	<b>+3%</b>	<b>n/a</b>

<sup>17</sup> DSL refers to a digital subscriber line, the means by which broadband speeds (i.e. in excess of 144k downstream) are delivered over the copper telecoms network.

<sup>18</sup> Other Broadband includes cable broadband, fixed wireless access, fibre, satellite and mobile broadband connections

Figure 3.1.2 profiles internet subscriptions in Ireland using the classifications of subscription type outlined in figure 3.1.1. Broadband subscriptions, either using copper-based DSL services, or alternative broadband platforms now account for 73% of all internet subscriptions. Please note that “Other Broadband Subscriptions” in Figure 3.1.2 contains mobile broadband subscriptions. Figure 3.1.2 provides a profile for the periods Q4 2005 - Q1 2007 for historical trend purposes; however, please note that the inclusion of mobile broadband subscriptions from Q2 2007 means quarter on quarter comparisons should be not drawn between the current period and other quarters profiled in Figure 3.1.2.

**Figure 3.1.2 – Profile of Active Internet Subscriptions in Ireland**

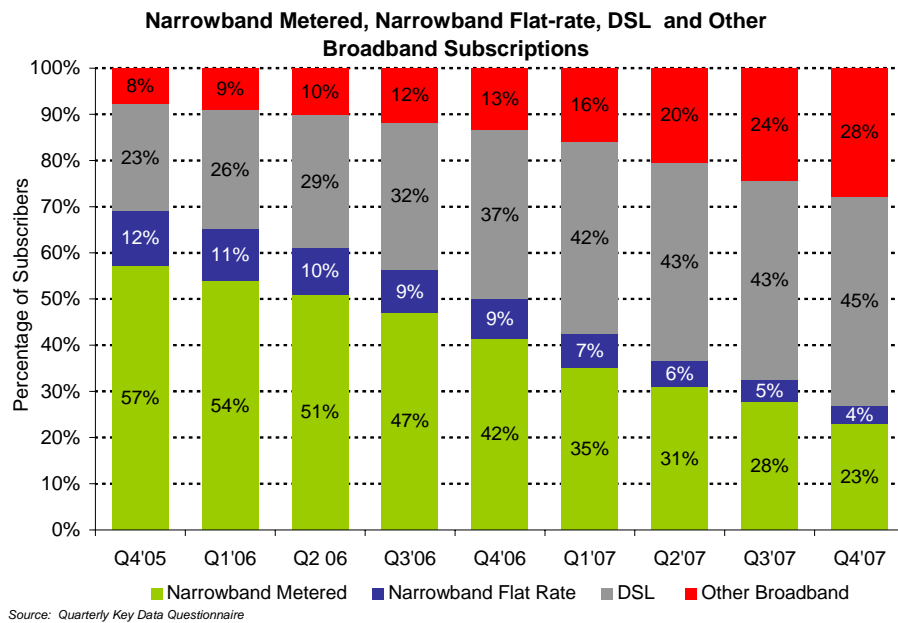
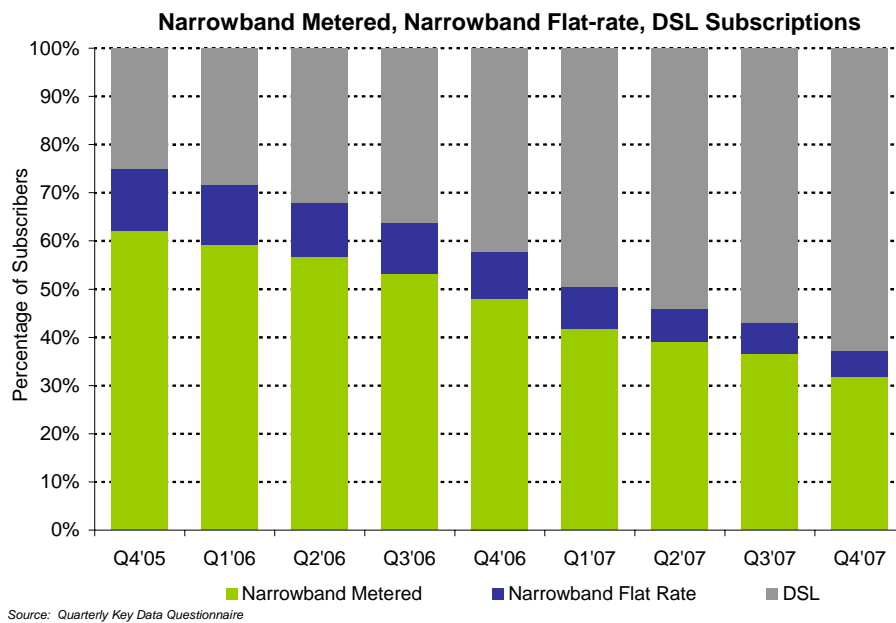


Figure 3.1.3 profiles only those internet subscriptions delivered over the copper telecoms network. It includes an analysis of metered or pay-as-you-go narrowband subscriptions, flat-rate narrowband subscriptions and DSL subscriptions. There were over 876,000 active internet subscriptions over the copper telecoms network at the end of December 2007, a 1.5% decrease in the total number of copper-based subscriptions since Q3 2007. DSL accounted for 63% of copper-based internet subscriptions, while metered narrowband subscriptions accounted for a further 32% of internet subscriptions over copper, with flat rate narrowband internet subscriptions making up the remaining 5% of copper-based internet subscriptions.

**Figure 3.1.3 – Percentage of Copper Based Internet Subscriptions**

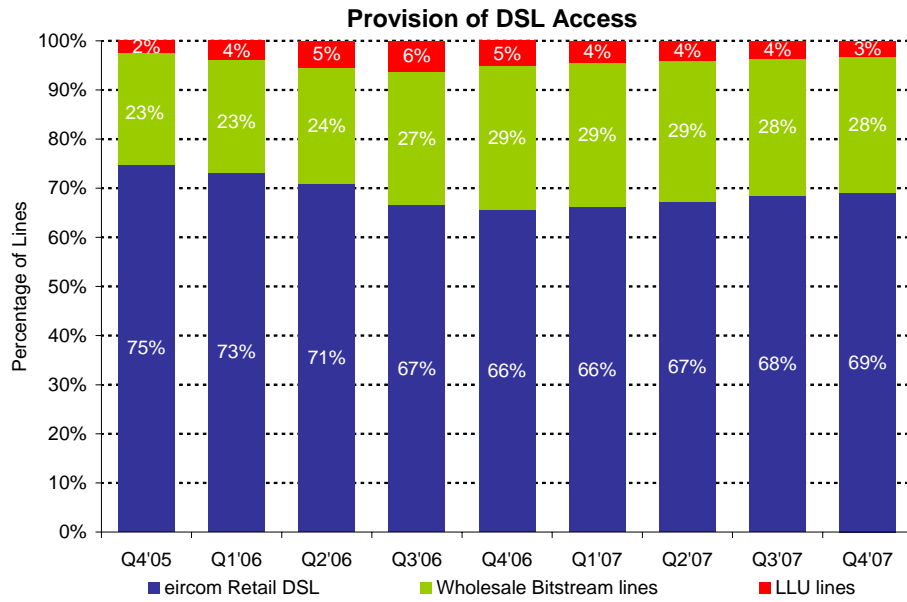


**Provision of DSL Access**

Figure 3.2.1 examines the provision of DSL access. DSL broadband services are provided to consumers by operators using three alternative methods of access. DSL may be provided directly to the consumer by Eircom using direct access to its network; this accounted for 69% of all DSL subscriptions in December 2007. Retail DSL may also be provided by alternative operators (OAOs) who use either wholesale bitstream, which enables OAOs to resell Eircom’s DSL service, or by offering DSL-based broadband using local-loop unbundling (LLU). At the end of December 2007, 28% of all DSL lines were provided by OAOs to subscriptions using wholesale bitstream, and the remaining 3% of DSL lines were provided to subscribers by OAOs using local-loop unbundling. At the end of December 2007 there were about 17,900 local loops unbundled.



Figure 3.2.1 - Provision of DSL Access

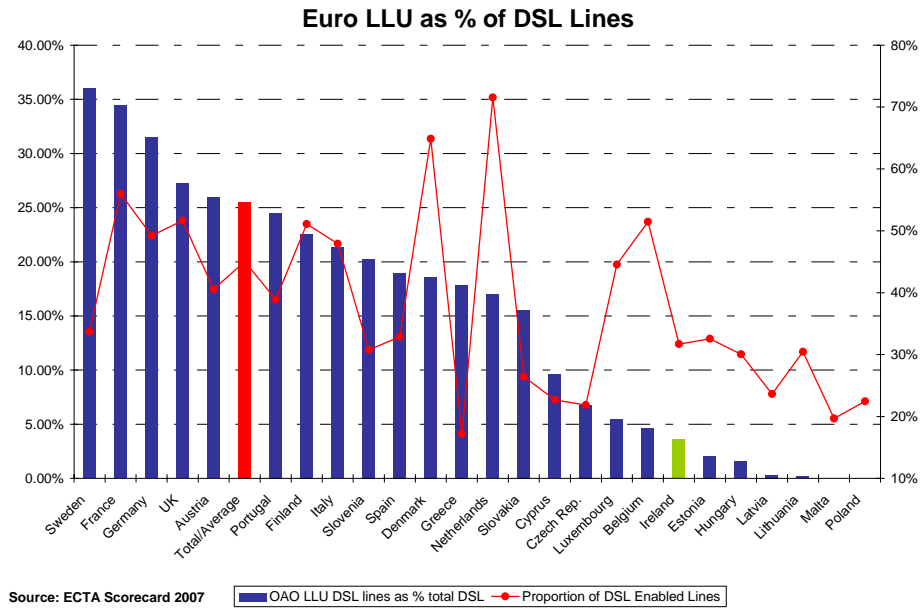


Source: Quarterly Key Data Questionnaire

Eircom's market share of retail DSL lines has increased by 1% for the third consecutive quarter in Q4 2007.

Using Q3 2007 data from the European Competitive Telecoms Association (ECTA), figure 3.2.2 examines the proportion of LLU lines that are used for broadband, i.e. DSL, in the EU-25 countries. The chart also plots a comparison of the number of copper lines that are enabled for DSL. On average, 26% of DSL lines are delivered via LLU. Ireland is below the average in terms of LLU lines used for broadband. Out of the EU-25 countries analysed, Ireland is ranked 19<sup>th</sup>.<sup>19</sup>

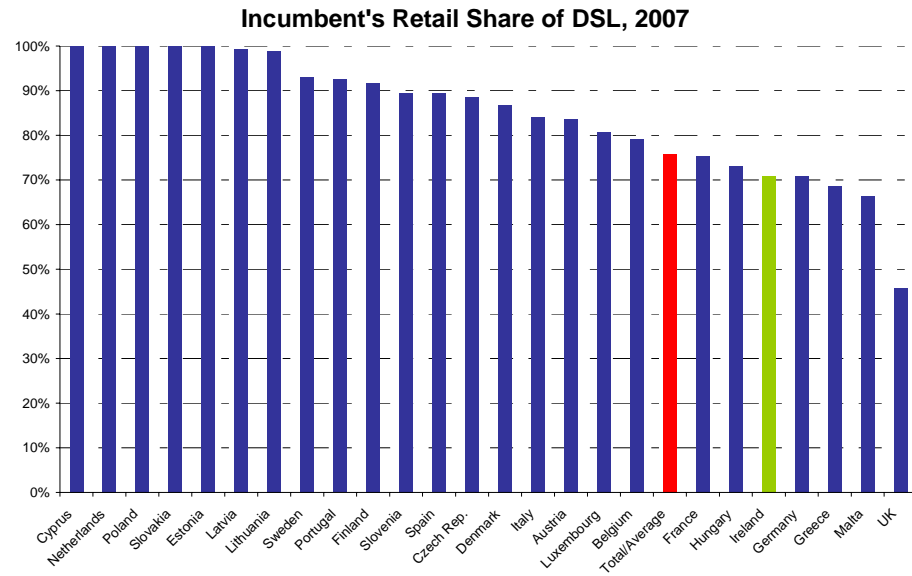
**Figure 3.2.2 – Euro LLU as % of DSL Lines**



<sup>19</sup> ComReg is currently carrying out a review of LLU pricing. On foot of this process review, ComReg hopes that LLU take-up will increase in the coming months.

