



Commission for  
**Communications Regulation**

## **Irish Communications Market**

### **Quarterly Key Data Report**

**Data as of Q1 2009**

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**Corrigendum for the December 2008, Quarterly Key Data Report, ComReg Doc 09/17**

- PSTN national residential and national business basket rankings have been revised for November 2008 due to an error in Belgium’s pricing. Ireland’s ranking remains unchanged.
- Wifi minutes of use have been revised for the period Q4 2008 from 12,854,000 to 20,297,726. This is due to an upward revision of minutes of use by a Wifi provider.
- Cable broadband subscriptions have been revised for the periods Q2 - Q4 2008 due to a reporting error. These revisions are; from 91,462 to 91,485 in Q2 2008, from 95,442 to 95,466 in Q3 2008, and from 104,133 to 104,030 in Q4 2008.
- Vodafone revenues for 2008 have been revised as a result of a review of its data reporting systems. An information notice (ComReg document 09/23) was published in March 2009.

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## Summary

In the first quarter of 2009 data indicates that revenues across all sectors (fixed, mobile and broadcasting) declined as the economic recession took hold. However, despite this, broadband subscriptions continued to increase reaching 1,272,166 this quarter. Presented below is a short summary of this report.

Irish Quarterly Communications Market Data Q1 2009			
	Q1'09	Q4'08	Quarterly Change
Total Market Revenues	€1,039,161,305	€ 1,109,370,126	-6.3%
Fixed Line Revenues	€528,527,869	€543,973,791	-2.8%
Mobile Revenues	€463,156,480	€516,761,335	-10.4%
Broadcasting Revenues	€47,476,956	€48,635,000	-2.4%
Total Voice Traffic	4,680,683,417	5,114,960,003	-8.5%
Fixed Voice Traffic	2,180,968,196	2,154,950,468	+1.2%
Mobile Voice Traffic	2,499,715,221	2,960,009,534	-15.6%
Internet Subscriptions	1,472,599	1,437,627	+2.4%
Broadband Subscriptions	1,272,166	1,200,152	+6.0%
Narrowband Subscriptions	200,433	237,475	-15.6%
Mobile Subscriptions (inc. HSDPA)	5,282,677	5,357,036	-1.4%

- Overall market revenues continued to decline this quarter by 6.3% to almost €1.04 billion. Fixed revenues retain the dominant share at 50.9%, followed by mobile (44.6%) and broadcasting (4.6%). Lower roaming tariffs may partially explain the negative trend in mobile revenues.
- Total voice traffic minutes decreased by 8.5% this quarter to under 4.7 billion minutes, partly due to a correction in mobile traffic reporting. Mobile minutes form the majority of voice minutes at 53%, with fixed minutes representing the remaining 47%.
- The top six fixed line operators by revenue market share are Eircom (69.1%), BT (13.3%), UPC (2.4%), Access (2.2%), Verizon (2.1%) and Perlico (2.0%).
- The number of direct and indirect access paths (narrowband only) declined by 1.1% this quarter and 2.8% since Q1 2008 to 2.03 million paths.

- This quarter, total internet subscriptions increased to 1,472,599. This represents a growth rate of 2.4% since last quarter and 14.9% on Q1 2008.
- Reductions in narrowband internet subscriptions accelerated this quarter declining by 15.6% and 30.8% since Q1 2008 to 200,433.
- Broadband subscriptions (fixed and mobile) continued to increase, reaching 1,272,166 this quarter. This represents an increase of 6% since the last quarter and 28.2% on Q1 2008. Broadband per capita penetration reached 28.8% this quarter including mobile broadband. The EU Commission ranks Ireland in 14<sup>th</sup> place among the EU27 countries in terms of per capita fixed broadband penetration as of January 2009. According to Informa, Ireland had a household broadband penetration rate of 60.4% in Q4 2008, ranking Ireland in 11<sup>th</sup> place among the EU27 countries.
- Mobile per capita penetration (inc. HSDPA) was 119% in Q1 2009. Excluding HSDPA, the penetration rate was 111%.
- Mobile revenues decreased by over 10% this quarter and have decreased by 9.4% since Q1 2008. Mobile revenue market share (exc. Eircom mobile and Tesco mobile) indicates that Vodafone represents 43.8% of the market, followed by O2 (36.2%), Meteor (16.9%), and 3 Ireland (3.1%).

**Notes to data:**

- For the first time, aggregated SB-WLR Performance Statistics, as supplied by Eircom, are published in accordance with ComReg Decision Notice (07/61) Section 6.6 (vii) in the appendix of this report.
- In this report Irish population estimates from the Central Statistics Office of 4,422,100 for April 2008 are used.
- For Ireland's household broadband penetration rate in figure 3.1.1, a figure of 1,561,068 households is used based on Informa data.
- A number of external sources are used for international comparisons. These include the Yankee Group, CSO, Informa, Teligen, Telegeography and the EU Commission.
- In most cases data has been rounded to one decimal place in this report.



- Q4 2008 submissions for Icarus and Nova Networks Ltd. were used in this report.
- Further explanations and descriptions of data supplied in this report can be found in the accompanying explanatory memorandum 09/50a.
- Extracts of data used in this report can be downloaded at [www.comstat.ie](http://www.comstat.ie)

## 1 Overall Market Data

Data presented in this report is based on questionnaires completed by authorised operators for the period from 1<sup>st</sup> January 2009 to 31<sup>st</sup> March 2009. The report is based on submissions from 62 active operators<sup>1</sup>.

### 1.1 Number of Authorisations

**Figure 1.1.1 - Total Number of Authorisations**

Total Authorisations	June 2009
No. of fixed and wireless authorisations	344
No. of mobile telephony authorisations	7
No. of broadcasting authorisations (incl. Cable TV, MMDS, Deflectors)	85
Total Number	436

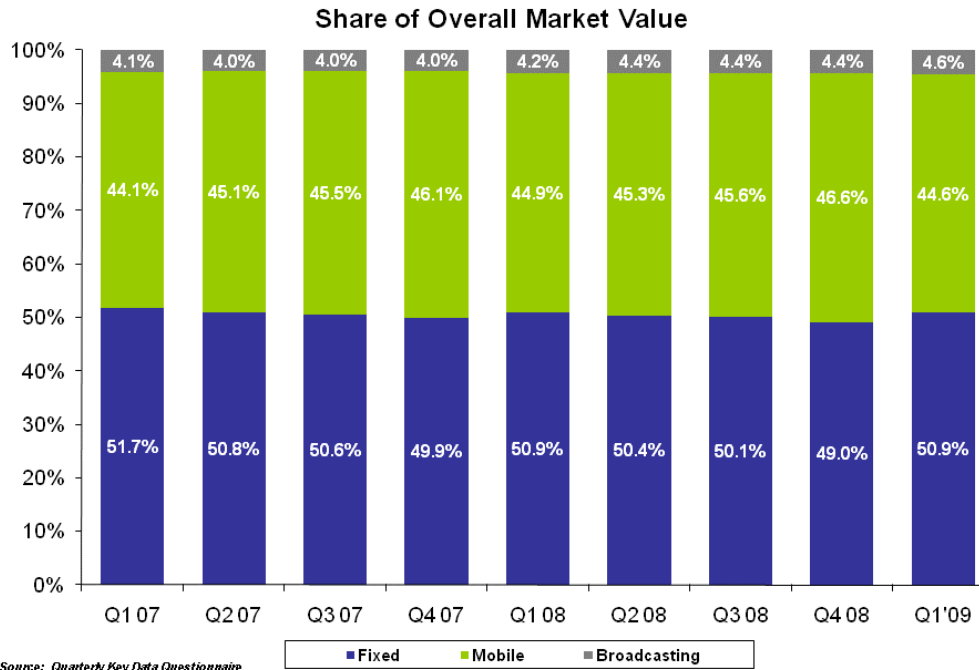
Before providing networks or services to third parties, operators are required to submit a notification to ComReg which is added to a central register of authorised operators. At the date of publication there were 436 authorised undertakings in Ireland. It should be noted that the list above refers to 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 includes a number of undertakings who are authorised to use licence-exempt spectrum for the provision of services.

<sup>1</sup> Q4 2008 submissions for Icarus and Nova Networks Ltd. were used in this report.

## 1.2 Overall Electronic Communications Revenues<sup>2</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. It should be noted that mobile revenues have been revised since last quarter's publication.

**Figure 1.2.1 – Fixed, Mobile & Broadcasting as a % of Total Revenues**



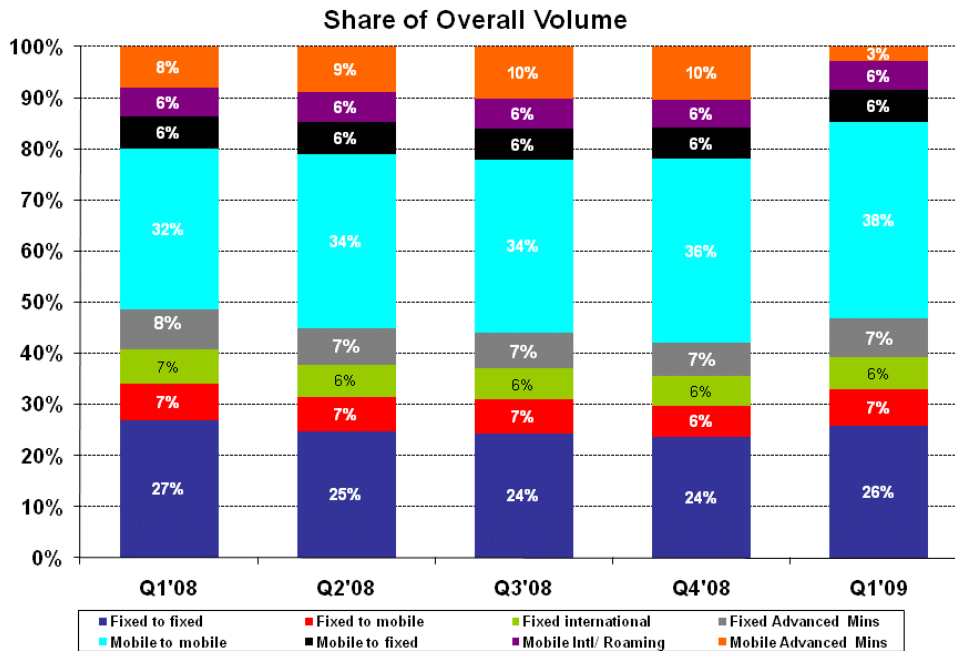
Overall electronic communications network and service revenues at the end of March 2009 were almost €1.04bn for the quarter. Annualised revenues on this basis would be almost €4.16bn for 2009. Industry revenues decreased by 6.3% this quarter and have fallen 8.7% since Q1 2008. All three sectors of the communications market experienced a decline in revenues this quarter. Fixed revenues decreased by 2.8%, while mobile and broadcasting revenues declined by 10.4% and 2.4% respectively. It should be noted that broadcasting revenues are understated in this report, as satellite TV revenues are not included in the analysis due to data availability issues.

While in absolute terms all categories experienced a decline in revenues this quarter, both the fixed line and broadcasting sector increased their revenue share due to a larger fall in mobile revenues. Fixed line revenues accounted for 50.9% of total revenues which was a 1.9 percentage point increase from the previous quarter. Broadcasting revenue share increased by 0.2 percentage points to 4.6% but the mobile industry's share of total revenues decreased by 2 percentage points from 46.6% to 44.6%.

<sup>2</sup> For further detail on terms and definitions see ComReg Document Number 09/50a Explanatory Memorandum to the Quarterly Key Data Report.

### 1.3 Overall Call Volumes

**Figure 1.3.1 - Share of Total Voice Call Volumes (Minutes)<sup>3</sup>**



Source: Quarterly Key Data Questionnaire

Figure 1.3.1 profiles volumes of voice calls by call type on both fixed and mobile networks on a quarterly basis. Voice minutes for Q1 2009 totalled 4.68 billion minutes. It should be noted that prior to Q1 2009 some mobile data minutes were included under mobile advanced minutes. As these volumes are not based on voice calls, they were stripped out in Q1 2009 and therefore, have a downward impact on overall mobile voice traffic. Voice minutes decreased by 8.5% on the previous quarter when total voice minutes were just over 5.1 billion minutes. Mobile originating voice minutes accounted for 53% of all voice minutes while traffic originating on a fixed line network accounted for 47% of all voice minutes. Figure 1.3.2 shows the total voice traffic in Ireland at the end of Q1 2009. Fixed voice minutes increased this quarter by 1.2% while mobile minutes decreased by 15.6%.

**Figure 1.3.2 – Total Voice Traffic**

	Q1'09 Mins	Quarterly Growth Q4'08 – Q1'09	Year-on-Year Growth Q1'08 – Q1'09
<b>Fixed voice minutes</b>	<b>2,180,968,196</b>	<b>+1.2%</b>	<b>-9.4%</b>
<b>Mobile voice minutes</b>	<b>2,449,715,221</b>	<b>-15.6%</b>	<b>-2%</b>
<b>Total voice minutes</b>	<b>4,680,683,417</b>	<b>-8.5%</b>	<b>-5.6%</b>

<sup>3</sup> Fixed advanced minutes include premium rate services minutes, freephone minutes, VoB minutes, payphone 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.

## 1.4 Pricing Overview

This section examines Ireland's current and previous rankings based on a comparison of prices for specific consumer baskets in a number of EU countries. Data on PSTN<sup>4</sup> and mobile baskets 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 (including variable (e.g. calls) and fixed (e.g. rental) charges);
- 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 19 other EU member states for which data is available since the revision of the OECD baskets in February 2006. Individual pricing charts for each basket for February 2009 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 09/50a.

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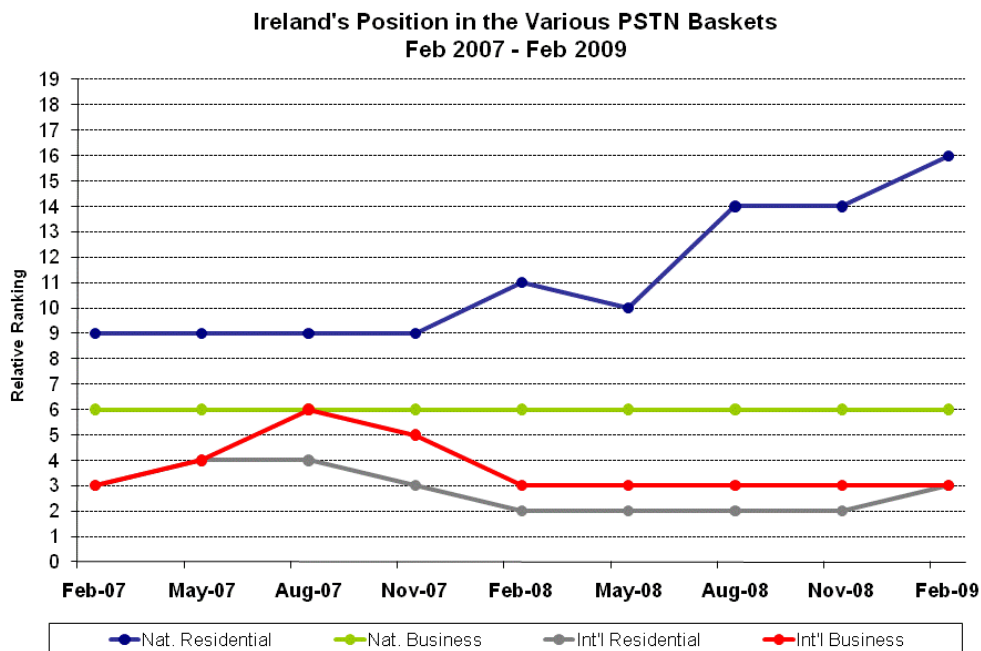
<sup>4</sup> PSTN refers to a public switched telephone network or copper telephony network, on which calls can be made. A PSTN line is more commonly known as a copper telephone line.

### 1.4.1 PSTN Baskets

Figure 1.4.1.1 shows the movement in Ireland’s position relative to 18 other EU countries in all PSTN baskets since February 2007, where the least expensive country based on the methodology is ranked 1<sup>st</sup>. Ireland continues to remain less expensive than the average basket cost across three of the PSTN services analysed (national business, international residential and international business baskets). This quarter, Ireland’s positions in the national residential call basket has fallen by two places to 16<sup>th</sup> position but continues to remain in 6<sup>th</sup> place for the national business call basket. Ireland’s position has fallen by one place for both the international residential basket to 3<sup>rd</sup> place and once again remains unchanged in the international business basket in 3<sup>rd</sup> place.

Ireland’s position decreased by 2 places in the national residential basket. Ireland’s overall price for this basket has declined from the previous period but both Greece and Hungary have experienced a greater decline moving ahead of Ireland. Ireland’s position in the international residential PSTN basket has fallen one place. Ireland did experience a price decrease from the last period but Sweden experienced a greater decline and therefore moved ahead of Ireland.

**Figure 1.4.1.1 – Ireland’s Position in the Various PSTN Baskets**



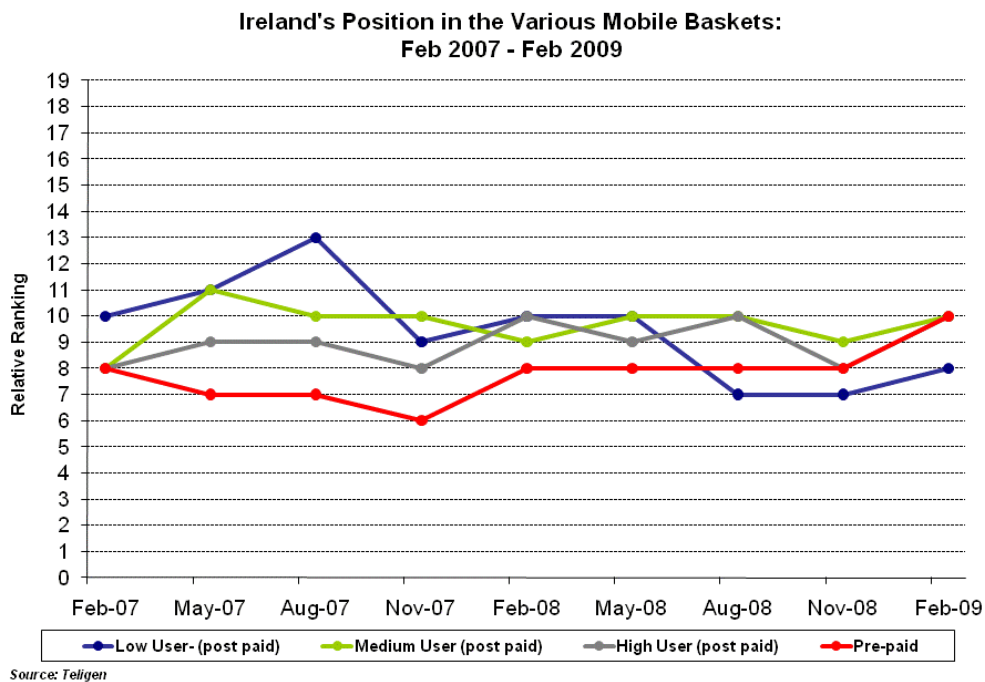
Source: Teligen

### 1.4.2 Mobile Baskets

Figure 1.4.2.1 shows the movement in Ireland’s position in all mobile baskets since February 2007 relative to 18 other EU countries, where the least expensive country is ranked 1<sup>st</sup>. Ireland’s position in the low user post-paid basket declined by one place to 8<sup>th</sup> position in February 2009, but still remains better placed when compared to February 2007. Ireland ranks in 10<sup>th</sup> place in the medium user post-paid basket, while in the high user post-paid basket Ireland is also in 10<sup>th</sup> position, a decline of two places since November 2008. Finally, in the pre-paid basket Ireland’s is positioned in 10<sup>th</sup> place.

As can be seen from the chart below, Ireland dropped back in all mobile baskets by at least one place. The total prices for the low- and medium-user baskets declined as did the price of the pre-paid basket but other countries like Belgium (low-user), Hungary (medium-user) and Poland (pre-paid) experienced greater reductions.

**Figure 1.4.2.1 – Ireland’s Position in Various Mobile Baskets**

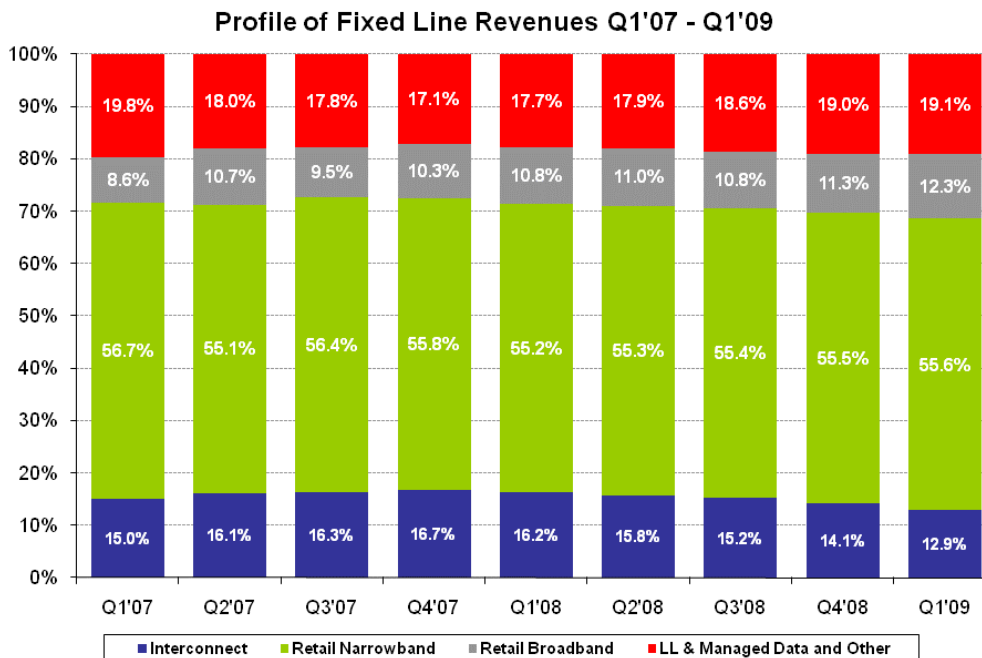


## 2 Fixed Market Data

### 2.1 Total Fixed Line Revenues

Figure 2.1.1 shows the profile of fixed line wholesale and retail revenues in Q1 2009. Total fixed line revenues at the end of March 2009 were just over €528 million. This was a 2.8% decrease on Q4 2008 revenues, which were just under €544 million. While all categories except retail broadband experienced an absolute decline this quarter, in terms of the share of total fixed revenues, interconnect revenues fell to 12.9%, other retail revenues<sup>5</sup> (from leased lines, managed data and other advanced data services) rose to 19.1%, while retail broadband increased to 12.3%, and retail narrowband increased to 55.6%.

**Figure 2.1.1 – Profile of Fixed Line Revenues**



Source: Quarterly Key Data Questionnaire

<sup>5</sup> Leased line, managed services (including revenues from Partial Private Circuits) and other ancillary services including web-hosting, co-location services, directory publication & other services.

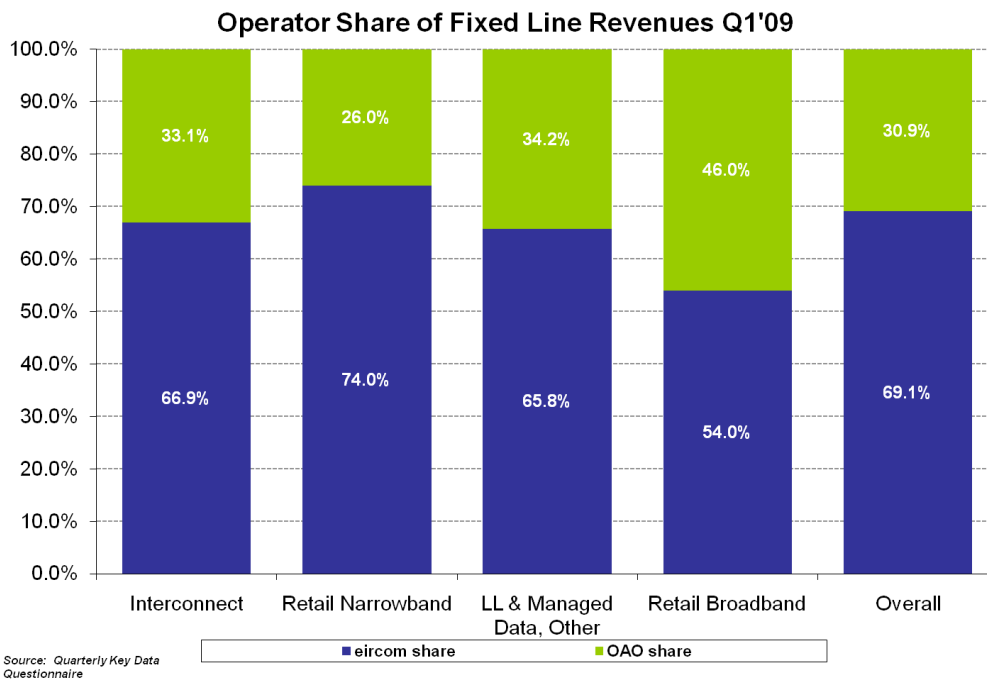


### 2.1.1 Authorised Operators’ Share of Overall Fixed Line Revenues

Figure 2.1.1.1, 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 and are based on both retail and wholesale revenues; this classification does not reflect the specific markets identified in ComReg’s Market Review process.

This quarter Eircom made gains relative to OAOs in its market share of interconnect, leased line, managed services and other revenues but lost market share in the retail narrowband and broadband categories. Since last quarter Eircom’s interconnect market share has increased from 63% to 67%, its retail narrowband market share has declined from 75% to 74%, leased line, managed and other market share has increased from 60% to 66% and retail broadband market share has fallen from almost 56% to 54%.

