Commission for
Communications Regulation

Irish Communications Market

Quarterly Key Data Report

Data as of Q3 2009

Document No:	**09/101**
Date:	**21st December 2009**

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Corrigendum for the September 2009, Quarterly Key Data Report, ComReg Doc 09/71

- Due to operator revisions, fixed voice minutes reported in the June 2009 quarterly report have been revised downward in this report for period Q1 2009 from 2,180, 968 thousands to 2,125,503 thousands and from 2,087,290 thousands to 2,006,687 thousands in period Q2 2009.
- Total leased line numbers and their respective speed categories reported in the Q2 2009 quarterly report were inaccurate. Leased line data will be reported in future quarterly reports subject to data clarification and verification.
- Due to operator revisions broadband numbers reported in the Q2 2009 quarterly report for the period Q2 2009 have been revised upwards from 1,305,035 to 1,306,506. FWA subscriptions have been revised upwards from 112,946 to 115,417; and other subscriptions have been revised downwards from 9,486 to 8,486.
- Due to operator revisions the number of narrowband internet subscriptions have increased for the period Q2 2009 from 158,255 to 177,700.
- Due to operator revisions Wifi hotspots, access points and minutes for the period Q2 2009 have been revised in this report. 1,200 hotspots have been revised to 1,202 hotspots, 3,160 access points to 3,277 access points; and Wifi minutes of use from 18,849,155 to 20,163,153.
- Revenue data supplied for this report is exclusive of VAT. In very a small number of cases VAT was included by fixed line operators in previous reports. From Q3 2009 onwards all operators exclude VAT in their reported revenues.
- Fixed retail revenues have been revised for the period Q1 2009 from over €528 million to over €529 million and for Q2 2009 from almost €510 million to over €511 million. The proportion of revenues per category in figure 2.1.1 has been revised for Q1 and Q2 2009 following operator amendments.
- Mobile retail revenues for the period Q2 2009 have been revised slightly upwards following an operator amendment from €455,627,007 to €455,788,111.
- Free to view TV viewer growth was not +0.59% as reported last quarter for the period Q2 2009 but -1.5% down from 374,570 to 369,025.

Summary

Although internet and mobile subscriptions increased in Q3'09, communications revenues declined once again this quarter. Both fixed and mobile voice traffic decreased this quarter as customers cut back on usage during the recession. This is the third quarter in a row in which all sectors (fixed, mobile, broadcasting) have experienced a decline in revenues. As well as the recession, the plethora of recently introduced bundled products may also be a contributing factor to declining revenues. Presented below is a short summary of this report.

Irish Quarterly Communications Market Data Q3 2009			
	Q3'09	Q2'09	Quarterly Change
Total Market Revenues	€996,169,114	€1,014,093,113	-1.8%
Fixed Line Revenues	€505,278,258	€511,527,102	-1.2%
Mobile Revenues	€445,549,041	€455,788,111	-2.2%
Broadcasting Revenues	€45,341,816	€46,777,900	-3.1%
Total Voice Traffic	4,521,691,558	4,543,811,680	-0.5%
Fixed Voice Traffic	1,988,770,088	2,006,686,714	-0.9%
Mobile Voice Traffic	2,532,921,470	2,537,124,965	-0.2%
Internet Subscriptions	1,517,449	1,484,206	+2.2%
Broadband Subscriptions	1,361,254	1,306,506	+4.2%
Narrowband Subscriptions	156,195	177,700	-12.1%
Mobile Subscriptions (inc. HSDPA)	5,231,166	5,180,281	+1.0%

- Overall market revenues continued to decline this quarter by 1.8% to just over €996.1 million. Fixed revenues increased its market share to 50.7%, and is followed by mobile (44.7%) and broadcasting (4.6%).

- Total voice traffic minutes decreased by 0.5% this quarter to just above 4.5 billion minutes, due to a decline in both fixed and mobile voice traffic. Mobile minutes form the majority of voice minutes at 56%, with fixed minutes representing the remaining 44%.

- This quarter, total internet subscriptions increased to 1,517,449. This represents a growth rate of 2.2% since last quarter and 9.4% since Q3 2008.

- Reductions in narrowband internet subscriptions continued this quarter, declining by 12.1% since Q2'09 and 40.3% since Q3'08. There are now a total of 156,195 narrowband subscriptions in Ireland.