Figure 3.2.3 charts the incumbent operator’s retail share of DSL in the EU-25 countries. Intuitively, the lower the incumbent’s retail share of DSL lines, the more competition there is among retailers in the individual country’s market. The average share for the countries analysed is 76%. Eircom’s retail share in Ireland was 71%<sup>20</sup> in Q3 2007. The average retail share for an incumbent operator in Europe is 76%, suggesting that the DSL market in Ireland is more competitive than most countries in Europe.

**Figure 3.2.3 – Q3 2007 Euro Incumbent’s Retail Share of DSL**



Source: ECTA Scorecard 2007

<sup>20</sup> ComReg estimates eircom’s Q4 retail share of DSL to be 69%. The ECTA data shown here is for Q3 2007. ComReg estimated eircom’s Q3 retail share of DSL to be 68%.

## Provision of Broadband Services

Figure 3.3.1 summarises the total number of broadband subscriptions at the end of the quarter by access technology.

**Figure 3.3.1 – Broadband Subscriptions<sup>21</sup> and growth rates by Platform**

<b>Platform</b>	<b>Q4 07 Subs</b>	<b>Quarterly Growth Q3 07- Q4 07</b>	<b>Year-on-Year Growth Q4 06- Q4 07</b>
<b>DSL</b>	<b>549,600</b>	<b>8%</b>	<b>45%</b>
<b>Cable</b>	<b>82,500</b>	<b>7%</b>	<b>48%</b>
<b>FWA</b>	<b>118,400</b>	<b>5%</b>	<b>56%</b>
<b>Other<sup>22</sup></b>	<b>8,300</b>	<b>1%</b>	<b>17%</b>
<b>Sub-Total</b>	<b>758,800</b>	<b>8%</b>	<b>16%</b>
<b>Mobile Broadband</b>	<b>127,500</b>	<b>44%</b>	<b>n/a</b>
<b>Total</b>	<b>886,300</b>	<b>11.66%</b>	<b>n/a</b>

High Speed DownLink Packet Access (HSDPA) provides mobile broadband access to a growing number of Irish consumers. In order to fully reflect the range of broadband services available to customers in Ireland, ComReg started to include this data in its overview of the market in Q2 2007<sup>23</sup> report. However country to country comparisons will continue to exclude this figure at this time. Both the European Commission and the OECD have indicated that they intend to shortly start collecting data on mobile broadband and this should provide the basis for comparative data across countries in the near future.

At the end of December 2007, there were 886,300 broadband subscriptions in Ireland. This quarter saw growth of 11.7% in the number of subscriptions. Mobile broadband was the fastest growing platform, growing by over 44% in Q4.

21 ComReg notes that the data provided in this section relates to active subscriptions reported by operators. It does not account for multiple active subscriptions to broadband offerings by individual subscribers

22 Other Broadband includes Satellite and Optical Fibre broadband subscriptions.

23 In Q2 2007 an estimate of 45,000 mobile broadband subscribers was used.

DSL remains the largest broadband access platform in terms of subscriptions, accounting for 62% of all broadband subscriptions, while other platforms account for the remaining 38% of connections. Figure 3.3.2 illustrates the growth in total broadband subscriptions in the Irish market since Q4 2005. Mobile broadband subscriptions were included in Figure 3.3.2 for the first time in Q2 2007. Therefore total subscriptions levels from Q2 2007 presented in Figure 3.3.2 are not directly comparable with previous periods.

**Figure 3.3.2 – Broadband Subscriptions by Platform**

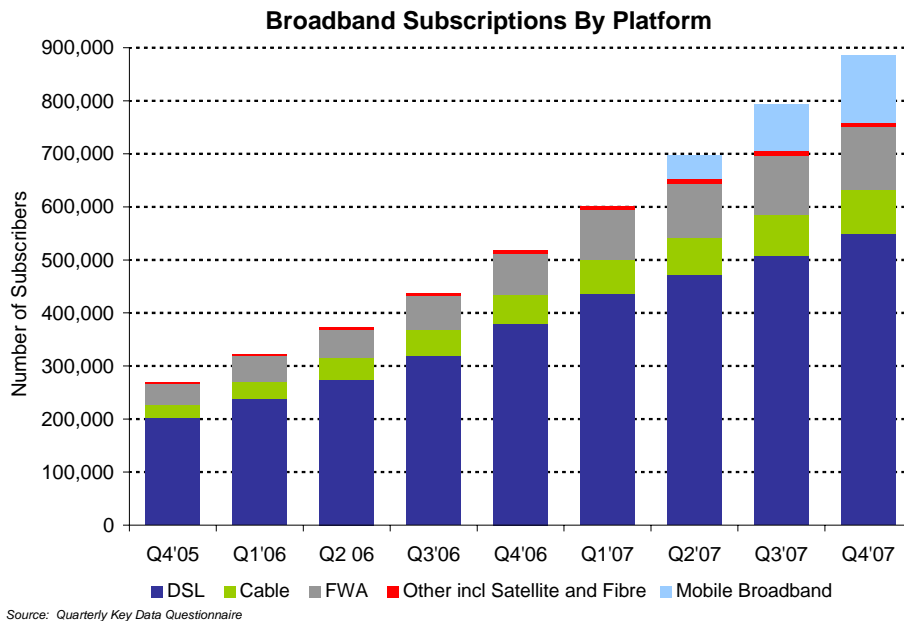
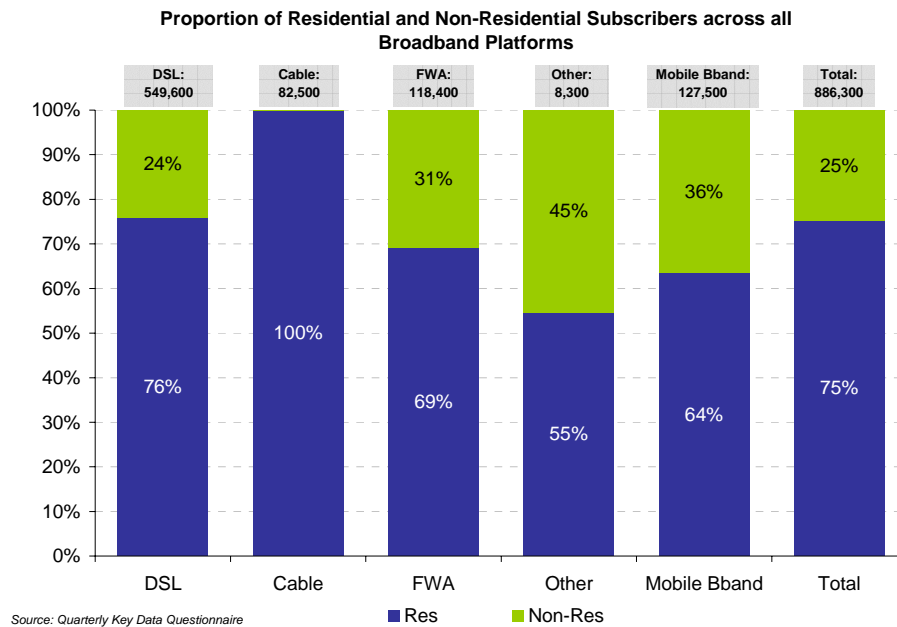


Figure 3.3.3 breaks down broadband subscriptions to provide an estimate of the proportion of business and residential subscriptions to DSL, cable, fixed wireless, mobile broadband, fibre and satellite subscriptions broadband subscriptions. At the end of June 2007, 75% of broadband subscriptions on all platforms were residential broadband subscriptions. The platform with the highest percentage of residential subscriptions is cable broadband, while satellite and fibre broadband lines have the highest percentage of business customers.

**Figure 3.3.3 – Broadband Subscriptions by Subscriber Type**



For the first time in Q3 2007 ComReg provided a breakdown of broadband subscriptions by speed across all broadband platforms. Figure 3.3.4 illustrates that residential users are more likely to subscribe to packages of between 1Mb <2Mb, whereas business subscribers are more likely to subscribe to broadband offers in the 2Mbps <10Mbps category. There are low levels of uptake at both speeds of less than 1Mbps and greater than 10Mbps.

**Figure 3.3.4 – Broadband Subscriptions by Contracted Download Speeds**

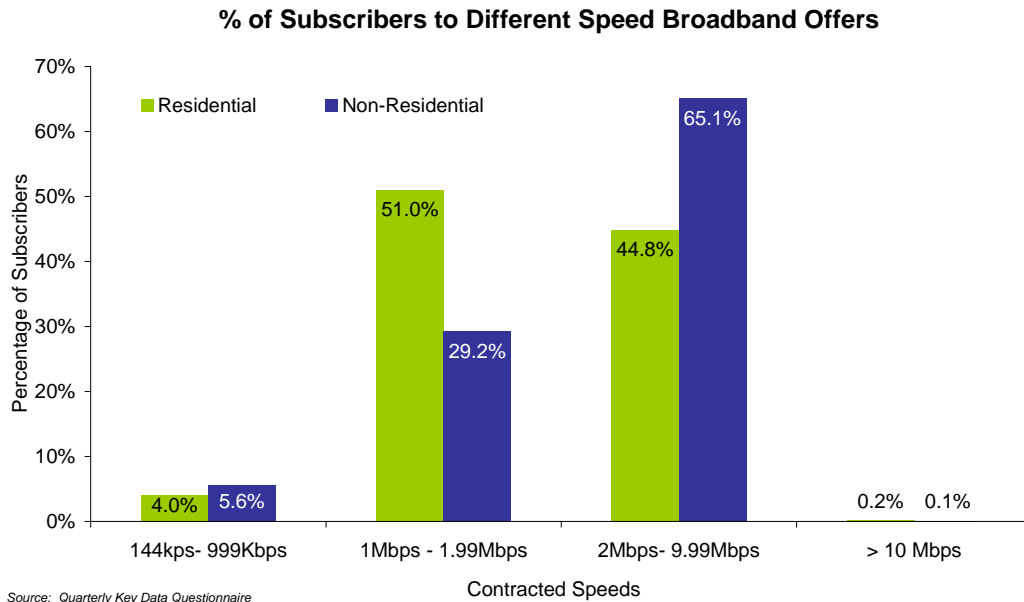


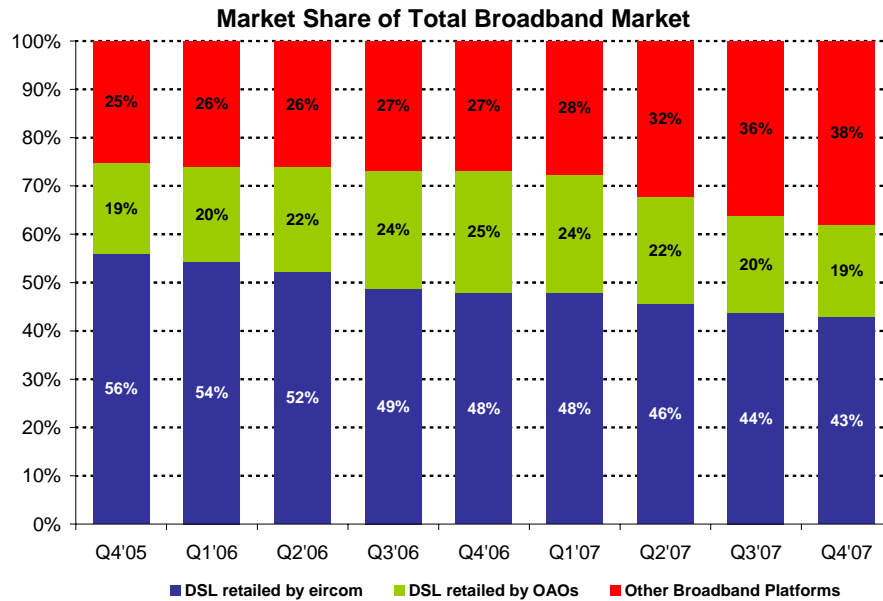
Figure 3.3.5 illustrates Eircom’s market share of total broadband subscriptions when compared to other authorised operators’ (OAO) share of overall broadband subscriptions, including DSL and alternative access technologies (which includes mobile broadband subscriptions).

In this period, Eircom held a 43%<sup>24</sup> market share of all retail broadband subscriptions. DSL provided by OAOs using either Bitstream or LLU represented a further 19% of all broadband subscriptions. The remaining 38% of subscriptions was held by operators on alternative broadband platforms which include cable broadband, fixed wireless, fibre, satellite and mobile broadband subscriptions.