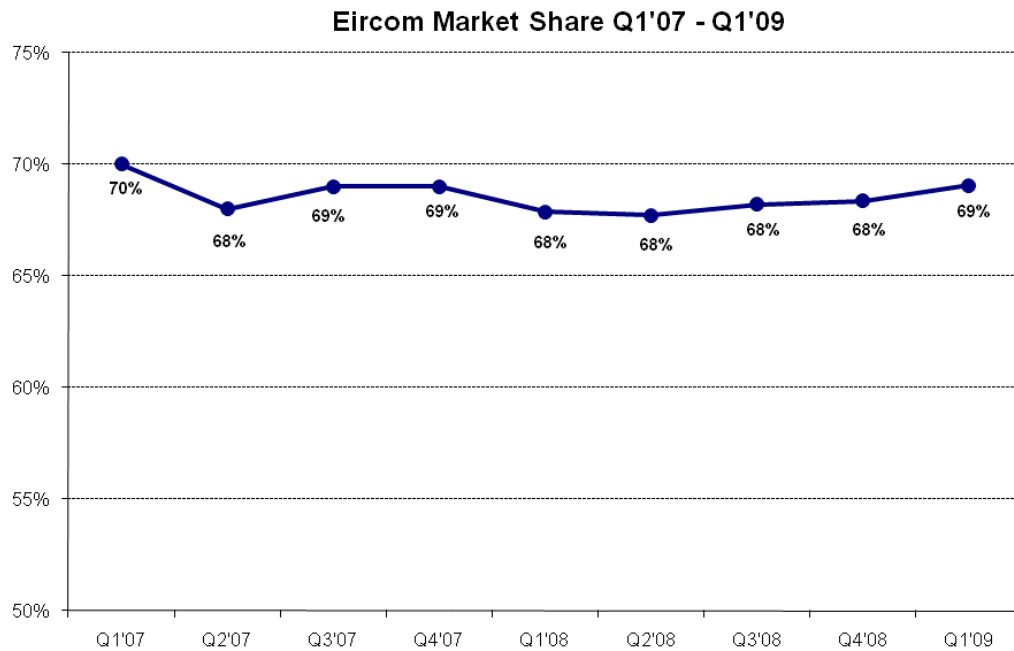
**Figure 2.1.1.1 – Operator Share of Fixed Line Revenues<sup>6</sup>**



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

Eircom’s overall share of fixed line market revenue has increased since Q4 2008 reaching 69.1% in Q1 2009. This is a 0.7 percentage point increase since last quarter but is 0.9 percentage points lower when compared with its market share two years ago. Figure 2.1.1.2, below, shows Eircom’s market share on a quarterly basis from Q1 2007 to Q1 2009.

**Figure 2.1.1.2 – Eircom’s Market Share**

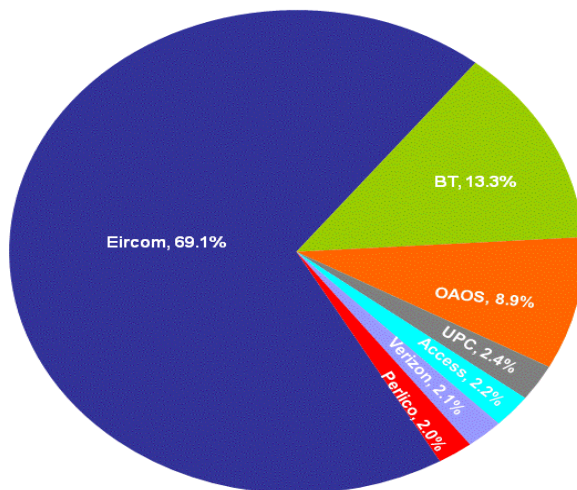


Source: Quarterly Key Data Questionnaire

Figure 2.1.1.3 below outlines revenue market shares of the total fixed market in Q4 2008 and Q1 2009 in terms of revenue shares (of interconnect, retail narrowband, retail broadband and leased line, managed and other data) held by the incumbent fixed line operator, OAOs with a minimum 2% market share, and all other OAOs. When making comparisons, it is important to note that the market shares presented below are based on shares across all fixed wholesale and retail revenue streams while some operators may not offer products and services across all segments of the market and may not provide a wholesale service to other operators. In Q1 2009, after Eircom, the largest revenue-earning operator in the market with 69.1% market share, ComReg estimates that the next five largest operators (BT Ireland, UPC, Access Telecom, Verizon and Perlico) contribute a further 22.1% of industry revenue. These charts are presented as an additional analysis of the fixed market and should not be interpreted as a definitive statement of retail revenue market shares.

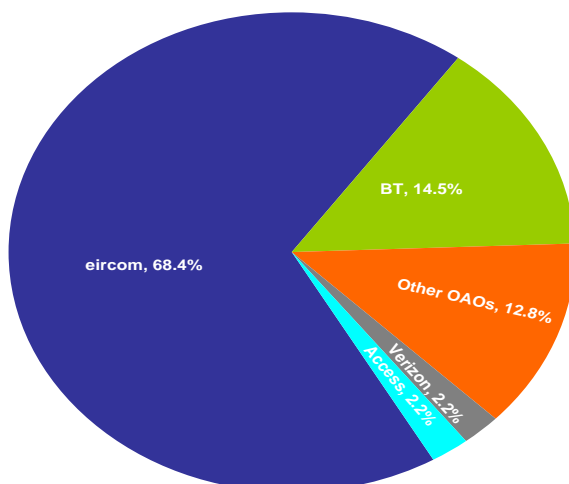
**Figure 2.1.1.3 – Revenue Market Share of Fixed Line Operators**

**Revenue Market Share of Fixed Line Operators, Q1'09**



Source: Quarterly Key Data Questionnaire

**Revenue Market Share of Fixed Line Operators, Q4'08**



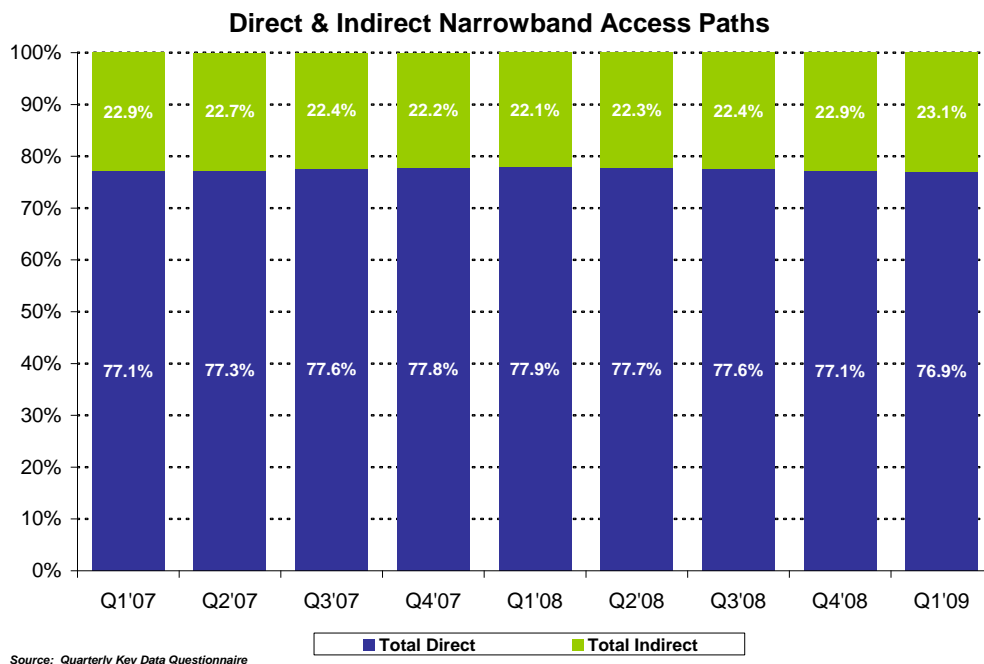
Source: Quarterly Key Data Questionnaire

## 2.2 Fixed Line Access Paths

### 2.2.1 Access Paths

Figure 2.2.1.1 presents the total number of narrowband copper fixed access paths (PSTN and ISDN) broken out by direct and indirect access<sup>7</sup>. These paths are usually used for voice services and dial up internet access. There were just over 2.03 million direct and indirect PSTN and ISDN access paths in the Irish market in Q1 2009. This represents a decline of 2.8% since Q1 2008 and 1.1% since Q4 2008. In Q1 2009, indirect access accounted for 23.1% of all access paths in the fixed market.<sup>8</sup> This represents a continued upward trend over the last year. While this chart shows the number of narrowband only access paths in Ireland, voice and data can also be supplied by other means such as broadband. Details on the broadband market in Ireland can be found in chapter 3 of this report.

**Figure 2.2.1.1 – Direct & Indirect Narrowband Fixed Access Paths**



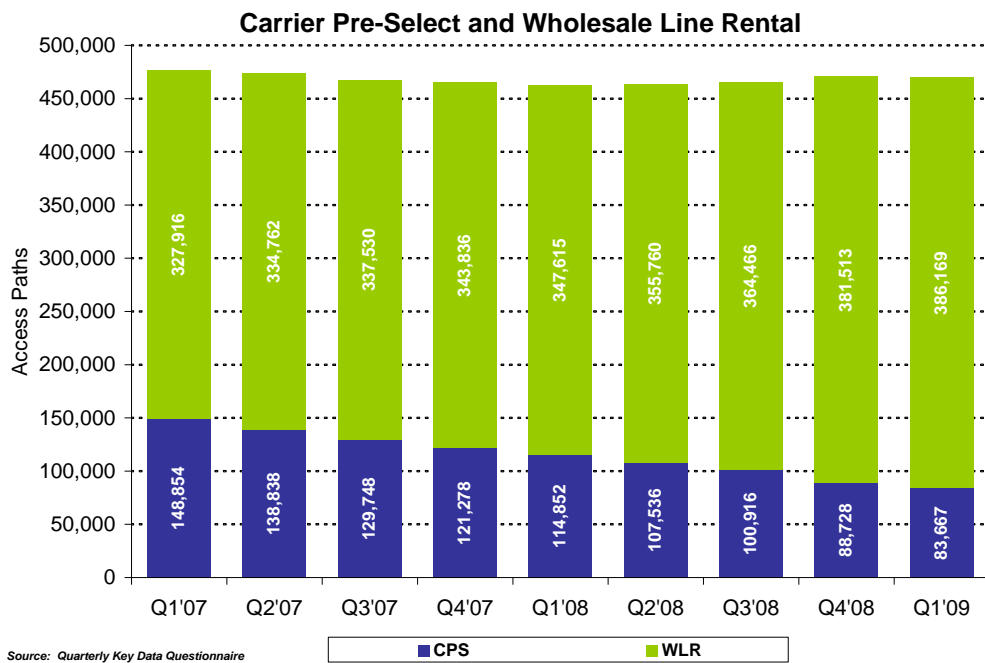
<sup>7</sup> Indirect access paths relate to telephone lines provided to customers by means of carrier pre-select only or wholesale line rental. Carrier pre-select allows the user to receive all or a portion of calls from one provider and line rental from another provider (usually Eircom). Wholesale 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.

<sup>8</sup> 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.

### 2.2.2 Indirect Access Paths

Figure 2.2.2.1 illustrates the overall number of PSTN and ISDN paths provided by means of either Carrier Pre-Selection (CPS) only or Wholesale Line Rental (WLR). In Q1 2009, there were 469,836 indirect access paths in Ireland. The number of indirect access paths fell by 0.1% in Q1 2009. In the year to Q1 2009 the number of indirect access paths has grown by 1.6%. Figure 2.2.2.1 shows OAOs are continuing to migrate their customer base to single-bill services, i.e. WLR rather than CPS (i.e. calls only) services to customers. WLR managed by OAOs now accounts for 82% of indirect access paths compared to 69% in Q1 2007. This is in contrast to CPS which has declined by over 13 percentage points in the same period.

**Figure 2.2.2.1 – Narrowband Indirect Access Paths**

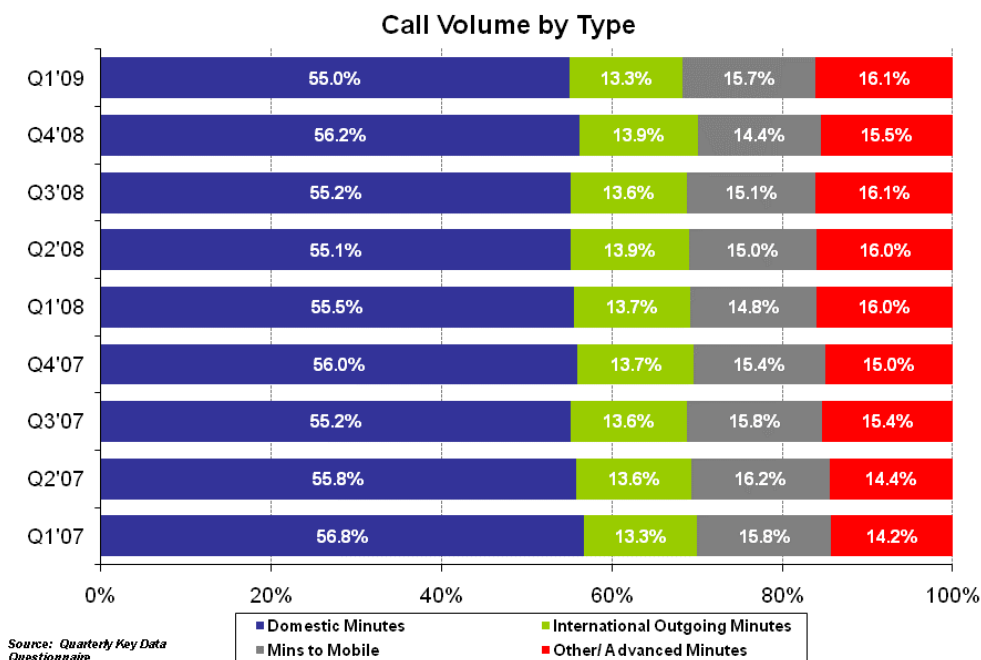


### 2.3 Fixed Voice Call Volumes

Fixed voice call traffic in Q1 2009 was 2.18 billion minutes, which was a 1.2% increase since Q4 2008 but a fall of 9.4% since Q1 2008. While domestic and international outgoing minutes have fallen this quarter, minutes to mobiles and other/advanced minutes have increased. Voice over broadband minutes now account for approximately 2.1% of this total. ComReg data, provided by operators, shows over 45 million VoB minutes for Q1 2009, a four-fold increase on over 9 million of VoB minutes in Q1 2008. VoB subscription and traffic volumes suggest that VoB is continuing to grow in popularity. VoB minutes in this report represent managed VoB and so do not include unmanaged VoB by providers such as Skype.

Minutes to mobile and other/advanced minutes increased by 10.3% and 4.8% respectively this quarter, domestic minutes declined by approximately 1%, and international outgoing minutes declined by 3.3%. This contrasts with previous trends of a slow decline in the percentage of fixed to mobile minutes and an increase in international outgoing minutes. 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 Q1 2007.

**Figure 2.3.1 – Fixed Voice Call Volume (Minutes)<sup>9</sup>**



<sup>9</sup> Domestic Calls include local & national calls. Advanced service and other minutes include minutes to premium rate numbers, freephone numbers, callsave, operator services, VoB minutes, VPN minutes, payphones and other services.

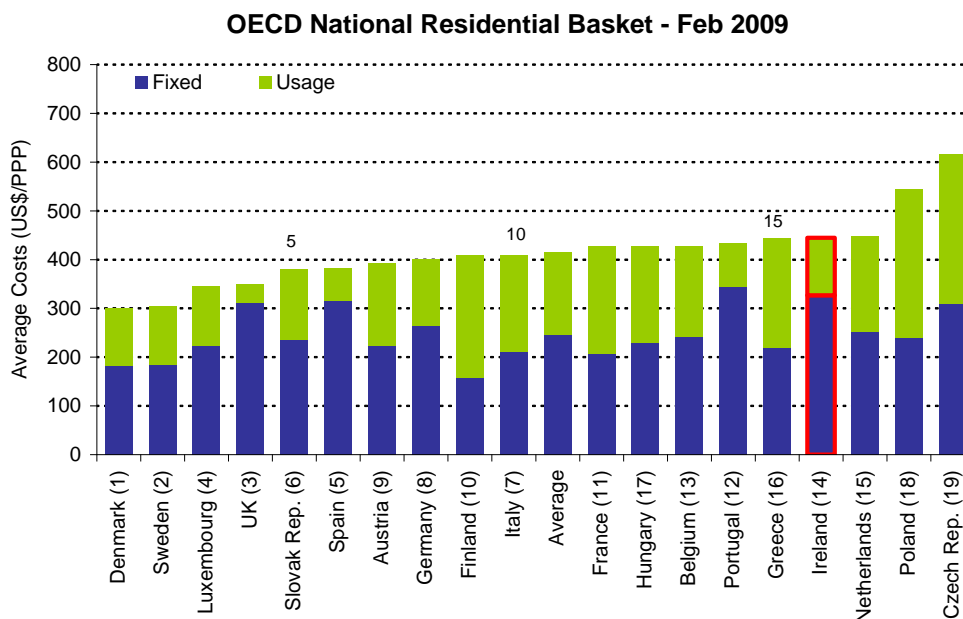
## 2.4 PSTN Pricing Data

ComReg uses 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 countries for which data is available<sup>10</sup>. Using this methodology, data is presented using USD (\$) converted to 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 takes account of exchange rate differences.

### 2.4.1 OECD National Residential Basket

Figure 2.4.1.1 illustrates Ireland’s ranking, alongside another 18 EU countries, 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 incumbent package 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 February 2009 Ireland ranked in 16<sup>th</sup> position, behind the average of the 19 EU countries in terms of the most competitive pricing for this basket. Ireland’s position has fallen by two places when compared to the November 2008 basket.

**Figure 2.4.1.1 - OECD National Residential Basket – February 2009<sup>11</sup>**



Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

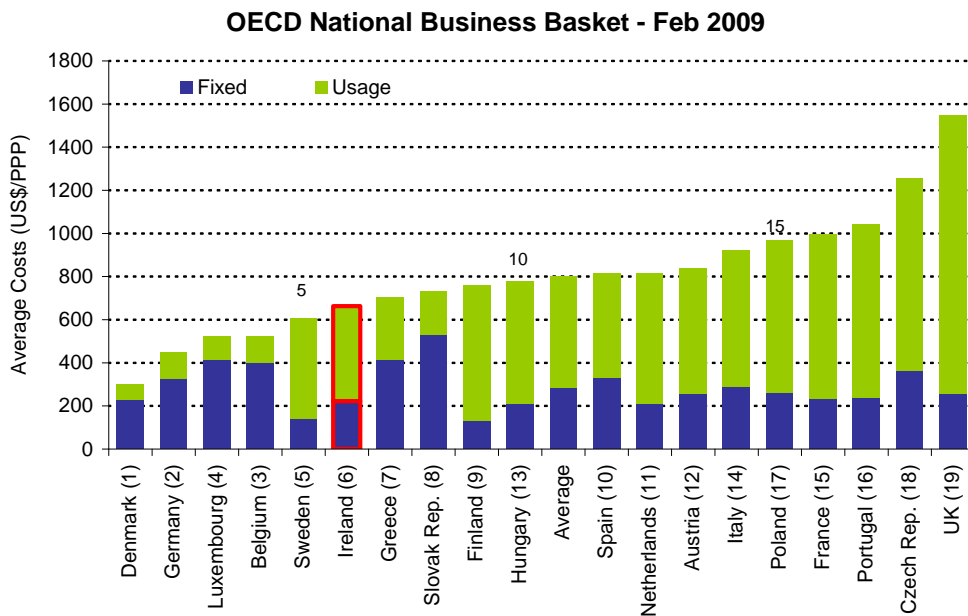
<sup>10</sup> This will be determined by whether the EU country is also an OECD member.

<sup>11</sup> Residential tariffs include VAT. VAT rates vary between member states.

### 2.4.2 OECD National Business Basket

As with the residential basket, the chart below is based on a comparison of the cheapest incumbent business package available for a set number of voice calls over a 12 month period, and also includes a fixed charge for access as part of a bundled service. It should be noted that the “fixed” element in this basket is not an indication of the cost of basic line rental. Ireland continues to remain in 6<sup>th</sup> position in the rankings, ahead of the average for 19 EU countries.

**Figure 2.4.2.1 - OECD National Business Basket – February 2009**



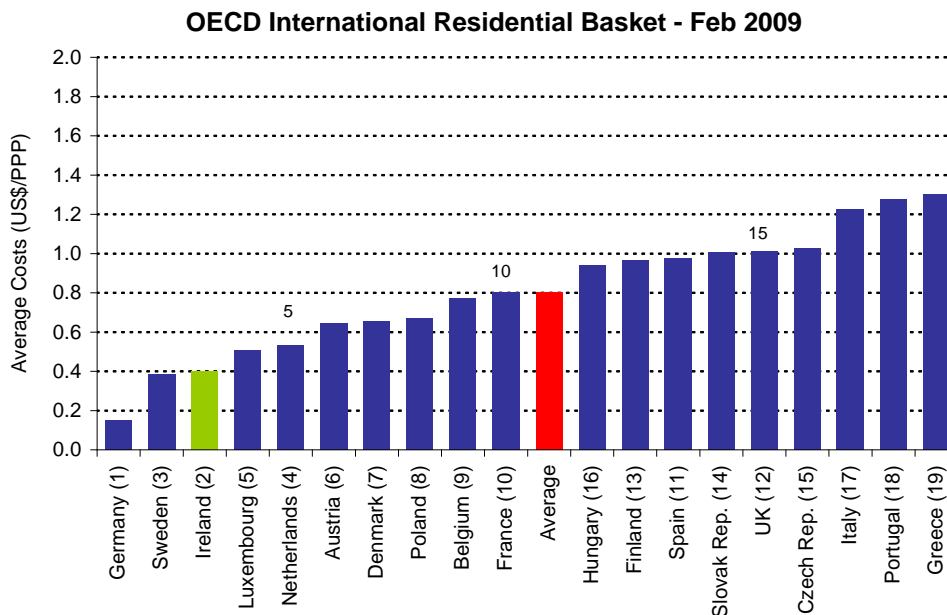
Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at November 2008



### 2.4.3 OECD International Residential Basket

Figure 2.4.3.1 ranks 19 EU countries based on the cost of residential three-minute peak international calls and five-minute off-peak international calls from one country to all other countries in the basket. Ireland continues to remain ahead of the EU 19 average but has fallen by one place to 3<sup>rd</sup> position.

**Figure 2.4.3.1 - OECD International Residential Basket – February 2009<sup>12</sup>**



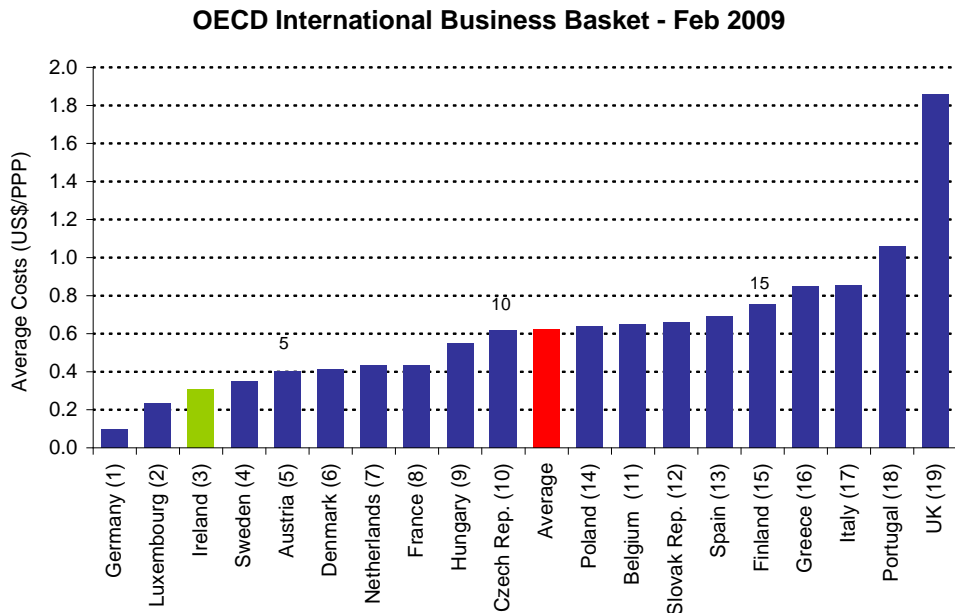
Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

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

### 2.4.4 OECD International Business Basket

As with the previous chart, figure 2.4.4.1 ranks 19 EU countries based on the cost of business three-minute peak international calls and five-minute off-peak international calls from one country to all other countries in the basket. Ireland has maintained its ranking of third place since February 2008, below the average of the 19 EU countries.

**Figure 2.4.4.1- OECD International Business Basket – February 2009**



Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

### 3 Internet and Broadband

#### 3.1 Total Internet Subscriptions

At the end of March 2009, there were over 1.47 million active internet subscriptions in Ireland. This is a 2.4% growth on the previous quarter and a 14.9% increase on March 2008. Overall, narrowband subscriptions have continued to decline since 2004. Flat-rate narrowband subscriptions fell by 16.9% and metered narrowband subscriptions decreased by 15.4% from the previous quarter.

Total broadband subscriptions continued to grow strongly in the quarter, up by 6% in the quarter and 28.2% since Q1 2008. Growth in broadband subscriptions this quarter was mainly driven by net increases in mobile broadband. If mobile broadband (HSDPA) subscriptions are excluded, growth for Q1 2009 was 2.9% and since Q1 2008, 13.8%.