- Broadband subscriptions (fixed and mobile) continue to increase, reaching 1,361,254 in Q3'09. This is a 4.2% increase on Q2'09. The broadband penetration rate (including mobile broadband) reached 30.5% in Q3'09. Excluding mobile broadband subscriptions (411,855), which have been the biggest net broadband contributor since Q1'08, fixed broadband subscriptions increased by 1.4% this quarter to 949,399.

- Mobile per capita penetration (inc. HSDPA) was 117.3% in Q3 2009. Excluding mobile broadband subscriptions, the penetration rate was 108.1%.

- Mobile revenues decreased by 2.2% this quarter to just over €445.5 million.

- Cloud computing is discussed in the Emerging Trends section of this report.

Notes to data:

- 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.

- In this report Irish population estimates from the Central Statistics Office (CSO) of 4,459,300 for April 2009 are used for the period Q3 2009.

- A number of external sources are used for international comparisons. These include the Yankee Group, CSO, Informa Telecoms and Media, Teligen, and the European Commission.

- In most cases data has been rounded to one decimal place in this report.

- Q1 2009 submissions for Greencom, and Q2 2009 submissions for IFA, and TNS are used in this report.

- Further explanations and descriptions of data supplied in this report can be found in the accompanying explanatory memorandum 09/101a.

- Extracts of data used in this report can be downloaded at www.comstat.ie

- Data previously published may have been amended since publication. Any such amendments are noted in the corrigenda above.

1. Overall Market Data

Data presented in this report is based on questionnaires completed by authorised operators for the period from 1st July 2009 to 30th September 2009. The report is based on submissions from 62 active operators[1].

1.1 Number of Authorisations

Figure 1.1.1 - Total Number of Authorisations

Total Authorisations	December 2009
No. of fixed and wireless authorisations	358
No. of mobile telephony authorisations	7
No. of broadcasting authorisations (incl. Cable TV, MMDS, Deflectors)	85
Total Number	450

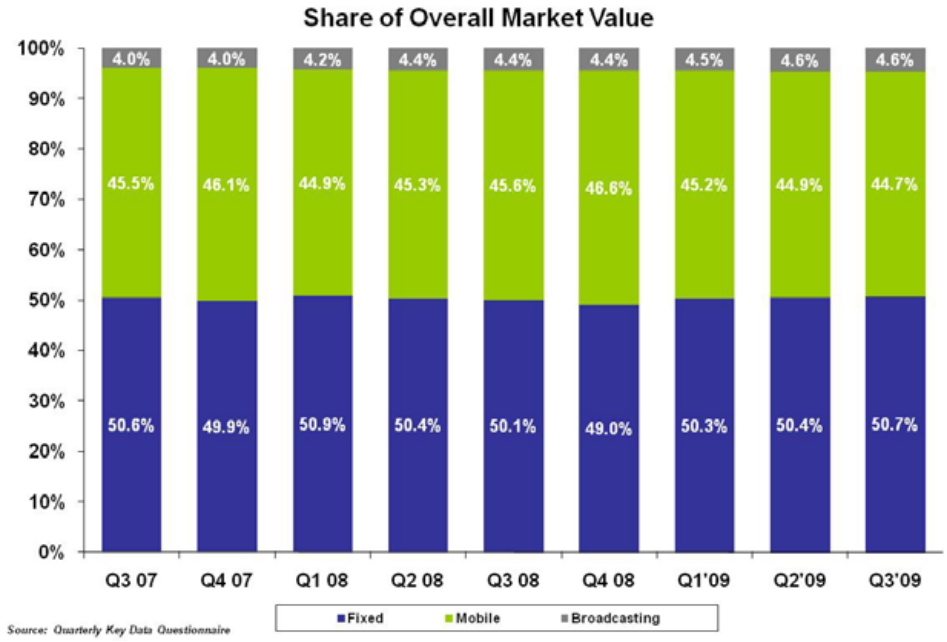
Before providing networks or services to third parties, operators are required to submit a notification to ComReg which is added to a central register of authorised operators. At the date of publication there were 450 authorised undertakings in Ireland. It should be noted that the list above refers to 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.

1 Q_1 2009 submissions for Greencom, and Q2 2009 submisisons for IFA, and TNS were used in this report.

1.2 Overall Electronic Communications Revenues[2]

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 fixed revenues for Q1'09 and Q2'09 have been revised since the previous report (09/71).

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



Overall electronic communications network and service revenues at the end of September 2009 were just over €996 million for the quarter. Industry revenues decreased by 1.8% this quarter, a smaller decline than in the previous two quarters but they have fallen by 11.7% since Q3 2008. All three sectors of the communications market experienced a decline in revenues again this quarter. Fixed revenues decreased by 1.2%, while mobile and broadcasting revenues declined by 2.2% and 3.1% respectively. It should be noted that broadcasting revenues are understated in this report, as Sky Ireland's satellite TV revenues are not included in the analysis.