Please note that data from Q2 2007 cannot be compared to previous quarters as it includes mobile broadband for the first time; data prior to Q2 2007 is included here for illustration of previous trends.

**Figure 3.3.5– Market share of Total Broadband Market**

<sup>24</sup> This percentage market share differs from the retail broadband market share (revenues) mentioned on page 12 as Eircom’s retail broadband market share includes other broadband platforms, for example FWA and Satellite.



In presenting broadband penetration benchmarks for European countries, ComReg uses either OECD or European Competitive Telecoms Association (ECTA) data based on the most recently published statistics at the time of publication. ComReg provides broadband data for Ireland to both organisations. Figure 3.3.6 illustrates broadband penetration rates calculated by ECTA on a per capita basis as at the end of September 2007<sup>25</sup>. ECTA calculated Ireland’s broadband penetration at 16.8% in September 2007<sup>26</sup>. Since the previous ECTA scorecard was released for March 2007 there has been a 17% increase in per capita penetration for Ireland.

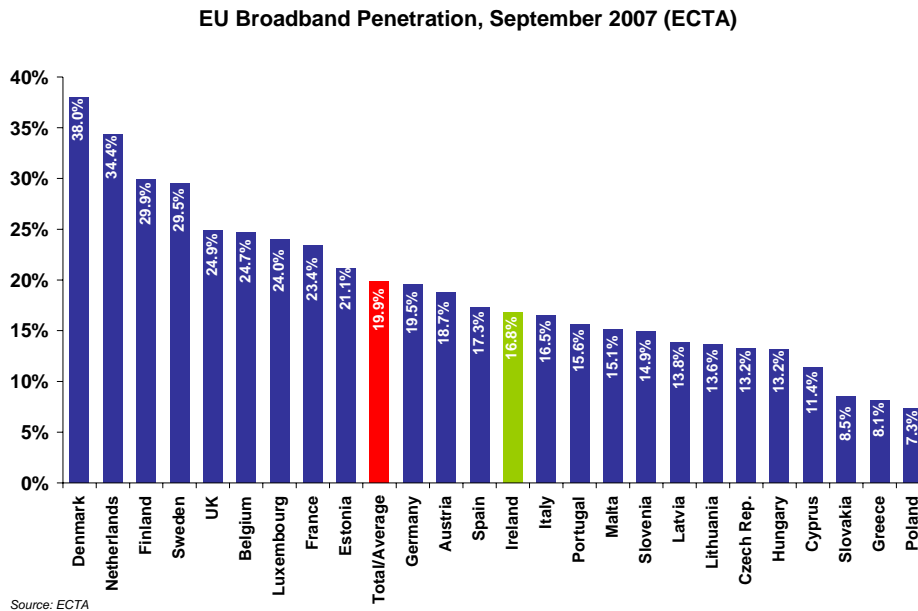
Based on the penetration data used by ECTA, Ireland is four places behind the average for the list of countries monitored. The Netherlands’ growth slowed as Denmark jumped to 1<sup>st</sup> in the ranking. An increase in growth of 20% in the six months to September gives Denmark a penetration rate of 38%. Belgium’s penetration rate also grew significantly (19%) in the period.

<sup>25</sup> <http://www.ectaportal.com/en/basic650.html>

<sup>26</sup> The broadband penetration rate is calculated based on total broadband subscriber numbers for DSL, Cable, FWA, mobile broadband and other broadband as a percentage of the total population of 4.315 million based on 2007 population estimates, which were used for the first time in Q3 2007.



Figure 3.3.6 – ECTA Broadband Penetration Rates, September 2007



The total number of broadband subscribers in Ireland for Q4 2007 is 886,252, a 12% since Q3 2007 and a 71% increase on the same quarter in 2006. The broadband penetration rate at the end of 2007 is 20.54%. Without mobile broadband, the penetration rate is 17.58%.

### WiFi Broadband Access

ComReg provides data on the provision of public and private broadband services over WiFi, as such access provides an alternative means of internet access for those users without internet access at home and/or a supplementary means of access for users who are away from their home or office. ComReg presents data on the WiFi market based on the number of WiFi hotspots and access points located nationally. Internet hotspots are typically public wireless access points where a computer, usually a laptop, can connect to the internet. A WiFi hotspot can be made up of one or more WiFi access points<sup>27</sup>.

In Ireland, as in many countries, WiFi hotspots tend to be found in airports, hotel lobbies and cafés and restaurants. In most cases, the user pays for high-speed internet access at an access point, based either on a vouchered payment for a specific amount of time online or a recurring monthly subscription. There are a number of providers of these services in Ireland including Bitbuzz, Eircom and BT Ireland.

<sup>27</sup> A WiFi access point is a base station through which WiFi users can access the internet

The number of WiFi Access Points has risen by 17% between Q4 2006 and Q4 2007. Data for WiFi Hotspots has only been available since Q3 2007, therefore a YoY growth figure cannot be calculated.

**Figure 3.4.1 – WiFi Hotspots and Access Points**

	Q4 2007	Q3 07-Q4 07 Growth	Q4 06-Q4 07 Growth
WiFi Hotspots	1,254	+1%	n/a
WiFi Access Points	2,556	-2%	17%

### ADSL Pricing Data<sup>28</sup>

In this report broadband tariff baskets have been supplied by Teligen using their new T-Connect product. Therefore while the basis on which baskets have been constructed is very similar, like-for-like comparisons cannot be made with previous reports as the previous broadband tariff baskets were commissioned independently from Teligen by ComReg.

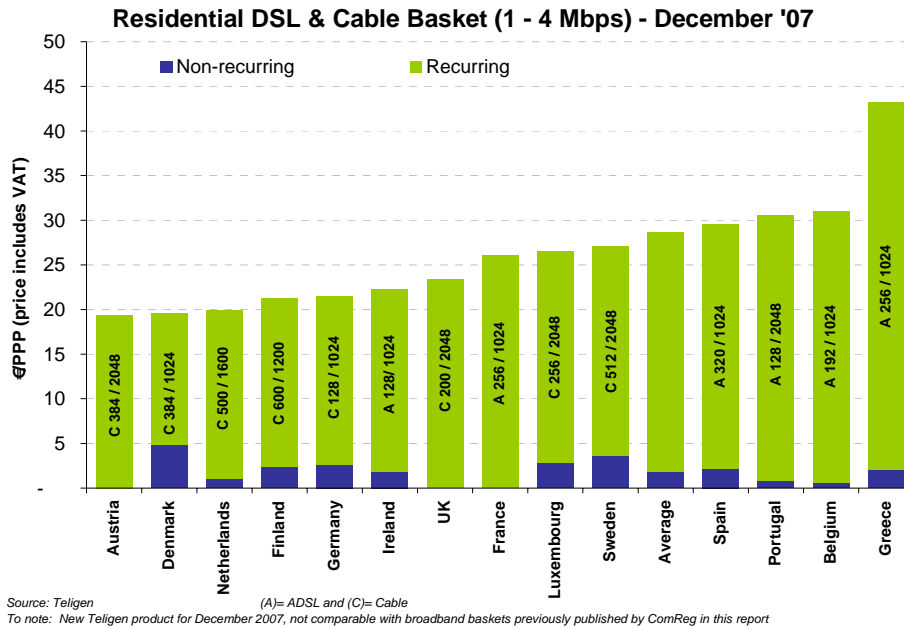
In order to ensure that services can be adequately compared, the benchmarking model prices a range of DSL and cable services based on defined usage of 30 hours per month, with each session assumed to last for 30 minutes. While broadband is an always-on product, the assumption of an average user profile ensures that packages are comparable across countries. It further assumes a download usage of 5 Gigabytes every month for each service. Upload and download speeds (based on contracted speeds) are also analysed. In this report ComReg has compared residential tariffs only.

The data presented in the following chart illustrates the cheapest product available in each country from the incumbent operator under these usage assumptions for residential DSL and cable offerings. These packages have advertised download speeds of between 1 – 4 Mbps and more specific details on the upload and download speeds for each of the analysed products are included in the figures. Speeds of 1-4Mb were chosen for incumbent operators across all benchmarked countries to ensure that a meaningful comparison can be made between packages in terms of contracted speeds offered. Incumbent operators' broadband packages are compared on the assumption that their products should be available nationally. Further information on the composition of the

<sup>28</sup> This section does not include broadband tariff packages that are offered as special promotions. All tariffs are inclusive of VAT. VAT rates vary between Member States.

broadband basket can be found in the Explanatory Memorandum which accompanies this report<sup>29</sup>.

**Figure 3.5.1 – Lowest Monthly Rental Residential DSL & Cable Basket (1 – 4 Mbps) – Dec '07**



Ireland was ranked in 6<sup>th</sup> place in the DSL & Cable basket in December 2007, and is currently four places less expensive than the EU average. The Irish broadband product benchmarked is eircom’s Broadband Home Starter package.

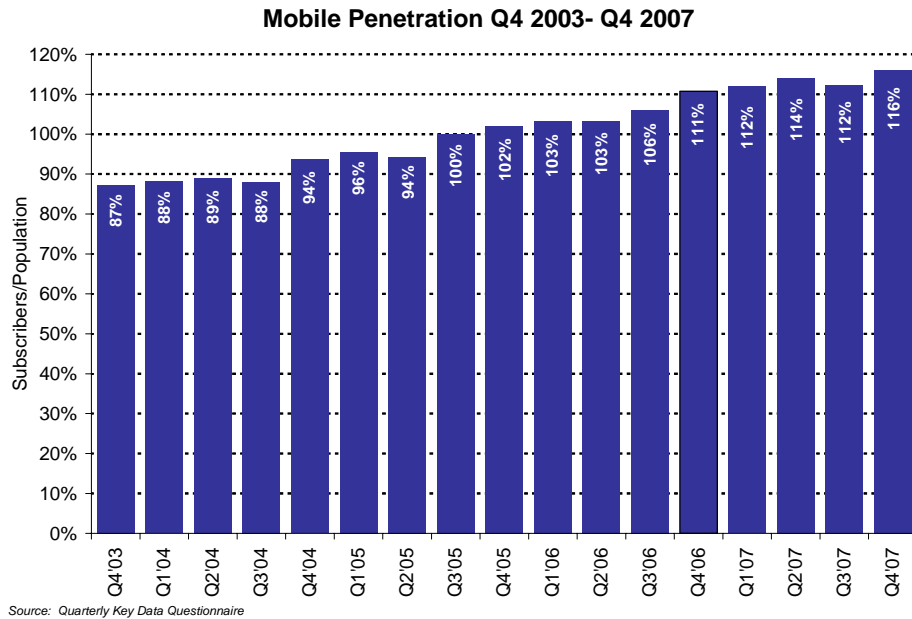
29 ComReg Document 08/22a

## 4 Mobile Market Data

### Number of Subscriptions and Penetration Rate

#### 4.1.1 Mobile Penetration in Ireland and Europe

Figure 4.1.1.1 – Irish Mobile Penetration Rate



At the end of December 2007, there were over 5 million 2G and 3G mobile subscriptions in Ireland<sup>30</sup>. Figure 4.1.1.1 illustrates the growth in mobile penetration since 2003 and notes that at the end of December 2007, mobile penetration based on population in Ireland was 116%<sup>31</sup>. Total mobile subscriptions increased by almost 77,000 in the quarter and mobile penetration is based on the January 2007 population estimate for Ireland of 4.315m. Mobile penetration is recognised as the standard metric internationally to describe the adoption of mobile services, and is calculated based on the number of active SIM cards<sup>32</sup> per 100 of the population. Given that some mobile users may have used more than one active SIM card during the period, there is likely to be some over-estimation of actual mobile usage using this metric.<sup>33</sup>

<sup>30</sup> ComReg currently does not include a separate analysis of the 3G market in this report.