Mobile broadband (via HSDPA, HSPA and 3G) showed the strongest signs of growth increasing by 14.8% in Q1 2009. In the twelve months to March 2009 mobile broadband subscriptions increased by 90.6%. Figure 3.1.1 shows the total number of narrowband and broadband subscriptions to internet services in Ireland.

**Figure 3.1.1 – Total Number of Active Internet Subscriptions**

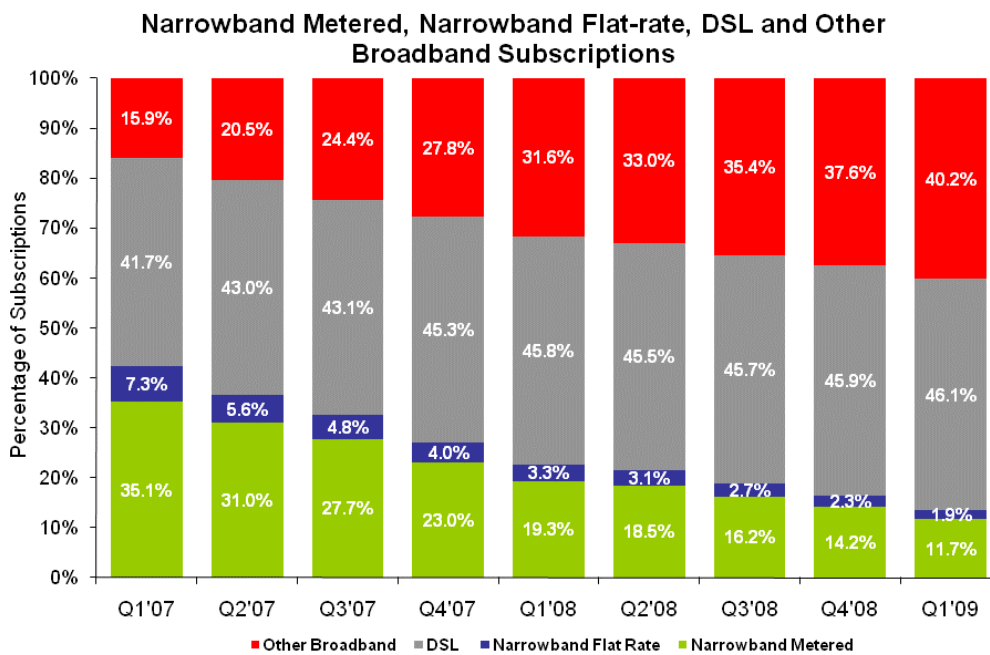
<b>Subscription Type</b>	<b>Q1'09 Subs</b>	<b>Quarterly Growth Q4'08- Q1'09</b>	<b>Year-on-Year Growth Q1'08- Q1'09</b>
<b>Metered Narrowband</b>	<b>172,758</b>	<b>-15.4%</b>	<b>-30.3%</b>
<b>Flat Rate Narrowband</b>	<b>27,675</b>	<b>-16.9%</b>	<b>-34.1%</b>
<b>DSL Broadband<sup>13</sup></b>	<b>679,578</b>	<b>+3.0%</b>	<b>+15.8%</b>
<b>Other Broadband<sup>14</sup></b>	<b>592,588</b>	<b>+9.7%</b>	<b>+46.3%</b>
<b>Total Internet Subscriptions</b>	<b>1,472,599</b>	<b>+2.4%</b>	<b>+14.9%</b>

<sup>13</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.

Figure 3.1.2 profiles internet subscriptions in Ireland using the classifications of subscription type outlined in figure 3.1.1. Broadband subscriptions account for 86.4% of all internet subscriptions. Figure 3.1.2 provides a profile for the periods Q1 2007 – Q1 2009 for historical trend purposes. However, the inclusion of mobile broadband subscriptions in the “Other Broadband” category from Q2 2007 means quarter on quarter comparisons should not be drawn between the current period and data prior to Q2 2007.

DSL subscriptions alone account for 46.1% of all internet subscriptions. DSL’s share of total internet subscriptions has increased by 4.5 percentage points over the last two years while metered narrowband and flat-rate narrowband’s combined share has fallen by 28.8 percentage points over the same period. Since mobile broadband subscriptions were included in Q2 2007, market share of the “Other Broadband” category has grown by 19.8 percentage points.

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



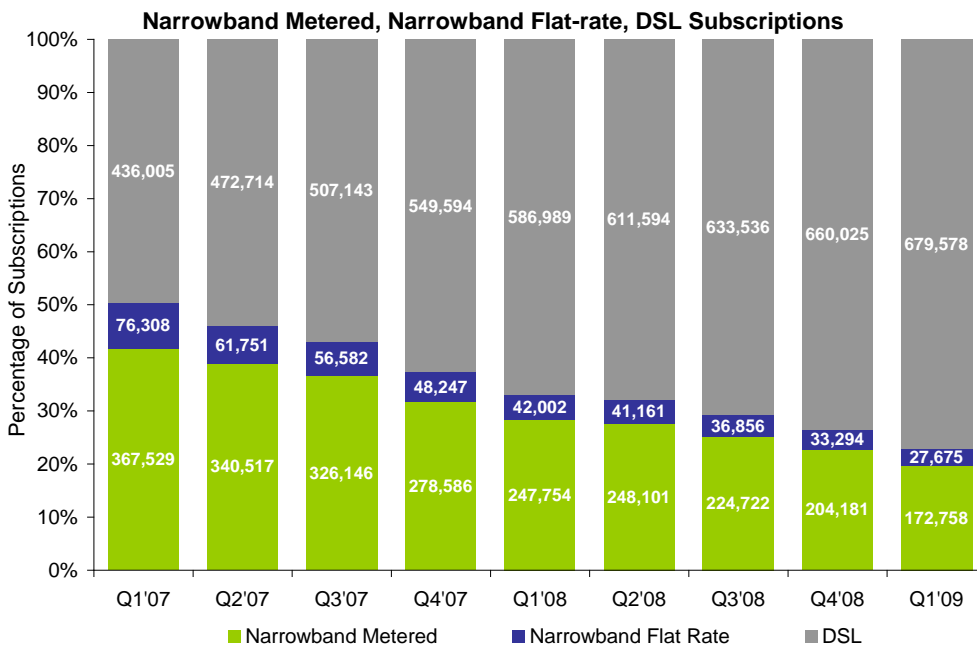
Source: Quarterly Key Data Questionnaire

14 Other Broadband includes cable broadband, fixed wireless access, fibre, satellite and mobile broadband connections.

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 880,001 active internet subscriptions over the copper telecoms network at the end of March 2009. This was a decline of 17,489 (-1.9%) in the total number of copper-based subscriptions since Q4 2008 due to falls in narrowband subscriptions.

DSL accounted for 77.2% of copper-based internet subscriptions in Q1 2009 compared to 73.5% in Q4 2008. Metered narrowband subscriptions accounted for 19.6% of internet subscriptions over copper compared to 22.8% in Q4 2008. Flat-rate narrowband subscriptions made up the remaining 3.1% of copper-based internet subscriptions compared to 3.7% in the previous quarter.

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



Source: Quarterly Key Data Questionnaire

The data presented in Figure 3.1.4 is sourced from comScore’s World Metrix, published in April 2009. The table shows the average monthly hours spent online per visitor and the average pages accessed per visitor at home and in the workplace for 17 countries including Ireland. Irish internet users spend five hours less time online than the average of the 16 European countries tabled below. The average number of pages accessed, per visitor, in Ireland is also substantially lower than the European average. However, usage in Ireland has increased when compared to comScore’s World Metrix results published in August 2008. The gap between Ireland and the European average has narrowed from eight to five hours spent online per visitor and from 1,129 to 575 average pages visited per visitor per month.

**Figure 3.1.4 – Internet Usage<sup>15</sup>**

<b>Country</b>	<b>Average Hours per Visitor</b>	<b>Average Pages per Visitor</b>
<i>Europe</i>	<b>22</b>	<b>2,216</b>
<b>Turkey</b>	<b>32</b>	<b>3,044</b>
<b>United Kingdom</b>	<b>29</b>	<b>2,482</b>
<b>France</b>	<b>28</b>	<b>2,971</b>
<b>Finland</b>	<b>26</b>	<b>2,777</b>
<b>Netherlands</b>	<b>25</b>	<b>2,712</b>
<b>Sweden</b>	<b>25</b>	<b>2,712</b>
<b>Spain</b>	<b>25</b>	<b>2,398</b>
<b>Germany</b>	<b>22</b>	<b>2,601</b>
<b>Norway</b>	<b>21</b>	<b>1,921</b>
<b>Switzerland</b>	<b>20</b>	<b>2,011</b>
<b>Belgium</b>	<b>19</b>	<b>2,032</b>
<b>Italy</b>	<b>19</b>	<b>1,790</b>
<b>Portugal</b>	<b>19</b>	<b>1,725</b>
<b>Denmark</b>	<b>18</b>	<b>1,890</b>
<b>Ireland</b>	<b>17</b>	<b>1,641</b>
<b>Russia</b>	<b>15</b>	<b>2,228</b>
<b>Austria</b>	<b>14</b>	<b>1,562</b>

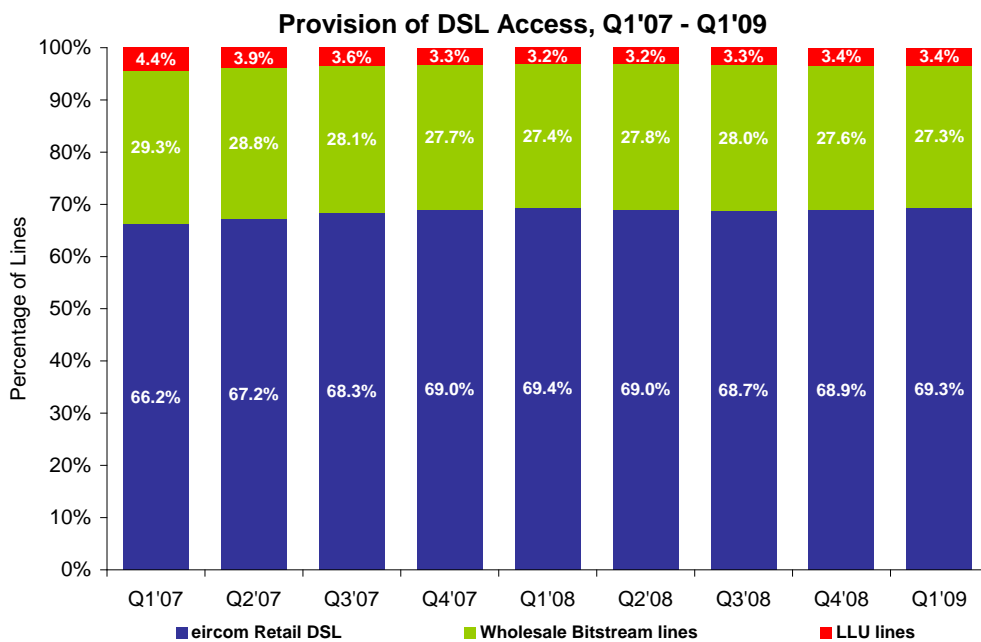
<sup>15</sup> Source: comScore World Metrix, April 2009. Based on unique visitors aged 15+, excludes traffic from public computers such as internet cafes or access from mobile phones or PDAs.

### 3.2 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 69.3% of all DSL subscriptions in March 2009. Retail DSL may also be provided by alternative operators (OAOs) who use either wholesale bitstream, which enables OAOs to resell another operator’s DSL service, or by offering DSL-based broadband using local-loop unbundling (LLU).

At the end of March 2009, 27.3% of all DSL lines were provided by OAOs using wholesale bitstream, and the remaining 3.4% of DSL lines were provided to subscribers by OAOs using local-loop unbundling. Eircom’s market share of retail DSL lines has grown by 3.1 percentage points over the last two years.

**Figure 3.2.1 - Provision of DSL Access**

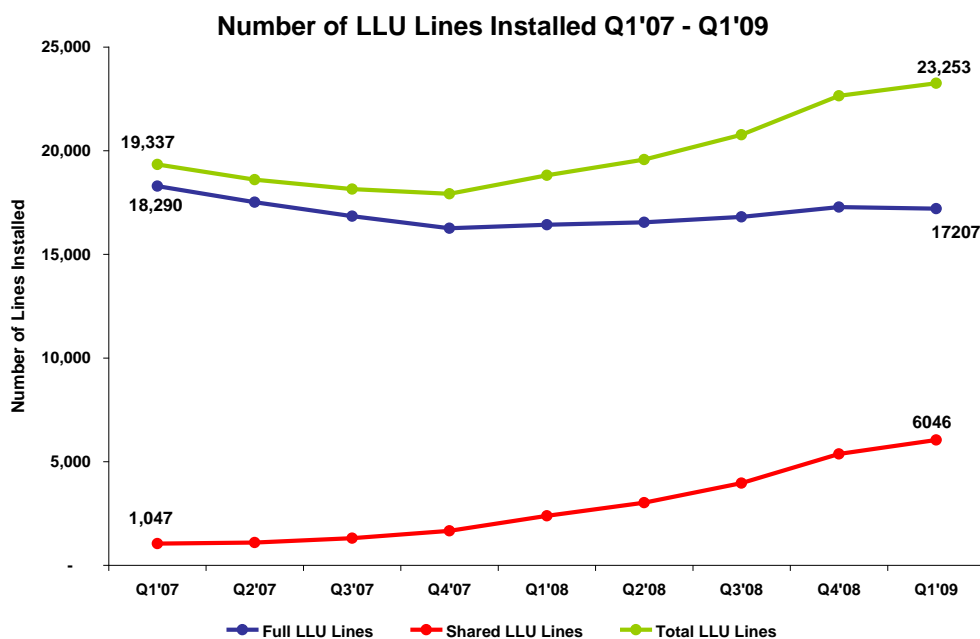


Source: Quarterly Key Data Questionnaire

Figure 3.2.2 shows the number of unbundled lines classified by shared and full<sup>16</sup> status. Between Q1 2007 and Q1 2009 the total number of LLU lines increased by 20.3%. In Q1 2009 total LLU lines grew by 2.7%, the slowest quarterly growth rate over the last year.

Fully unbundled lines accounted for 74% of total LLU lines in Q1 2009. The proportion of shared lines relative to the total number of LLU lines has continued to increase over the last two years, showing strongest growth in the last year. In Q1 2007, shared LLU lines accounted for only 5.4% of all LLU lines while in Q1 2009 they accounted for 26% of all LLU lines.

**Figure 3.2.2 – Number of Local Loops Unbundled**



Source: Quarterly Key Data Questionnaire

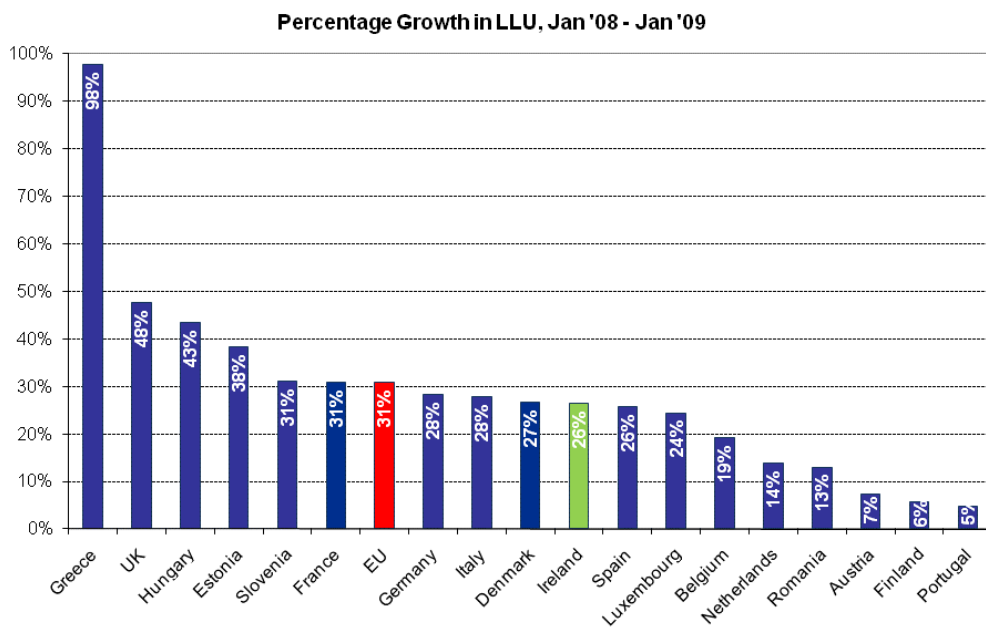
<sup>16</sup> Full LLU and shared LLU are two ways a copper loop may be unbundled. While full LLU assigns the entire copper loop to the leasing operator, shared LLU enables other operators and the incumbent to share the same line. With shared access consumers can acquire voice and data services from an operator or alternatively data services alone while retaining the voice services of the incumbent.



Although the number of LLU lines continued to increase, figure 3.2.3 shows that growth in Ireland’s LLU lines lagged the EU average by 5 percentage points as of January 2009. Using data provided in the 14<sup>th</sup> EU Implementation Report, LLU lines for Ireland grew by 26% in the year to January 2009.

The average European growth was 31%. Greece, the UK, and Hungary showed strong growth during this period.

**Figure 3.2.3 – Growth in European Unbundled Local Loops**



Source: 14th EU Implementation Report

### 3.3 Provision of Broadband Services

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

High Speed DownLink Packet Access (HSDPA) provides mobile broadband access to a large 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 the Q2 2007<sup>17</sup> report.

At the end of March 2009, there were 1,272,166 broadband subscriptions in Ireland. This represents a growth rate of 6% in the number of subscriptions for this quarter. FWA subscriptions declined by 1.7% in Q1 2009. This is a 4.4% decrease since FWA subscriptions peaked in Q1 2008.

Mobile broadband showed the highest growth of all platforms this quarter, growing by 14.8% in Q1 2009. Between Q1 2008 and Q1 2009 mobile broadband subscriptions have increased by 90.6% while total broadband subscriptions grew by 28.2%.

**Figure 3.3.1 – Broadband Subscriptions<sup>18</sup> and Growth Rates by Platform**

<b>Platform</b>	<b>Q1'09 Subs</b>	<b>Quarterly Growth Q4'08 – Q1'09</b>	<b>Year-on-Year Growth Q1'08 – Q1'09</b>
<b>DSL</b>	<b>679,578</b>	<b>+3.0%</b>	<b>+15.8%</b>
<b>Cable</b>	<b>112,966</b>	<b>+8.6%</b>	<b>+27.4%</b>
<b>FWA</b>	<b>116,461</b>	<b>-1.7%</b>	<b>-4.4%</b>
<b>Other<sup>19</sup></b>	<b>8,487</b>	<b>-2.3%</b>	<b>+0.4%</b>
<b>Sub-Total</b>	<b>917,492</b>	<b>+2.9%</b>	<b>+13.8%</b>
<b>Mobile Broadband</b>	<b>354,674</b>	<b>+14.8%</b>	<b>+90.6%</b>
<b>Total</b>	<b>1,272,166</b>	<b>+6%</b>	<b>+28.2%</b>

17 In Q2 2007 an estimate of 45,000 mobile broadband subscriptions was used.

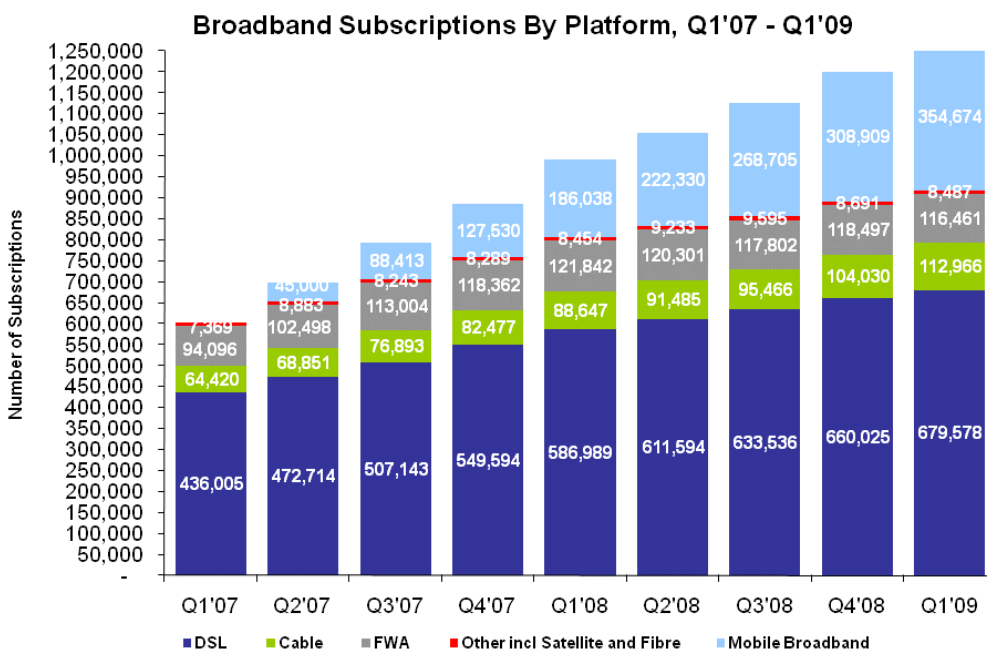
18 ComReg notes that the data provided in this section relates to active subscriptions reported by operators. It takes into account multiple active subscriptions to broadband offerings by individual subscribers.

19 Other Broadband includes Satellite and Optical Fibre broadband subscriptions.

DSL remains the largest broadband access platform in terms of subscriptions, accounting for 53.4% of all broadband subscriptions, which is a slight decrease of DSL’s share of broadband since Q4 2008 (55%). Other platforms account for the remaining 46.6% of connections.

Figure 3.3.2 illustrates the growth in total broadband subscriptions in the Irish market since Q1 2007. Mobile broadband subscriptions were included in figure 3.3.2 for the first time in Q2 2007. Therefore total subscriptions levels since Q2 2007 in figure 3.3.2 are not directly comparable with previous periods.

**Figure 3.3.2 – Broadband Subscriptions by Platform**



Source: Quarterly Key Data Questionnaire

Figure 3.3.3 displays the fixed broadband market among the EU27 countries by technology type. For the vast majority of countries (including Ireland) DSL is the main means of broadband access. In a number of countries DSL is or is almost the only means of broadband access, e.g. Greece, while in a number of emerging broadband markets, such as Romania and Bulgaria, DSL represents comparatively less of the broadband market. Ireland has the 10<sup>th</sup> highest proportion of DSL concentration in the fixed broadband market (excludes mobile broadband) among the EU27 countries.

**Figure 3.3.3 – Fixed Broadband Lines by Technology**

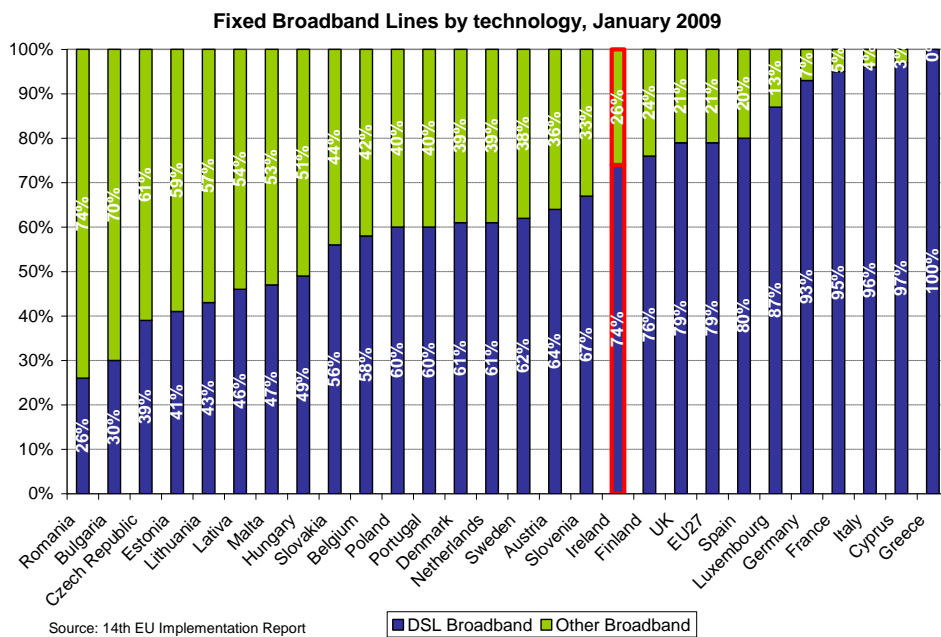


Figure 3.3.4 shows the number of broadband net additions by platform for each quarter since Q1 2007. Although DSL remains the main means of broadband access to the internet, mobile broadband has been the largest contributor to new broadband growth in each quarter since Q1 2008. In total, there were 72,014 net additions to broadband this quarter, compared to 75,048 in Q4 2008.

Mobile broadband grew by 45,765 customers in Q1 2009, a 13.8% increase on the number of mobile broadband additions since the last quarter. DSL added 19,553 subscriptions in Q1 2009, a decrease of 26.2% on Q4 2008. Since Q1 2007, net DSL additions have declined by 65.6%.

In contrast, net additions to cable continued to increase this quarter reaching 8,936. FWA subscriptions decreased by just over 2,000 subscriptions, while subscriptions in the “Other Broadband” category declined again this quarter.