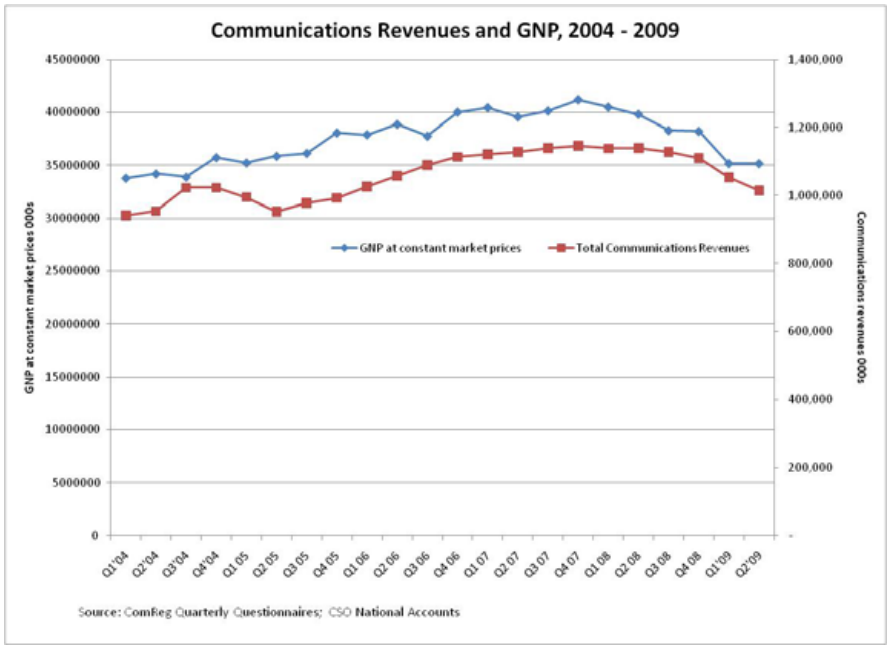
While in absolute terms all categories experienced a decline in revenues this quarter, the fixed line sector increased its revenue share due to a larger fall in mobile revenues. Fixed line revenues accounted for 50.7% of total revenues which was a 0.3 percentage point increase from the previous quarter. Broadcasting revenue share declined by under

2 For further detail on terms and definitions see ComReg Document Number 09/101a Explanatory Memorandum to the Quarterly Key Data Report.

0.1 percentage points to 4.6% but the mobile industry's share of total revenues decreased by 0.2 percentage points from 44.9% to 44.7%.

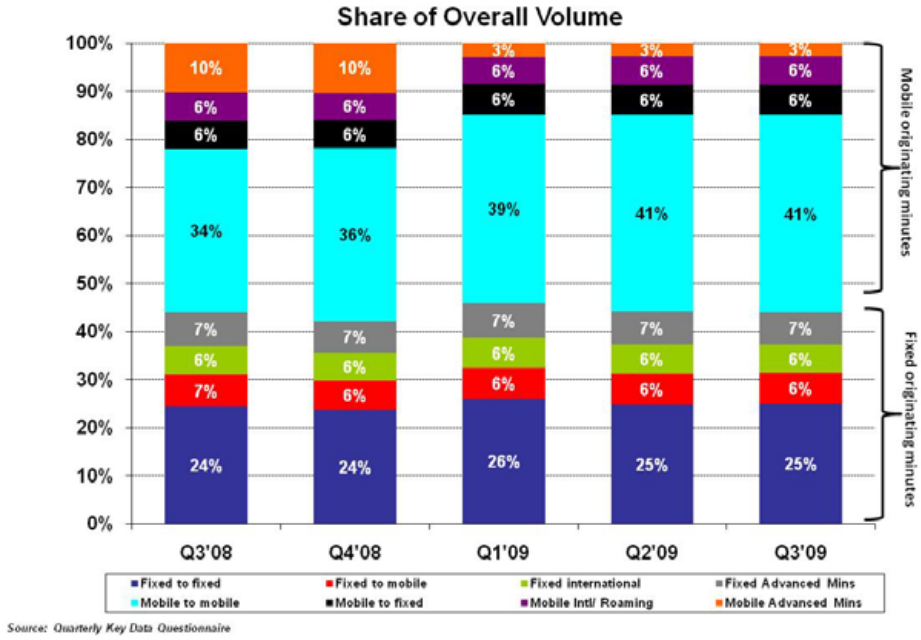
Figure 1.2.2 shows that over the last 5 years changes in communications revenues have generally mirrored economic output. As the recession has deepened over the last year, both GNP and communications revenues have declined.