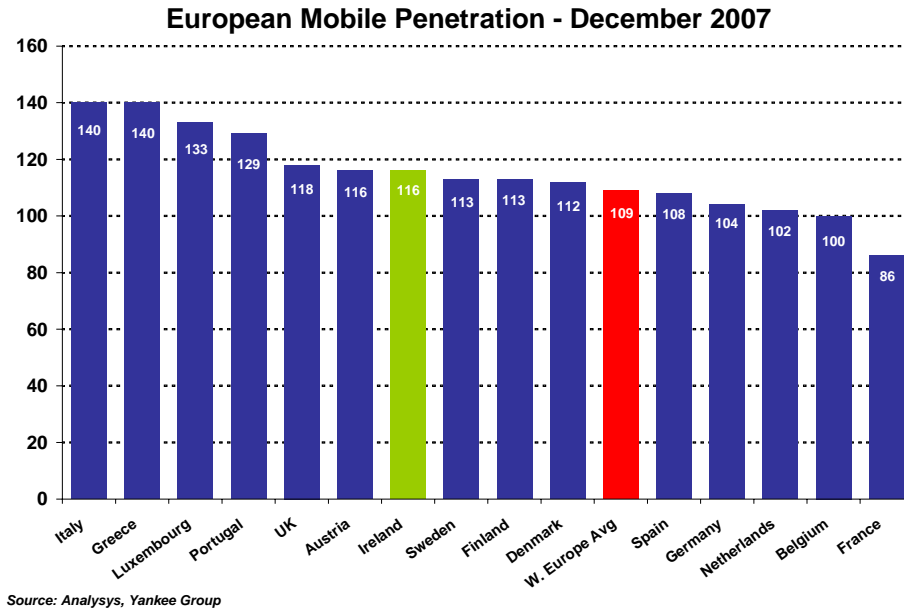
<sup>31</sup> This figure was restated for Q3 2007 to adjust for HSDPA subscribers. Total Q3 2007 mobile subscribers is now 4,847,668.

<sup>32</sup> Vodafone defines an active SIM as one on which a billable event, i.e. made an outgoing call or sent a text, has occurred in the previous 8 months; all other market operators define an active SIM as one on which a billable event has occurred in the previous 3 months.

<sup>33</sup> Data for Tesco Mobile is included for the first time as of Q4 2007.

Figure 4.1.1.2 illustrates estimated national mobile penetration rates across European countries in December 2007. Mobile penetration rates for available countries<sup>34</sup> were sourced from Analysys. An average European penetration rate was calculated using a metric provided by Analysys. Ireland ranks above the average of 109%.

**Figure 4.1.1.2 – European Mobile Penetration Rates**



34 The countries for which Analysys provided penetration rates were Italy, UK, Sweden, Austria, Germany, Denmark, Spain, Finland, Netherlands, France and also the Western European Average. ComReg data is used for the Irish penetration rate. Q3 2007 Yankee Group data is used for Greece, Portugal and Belgium. Q2 2007 Yankee Group data used for Luxembourg.

4.1.2 The Profile of Mobile Subscriptions in Ireland

Mobile subscribers in Ireland pay for their mobile service by either purchasing pre-paid credit, or by receiving a monthly bill from their mobile operator, described in this report as a post-paid payment option. Figure 4.1.2.1 illustrates the mobile subscription base in Ireland classified by the proportion of pre-paid and post-paid subscriptions on both 2G and 3G networks at the end of December 2007. The proportion of pre-paid subscriptions has remained unchanged since Q2 2007, and accounted for 74% of all active mobile subscriptions. The pre-paid/ post-paid subscriber split has seen little change since 2005.

Figure 4.1.2.1 – Proportion of Pre-Paid and Post-Paid Subscriptions

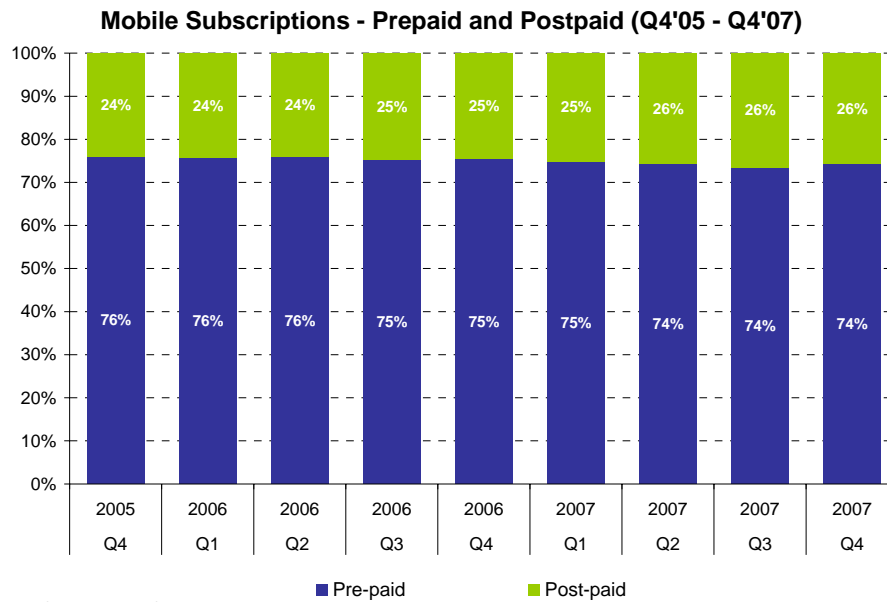
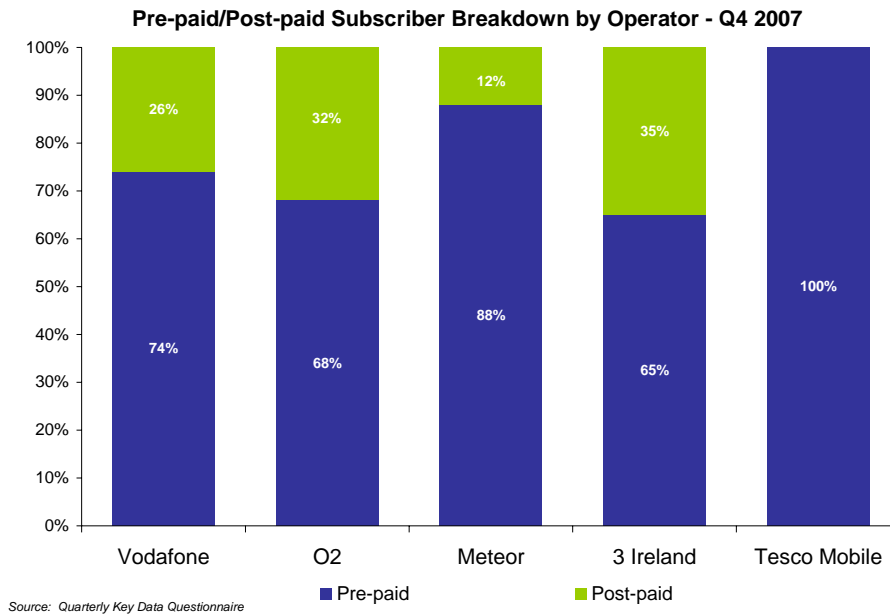


Figure 4.1.2.2 indicates the pre-paid and post-paid subscription profile of each of the mobile operators in the Irish mobile market. 3 Ireland has the highest proportion of post-paid customers with 35% of its subscriptions in the post-paid category. Meteor reports the largest proportion of pre-paid subscriptions, with 88% of their subscriptions base choosing to use the pre-paid payment option. Vodafone’s subscriber split has adjusted slightly in favour of pre-paid subscriptions, which are now 74%. This is a 1% increase since the last quarter. Tesco Mobile’s total subscriber base is pre-paid.

**Figure 4.1.2.2 – Profile of Pre-Paid and Post-Paid Subscriptions – by Operator**

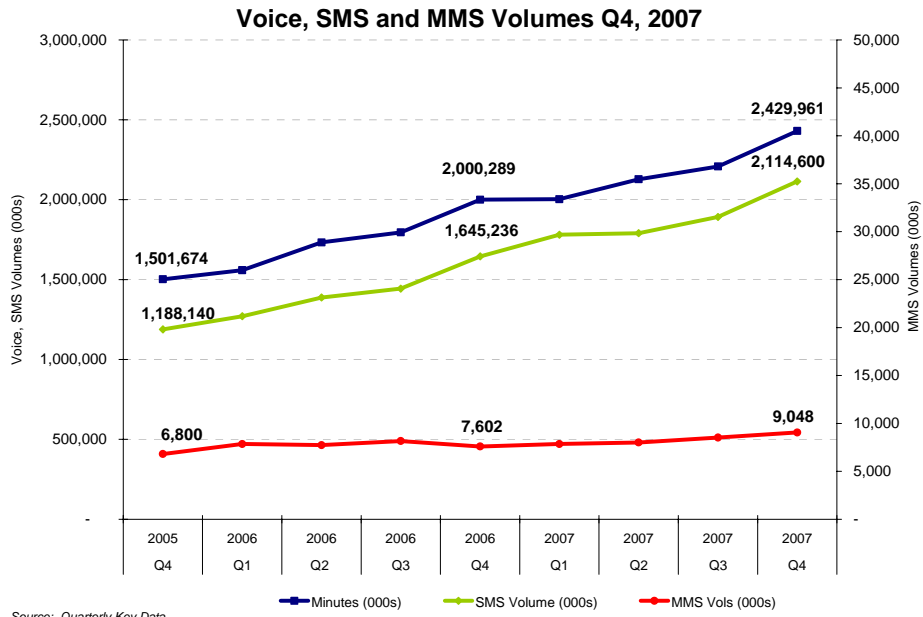


## Mobile Volumes

### 4.1.3 Total Voice, SMS and MMS Mobile Traffic

Figure 4.2.1.1 illustrates the growth in voice minutes, SMS, and MMS (Multimedia Messaging Service) messages sent since Q4 2005. Total retail mobile voice traffic totalled over 2.4 billion minutes in Q4 2007, a growth of over 10% in voice volumes since the previous quarter, and a 21% increase in voice volumes since the same period in 2006. Mobile originating minutes now account for 51% of all voice traffic in the Irish telecommunications markets. The total number of SMS messages sent by mobile users in Ireland totalled 2.12 billion in Q4 2007. SMS messaging grew by 12% quarter on quarter, and volumes of SMS have increased by 29% on the same period in 2006. If the total volume of text messages is averaged over all active subscriptions, an average of 141 SMS messages were sent per subscription, per month in Q4 2007, compared with 117 in the same period last year.

Figure 4.2.1.1 – SMS, MMS and Call Minutes



The number of MMS messages, or multimedia messages such as picture messages, sent in the quarter remains relatively low compared to voice minutes and SMS volumes. There were just over 9 million MMS messages sent during the quarter. This is an increase of 6% on the previous quarter.



## Mobile Revenues

In Q3 2007, HSDPA revenues were assigned to “Voice and Other Revenues”. This method has been changed and now HSDPA revenues are included under “Data Revenues” along with SMS and MMS revenues. Because of this change in methodology the make-up of Q3 revenues has been restated, although the overall figure remains the same. As a result, comparison is only worthwhile between Q3 and Q4 2007. Data prior to Q3 2007 is presented here for historical trend purposes only.

Mobile retail revenues for the quarter were over €528 million, an increase of over €10 million on the previous quarter. Q3 2007 data revenues were originally stated at €93 million but have been revised to €102 million.