**Figure 3.3.4 – Quarterly Broadband Net Additions**

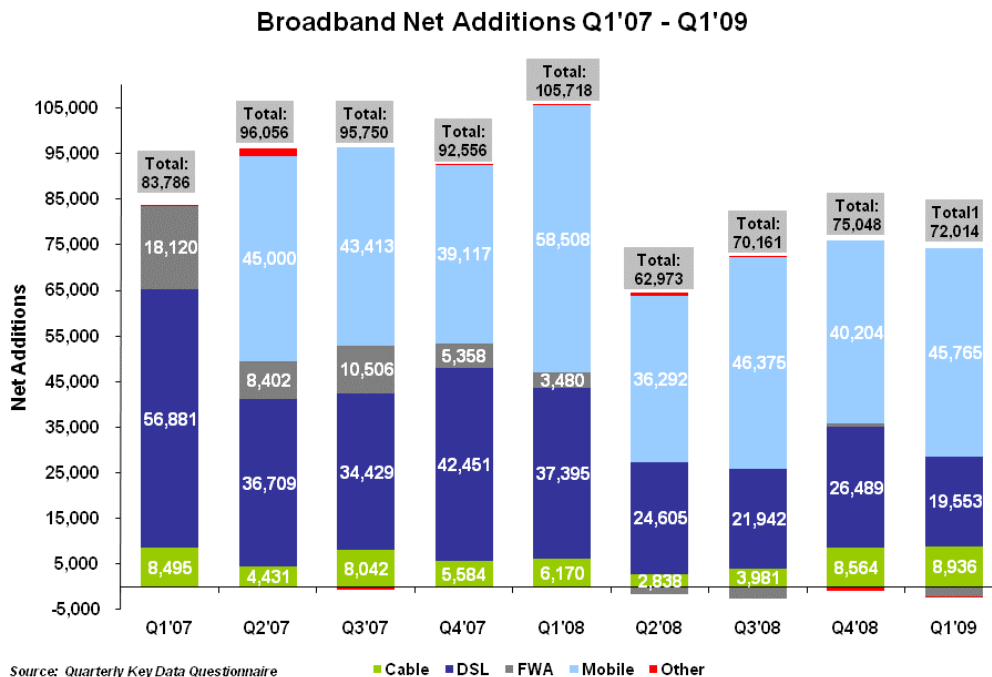


Figure 3.3.5 provides an estimate of the proportion of business and residential subscriptions to DSL, cable, fixed wireless, mobile broadband, fibre and satellite broadband services. At the end of March 2009, 79.2% of broadband subscriptions on all platforms were residential broadband subscriptions, compared to 78.4% in Q4 2008. The platform with the highest percentage of residential subscriptions is cable broadband, while satellite and fibre broadband lines (classified as “Other”) have the highest percentage split of business customers.

**Figure 3.3.5 – Broadband Subscriptions by Subscription Type**

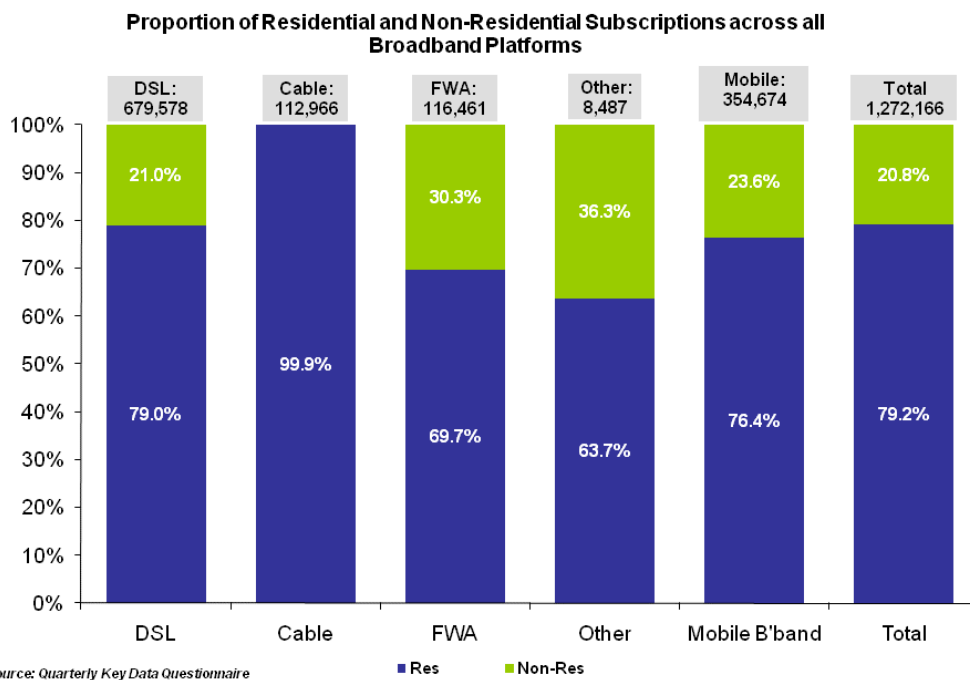
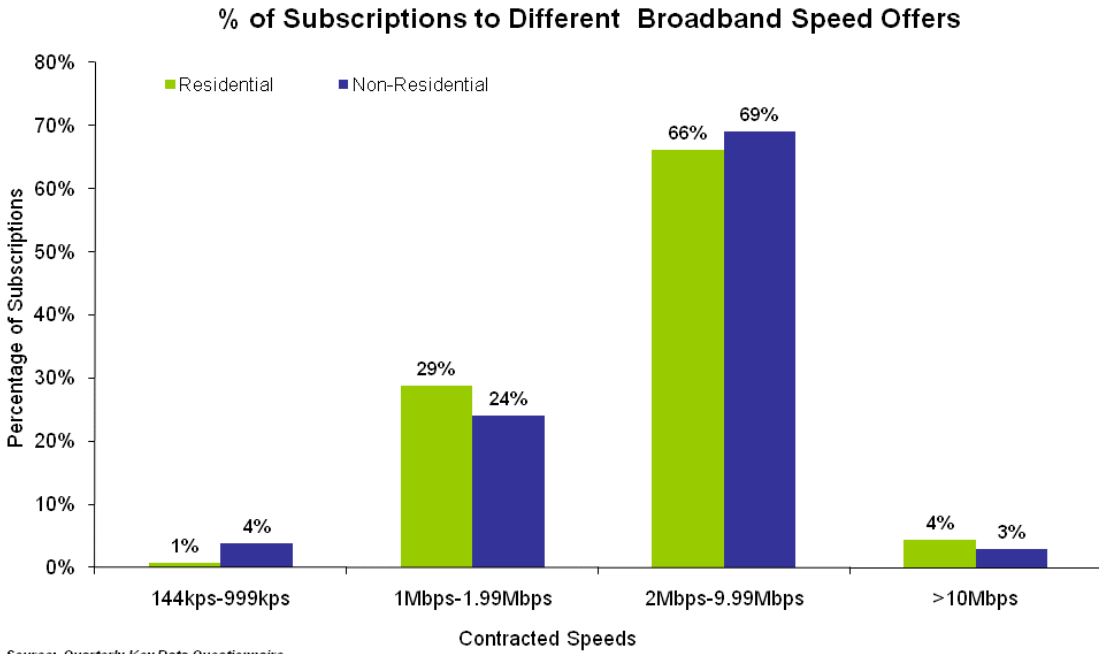


Figure 3.3.6 illustrates the breakdown of broadband subscriptions by contracted speed across all broadband platforms. The chart shows that both residential and business users are more likely to subscribe to packages of between 2Mbps - 10Mbps. The trend of customers moving to higher speeds has continued in Q1 2009. Four per cent of residential users and 3% of business consumers have subscriptions in the >10Mbps range. The percentage of business consumers in each speed category has remained relatively unchanged since the last quarter.

**Figure 3.3.6 – Broadband Subscriptions by Contracted Download Speeds**



Source: Quarterly Key Data Questionnaire

Figure 3.3.7 shows the percentage breakdown of fixed broadband speeds as of January 2009. Mobile broadband subscriptions are not analysed in this chart. As per the EU average, in Ireland 2 – 10 Mbps is the most commonly contracted download speed.

**Figure 3.3.7 – Fixed Broadband Lines by Speed, January 2009**

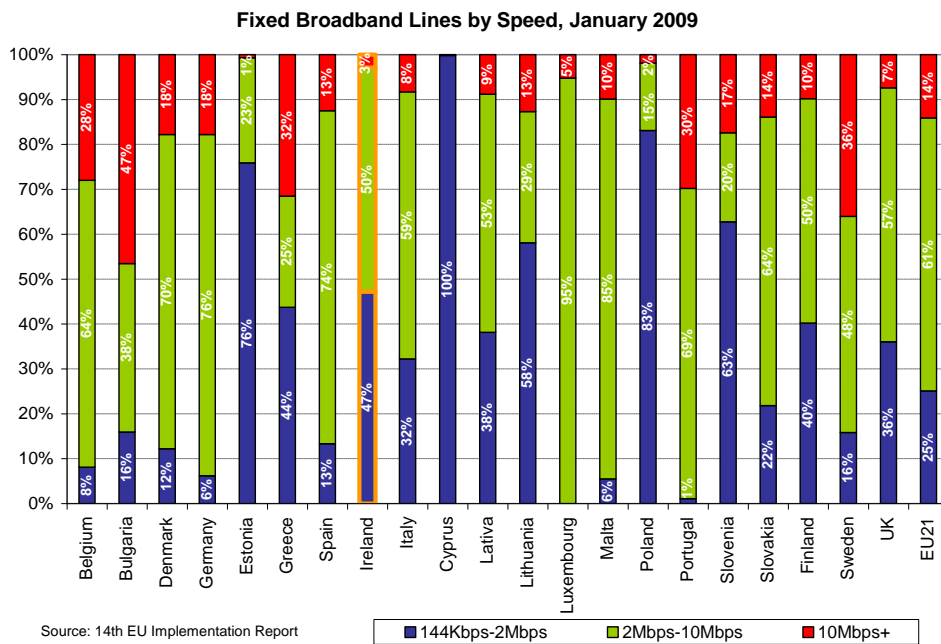


Figure 3.3.8 illustrates Eircom’s market share of total broadband subscriptions when compared to other authorised operators’ (OAO) share of overall broadband subscriptions, including DSL and alternative access technologies (which includes mobile broadband subscriptions). In this period, Eircom’s market share was 37.1% for retail broadband subscriptions, compared to 37.9% in Q4 2008. The remaining 62.9% share 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 3.3.8 – Market Share of Total Broadband Market**

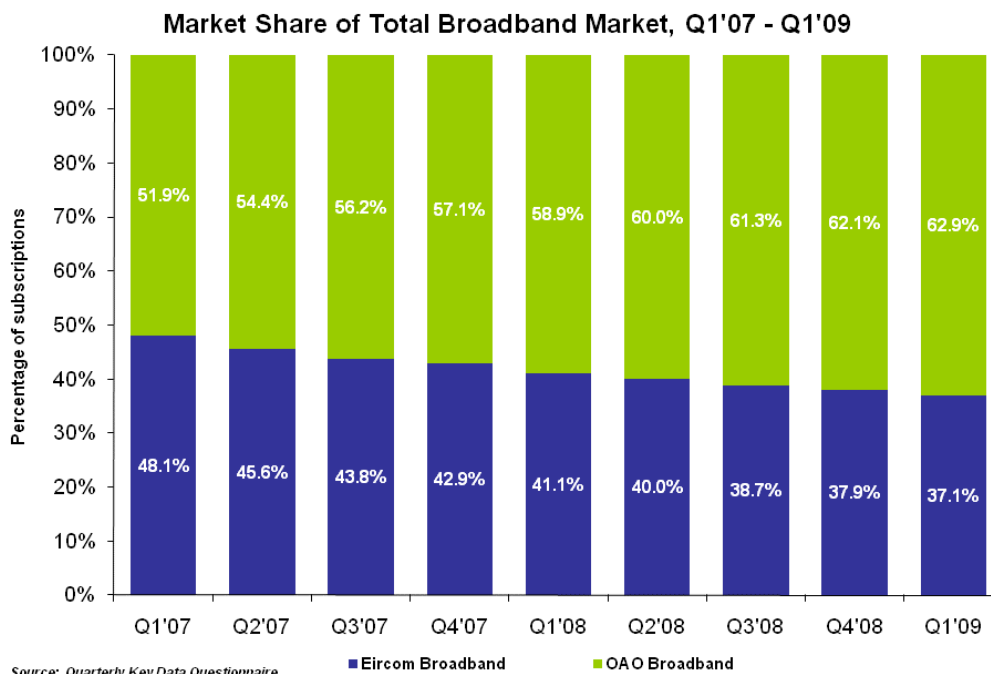


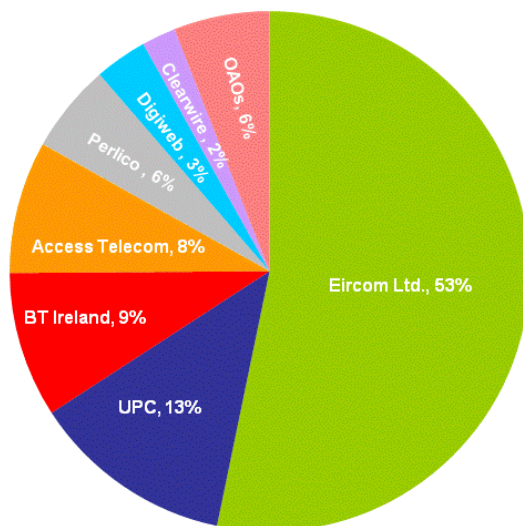


Figure 3.3.9 provides the market share of fixed broadband operators by number of subscriptions. ADSL, cable modem, FWA, satellite and FTTX subscriptions are all included in the total broadband subscriptions figure which is used to calculate market shares.

Operators with a market share of 2% or more are shown in the chart below. All those operators with less than 2% of total fixed broadband subscriptions are then grouped together under OAOs. According to the data received from operators for Q1 2009, Eircom has 53% of total fixed broadband subscriptions, while UPC has 13% of subscriptions. BT has a 9% market share and Access, Perlico, Digiweb and Clearwire together make up 19% of the fixed broadband market. All other operators combined account for 6% of the fixed broadband market in terms of subscriptions.

**Figure 3.3.9 – Subscription Market Share of Fixed Broadband Market**

**Fixed Broadband Market Share (Subscriptions), Q1 2009**



Source: Quarterly Key Data Questionnaire

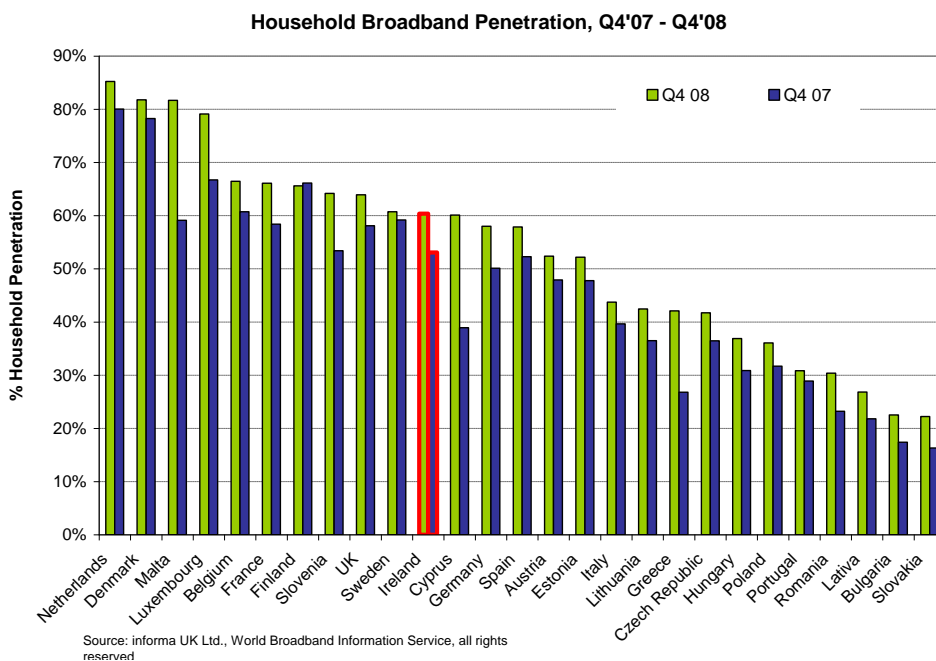
In presenting broadband penetration benchmarks for European countries, ComReg uses the OECD, the European Competitive Telecoms Association (ECTA) or European Commission data. ComReg will endeavour to publish this data on a quarterly basis as detailed in Figure 3.3.10. The data presented is based on the most recently published statistics at the time of publication.

**Figure 3.3.10 – Broadband Data Sources**

Source	Publish Date	Data Period as of	Included in ComReg Quarterly Report
ECTA	September 2009	March 2009	Q2'09
OECD	October 2009	June 2009	Q3'09
ECTA	March 2010	December 2009	Q4'09
European Commission	March 2010	January 2010	Q1'10

Figure 3.3.11 provides a year on year cross country comparison of household broadband penetration rates based on data sourced from Informa UK Ltd. Based on the data used by Informa<sup>20</sup>, Ireland’s household penetration for Q4 2008 is 60.4%. Ireland ranks 11<sup>th</sup> among the EU27 countries benchmarked, maintaining its position since Q4 2007. The Netherlands and Denmark continue to have the highest household broadband penetration with 85.3% and 81.8% respectively.

**Figure 3.3.11 – EU Household Broadband Penetration Rates**

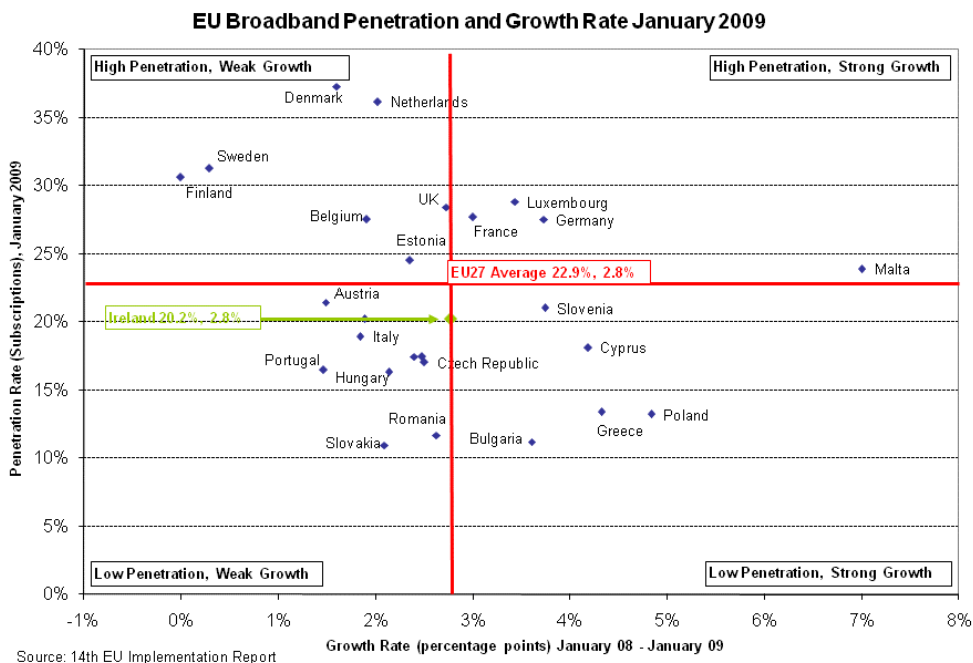


<sup>20</sup> Informa estimate that there are 1,561,068 households in Ireland as of Q4 2008.

The total number of broadband subscriptions in Ireland for Q1 2009 was 1,272,166. The broadband per capita penetration rate in Q1 2009 was 28.8% compared to 27.1% in the last quarter. When mobile broadband is excluded, the penetration rate is 20.7%. These figures are based on a population of 4,422,100 from Central Statistics Office (CSO) data.<sup>21</sup>

Figure 3.3.12 illustrates fixed broadband per capita penetration rates for EU countries as of January 2009. The EU’s 14<sup>th</sup> Implementation Report has calculated Ireland’s broadband penetration at 20.2% on the basis of a population size of 4.4 million. Ireland’s penetration rate is below the EU27 average of 22.9% but Ireland has experienced the same growth rate as the EU27 average between January 2008 and January 2009 of 2.8 percentage points. Malta experienced the highest growth rate over the period (7%), which contrasts to others such as Finland which experienced no growth over the period. This is likely to be a reflection of the degree of broadband penetration in each market, among other factors.

**Figure 3.3.12 – EU Fixed Broadband Penetration and Growth**



21 <http://www.cso.ie/releasespublications/documents/population/current/popmig.pdf>

### 3.4 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, or other portable device such as an iPhone can connect to the internet. A WiFi hotspot can be made up of one or more WiFi access points<sup>22</sup>.

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.

The number of WiFi access points increased by 41.8% between Q1 2008 and Q1 2009. The number of WiFi Hotspots has increased by 16.2% since Q1 2008. In Q1 2009 there were approximately 18.9 million WiFi minutes of use in Ireland, a decrease of almost 7% from the previous quarter. This quarterly change is based on a revised figure of 20,297,726 minutes of use for Q4 2008.

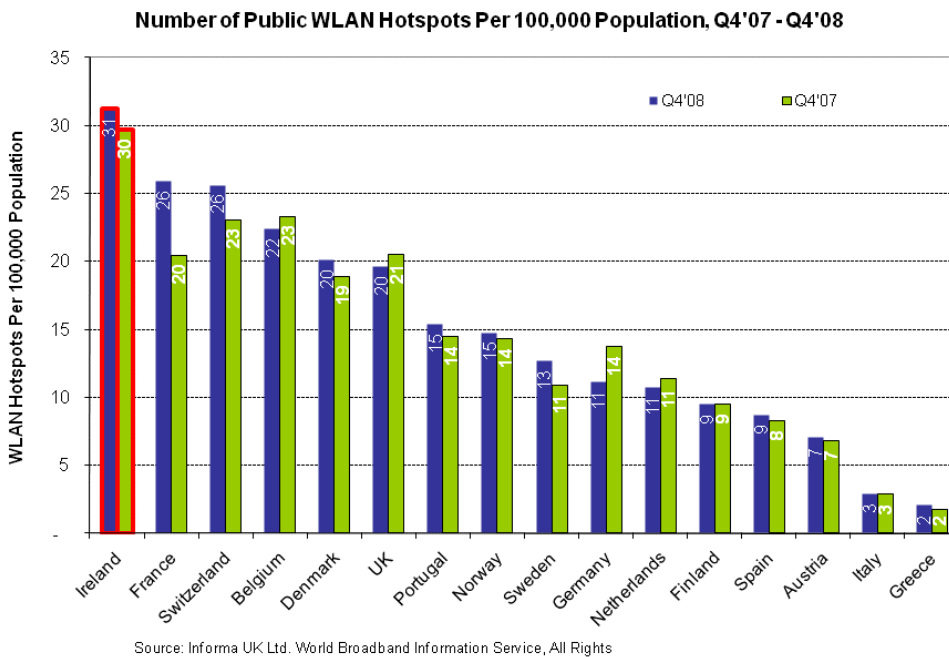
**Figure 3.4.1 – WiFi Hotspots, Access Points and Minutes of Use**

	<b>Q1 2009</b>	<b>Q4'08-Q1'09 Growth</b>	<b>Q1'08-Q1'09 Growth</b>
<b>WiFi Hotspots</b>	<b>1,419</b>	<b>-0.7%</b>	<b>+16.2%</b>
<b>WiFi Access Points</b>	<b>3,379</b>	<b>+2.5%</b>	<b>+41.8%</b>
<b>WiFi Minutes of Use</b>	<b>18,920,776</b>	<b>-6.8%</b>	<b>-</b>

<sup>22</sup> Hotspots are typically public locations at which broadband internet access can be obtained. At these hotspots, users with a computer (usually a laptop) can wirelessly connect to the internet either for free or on payment of a fee. Typical locations for such hotspots include cafes and restaurants, hotels and airports. In general terms, more than one access point can be found at a hotspot.

Figure 3.4.2 below shows a comparison of public WLAN hotspots among 16 European countries based on data from Informa. As with most countries the number of WLAN hotspots per 100,000 population has remained relatively constant for Ireland over the year to December 2008. Among these Western European countries, France experienced the biggest increase in public hotspots per 100,000 population, while Germany witnessed the biggest decrease in the number of hotspots per 100,000 population over the year. Ireland continues to have more public WLAN hotspots per 100,000 population among the countries benchmarked in the chart.

**Figure 3.4.2 – European Public WLAN Hotspots**



### 3.5 ADSL Pricing Data<sup>23</sup>

In this report broadband tariff baskets have been supplied by Teligen using their T-Connect product. 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.

The data presented in the following charts illustrates the cheapest product available in each country from the incumbent operator under these usage assumptions for residential and business DSL and cable offerings. These packages are based on advertised download speeds. The charts below represent speed categories of 1 – 4 Mbps in the residential market and 4-10 Mbps in the business market. More specific details on the upload and download speeds for each of the analysed products are included in the chart.

The speed categories 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 broadband basket can be found in the Explanatory Memorandum which accompanies this report<sup>24</sup>.

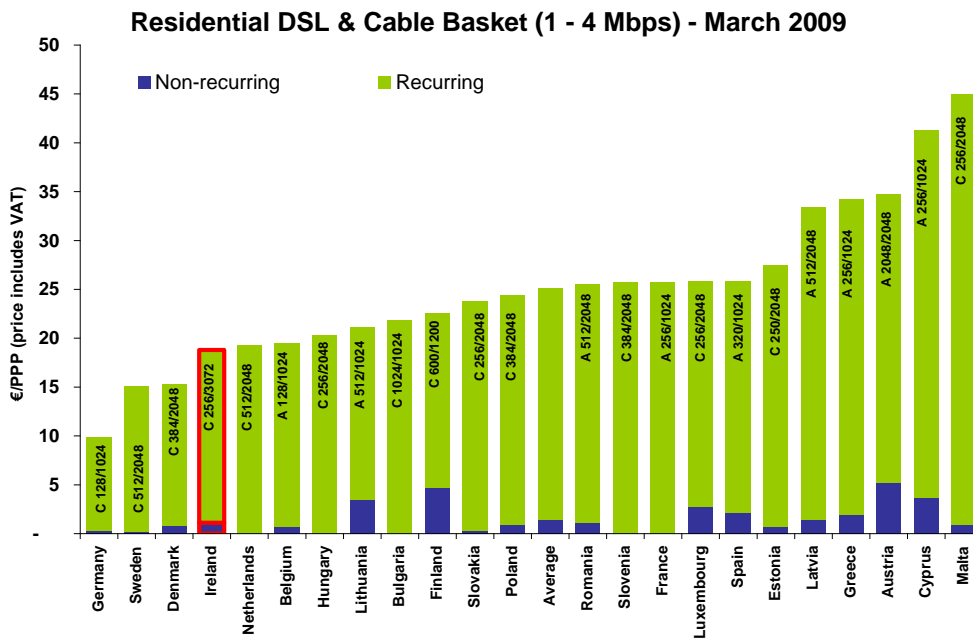
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<sup>23</sup> This section does not include broadband tariff packages that are offered as special promotions. All tariffs are inclusive of VAT. VAT rates vary between Member States.

<sup>24</sup> ComReg Document 09/50a

The lowest monthly residential DSL & cable baskets for the 1-4 Mbps speed category are charted in figure 3.5.1. Ireland ranks in 4<sup>th</sup> place among this group of 24 European countries. Ireland is nine places ahead of the European average. The Irish broadband product benchmarked is UPC’s Broadband Value package.

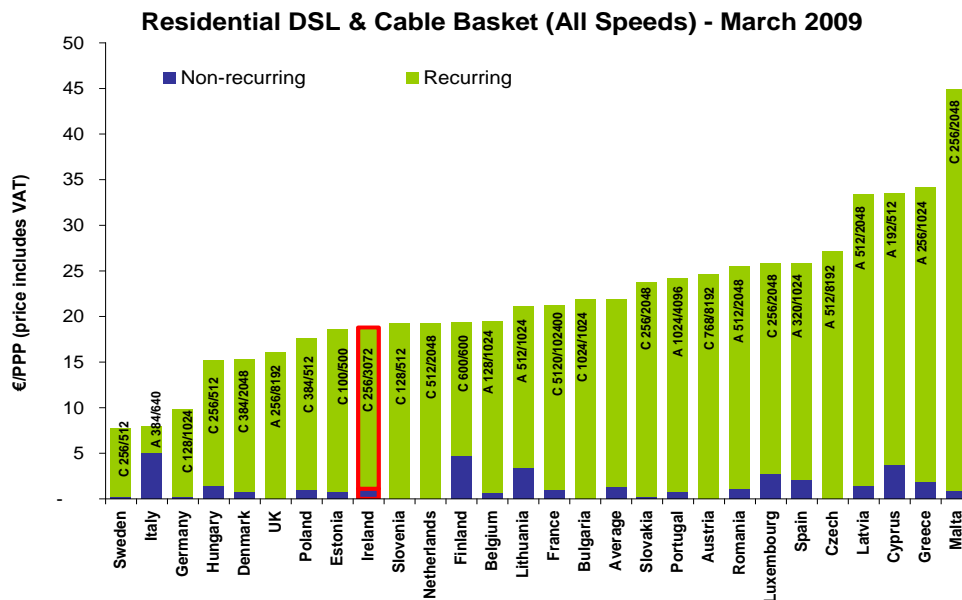
**Figure 3.5.1 – Lowest Monthly Rental Residential DSL & Cable Basket (1 – 4 Mbps)**



Source: Teligen (A = ADSL, C = Cable)

The lowest monthly residential DSL & cable baskets for all speeds are charted in figure 3.5.2. Ireland ranks in 9<sup>th</sup> place in this group of 28 European countries, eight places ahead of the European average. The Irish broadband product benchmarked is the UPC Broadband Value package.

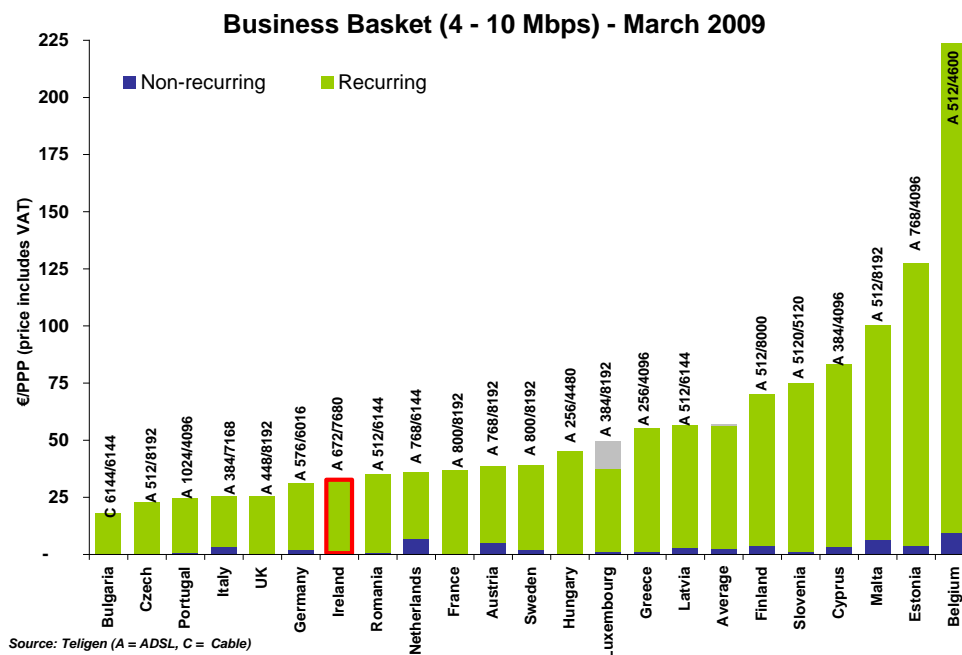
**Figure 3.5.2 – Lowest Monthly Rental Residential DSL & Cable Basket (All Speeds)**



Source: Teligen (A = ADSL, C = Cable)

The lowest monthly business DSL baskets are charted in figure 3.5.3. Ireland ranks in 7<sup>th</sup> place when the results for this group of 23 European countries are compared. Ireland is ten places ahead of the European average.

**Figure 3.5.3 – Lowest Monthly Business DSL Basket (4-10Mbps)**



Source: Teligen (A = ADSL, C = Cable)



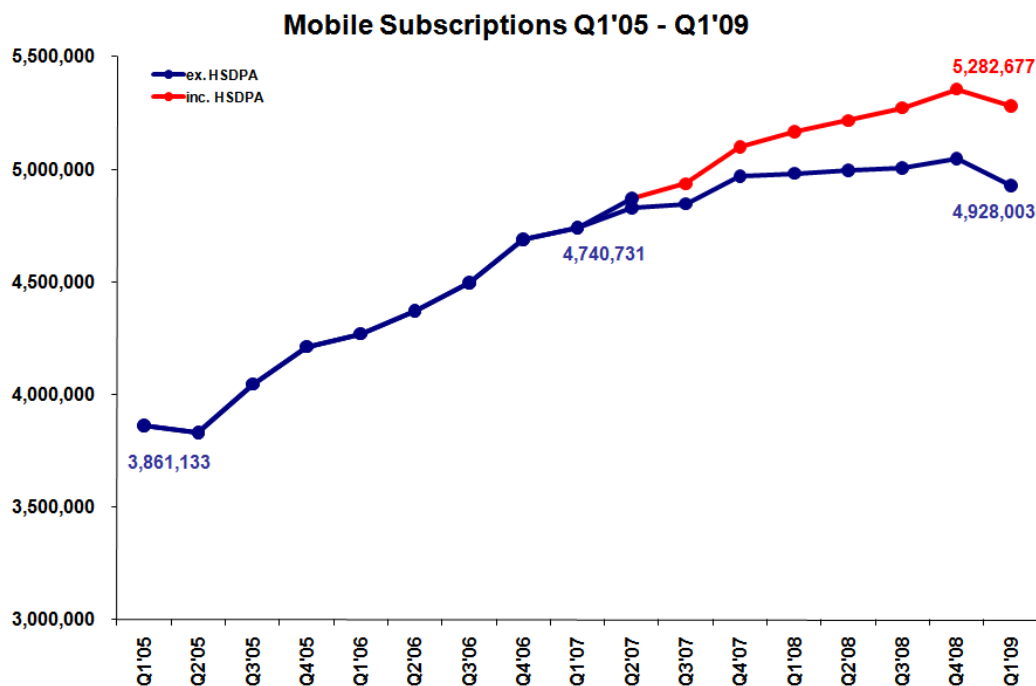
## 4 Mobile Market Data

### 4.1 Number of Subscriptions and Penetration Rate

At the end of March 2009 there were 5,282,677 mobile subscriptions in Ireland. HSDPA mobile broadband subscriptions are included in this figure. If HSDPA subscriptions (354,674 this quarter compared to 308,909 in Q4 2008) are excluded, the total number of mobile subscriptions in Ireland was 4,928,003. This is the first time that there has been a net decline in mobile subscriptions in four years. Vodafone’s change of definition this quarter for active pre-paid subscriptions (including customers who have made or received a call/SMS/charging event in the previous 3 months) may, in part, be behind the decline in subscriptions.

Excluding mobile broadband, subscriptions have declined by 2.4% this quarter and have fallen by 1.1% since the same period last year. Including mobile broadband, subscriptions have fallen by 1.4% this quarter but have grown by 2.2% since Q1 2008. A historical plot is provided below in Figure 4.1.1.

**Figure 4.1.1 – Mobile Subscriptions**



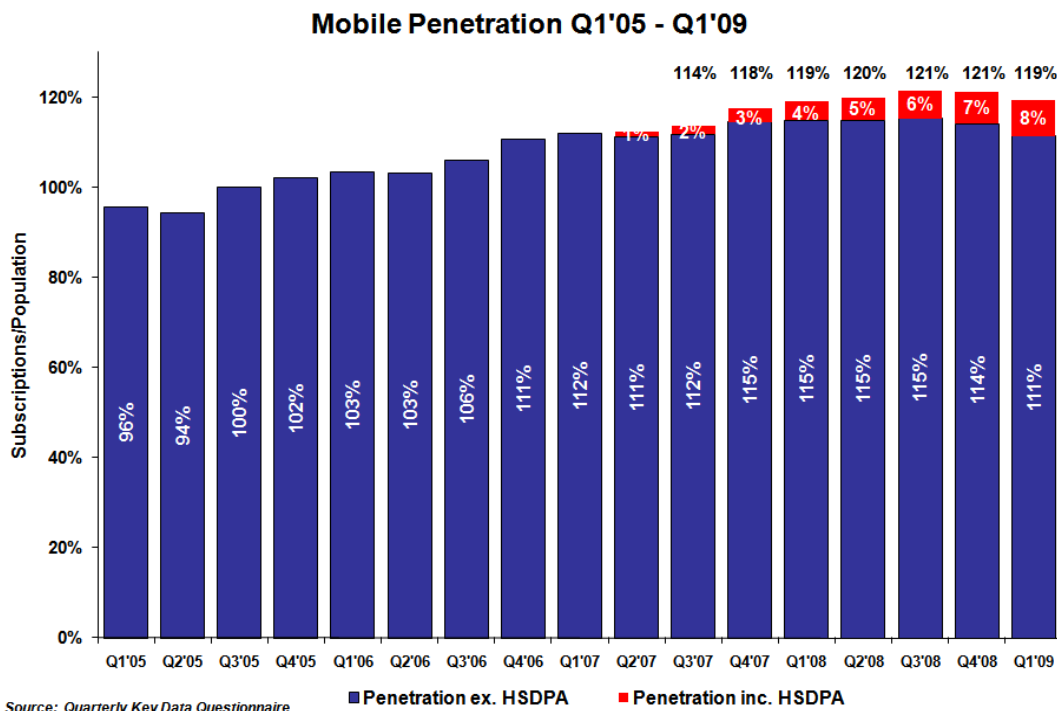
Source: Quarterly Key Data Questionnaire

Figure 4.1.2 illustrates the growth in mobile penetration since Q1 2005 and notes that at the end of March 2009, mobile penetration, based on a population of 4,422,100 (using a CSO April 2008 estimate), was 119.4%<sup>25</sup>.

Total mobile subscriptions decreased by over 74,000 this quarter. Mobile penetration is recognised as the standard metric internationally to measure the adoption of mobile services, and is calculated based on the number of active SIM cards<sup>26</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. ComReg’s calculation of mobile subscriptions now includes active SIMs bundled with HSDPA datacards and USB modems for internet access via laptops/PCs as well as SIM cards used in mobile phones for voice and data services since Q2 2007.

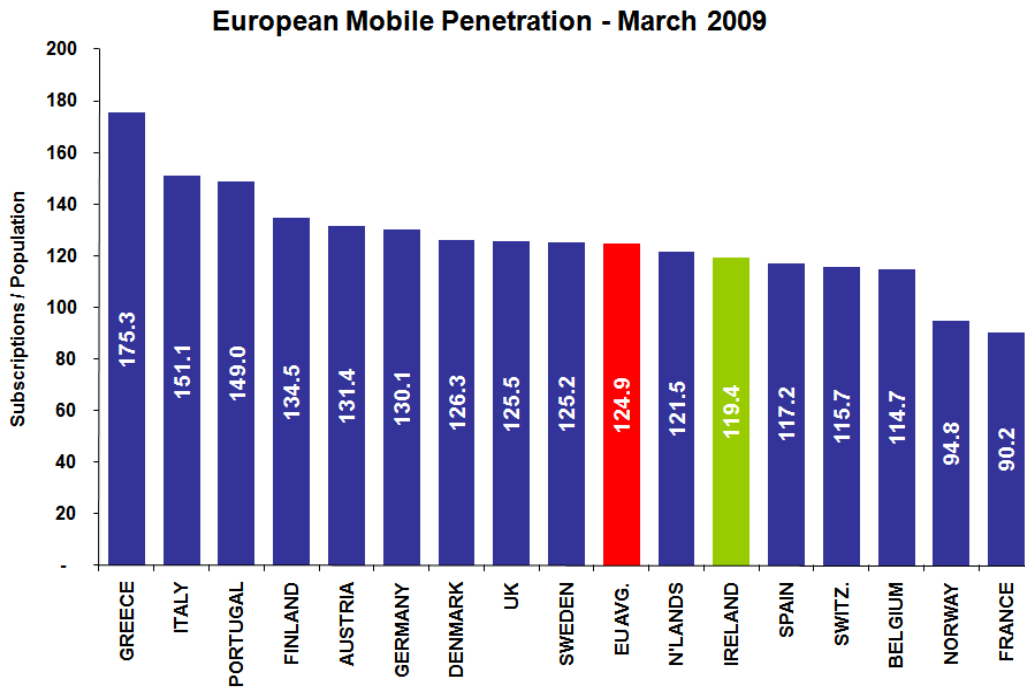
**Figure 4.1.2 – Irish Mobile Penetration Rate**



25 Figures since Q2 2007 have been amended in this chart to include HSDPA subscriptions.

Figure 4.1.3 illustrates the estimated national mobile penetration rates across sixteen European countries as of March 2009. Ireland (119.4%) is behind the EU average of 124.9%.<sup>27</sup> Greece, Italy and Portugal remain the three European countries with the highest mobile penetration while France, according to Yankee Group data, lags some way behind with only 90.2% penetration. A number of countries have seen declines in penetration this quarter, possibly due to the downturn in international economies.

**Figure 4.1.3 – European Mobile Penetration Rates**



Source: Yankee Group

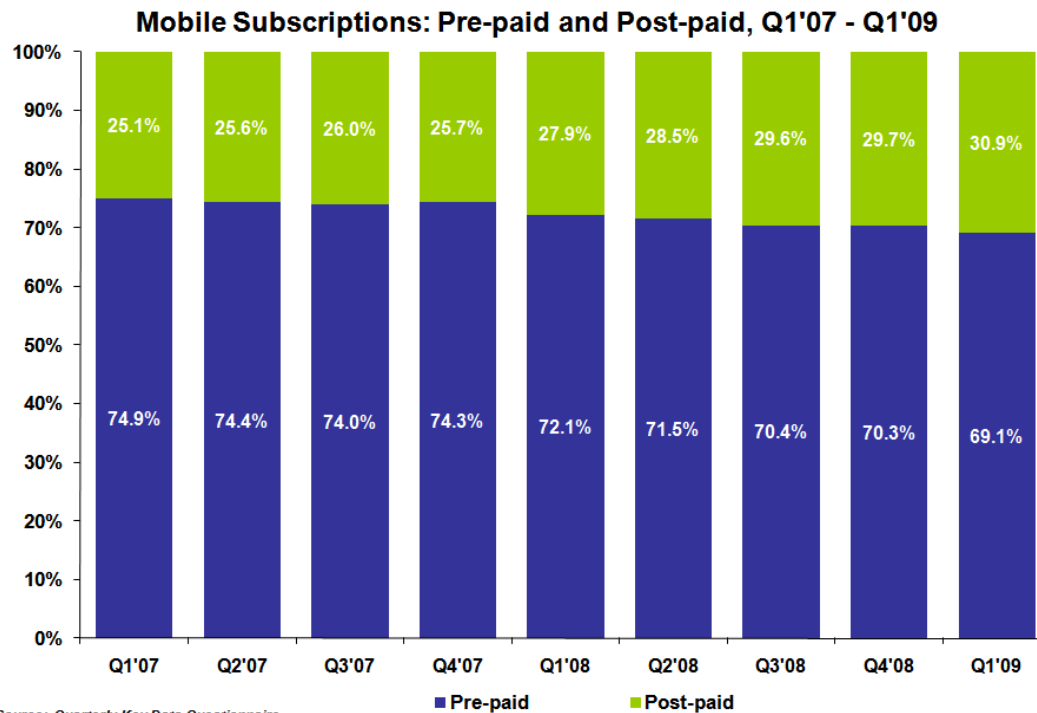
<sup>27</sup> Irish data sourced from ComReg includes mobile broadband subscriptions. Not all countries in this chart may include mobile broadband subscriptions.

## 4.2 The Profile of Mobile Subscriptions in Ireland

Mobile users 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 4.2.1 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 March 2009<sup>28</sup>.

Although the pre-paid and post-paid subscription split has seen little change since 2006, there has been a progressive shift towards post-paid subscriptions. This quarter for the first time over 30% of subscriptions are post-paid. The proportion of post-paid subscriptions increased in Q1 2008 due to the inclusion of mobile broadband datacards and USB modems and has increased by three percentage points since then.

**Figure 4.2.1 – Proportion of Pre-Paid and Post-Paid Subscriptions**



<sup>28</sup> Mobile broadband subscriptions (HSDPA) are included only from Q1 2008 in this chart.

Figure 4.2.2 shows the pre-paid and post-paid subscription profile for each of the mobile operators in the Irish market (mobile broadband subscriptions are included). The majority of Vodafone’s subscription base is pre-paid. As of Q1 2009, 69.5% of Vodafone’s subscriptions are pre-paid compared to 70.1% in the previous quarter. The majority of O2 and Meteor’s subscription bases are also pre-paid. O2 has 61.8% pre-paid subscriptions, which is a slight change from the previous quarter (62.7%). Meteor has 87.1% pre-paid subscriptions compared to 87.3% in Q4 2008.

3 Ireland’s subscription base is more evenly split between post-paid and prepaid subscriptions than any of the other operators. 48.8% of its subscriptions are post-paid and 51.2% are pre-paid. Eircom Mobile, which is a business only service, has the highest proportion of post-paid customers with all of its subscriptions in the post-paid category. Tesco Mobile reports the largest proportion of pre-paid subscriptions, with its entire subscriptions base using the pre-paid payment option.

**Figure 4.2.2 – Profile of Pre-Paid and Post-Paid Subscriptions – by Operator**

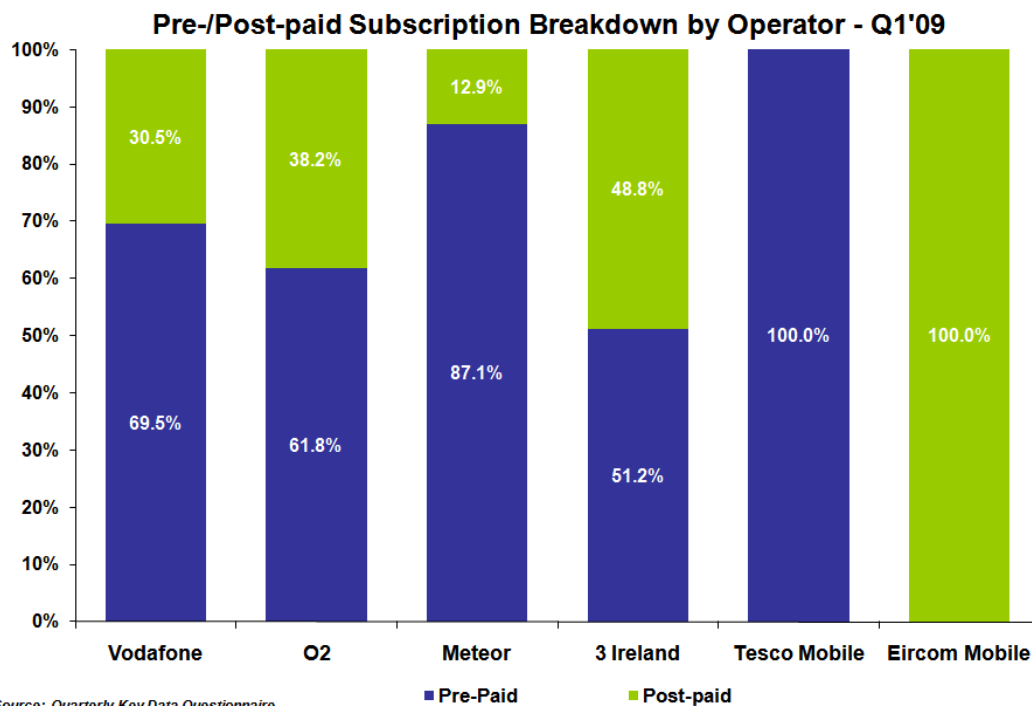
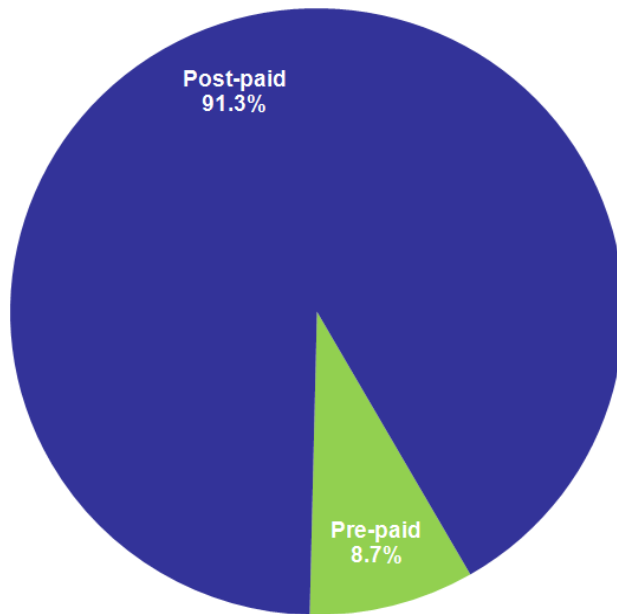


Figure 4.2.3 is a new chart showing the split between pre-paid and post-paid mobile broadband subscriptions as of Q1 2009. Vodafone, O2, Meteor and 3 Ireland all offer mobile broadband packages. Over 90% of all mobile broadband subscriptions are post-paid.

**Figure 4.2.3 – Mobile Broadband Subscriptions**

**Pre-paid/Post-paid Mobile Broadband Split, Q1'09**



Source: Quarterly Key Data Questionnaire

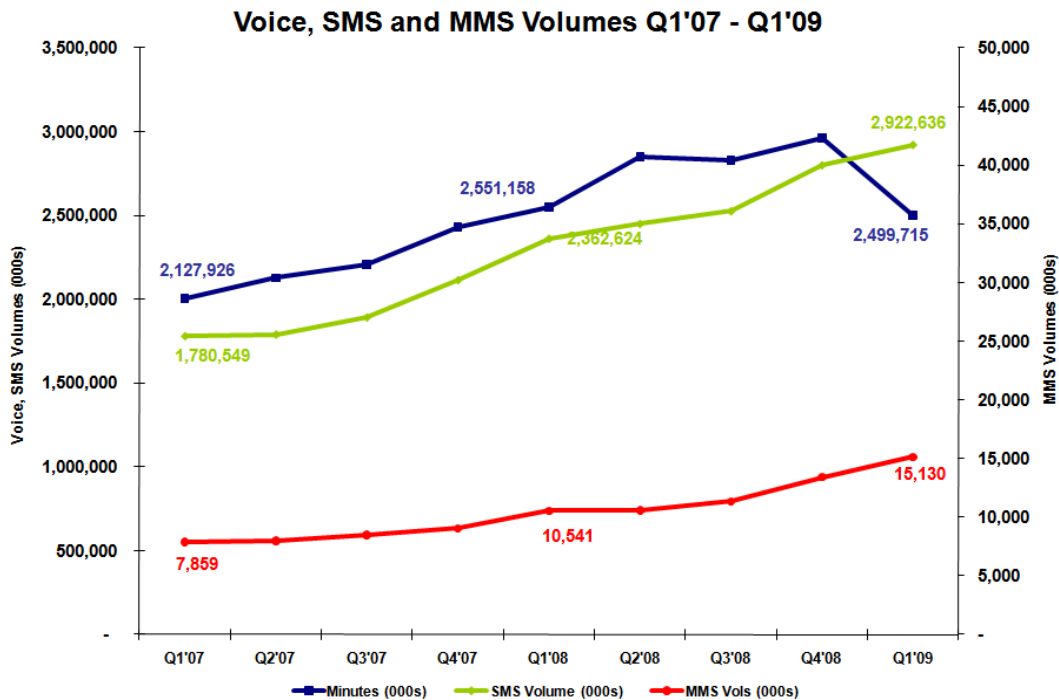
### 4.3 Mobile Volumes

#### 4.3.1 Total Voice, SMS and MMS Mobile Traffic<sup>29</sup>

Figure 4.3.1.1 illustrates the growth in voice minutes, SMS, and MMS (Multimedia Messaging Service) messages sent over mobile networks since Q1 2007. Total retail mobile voice traffic totalled almost 2.5 billion minutes in Q1 2009, compared to almost 3 billion minutes in the previous quarter. This represents a significant decrease of 15.6% in voice volumes since Q4 2008. Since Q1 2008 there has been a fall of 2% in voice volumes and since the same period in 2007 there was a 24.8% increase. Mobile originating minutes now account for 53.4% of all voice traffic in the Irish telecommunications markets.