**Figure 4.3.1 – Total Mobile Retail Revenues Q4 05- Q4 07**

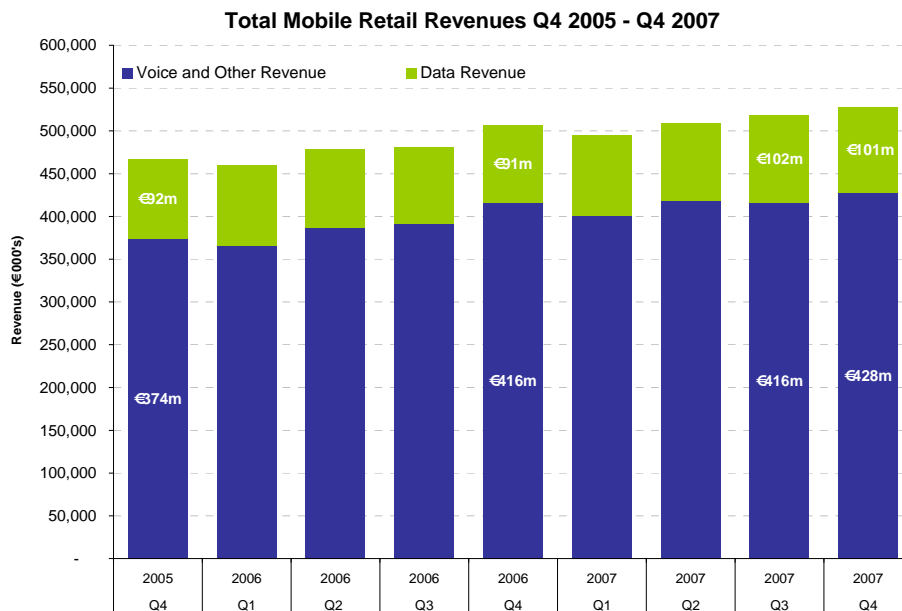
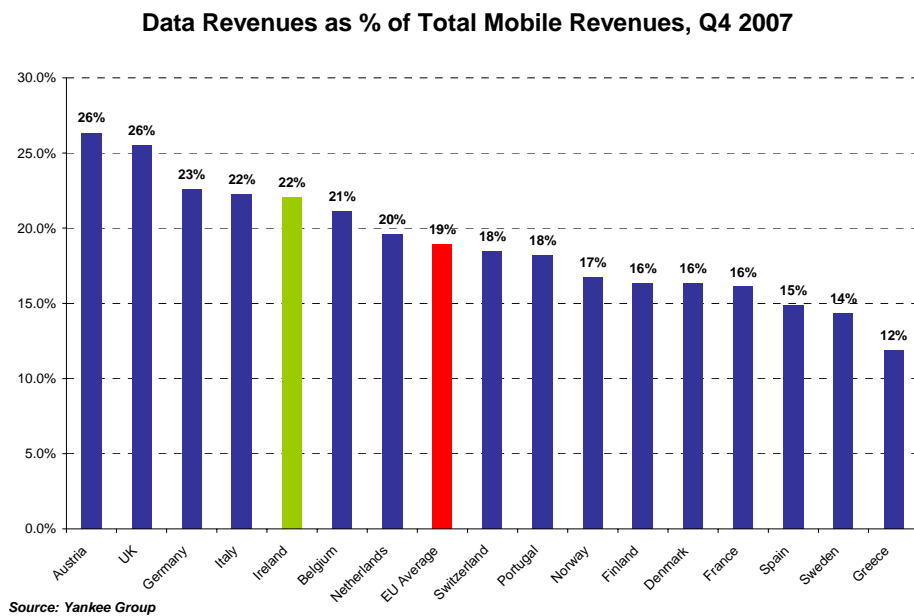


Figure 4.3.2 outlines the percentage of mobile revenues attributable to all data revenues in the Irish market compared to a number of other EU-15 markets. This benchmarking data is calculated independently by the Yankee Group, and includes data revenues not only from SMS and MMS messaging, but also data revenues from GPRS data services and 3G data services. Irish mobile operators have dropped two places since the last quarter to 5<sup>th</sup>, in terms of the highest level of data revenues among the countries analysed. Ireland has 22%<sup>35</sup> of total mobile revenues attributable to data revenues. This is unchanged since Q2 2007 and is a 0.5% increase in the proportion of revenues from data services when compared with data from Q4 2006.

**Figure 4.3.2 - Data Revenues as % of Total Mobile Revenue<sup>36</sup>**

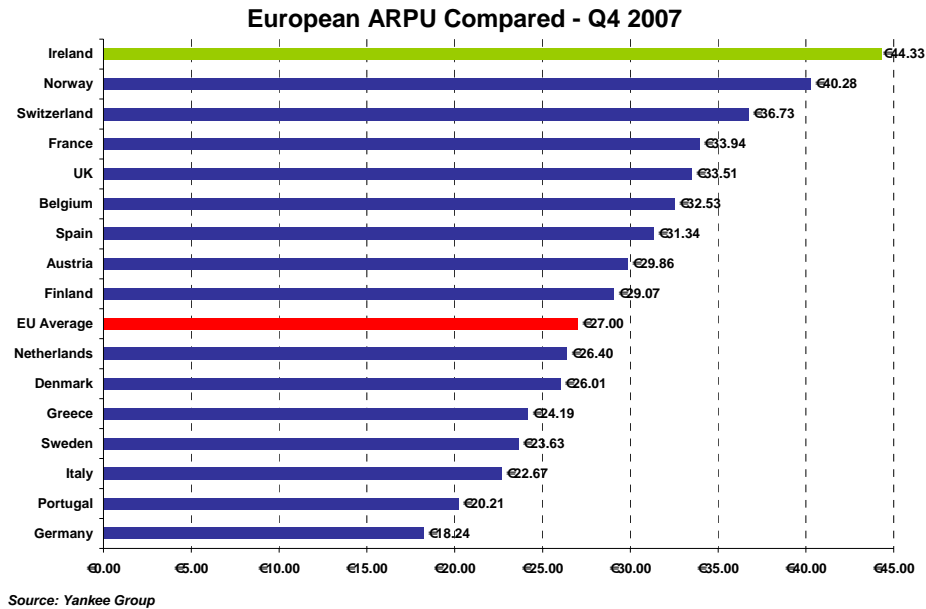


<sup>35</sup> Data revenues identified by the Yankee Group include revenues from SMA, MMS, GPRS and 3G data services.

<sup>36</sup> Note that the graph relates to EU-15 countries except Luxembourg where no data was available.

Figure 4.3.3 compares ARPU (average revenue per user) across 16 European countries<sup>37</sup>. Average revenue per user is an indication of average monthly revenue generated by mobile subscribers in each country. Mobile ARPU in Ireland is estimated at €44.33 per month in Q4 2007, a 2% decline in ARPU since the same period in 2006. This fall in ARPU is in line with the EU Average in the 12 months to Q4 2007, although mobile ARPU in Ireland still remains the highest among the EU member states monitored.

**Figure 4.3.3 - European ARPU Compared – Q3 2007**



### ***Average Minutes of Use***

Mobile monthly ARPU is a function of both the price of mobile services and the level of usage of mobile services. The most frequently used metric to determine levels of mobile telephony usage is monthly minutes of use. ComReg has collected monthly minutes of use data from all operators in the Irish market since Q1 2007. Further information on the definition and calculation of average minutes of use by ComReg is detailed in the explanatory memorandum which accompanies this report<sup>38</sup>. Average minutes of use in Ireland for Q4 2007 was 234 minutes per month, a 1% increase on usage since the previous quarter.

<sup>37</sup> As far as possible, ARPU figures are obtained directly from operators. Where unavailable, ARPU is calculated by dividing annual service revenues by the mid-term installed base (the sum of the opening and closing customer bases for the period divided by two). Once the Yankee Group has obtained or calculated all individual ARPU figures, they are applied to each operator's mid-term user base to obtain service revenues by operator, which are then combined to obtain a country total. This total revenue figure is then divided by total mid-term users to derive country-level ARPU. Note that the graph relates to EU-15 countries except Luxembourg where no data was available.

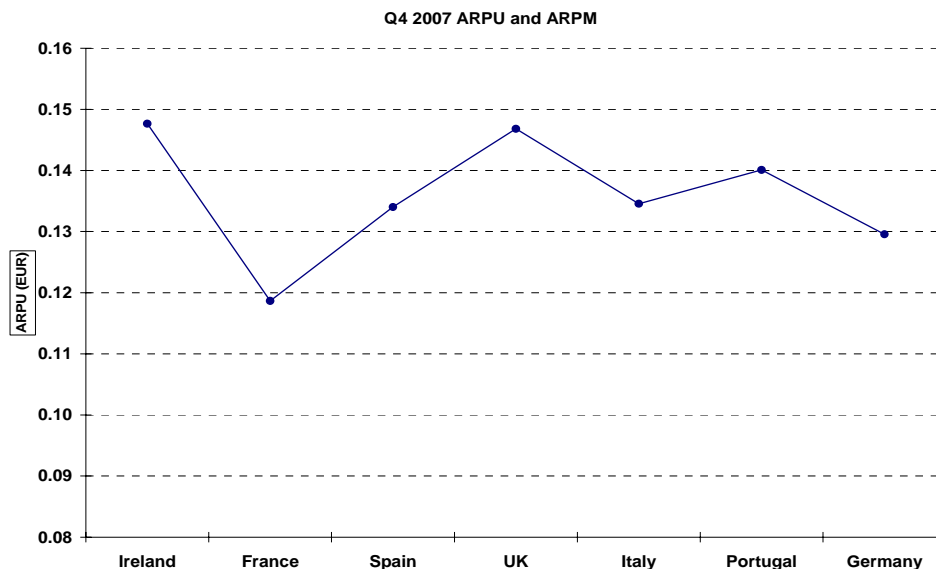
<sup>38</sup> ComReg Document 08

Figure 4.4.1 – Minutes of use Q3 2007-Q4 2007

Country	MoU Q307	MoU Q407	Quarterly Change Q307-Q407
France	243	240	-1.2%
Ireland	232	234	0.9%
Spain	198	199	+0.5%
UK	167	170	+1.8%
Italy	132	131	-0.8%
Portugal	119	118	-0.8%
Germany	107	109	+1.9%

Yankee Group has provided ComReg with data which provides estimates of monthly minutes of use for mobile markets in 7 European countries, including Ireland. Figure 4.4.2 plots Average Revenue Per Minute (ARPM), which is published for the first time by ComReg, for these countries<sup>39</sup>. ARPM is not the rate per minute that would be paid by a customer in any of these countries. It is an indicative per minute rate based on a limited data set, not split by pre- and post-paid revenues<sup>40</sup>. ARPM shows that revenues per minute of use by an Irish customer are the same as those of the UK.

Figure 4.4.2 – Average revenue per minute (ARPM), Q4 2007



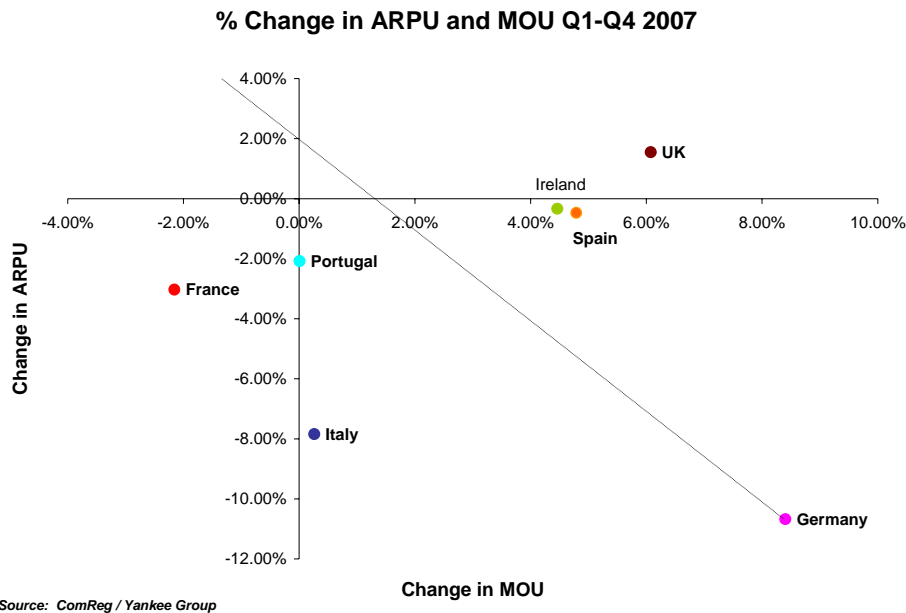
Source: Yankee Group

<sup>39</sup> The necessary data for calculating ARPM was only available for Ireland, France, Spain, UK, Germany, Italy, and Portugal.

<sup>40</sup> Average Revenue Per Minute is calculated by dividing monthly voice-only ARPU by MOU. Revenues used in the calculation include those related to roaming and wholesale termination.

Figure 4.4.3 shows the relationship between the change in ARPU and MOU for Ireland and the same European countries between Q1 and Q4 2007. There is a negative correlation between ARPU and MOU over this period for Ireland. As average Irish monthly MOU increased by 4.5%, the monthly ARPU decreased by 0.3%. Italy and Germany also show a significantly negative relationship and in Germany's case the correlation is almost perfectly negative. From these examples, it could be concluded that even as usage is increasing in these countries, either prices are falling or more minutes are being offered at the same cost. Either way, the corollary seems to be that average revenues have fallen during 2007. However, the UK still shows signs of a positive link between ARPU and MOU, suggesting that as usage has increased over the year, so too have revenues.