The total number of SMS messages sent by mobile users in Ireland totalled 2.9 billion in Q1 2009 compared to 2.8 billion in the previous quarter. SMS messaging grew by 4.3% quarter on quarter, and volumes of SMS have increased by 23.7% since Q1 2008 and by 64.1% since Q1 2007. If the total volume of text messages is averaged over all active subscriptions, an average of 184 SMS messages were sent per subscription per month in Q1 2009, compared with 152 in the same period last year. The number of multimedia messages (MMS) sent in the quarter continues to increase. There were just over 15.1 million MMS messages sent during the quarter. This is an increase of 12.8% on the previous quarter and of 43.5 since the same period last year.

**Figure 4.3.1.1 – SMS, MMS and Call Minute Volumes**



Source: Quarterly Key Data Questionnaire

<sup>29</sup> SMS volumes include those sent over mobile broadband datacards and usb modems.

#### 4.4 Mobile Revenues

Figure 4.4.1 shows that mobile retail revenues for the quarter were over €463 million, a drop of almost €40 million since Q4 2008. Data revenues were down by 2.9% in this quarter (and down 4.2% year-on-year) while voice and other revenues declined by 12.1% since Q4 2008 (and fell 10.6% year-on-year). Declining revenues, which were the prevailing trend during 2008, have continued into early 2009, due in some part to the downturn in international economies.

**Figure 4.4.1 – Total Mobile Retail Revenues**

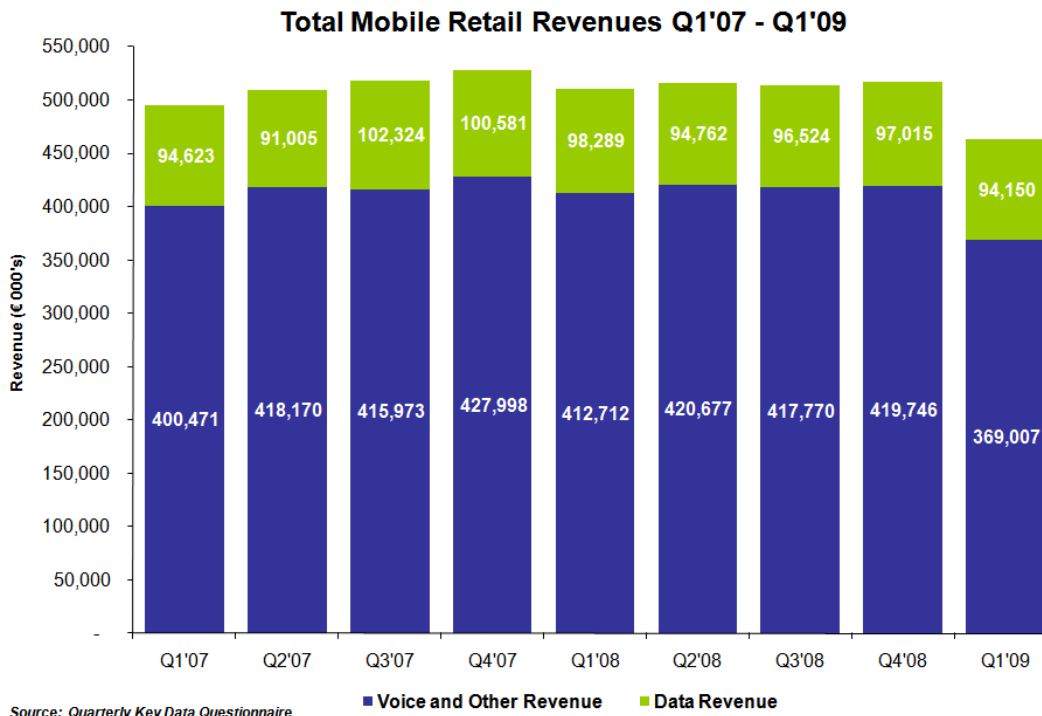
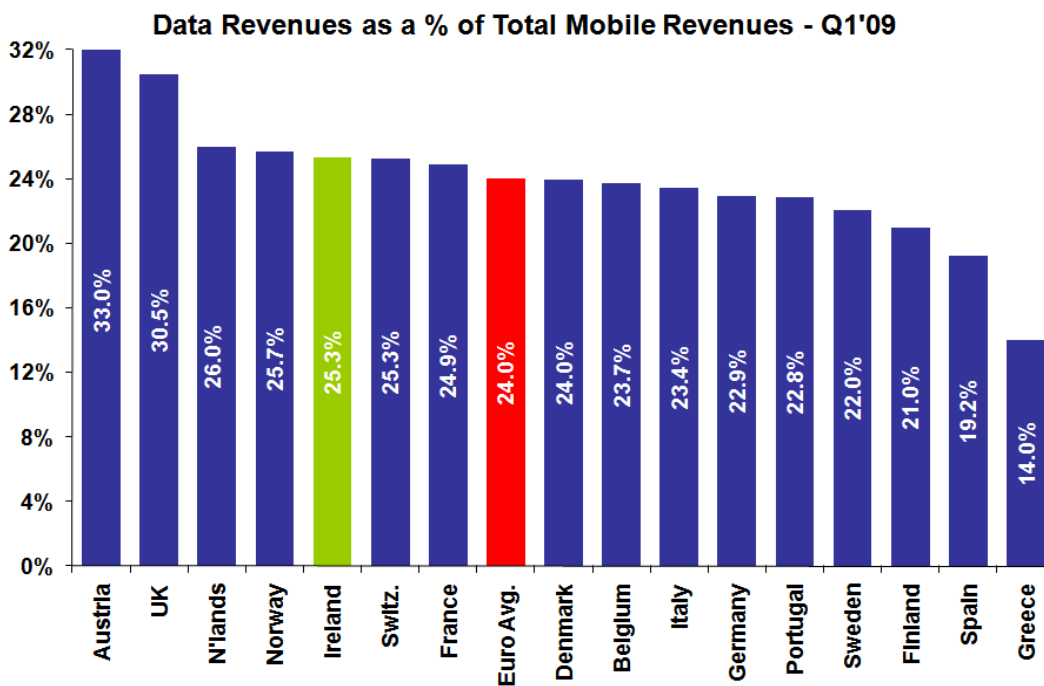




Figure 4.4.2 outlines the percentage of mobile revenues attributable to all data revenues in the Irish market compared to sixteen other European countries. This benchmarking data is calculated independently by Yankee Group, and includes data revenues not only from SMS and MMS messaging, but also data revenues from GPRS data services and 3G data services.

Irish mobile operators rank fifth (last quarter Ireland was fourth) in comparison to other European operators in terms of levels of data revenues as a percentage of overall revenues. In Q1 2009, 25.3% of total mobile revenues were contributed by data revenues.

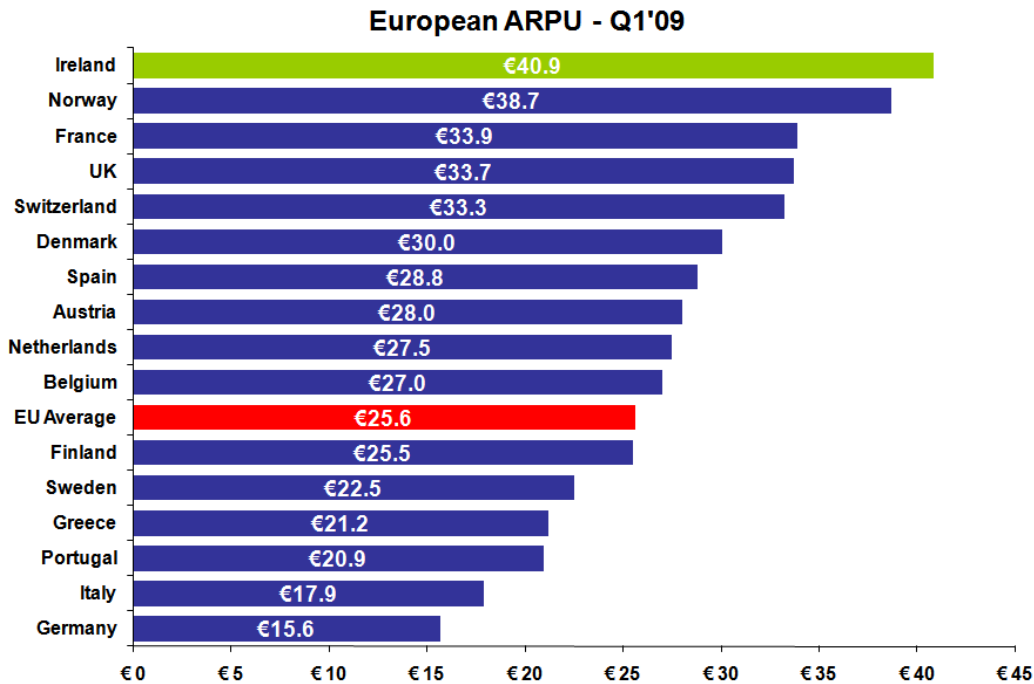
**Figure 4.4.2 - Data Revenues as % of Total Mobile Revenue**



Source: Yankee Group

Figure 4.4.3 compares ARPU (average revenue per user) across 16 European countries<sup>30</sup>. Average revenue per user is an indication of average monthly revenue generated by mobile subscriptions in each country. While overall retail mobile revenues obtained from operators include handset sales revenues, the ARPU figures in this report do not incorporate handset sales revenues. Mobile ARPU in Ireland is estimated at €40.9 per month in Q1 2009. The EU average ARPU was €25.6 in Q1 2009.

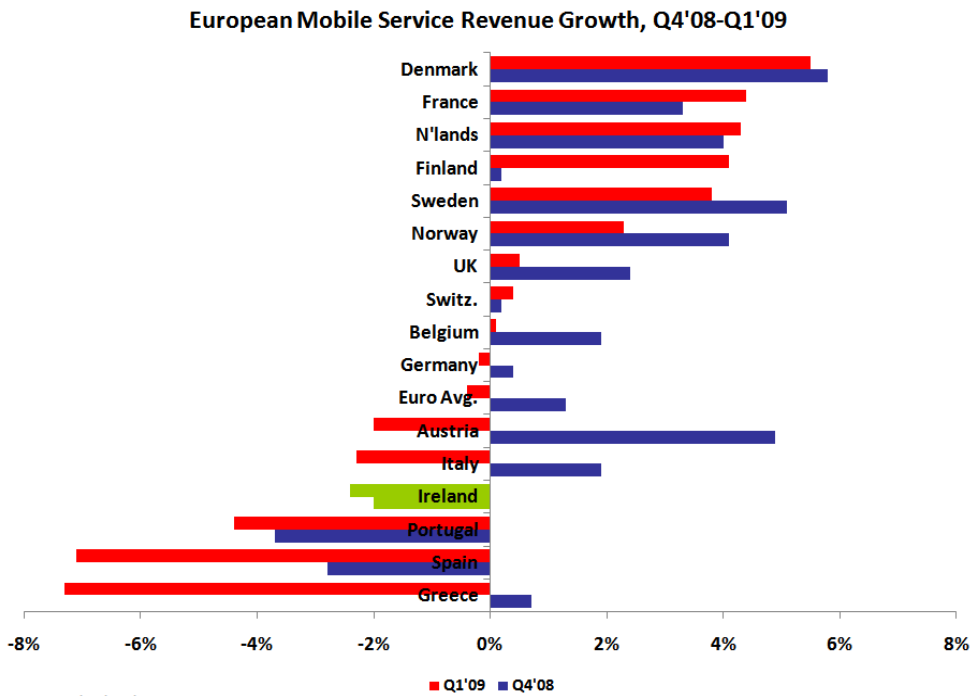
**Figure 4.4.3 – European Comparison of ARPU**



<sup>30</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.

Figure 4.4.4 shows the change in European mobile revenues year on year for Q4'08 and Q1'09. The data from Credit Suisse First Boston indicates that while some European countries, for example Denmark, France and the Netherlands, are still experiencing positive revenue growth over the last year, the European average mobile revenue has seen a reduction by approximately 0.75% in the year to Q1'09. Ireland along with Portugal, Spain and Greece has seen two periods of continued negative growth in mobile revenues.

**Figure 4.4.4 – European Mobile Service Revenue Growth**



#### 4.5 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>31</sup>.

The average minutes of use in Ireland for Q1 2009 was 227 minutes per month, a 5.8% decrease on usage since the previous quarter. Minutes of use have also declined this quarter in Germany and Spain while the UK, Italy and Portugal have seen increases in usage.

**Figure 4.5.1 – Minutes of Use**

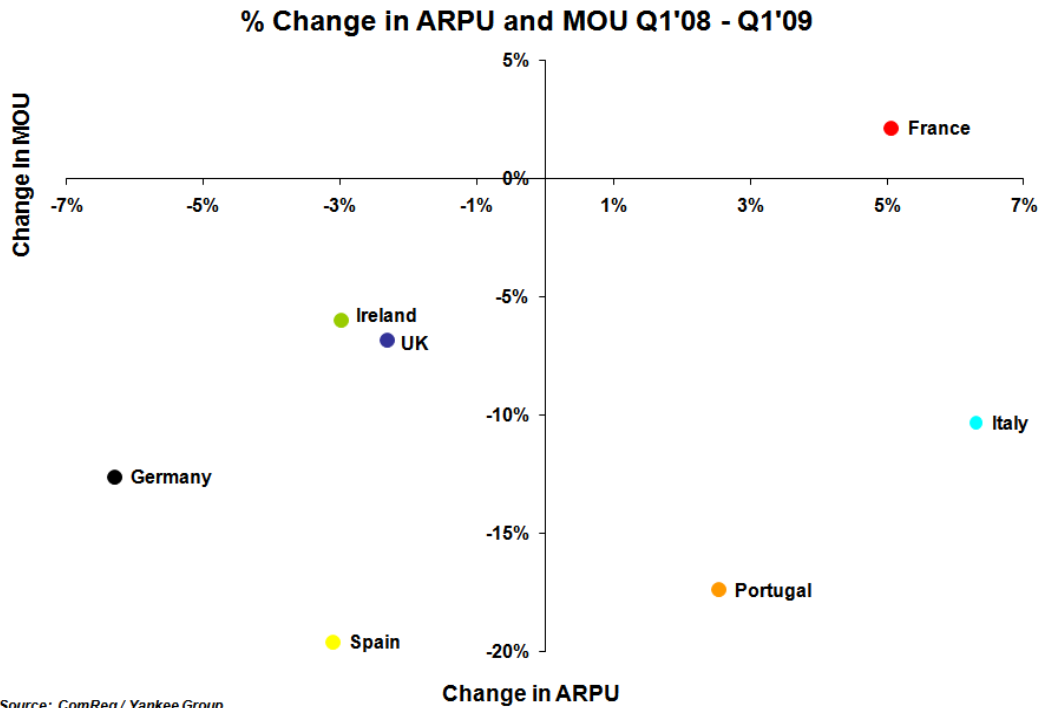
<b>Country</b>	<b>MoU Q1'09</b>	<b>MoU Q4'08</b>	<b>Quarterly Change Q1'09 – Q4'08</b>
<b>France</b>	<b>252</b>	<b>252</b>	<b>-</b>
<b>Ireland</b>	<b>227</b>	<b>241</b>	<b>-5.8%</b>
<b>UK</b>	<b>169</b>	<b>167</b>	<b>+1.2%</b>
<b>Spain</b>	<b>156</b>	<b>162</b>	<b>-3.7%</b>
<b>Italy</b>	<b>135</b>	<b>132</b>	<b>+2.3%</b>
<b>Portugal</b>	<b>121</b>	<b>119</b>	<b>+1.7%</b>
<b>Germany</b>	<b>104</b>	<b>114</b>	<b>-8.8%</b>

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Figure 4.5.2 plots the annual percentage change in Average Revenue per User (ARPU) against Minutes of Use (MOU) for the seven countries listed in figure 4.5.1<sup>32</sup>. In France, while ARPU has remained constant over the last year, MOU has increased by approximately 5%.

Irish mobile users have seen ARPU decline by more than 5% while MOU have decreased by approximately 3%. Only in Italy and Portugal and Italy have MOU increased while ARPU has declined significantly.

**Figure 4.5.2 – Annual Change in European ARPU and MOU**



<sup>32</sup> Data was only available for Ireland, France, Spain, UK, Germany, Italy, and Portugal.

## 4.6 Competition in the Mobile Market

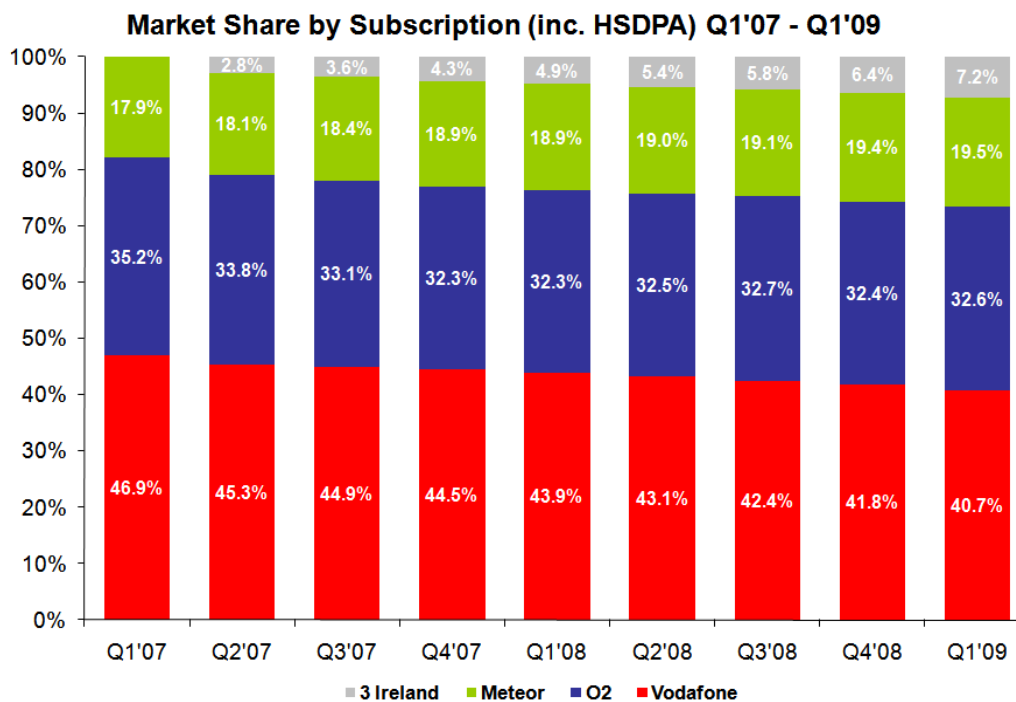
### 4.6.1 Mobile Market Shares- By Subscription and Retail Revenues

Figures 4.6.1.1 and 4.6.1.2 outline mobile market share based on the number of active subscriptions reported by each operator. The former includes mobile broadband since Q3 2007 while the latter excludes mobile broadband. It should be 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. Tesco and Eircom Mobile are not included in figures 4.6.1.1 and 4.6.1.2.

Vodafone’s market share, 40.7% if HSDPA is included and 41.5% if HSDPA is excluded, has declined quarter on quarter over the last two years including and excluding mobile broadband. O2’s market share, 32.6% if HSDPA is included and 32.7% if HSDPA is excluded, has experienced a slight pick-up this quarter for subscriptions including HSDPA while subscriptions excluding HSDPA has stayed the same.

Meteor accounts for 19.5% of the total active mobile subscription base in Ireland (including mobile broadband) and 20.8% excluding mobile broadband. 3 Ireland has a market share of 7.2% (including mobile broadband) and 4.4% excluding mobile broadband. Excluding O2 and Vodafone, Meteor and 3 Ireland now account for approximately 26% of the market, including and excluding mobile broadband.

**Figure 4.6.1.1 – Market Share – Number of Subscriptions (inc. HSDPA)**



Source: Quarterly Key Data Questionnaire

**Figure 4.6.1.2 – Market Share – Number of Subscriptions (ex. HSDPA)**

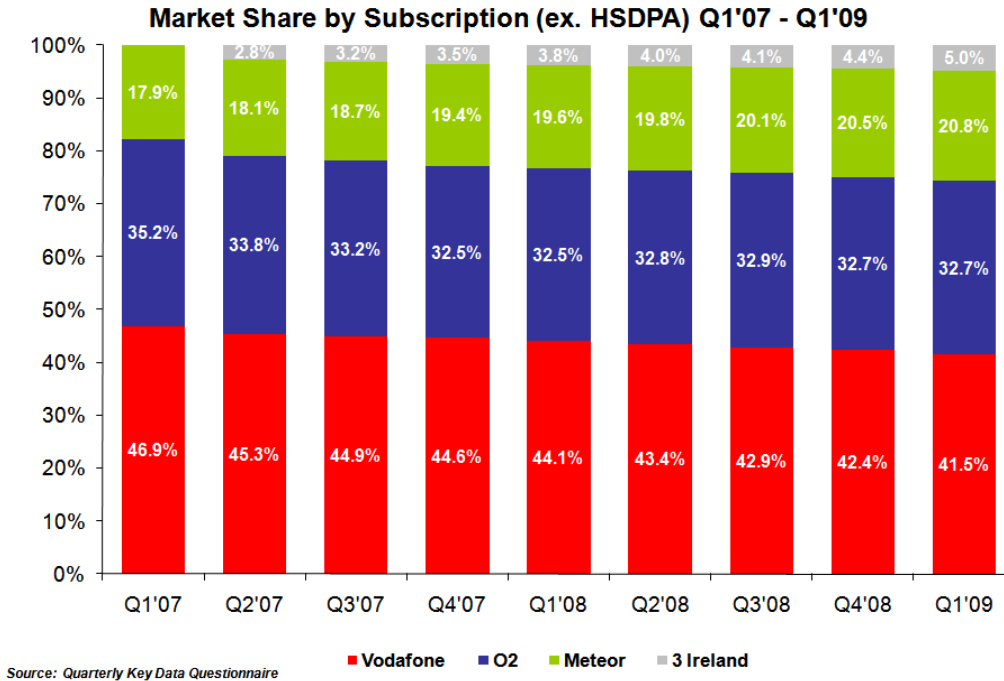


Figure 4.6.1.3 compares the market share of the top 2 operators in 16 European countries including Ireland as of Q1 2009. Market concentration is lowest in the UK where the top 2 operators only have 50% of the market while in Switzerland the top 2 operators have 82%. According to Credit Suisse’s data Ireland’s top 2 operators possess 78% of the market.

**Figure 4.6.1.3 –European Mobile Operators’ Market Share of Subscriptions**

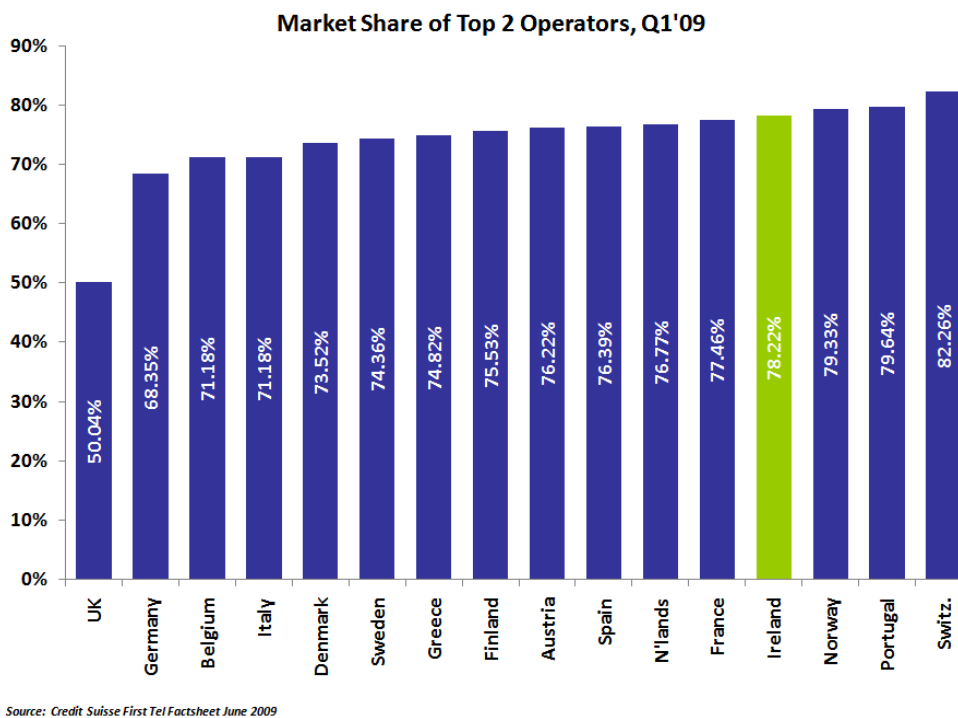
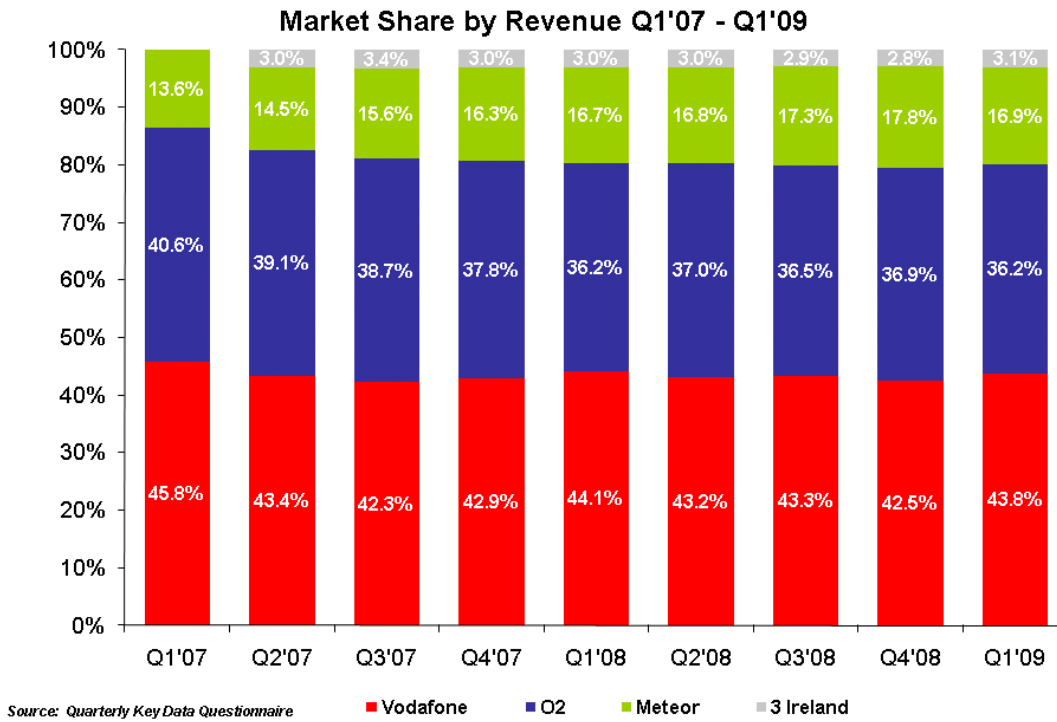


Figure 4.6.1.4 provides an analysis of market shares by revenue for mobile operators in the Irish market. Tesco and Eircom mobile are not included in this chart. Vodafone’s market share increased to 43.8% this quarter while O2’s market share declined by more than half a percentage point. Meteor’s market share also declined while 3 Ireland’s market share grew to just over 3%.

**Figure 4.6.1.4 – Revenue Market Share**



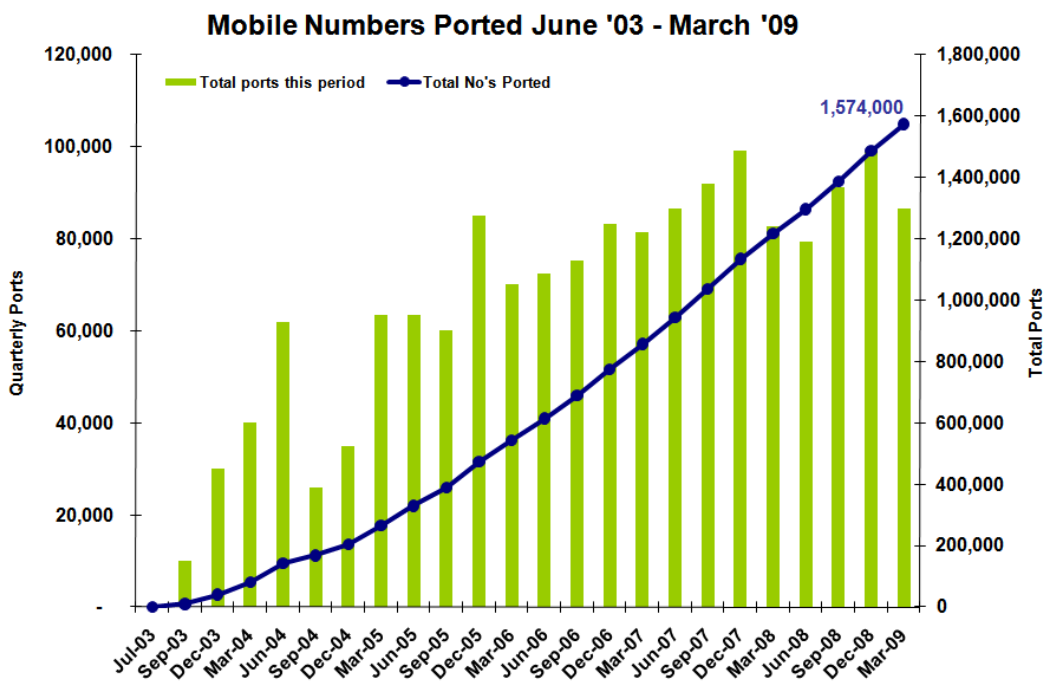


### 4.6.2 Switching in the Mobile Market

Figure 4.6.2.1 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 subscriptions to switch mobile operator while retaining their mobile number.

Approximately 1,574,000 people have used MNP to switch operator since June 2003, an increase of 5.8% since Q4 2008 and an increase of 29.3% since the same quarter last year. In the quarter to March 2009 approximately 87,000 numbers were ported to another operator (over 356,000 numbers in the year to March 2009). Based on data since March 2007, an average of 89,625 numbers has been ported each quarter.

**Figure 4.6.2.1 – Cumulative Mobile Numbers Ported**



Source: Quarterly Key Data Questionnaire

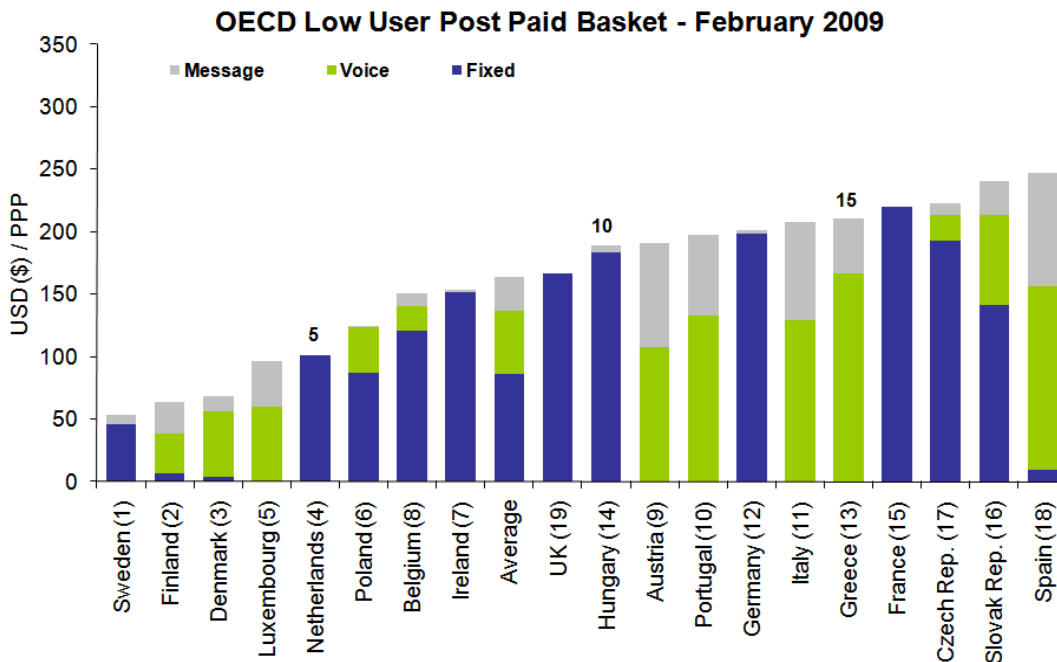
### 4.7 Mobile Pricing Data<sup>33</sup>

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.

#### 4.7.1 Low User Post Paid Mobile Basket<sup>34</sup>

Ireland ranks eight out of the 19 European countries benchmarked for the low user post-paid basket and remains one place better off than the European average for this basket. Ireland has dropped back one place since November 2008.

**Figure 4.7.1.1 - OECD Low User Post Paid Mobile Basket**



Source: Teligen  
 To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

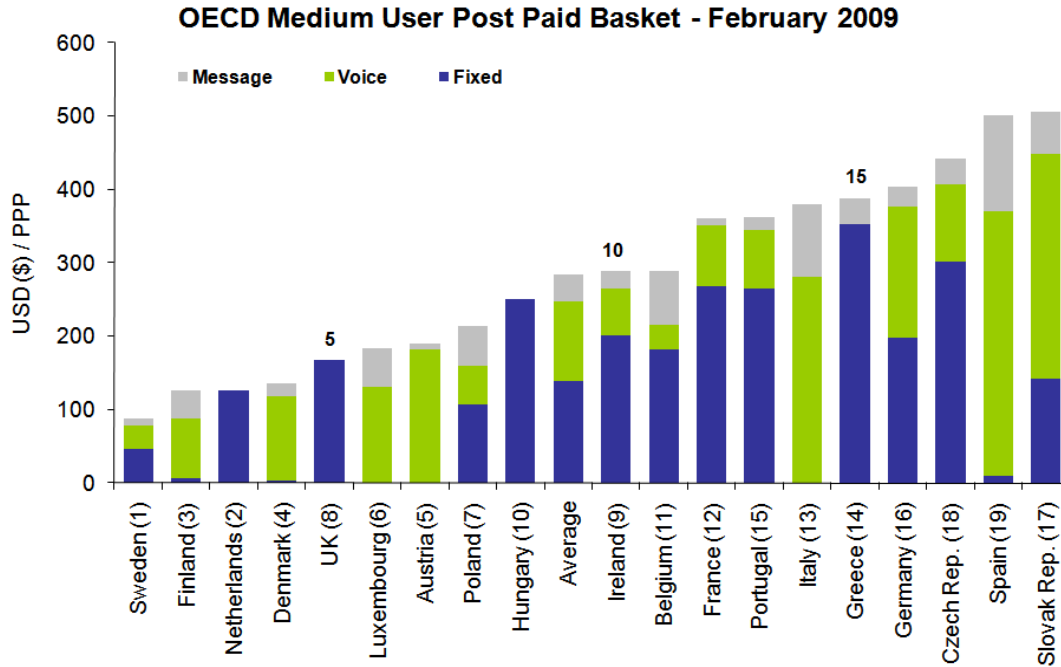
33 The 'Fixed' component of price refers to the standard charges imposed by operators, regardless of the amount of calls made (i.e. connection and rental). Teligen's calculation of this Figure is made up of: Installation Charge/5 + Rental charge for 1 year. The 'Voice' component of price refers to the 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.

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

### 4.7.2 Medium User Post Paid Mobile Basket

Ireland ranks in tenth place on this measure dropping back one position from ninth last quarter. This is one place below the European average.

**Figure 4.7.2.1 - OECD Medium User Post Paid Mobile Basket**



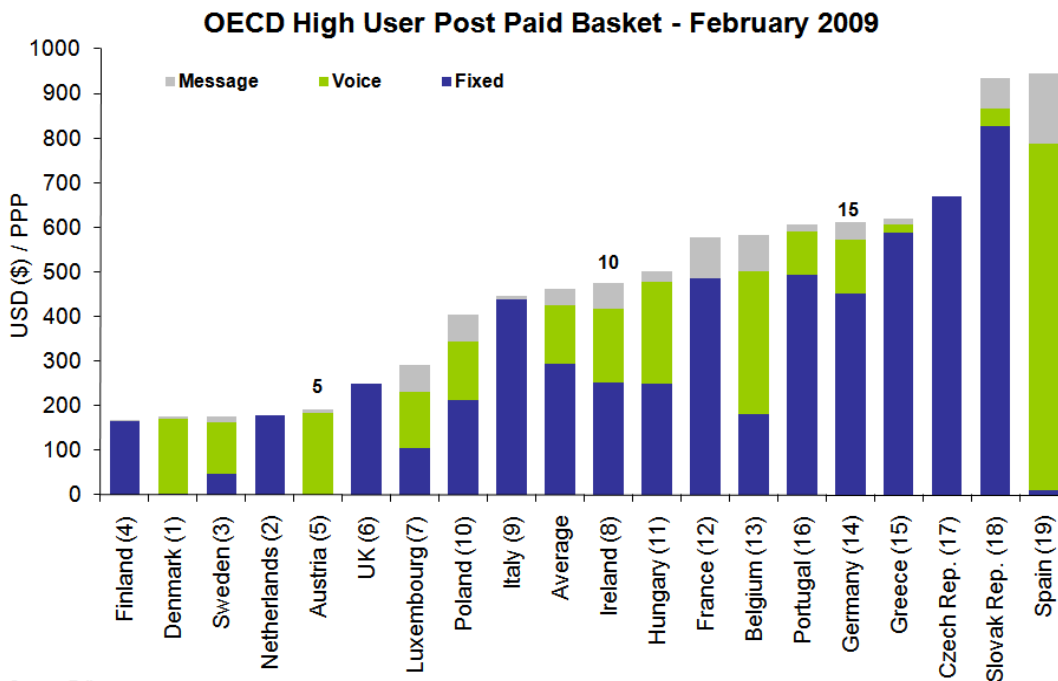
Source: Teligen

To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

### 4.7.3 High User Post Paid Mobile Basket

In the High-User Post-Paid basket, Ireland ranks tenth among the 19 European countries, having fallen from eight place since the last quarter. Ireland is now one place behind the European average. Finland, Denmark and Sweden are the three countries that are cheapest for this basket as of February 2009.

**Figure 4.7.3.1 - OECD High User Post Paid Mobile Basket**



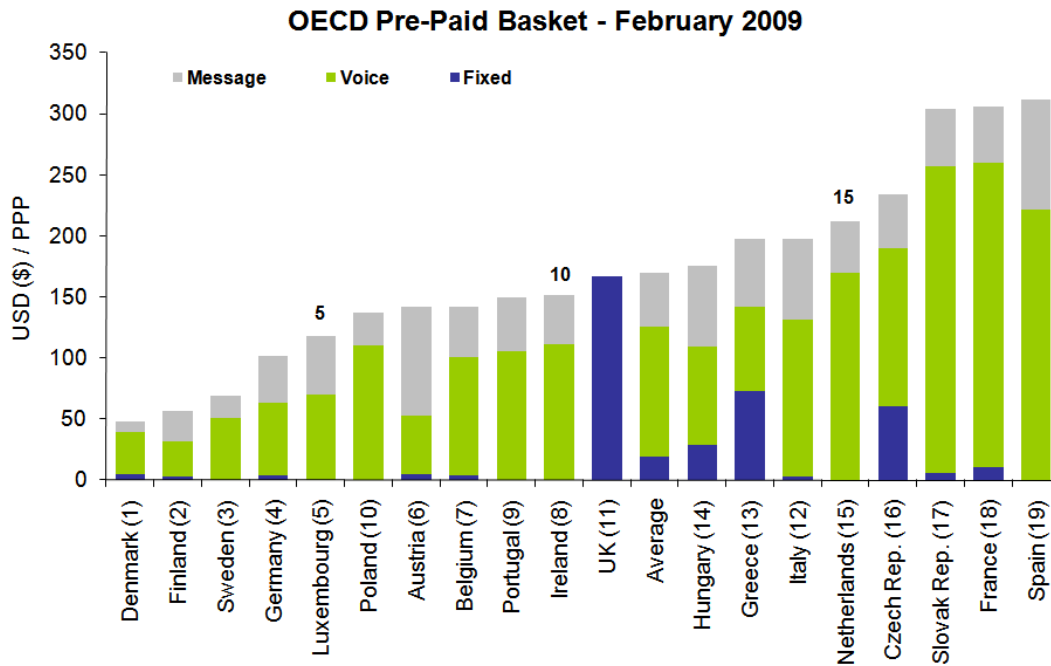
Source: Teligen

To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

#### 4.7.4 Pre-Paid Mobile Basket<sup>35</sup>

For the pre-paid mobile basket, Ireland has fallen back two places from eight to tenth in the rankings this quarter. Among the 19 European countries charted Denmark, Finland and Sweden are still the three countries with the cheapest pre-paid basket. The cost of this basket in Ireland remains slightly cheaper than the EU average.

**Figure 4.7.4.1 - OECD Pre-Paid Mobile Basket**



Source: Teligen

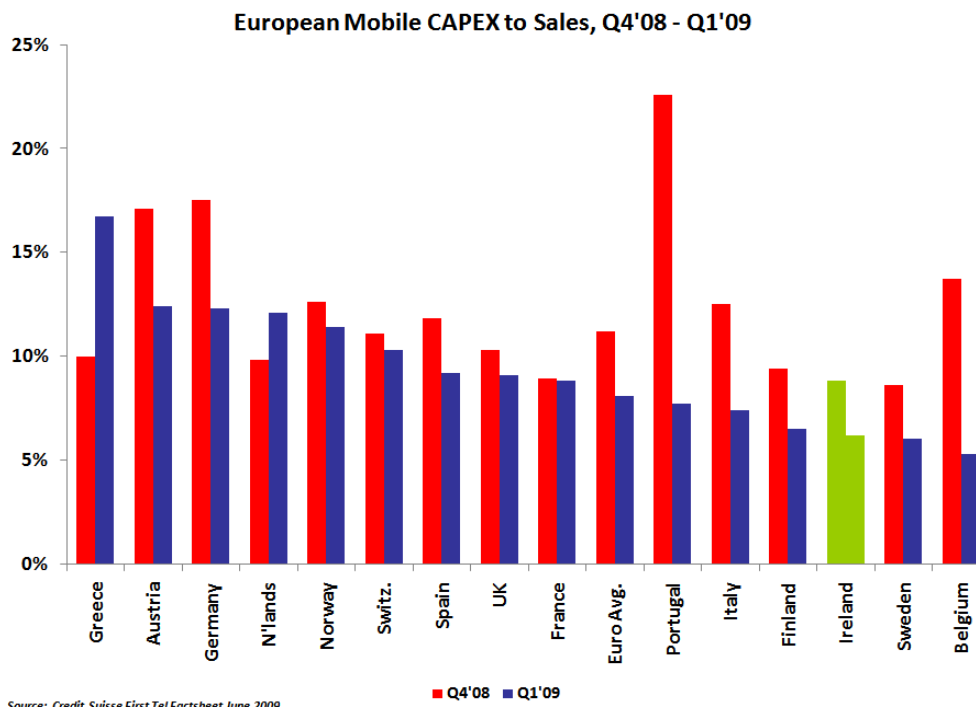
To note: The numbers in brackets represent each Member State's respective rankings as at November 2008

35 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

### 4.8 Mobile Operators' Capital Expenditure

Capex as a percentage of sales is a financial measurement of efficiency which indicates the level of capital expenditure incurred to sustain a particular level of sales.<sup>36</sup> Figure 4.8.1 charts this ratio for 15 European countries as well as the European average for Q4'08 and Q1'09. Only Greece and the Netherlands have seen their Capex to sales ratios increase between the end of 2008 and March 2009. Mobile Capex to sales for Ireland fell by approximately three percentage points between Q4'08 and Q1'09.

**Figure 4.8.1 – European Mobile Capex to Sales**



low user post paid baskets are based on the same usage assumptions.

36 In terms of efficiency, company X would be more efficient than company Y if it has a higher CapEx/Sales ratio.

## 5 Broadcasting

### 5.1 Overall Broadcasting Market

The broadcasting analysis provided in this report uses operator data in conjunction with CSO estimates<sup>37</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>38</sup> television service. Of the total number of TV households at the end of March 2009 there were 512,700 subscriptions to cable<sup>39</sup>/MMDS<sup>40</sup> television services in Ireland. For the same period, ComReg estimates that BSkyB had 578,730 Irish satellite<sup>41</sup> TV subscriptions, a growth of 5,730 subscriptions on the previous quarter and 30,730 since the same reporting period last year. The total number of pay TV households in Ireland (cable, MMDS and satellite) is 1.091 million.<sup>42</sup> Pay-TV households represent 75% of all homes with a television.

**Figure 5.1.1 – Broadcasting Subscriptions and Growth Rates by Platform**

Platform	No of Subscriptions Q1'09	Quarterly Change Q4 '08 – Q1'09	Annual Change Q1'08 – Q1'09
Analogue Cable	197,356	-6.1%	-20.9%
Digital Cable	230,029	+3.3%	+5.7%
MMDS	85,315	-4.1%	-6.2%
Satellite	578,730	+1.0%	+5.6%
Total-Pay-TV H'holds	1,091,430	-0.3%	-1.3%
Free-to-View	374,570	+3.0%	+6.4%
Total TV H'holds	1,466,000		

37 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 2008 Information Society and Telecommunications report, reported 1.466 million TV households in Ireland. This Figure will remain fixed in future quarterly reports as the CSO will not be revising this Figure in the near future.

38 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.

39 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.

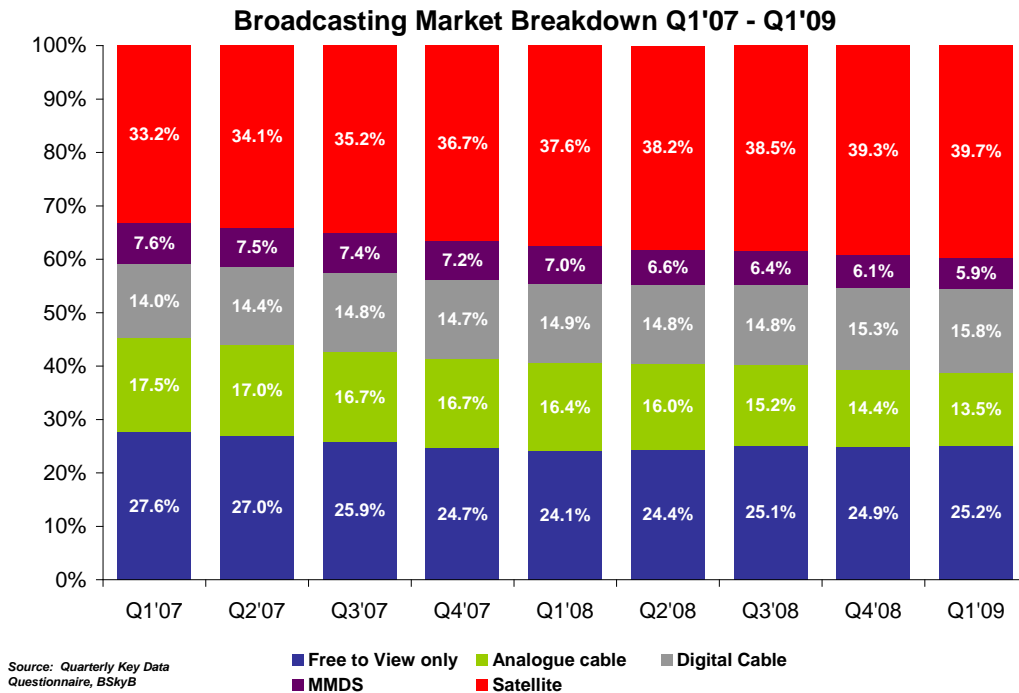
40 MMDS (Multichannel Multipoint Distribution Service) is a wireless telecommunications technology, used as an alternative method of cable television programming reception. MMDS is usually used in sparsely populated rural areas, where laying cables is not economically viable.

41 Satellite television is television delivered by way of communications satellites, as compared to conventional terrestrial television and cable television. As of Q3 2008, BSkyB Irish Subscription data is based on ComReg estimation of BSkyB group data.

42 TV can also be delivered through other mechanisms such as over the internet (IPTV). While this data is not presented in this quarter, ComReg hopes to include such information in the future.

Figure 5.1.2 profiles TV households in Ireland based on those households who subscribe to an analogue or digital cable television service, MMDS, a digital satellite service, or a free-to-air television service. Between Q1 2007 and Q1 2009 the market share of satellite subscriptions has increased by more than six percentage points. Over the same period, the market shares of both MMDS and analogue cable have decreased by almost two percentage points and four percentage points respectively.

**Figure 5.1.2 - Broadcasting Market Breakdown**



**5.2 Digital and Pay TV**

Figure 5.2.1, below, 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 (inc. MMDS) or satellite service with the number of free to view TV viewers in Ireland. In Q1 2009 74.8% of all TV homes in Ireland subscribed to a paid television service. This has increased by approximately three percentage points over the last two years. However, over the last few quarters the market share of paid television service in Ireland has remained around the 75% level.

Of those subscribing to a paid television service, 53% had a satellite subscription while 81.6% (890,412) of paid television subscriptions in Q1 2009 were digital. This represents an increase of 1.2% since Q4 2008 and an increase of 3.9% since Q1 2009. Just over 61% of all TV households in Ireland now receive their TV service via a digital television signal, based on either digital cable (inc. MMDS) or satellite.