**Figure 4.4.3 – Change in Minutes of Use and ARPU Comparison, Q4 2007**

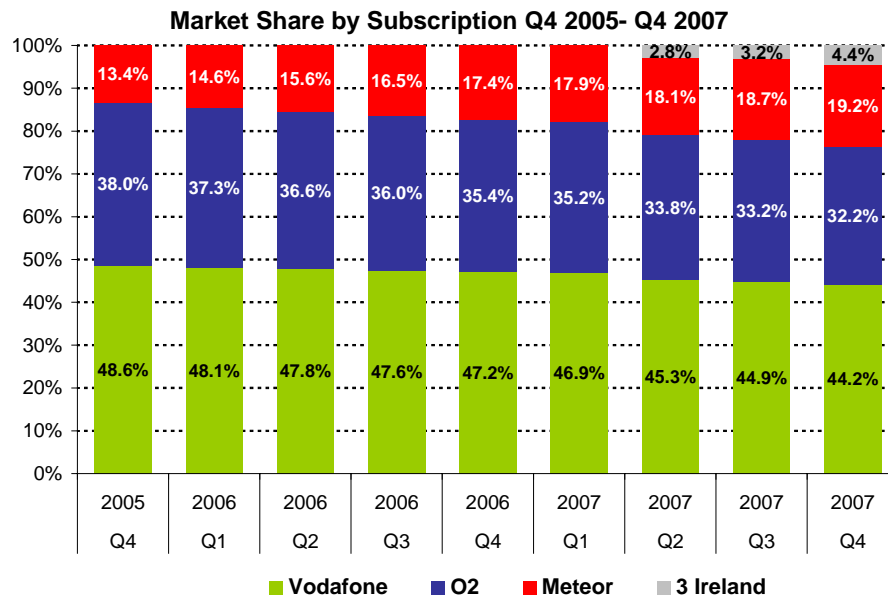


## Competition in the Mobile Market

### 4.1.4 Mobile Market Shares- By Subscription and Retail Revenues

Figure 4.4.1.1 outlines mobile market share based on the number of active subscriptions reported by each operator. It should be noted that while a historical picture of market share is presented in these charts, market share figures presented since Q2 2007 are not comparable with data previously presented. Prior to Q2 2007 market shares were based on Vodafone, O2 and Meteor's cumulative revenue and subscription bases, rather than the market as a whole which would have included 3 Ireland and Tesco Mobile. It should be further noted that while 3 Ireland's market share is presented as a percentage of all market subscriptions in Ireland, 3 Ireland operates only in the 3G sector. Furthermore, Tesco Mobile, which entered the market in Q4 2007, only operates in the prepaid sector. 3 Ireland currently accounts for 4.4% of the total active mobile subscription base in Ireland. Tesco Mobile's market share will be published in future reports. In Q4 2007, both Vodafone and O2 have seen slight declines in their market share while, between them, 3 Ireland and Meteor now account for almost 25% of the market.

**Figure 4.4.1.1 – Market Share – Number of Subscriptions**

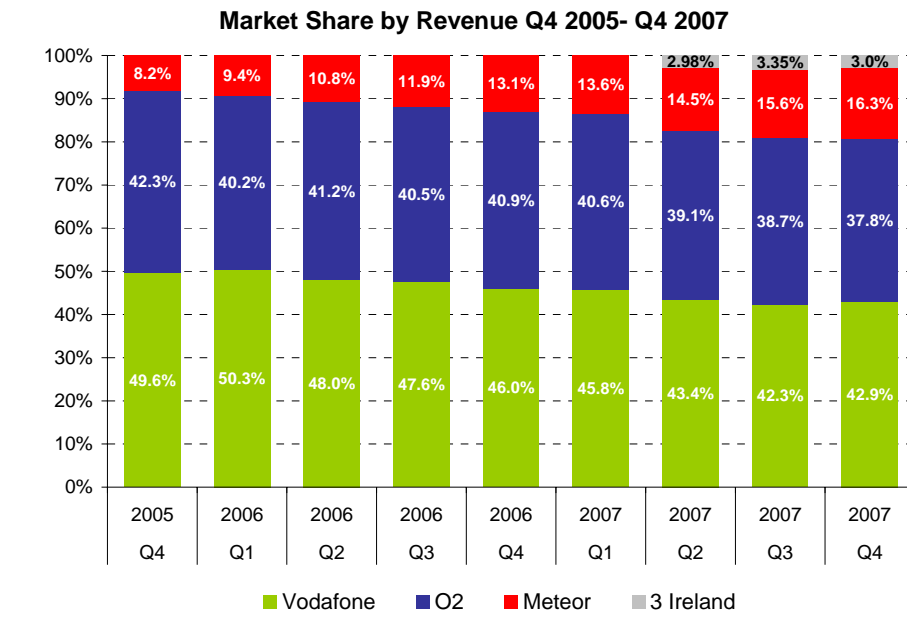


Source: Quarterly Key Data

Figure 4.4.1.2 provides an analysis of market shares by revenue for mobile operators in the Irish market<sup>41</sup>. 3 Ireland accounted for 2.9% of mobile industry retail revenues in Q4 2007. Meteor's market share has continued to rise steadily and is now 16.3% in Q4 2007. In contrast O2's share declined again this quarter.

<sup>41</sup> Tesco Mobile is excluded in this analysis because for this quarter its revenues are not considered significant enough.

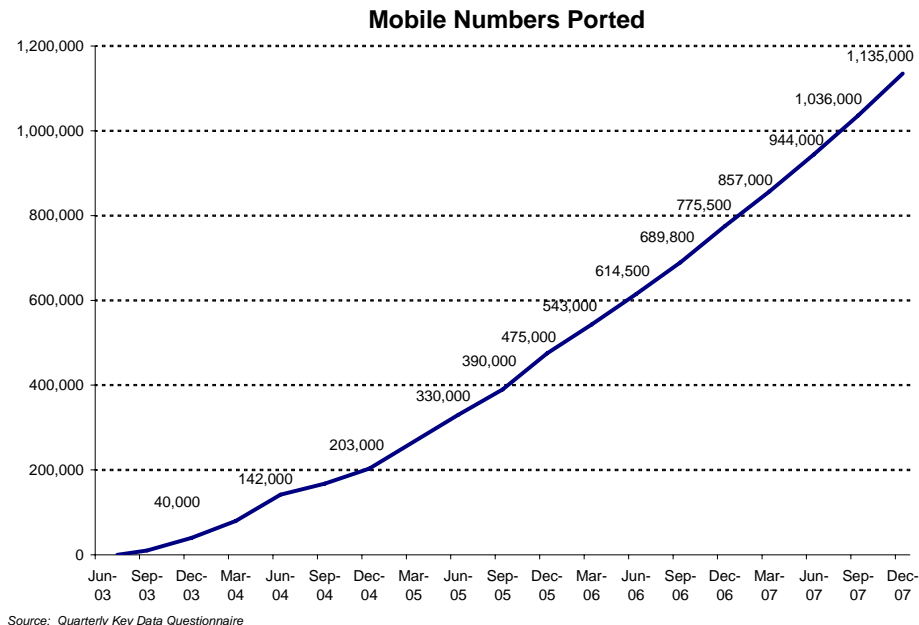
Figure 4.4.1.2 – Market Share – Revenue



4.1.5 Switching in the Mobile Market

Figure 4.4.2.1 illustrates the cumulative total of mobile numbers ported between Irish mobile operators since the launch of Mobile Number Portability (MNP) in June 2003. MNP allows mobile subscribers to switch mobile operator while retaining their mobile number.

A total of 1,135,000 people have used MNP to switch operator since June 2003. In Q4 2007 over 99,000 numbers were ported to another operator; based on data since December 2006, an average of around 87,000 numbers are ported each quarter.

**Figure 4.4.2.1 – Mobile Numbers Ported**

### Mobile Pricing Data<sup>42</sup>

The Teligen mobile baskets presented in this Quarterly Report are based on an OECD-approved methodology using assumptions around specific usage levels for low, medium and high contract and pre-paid subscription packages. They are calculated and analysed independently by Teligen, using an OECD methodology which includes PPPs (Purchasing Power Parities) to reflect the real cost of mobile services compared to all other costs within a country. While all mobile post-paid tariff baskets presented in the Teligen baskets are currently based on typical 2G services as approved by the OECD, ComReg recognises that there may be other more competitive packages available with 3G handsets.

#### 4.1.6 Low User Post Paid Mobile Basket<sup>43</sup>

Ireland is ranked 9<sup>th</sup> out of the 19 EU countries analysed. This is a jump of 4 places from 13<sup>th</sup> position in August 2007. Ireland lags only one place behind the EU average in terms of price. Italy moved from 17<sup>th</sup> to 8<sup>th</sup> position in the same period. This large jump was caused by a change in the application of a government tax for an operator's

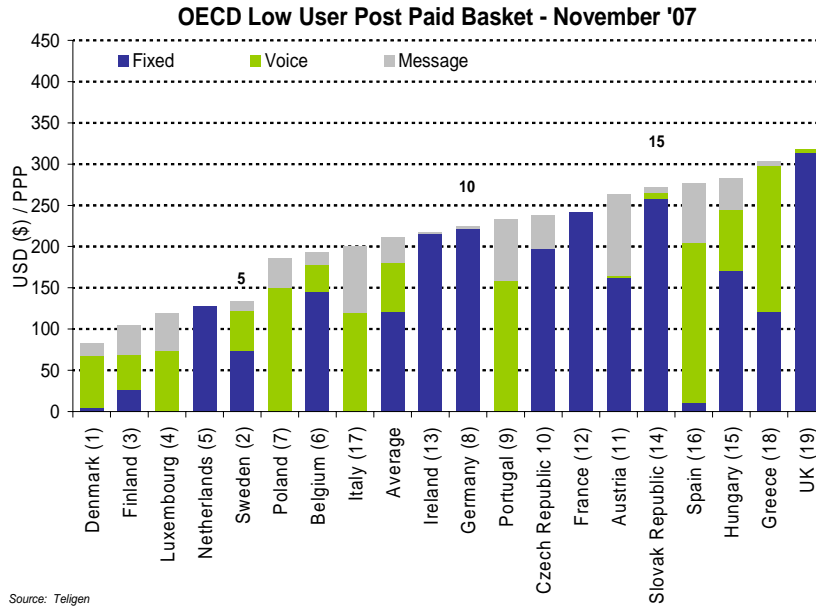
42 The 'Fixed' component of price refers to the standard charges imposed by operators, regardless of the amount of calls made (i.e. connection and rental). Teligen's calculation of this figure is made up of: Installation Charge/5 + Rental charge for 1 year. The 'Voice' component of price refers to the charges imposed by operators, arising from the number of voice calls made by the user, while "Message" refers to the charges imposed by operators, arising from the number of SMS and MMS messages sent by the user.

43 All tariffs are inclusive of VAT, rates will vary between Member States



package. According to Teligen, the introduction of a new tariff or option may change the picture substantially from one period to the next.

**Figure 4.5.1.1 - OECD Low User Post Paid Mobile Basket – November 2007**

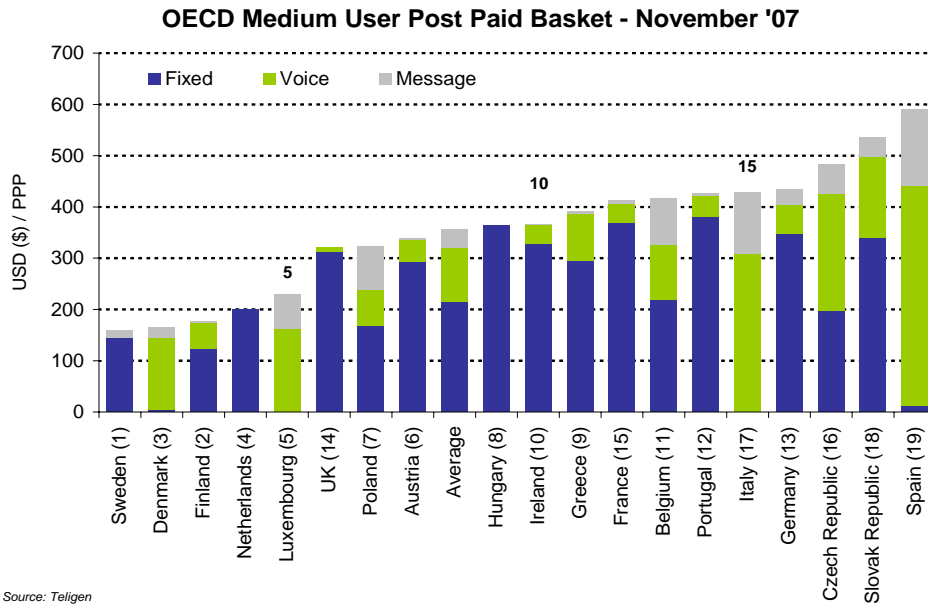


Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

**4.1.7 Medium User Post Paid Mobile Basket**

Ireland's position in this basket is 10<sup>th</sup> among the 19 EU countries monitored this quarter. The UK jumped from 14<sup>th</sup> to 6<sup>th</sup> place during the same period. According to Teligen, this was caused by a change to a T-Mobile tariff, whereby the monthly rental decreased substantially.

Figure 4.5.2.1 - OECD Medium User Post Paid Mobile Basket – November 2007

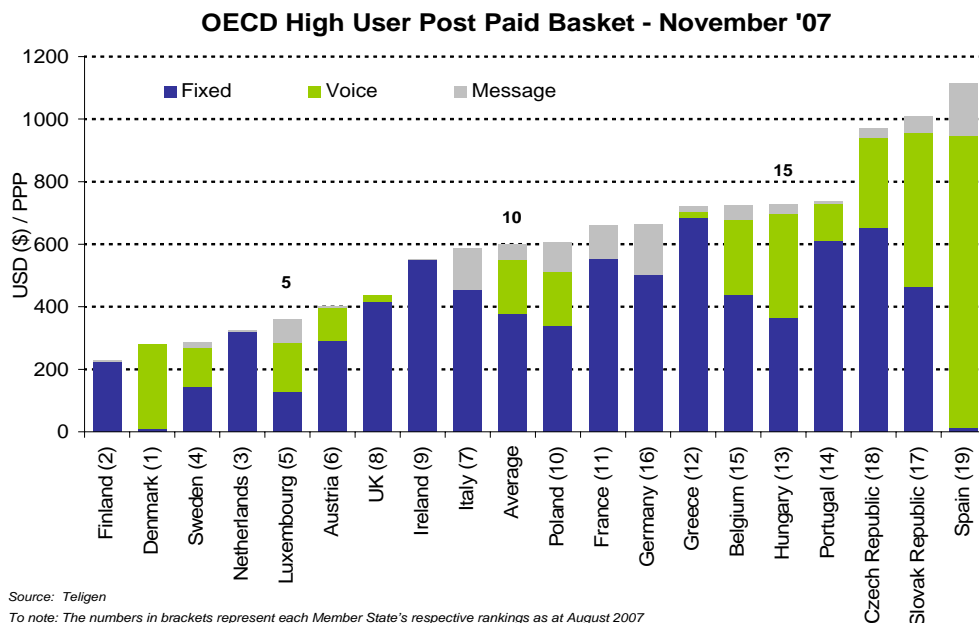


Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

4.1.8 High User Post Paid Mobile Basket

In the High-User Post-Paid basket, Ireland is now ranked 8<sup>th</sup> among the EU-19 countries analysed. This is a jump of one position since August 2007 and means that Ireland is two places ahead of the EU average in terms of price.

Figure 4.5.3.1 - OECD High User Post Paid Mobile Basket – November 2007

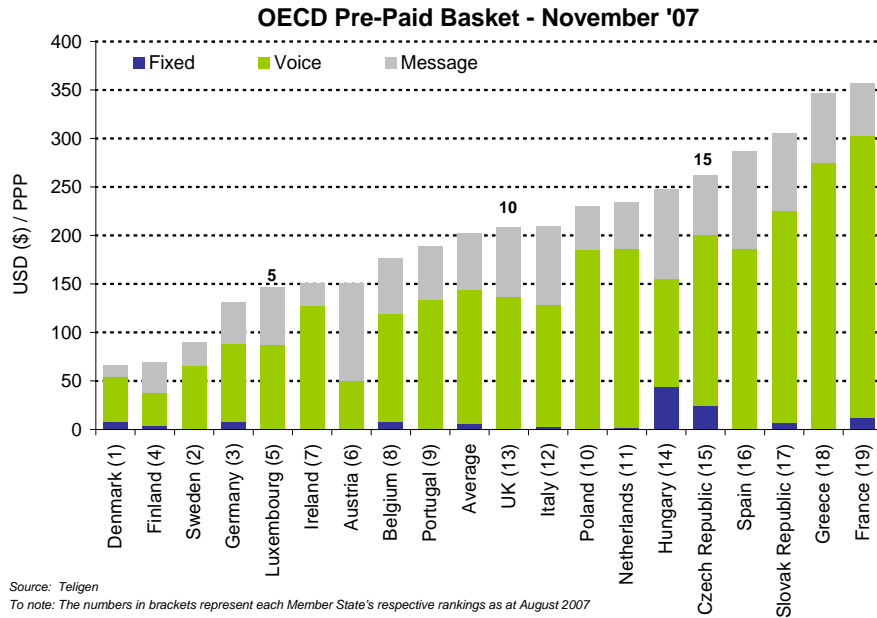


Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at August 2007

4.1.9 Pre-Paid Mobile Basket<sup>44</sup>

Ireland has moved from 7<sup>th</sup> to 6<sup>th</sup> position in the pre-paid basket this quarter, and is four places ahead of the EU average in terms of price. There were no significant moves made by any other country in the rankings during this quarter.

Figure 4.5.4.1 - OECD Pre-Paid Mobile Basket – November 2007



44 The OECD has found that there is little difference between the average pre-paid usage and low-user post-paid usage. Thus, the pre-paid and low user post paid baskets are based on the same usage assumptions.

## 5 Broadcasting

### Overall Broadcasting Market

The broadcasting analysis provided in this report uses operator data in conjunction with CSO estimates<sup>45</sup> of the total number of TV households in Ireland. This is particularly relevant in deriving the number of households that use only a Free-to-Air<sup>46</sup> television service. There are 1.46 million TV households in Ireland, based on the CSO's 2006 Information Society report.

Of the total number of TV households at the end of December 2007 there were approximately 564,000 subscriptions to cable<sup>47</sup>/MMDS<sup>48</sup> television services in Ireland. For the same period BSkyB reported 535,000 Irish satellite<sup>49</sup> TV subscribers, a growth of 70,000 subscribers since the same reporting period last year. The total number of pay TV households in Ireland (cable/MMDS and satellite) is 1.099 million. Pay-TV households account for 75% of all homes with a television.

**Figure 5.1.1 – Broadcasting Subscriptions and growth rates by Platform**

Platform	Number of Subscriptions	Quarterly Change Q307-Q407	Annual Change Q406-Q407
Cable/MMDS	564,000	-0.7%	-3%
Satellite	535,000	4%	15%
Free-to-View	360,000	-5%	-13%

Figure 5.1.2 profiles TV households in Ireland based on those households who subscribe to an analogue or digital cable television service, a digital satellite service, or a free-to-air television service.

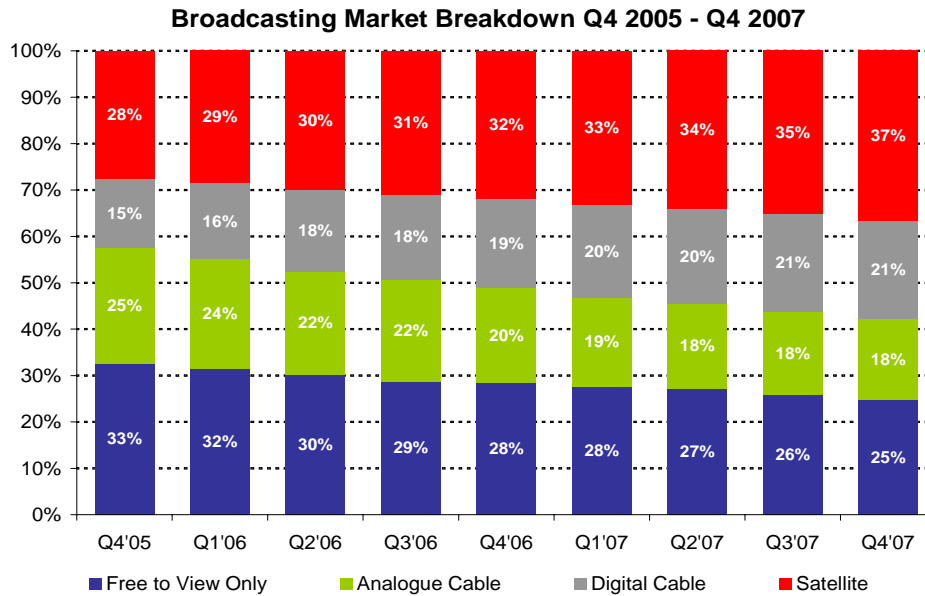
45 ComReg uses the most up to date figure for TV households as per CSO figures when calculating penetration of Pay TV services. The latest CSO data published in the 2006 Information Society and Telecommunications report, reported 1.4583 million TV households in Ireland. The report indicates that there are a total of 1.483 million households in Ireland.

46 Free-to-Air television broadcasts are sent unencrypted and may be received via any suitable receiver. Although these channels are described as 'free', the viewer does pay for them by payment of a licence fee.

47 Cable television is a system of providing television to consumers via radio frequency signals transmitted to televisions through fixed optical fibres or coaxial cables as opposed to the over-the-air method used in traditional television broadcasting (via radio waves) in which a television antenna is required.

48 MMDS (Multichannel Multipoint Distribution Service) is a wireless telecommunications technology, used as an alternative method of cable television programming reception. MMDS is usually used in sparsely populated rural areas, where laying cables is not economically viable.

Figure 5.1.2 - Delivery of Broadcasting Services

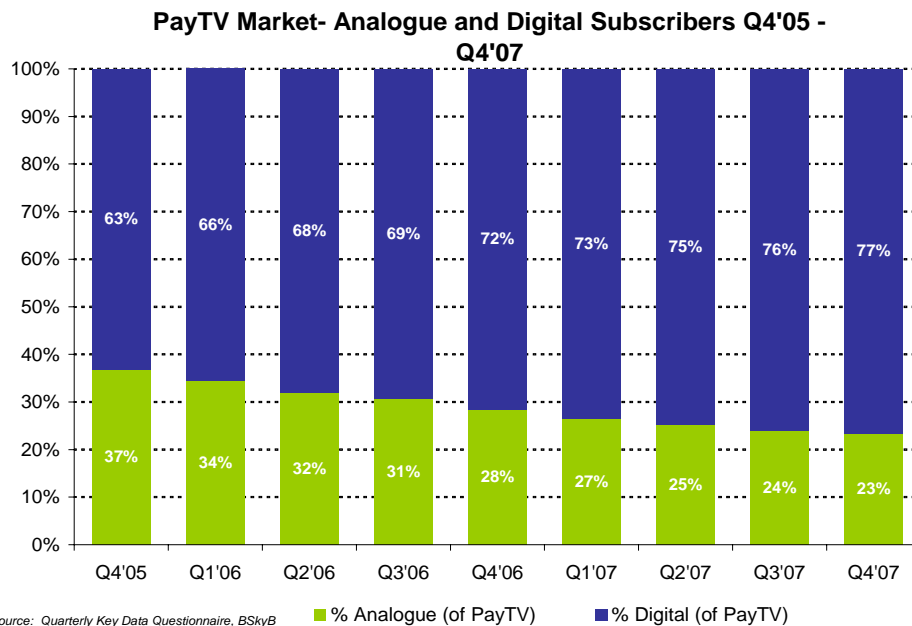


Source: Quarterly Key Data Questionnaire, BSkyB

### Pay TV

Figure 5.2.1 profiles the pay-TV market in Ireland, comparing those who subscribe to an analogue service provided by cable operators, and those who pay for digital TV, provided via either a digital cable service or satellite service. In Q4 2007, 77% of all those subscribing to a paid television service in Ireland had a digital subscription; an increase of 1% since Q3 2007 and a year-on-year increase of 7% since Q4 2006.