**Figure 5.2.1 - Pay TV Market**

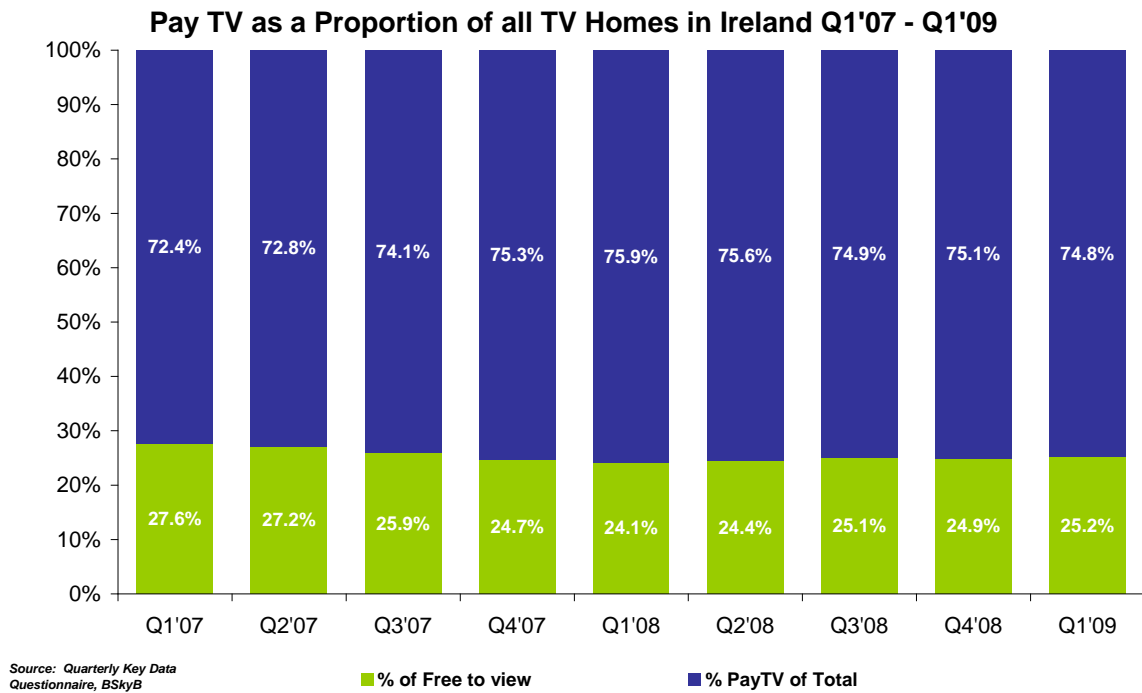
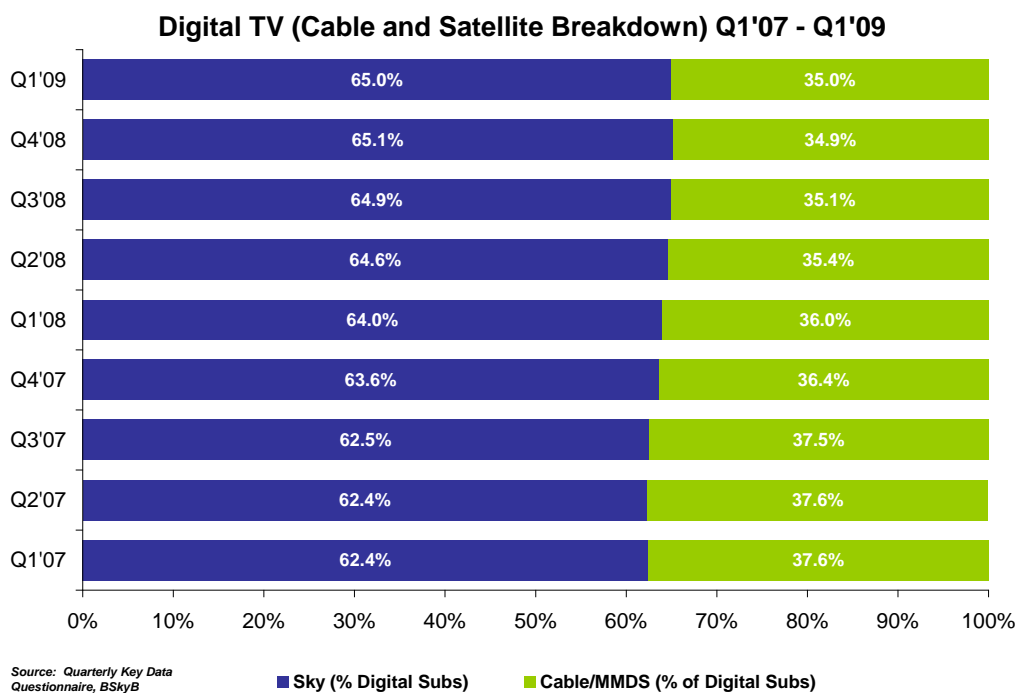


Figure 5.2.2 profiles the digital TV market, examining the proportion of digital subscriptions who receive their TV signal via a satellite subscription compared with those using digital cable (inc. MMDS). The proportion of digital cable/MMDS subscriptions has decreased by more than three percentage points over the last two years while the proportion of satellite subscriptions has been increasing.

**Figure 5.2.2 - Digital TV**

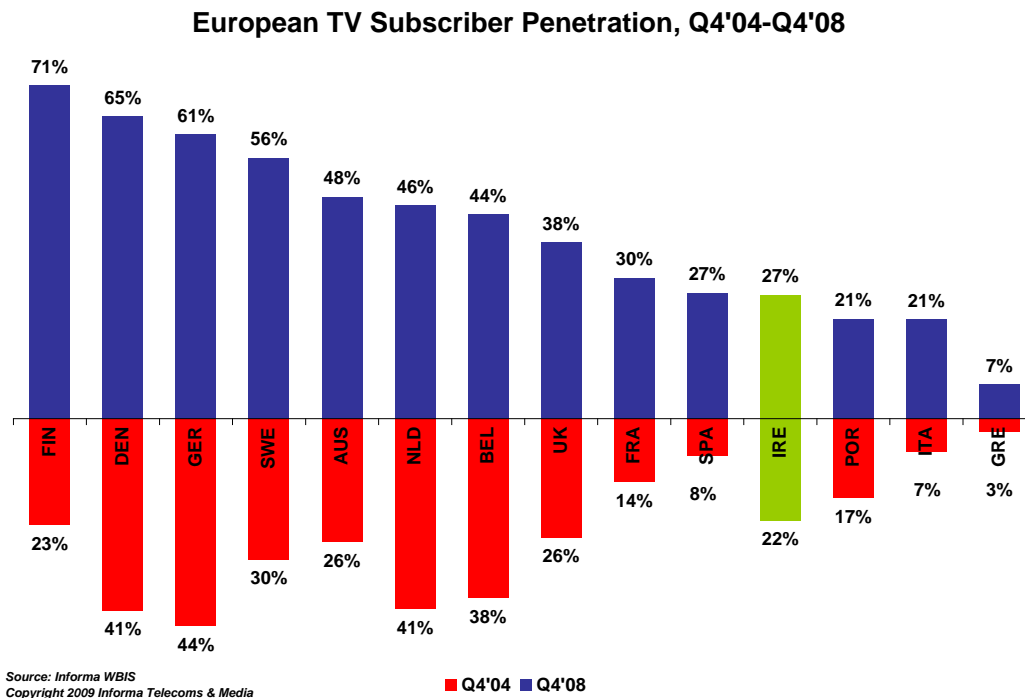


### 5.3 International Television Data

Figure 5.3.1 presents television subscription data in terms of population penetration for 14 European countries including Ireland between Q4 2004 and Q4 2008. According to this data, which has been collected by Informa<sup>43</sup>, in 2008, Finland, Denmark, Germany and Sweden had more than 50% penetration for subscription television services. All 14 countries have seen a significant increase in television subscription penetration since Q4 2004, none more so than Finland.

Its penetration has increased by over forty percentage points in the last four years, while penetration in Ireland has increased by five percentage points in the same period. The average European TV subscriber penetration in 2004 for this group of countries was 24% while in 2008 the average was 40%.

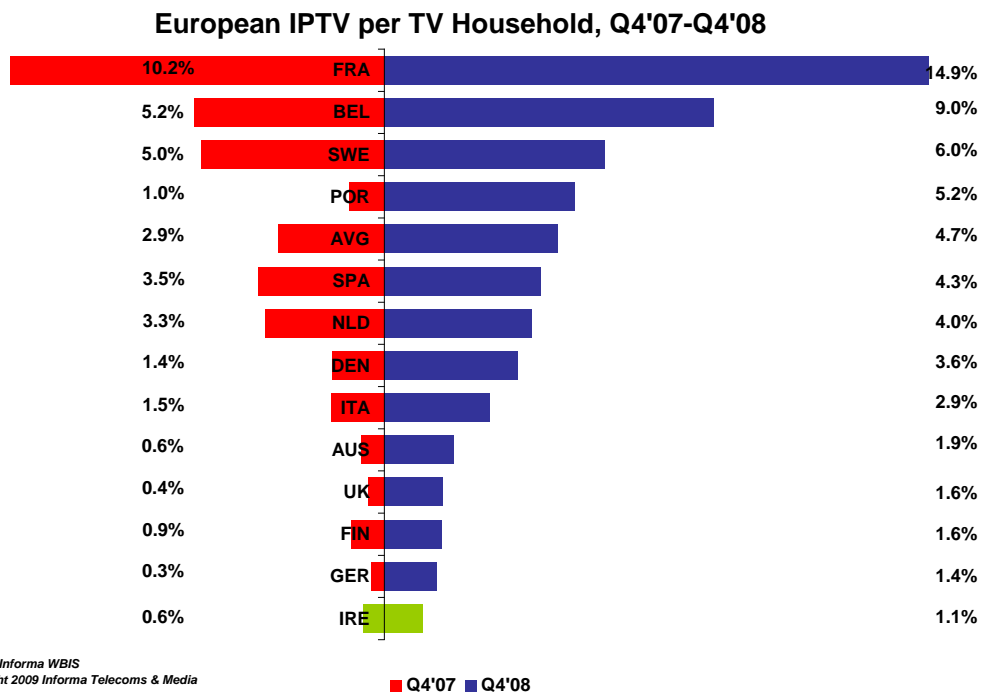
**Figure 5.3.1 – European TV Subscriber Penetration**



43 Informa Telecoms & Media World Broadband Information Service (<http://www.wbisdata.com/newt/l/wbis/index.html>)

As television can also be delivered through other mechanisms such as over the internet (IPTV), ComReg has been collecting subscription data in this area in an effort to publish an accurate picture of this market. While this data is not presented this quarter, ComReg hopes to include such information in the future. Figure 5.3.2 below shows IPTV subscriptions for 13 European countries as a percentage of TV households between Q4 2007 and Q4 2008. This data has been collected by Informa and is a best efforts portrayal of the European IPTV market.

**Figure 5.3.2 – European IPTV Household penetration**



## 6 Emerging Trends – Revisiting VoIP<sup>44</sup>

Voice over Internet Protocol (VoIP) is a technology that allows consumers to make telephone calls using an internet connection instead of a regular phone line. The internet connection is normally broadband to make sure calls are reasonably clear and to keep time delays to a minimum during the call.

### 6.1 VoIP Past and Present

The first VoIP calls were made between two PCs in 1995. Vocaltec, an Israeli telecom equipment provider, introduced an "Internet Phone" which was the catalyst for the explosion in VOIP use. The Vocaltec software was able to run on a home PC and utilized many of the same hardware products that VOIP services use today.

In 1996 American telecommunication companies, seeing the potential competition that VoIP could create, asked the US Congress to ban internet phone technology. By 1998, although the quality of the technology was still reasonably poor, VoIP carried an estimated 1% of US phone traffic<sup>45</sup> and it was beginning to establish itself as a means of providing low-cost long distance calls. Some tools were developed to overcome the problems and sustain an acceptable communication quality.

A decade later, and VoIP is beginning to change the way that residential and business voice communications are delivered. However, VoIP in Ireland and the UK, for example, has not had significant take-up as yet. For example there is a difference between registered and actual users of Skype<sup>46</sup> and other VoIP providers– the former is much higher than the latter.

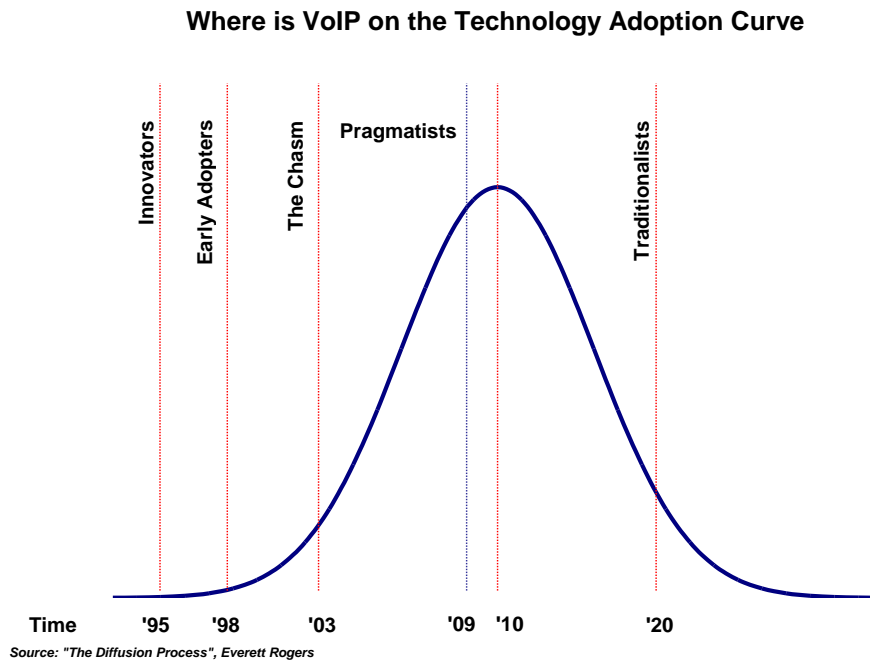
Figure 6.1.1 below shows the Technology Adoption Curve<sup>47</sup> applied to the global adoption of VoIP. The chart underlines the point that until broadband became a mass market technology at the start of this century, VoIP was limited to innovators and early adopters. Undoubtedly, Ireland is still in the early adopter stage.

44 In the first Emerging Trends article in June 2005 Quarterly Report the basics of VoIP were discussed.

45 Telegeography Research for ITU, "International VoIP Traffic", 2005; [http://www.itu.int/dms\\_pub/itu-d/md/02/isap2b.1.1/c/D02-ISAP2B.1.1-C-0025!!PDF-E.pdf](http://www.itu.int/dms_pub/itu-d/md/02/isap2b.1.1/c/D02-ISAP2B.1.1-C-0025!!PDF-E.pdf)

46 Skype is the most well-known player in the VoIP market so much so that people use the verb "to skype"

47 The Technology Adoption Lifecycle is a sociological model developed by Everett Rogers. It describes how new ideas and technologies spread in different cultures.

**Figure 6.1.1 – VoIP and the Technology Adoption Curve**

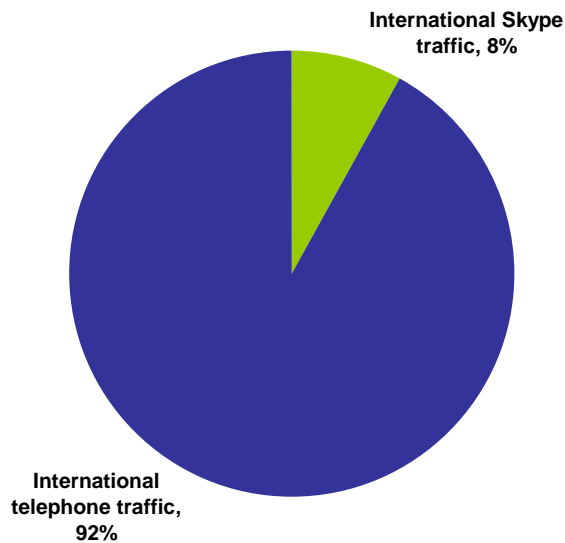
## 6.2 Business and Residential VoIP

There are a number of different models for VoIP provision: direct access (managed voice over broadband as offered by Yahoo! in Japan); indirect access (managed voice over broadband and unmanaged access over the public internet, as offered by Vonage); and soft-client (software-enabled voice on a PDA, PC or gaming console using a headset, for example Skype). With both direct and indirect access there are subscription fees, but not for soft-client applications.

For businesses, VoIP has been the driving force behind a range of new options for communications. Given the current economic climate, business users may be attracted by the commercial advantages of using a hosted IP communications service. They no longer need to buy, manage and maintain their own private branch exchange (PABX).<sup>48</sup> Instead, a service provider can offer a range of service packages for a monthly fee.

Home users have also contributed to the growth of VoIP usage. As well as dedicated VoIP service providers such as Skype, VoIP has been embedded into Instant Messaging applications like Yahoo!, Google and Microsoft as well as games consoles, enabling multi-player gamers to chat while playing over the broadband network. The emergence of triple- and quad-play services has allowed providers such as Neuf-Cegetel in France to win business from millions of homes by packaging broadband access, VoIP, TV and mobile services.

<sup>48</sup> A telephone exchange that serves a particular business or office, as opposed to one that a common carrier or telephone company operates for many businesses or for the general public.

**Figure 6.2.1 – International Telephone Traffic, 2008****International Telephone Traffic, 2008**

Source :Telegeography

Total = 417 billion minutes

Telegeography data in Figure 6.2.1 above shows that in 2008 Skype<sup>49</sup> had 8% of international voice traffic. In total, around 30% of all international telephone traffic is now carried as VoIP. Skype and Google are now making their VoIP services more attractive to enterprise users, which increases their competitive threat to telecoms operators. Both internet companies reflect the burgeoning development of the VoIP market, which has shifted from undercutting operators with cheap voice calls to deploying more sophisticated business models. The question is, what does the future hold for VoIP?

### 6.3 VoIP Experience in Ireland

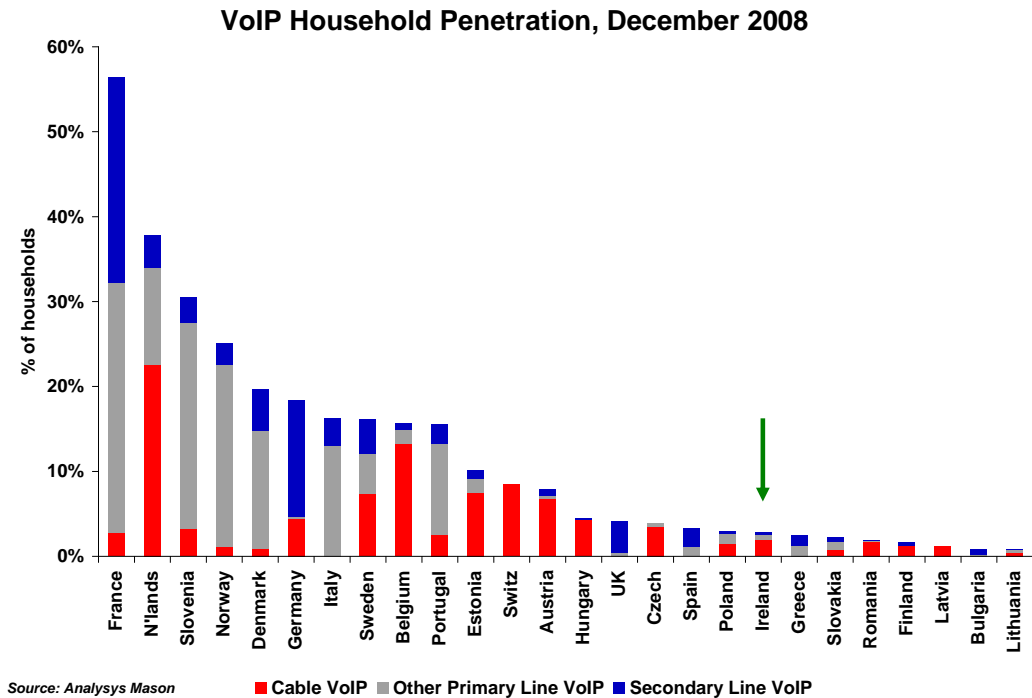
Currently in markets such as Ireland and the UK, VoIP is mostly used to supplement PSTN and/or mobile voice services. VoIP is yet to take-off to the same extent as it has in a number of European countries, like France, Germany and Sweden, in both the Irish residential and business sectors. According to ComReg business survey data, in 2006 only 7% of SMEs and 39% of Corporates used VoIP.

ComReg's most recent business survey, published in May 2009, estimates that only 13% of all businesses (both SMEs and Corporates) use VoIP and just over half have ever heard of the service. The results of residential surveys over the last couple of years are similar. In 2006 less than one in five of those surveyed used VoIP, while at the end of 2008 this had

<sup>49</sup> Skype was founded in 2003 by Niklas Zennstrom and Janus Friis, whose main intention was to develop a piece of software which would revolutionise telephone calls.

increased to over 30%. Using Analysys Mason data, Figure 6.3.1 shows that less than 5% of Irish households use VoIP.

**Figure 6.3.1 – VoIP Household Penetration, December 2008**



Eircom currently offers a managed VoIP product to its business customers. BT, the second largest fixed operator, has a business VoIP offer in Ireland although it has no consumer VoIP service here, unlike in the UK.

Of the other fixed operators in the Irish telecommunications industry, VoIP solutions are offered via cable (by UPC) in order to bypass the copper local loop and Magnet provide its customers with IP phones allowing all voice services to be IP based. Digiweb’s fixed wireless Metro package is a VoIP service. The primary focus of fixed wireless operators is to offer a substitute service by enabling customers to completely do away with their Eircom line. Other players in the Irish market providing VoIP services include Blueface and Skype, offering what is known as ‘over-the-top’<sup>50</sup> VoIP. Approximately 60% of those businesses who use both VoIP and PSTN estimate that one quarter of their calls are VoIP. On the residential side, almost three quarters of residential VoIP users use Skype and less than one in five of those VoIP users use Eircom.

50 Unmanaged Next Generation voice is typically provided by an independent ‘Over the top’ (OTT) third-party service provider with no control of network parameters.

#### 6.4 VoIP Take-up in Europe

Telegeography estimates that there were more than 35 million European households with VoIP service by the end of 2008, up from just 1.9 million VoIP lines in service in Europe in 2004. Telegeography also estimates that across Europe, during every quarter of 2008, more than 2 million homes signed up for VoIP service. Household penetration of VoIP telephony at mid-2008 ranged from slightly less than 50% in France to less than 3% in Spain, and annual subscriber growth rates ranged from 544% in Portugal to 13% in Norway.

One of the main reasons why VoIP adoption has been high in France is because of the entry of a company called Iliad, offering a flat-rate triple-play service under the brand Free. Free's offering forced other operators - including incumbent France Telecom - to offer similar, simpler triple-play plans, resulting in increased VoIP penetration. The mandating of naked DSL<sup>51</sup> in France, coupled with strong growth in local loop unbundling has also been a key factor in the growth in VoIP over the last few years.

#### 6.5 The Future of VoIP

VoIP has come a long way, from its earliest incarnation as a technical curiosity for PC enthusiasts to the underlying technology for almost all new voice telephony networks today. In the pipeline are new features, such as the ability to add telephony functions to IPTV, which should bolster the growth of VoIP.

VoIP poses challenges for traditional operators, especially incumbents. They must develop VoIP services so as not to lose existing customers to other VoIP providers while not positioning their VoIP services only on price, since offering much lower prices would probably result in keeping customers but also in losing much revenue. Telecom operators consequently need to develop new business models, linking and bundling VoIP more closely to the broadband connection, e.g. within triple play offers, and emphasise associated services to VoIP, such as instant messaging, video telephony, management of address books and services on websites.

Mobile VoIP will become an important service in the coming years as device manufacturers exploit more powerful processors and less costly memory to meet user needs for ever-more 'power in their pocket'. The challenge for the mobile operator industry as for traditional fixed operators is to deliver the benefits and innovations of IP without losing control of the network service. Users like the internet to be free and high speed without

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<sup>51</sup> Naked DSL is provision of a digital subscriber line without a PSTN (analogue telephony) service or the associated dial tone. With naked DSL there is no cable from the telephone switch to the POTS splitter. However, the customer could still use the line for regular telephone service through VoIP.



extra charges for visiting specific sites. Such a service challenges the most valuable service in the telecommunications industry, voice, and threatens to change the nature of the global communications industry.

## 7 Appendix

Aggregated SB-WLR Performance Statistics, as supplied by Eircom, are published in accordance with ComReg Decision Notice (07/61) Section 6.6 (vii).

### Performance metrics: Q1 2009

Eircom SB-WLR Provisioning performance Metric Qrt 1 2009 Reports Summary January 2009		
Order Type	% Orders Validated Within Performance Target	% Orders Delivered Within Performance Target
DR	-	99.81%
PW	99.33%	99.64%
CH	-	98.48%
CL	-	99.80%
LTN	100%	76.92%
LNI	100%	100%
LTI	100%	100%
LNN	100%	78.52%
LTN/LNI/LTI/LNN	100%	91.77%
Summary February 2009		
Order Type	% Orders Validated Within Performance Target	% Orders Delivered Within Performance Target
DR	-	99.92%
PW	99.53%	99.88%
CH	-	99.77%
CL	-	99.92%
LTN	100%	88.89%
LNI	100%	100%
LTI	100%	100%
LNN	100%	85.00%
LTN/LNI/LTI/LNN	100%	94.25%
Summary March 2009		
Order Type	% Orders Validated Within Performance Target	% Orders Delivered Within Performance Target
DR	-	99.62%
PW	98.86%	99.53%
CH	-	95.26%
CL	-	100%
LTN	100%	70.59%
LNI	100%	100%
LTI	100%	100%
LNN	100%	78.81%
LTN/LNI/LTI/LNN	100%	91.41%
Eircom SB-WLR Repair performance Metric Qrt 1 Jan - March 2009		
	Percentage of Faults	
Time Interval (working days)	<=2 days	<=5 days
Faults Cleared	58.99%	86.22%

**Glossary**

<b>DR</b>	Data Request: Supply of list of numbers, DDIs/MSNs and Ancillary Service for a customer account.
<b>PW</b>	Provide Wholesale Line Rental (WLR) and Carrier Selection (CS)
<b>CH</b>	Modify or provide Ancillary Services
<b>CL</b>	Cease Line
<b>LTN</b>	Provide WLR and Carrier Pre-Selection (CPS) and additional line to a specified Customer Account (Non- In-situ)
<b>LNI</b>	Provide WLR and Carrier Pre-Selection (CPS) and new line to a new Customer Account (In-Situ)
<b>LTI</b>	Provide WLR and CPS and additional line to a specified Customer Account (In-Situ)
<b>LNN</b>	Provide WLR and CPS and new line to a new Customer Account (Not In-Situ)