Figure 5.2.1 - Pay TV Market (Analogue and Digital)



Source: Quarterly Key Data Questionnaire, BSkyB

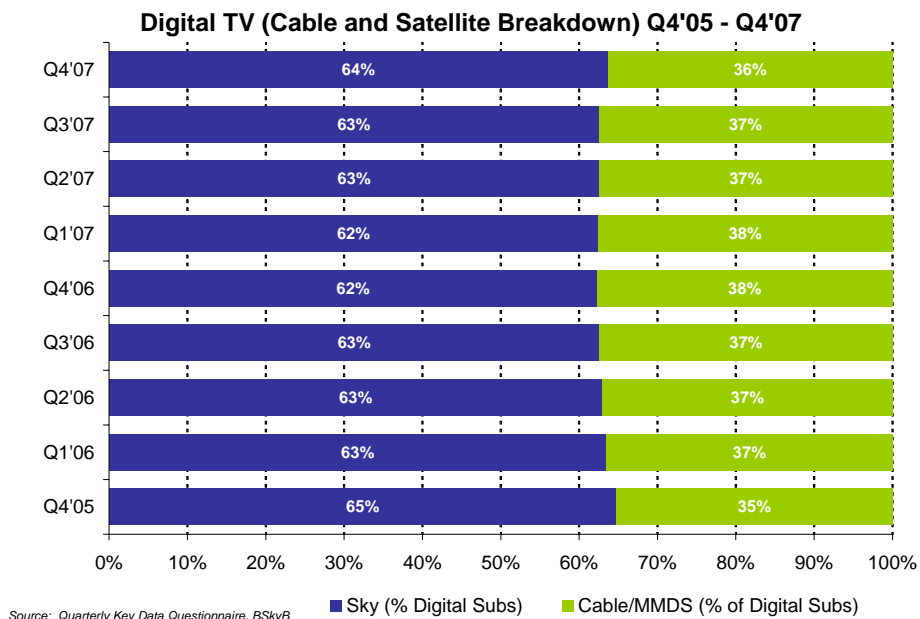
49 Satellite television is television delivered by way of communications satellites, as compared to conventional terrestrial television and cable television. Figures for satellite homes are based on Sky's publicly announced figures.

## Digital TV

At the end of December 2007, there were nearly 841,000 digital TV subscribers which include cable/MMDS and satellite customers; this is an absolute increase of over 20,000 subscribers since Q3 2007. Fifty eight percent of all TV households in Ireland now receive their TV service via a digital television signal, based on either digital cable or satellite.

Figure 5.3.1 profiles the digital TV market, examining the proportion of digital subscribers who receive their TV signal via a satellite subscription compared with those using digital cable. The profile of this group of TV households remained the same this quarter.

**Figure 5.3.1 - Digital TV (Cable and Satellite Breakdown)**



## 6 Emerging Trends – Mobile Broadband

The Emerging Trends series in the Quarterly Report aims to provide information on innovations and emerging technologies within the electronic communication sector. This quarter’s Emerging Trends looks at mobile broadband, which enables internet access for mobile devices such as laptops and mobile phones, both at fixed locations and on the move.

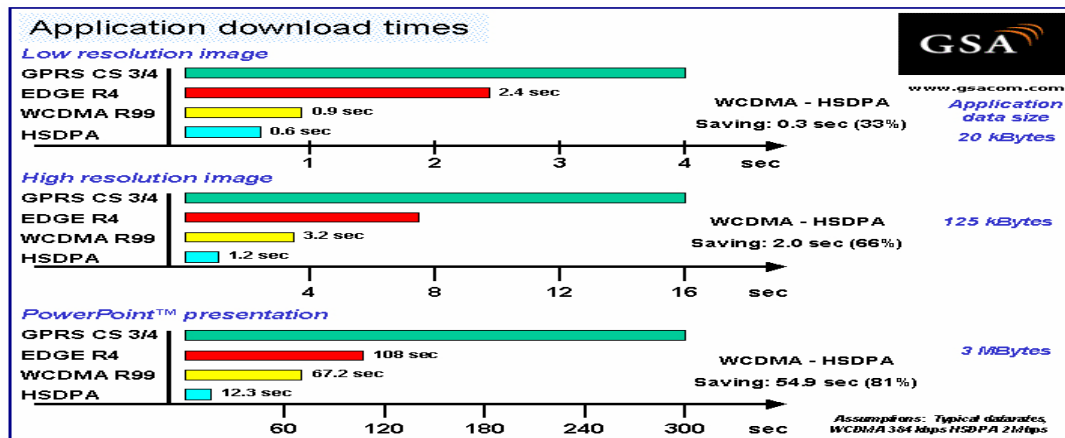
### Mobile Broadband

Since the turn of the century, mobile operators have undertaken a variety of upgrades to their networks, adding not just 3G but a host of other network enhancements. With the deployment of the latest technologies (HSDPA and HSUPA), mobile operators are beginning to compete head-to-head with fixed operators for a slice of the broadband market.

### What is Mobile Broadband ?

Mobile broadband in its simplest terms refers to the ability to access the internet from a variety of mobile devices such as laptops, PDAs, Blackberrys and Smartphones. It describes the use of 3G services using the most recent additions on the mobile technology evolutionary path, HSDPA (High Speed Downlink Packet Access) and HSUPA (High Speed Uplink Packet Access), both of which belong to the High-Speed Packet Access (HSPA) family. HSPA, with its origins in the GSM family, is a collection of mobile telephony protocols that have improved upon the existing Universal Mobile Telecommunications System (UMTS) protocols. It is predominantly an upgrade to the existing network infrastructure which enables faster data rates, typically associated with fixed line DSL, to mobile users. HSDPA enables a user to receive large files to a mobile device such as email attachments, web pages, plus a host of multimedia entertainment services. The chart below provides a sample of estimated download times for a range of files and applications using different mobile network technology standards.

Figure 6.1 GSA – Example of Application download times



Currently, maximum speeds achieved by HSDPA are 14.4Mb/s but most network operators provide speeds of up to 3.6Mb/s with the rollout of 7.2Mbps quickly growing. However, further speed increases are planned in 2008 with networks being upgraded to Evolved HSPA or HSPA+ which will provide speeds of 42Mb/s and further down the evolutionary path - HSOPA, a technology currently under development, aims to achieve data rates of up to 200Mb/s for downlink and 100Mb/s for uplink.

### **Mobile Broadband in Ireland**

With mobile penetration at 116% for this quarter, a healthy increase in laptop ownership due to more competitive pricing and recent declines in the number of residential fixed line phones<sup>50</sup>, it would appear that mobile broadband has the potential for good growth in Ireland. A recent survey commissioned by Return2Sender,<sup>51</sup> a mobile marketing agency, suggests some 20 percent of Irish consumers regularly access the internet from their mobiles. Moving forward, most 3G phones will be HSPA-enabled and as more made-for-mobile content becomes available, consumers will be likely to access the internet via these devices. For consumers without a fixed line in their home and therefore more dependent on mobile phones for their communications needs, services like 3 Ireland's new pre-paid '3 Pay Broadband' product offer a solution to consumers' broadband needs, enabling time-based access at a starting price of €5 for 500MB (FUP) per day<sup>52</sup> Currently three of the Irish mobile operators have mobile broadband offerings with a combined subscriber base of 128,000 in Q4 2007, equivalent to around 14% of total broadband subscriptions in Ireland. This is an absolute increase of over 39,000 subscribers or a 44% increase since Q3 2007. All three operators are combining HSPA with GSM/EDGE which theoretically should offer 99% coverage using a combination of both technologies. The chart below details comparative data between the three operators outlining the various speeds, costs of set up and monthly fees.

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50 Survey Data: ComReg Consumer ICT Services Survey Q4 2007 - Millward Brown IMS

51 Survey Data. Return2sender 'Omnibus survey to assess Irish mobile consumer attitudes and behaviours towards their phones and the services available', Q4 2007 – Lansdown Market Research

52 FUP – Fair Use Policy



**Figure 6.2 – Mobile Broadband Offerings by Operator**

	3Ireland Launched 18/12/06	O2 Launched 09/07/07	Vodafone Launched 15/11/06
<b>Speed Mbps</b>	<b>3.6</b>	<b>3.6 HSDPA 1 HSUPA</b>	<b>3.6</b>
<b>Monthly Cap GB</b>	<b>10</b>	<b>10</b>	<b>5</b>
<b>Modem €</b>	<b>89</b>	<b>79</b>	<b>49</b>
<b>Monthly €</b>	<b>19.99</b>	<b>30.00</b>	<b>29.99</b>
<b>Excess Usage</b>	<b>0.05</b>	<b>0.10*</b>	<b>0.02</b>
<b>Contract</b>	<b>12 months</b>	<b>12 months</b>	<b>12 months</b>

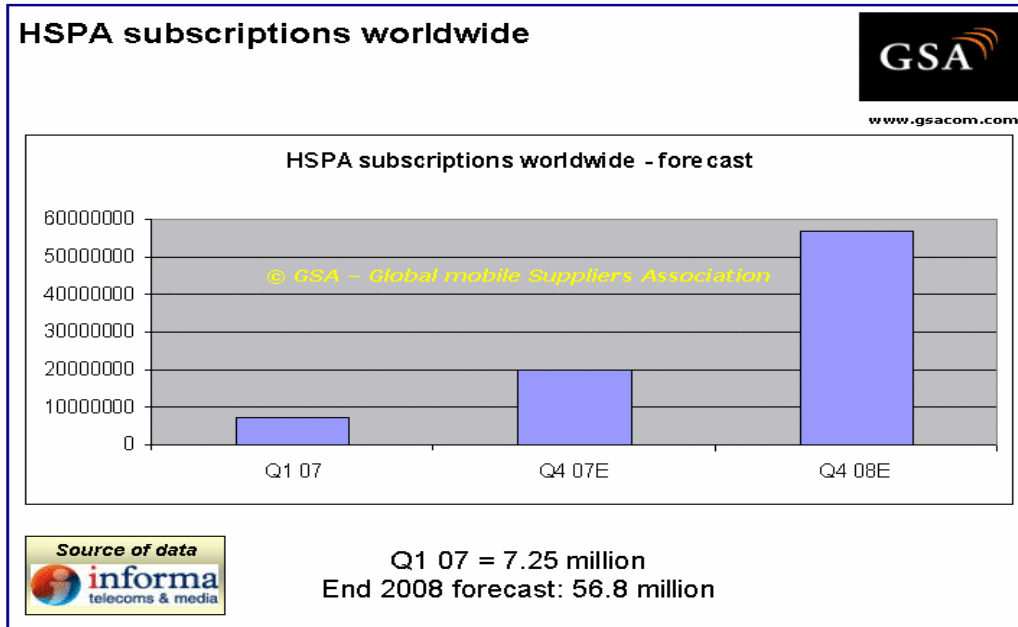
\* Subject to fair usage policy.

### **The Future of Mobile Broadband**

According to GSA, the Global Mobile Suppliers Association, the number of commercial HSDPA networks launched worldwide grew by 80% in 2007 and to date, commercial products are available in 26 of the 27 Member states of the EU. They also report that the rise of 3.5G is driving mobile broadband globally, with operators reporting strong subscription growth and increased profitability. According to Jupiter Research most new 3G phones will be HSPA-enabled and with the launch of HSUPA, customers will be enabled to upload content from their handsets to mobile networks, something that will become increasingly important with the growing adoption of user-generated content and the rise of social mobile networking.<sup>53</sup> Many operators are looking to future network development, and in the short term a number of markets will experience fairly healthy growth in both HSDPA and HSUPA. The chart below provides a forecast for global HSPA subscriptions between quarter 4 2007 and quarter 4 2008.

<sup>53</sup> '3.5G Network growth ramping up' January, 2008: Silicon Republic.

Figure 6.3 – GSA - Forecasted HSPA Subscriptions Growth Worldwide Q408E



However, the technology is ever changing and 2008 will see the evolution of HSPA to HSPA Plus, which promises speeds of up to 28 Mbps. From there the next step on the evolutionary path is 3G Long-Term Evolution (LTE) and mobile WiMAX. Spectrum largely dictates which technology is used but it would appear that these two technologies may be right for convergence. LTE may be able to match the capability of current DSL services but will not be widely deployed before 2009. However, while many enthuse about the potential of mobile broadband, issues remain as to whether mobile broadband can oust its fixed counterpart. Ovum suggest that it will take time for mobile speeds to reach fixed equivalents and that the slow deployment of HSUPA could also prove a barrier.<sup>54</sup> Secondly, with the threat of financial penalties for exceeding the monthly cap, consumers may receive unexpectedly large bills.

There are many advocates who promote the idea that mobile broadband will represent a significant challenge to fixed-line internet service providers with the mobility and improved speeds 3G has to offer. Others debate this and feel that mobile broadband has a long way to go before it can potentially replace home-based alternatives, particularly for heavy users using the internet to download films and music. Research company Global Insight suggests that with the challenges facing mobile broadband, it will not displace fixed broadband but rather will 'probably continue to be marketed as a complementary service for a long time'. In the same report they suggest that Europe's broadband future in the near term lies in fixed broadband while mobile broadband may grab up to 5% of the the market in the next five years.

<sup>54</sup> 'Mobile: Challenging fixed lines for residential broadband', February 2008. Ovums EuroView.