Figure 1.2.2– Communications Revenues and GNP, Q1 2004 – Q2 2009



1.3 Overall Call Volumes

Figure 1.3.1 - Share of Total Voice Call Volumes (Minutes)[3]



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 Q3 2009 totalled over 4.52 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 removed in Q1 2009 and therefore, had a downward impact on overall mobile voice traffic. Voice minutes decreased by 0.5% on the previous quarter when total voice minutes were just over 4.54 billion minutes. Mobile originating voice minutes accounted for 56% of all voice minutes while traffic originating on a fixed line network accounted for 44% of all voice minutes. Figure 1.3.2 shows the total voice traffic in Ireland at the end of Q3 2009. Fixed voice minutes decreased this quarter by 0.9% while mobile minutes decreased by 0.2%.

Figure 1.3.2 – Total Voice Traffic

	Q3'09 Mins	Quarterly Growth Q2'09 – Q3'09	Year-on-Year Growth Q3'08 – Q3'09
Fixed voice minutes	**1,988,770,088**	**-0.9%**	**-11%**
Mobile voice minutes	**2,532,921,470**	**-0.2%**	**-10.5%**
Total voice minutes	**4,521,691,558**	**-0.5%**	**-10.8%**

3 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[4] 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 1st. 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 August 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.

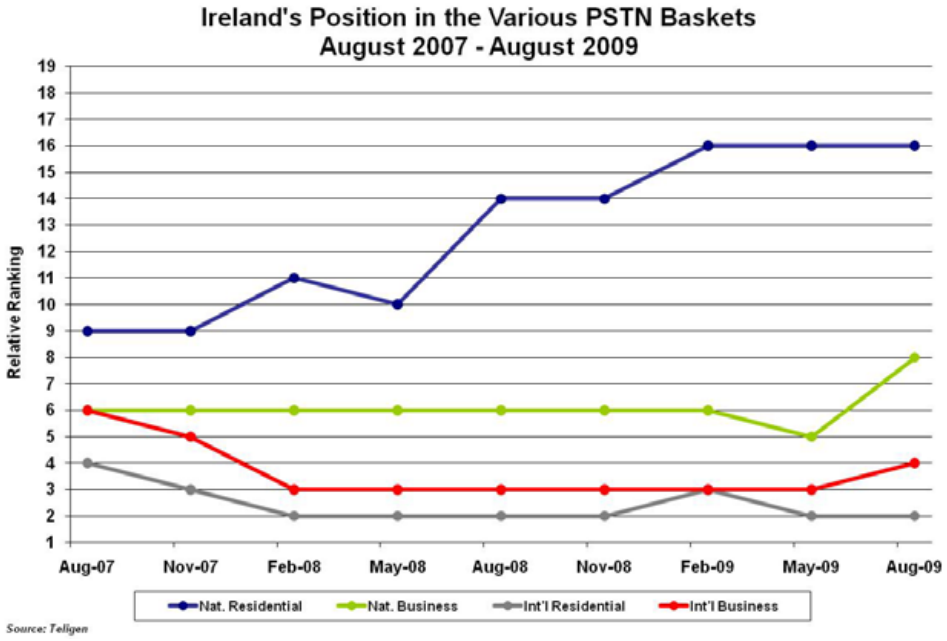
For further information on Teligen's methodology please see the accompanying memorandum ComReg 09/101a.

4 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 August 2007, where the least expensive country based on the methodology is ranked 1st and the most expensive is ranked 19th. 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). Ireland's position in the national residential, and international residential baskets has remained the same this quarter. However, while Ireland continues to remain cheaper than the EU19 average for the national and international business baskets, Ireland's relative position has dis-improved by three and one place respectively this quarter to 8th and 4th respectively.

Figure 1.4.1.1 – Ireland's Position in the Various PSTN Baskets



1.4.2 Mobile Baskets

Figure 1.4.2.1 shows the movement in Ireland's position in all the mobile baskets since August 2007 relative to 18 other EU countries, where the least expensive country is ranked 1st and the most expensive country is ranked 19th. Ireland's position in the low user post-paid basket fell back one place to 9th in August 2009, ranking Ireland four places better when compared to August 2007. As of August 2009 Ireland ranks in 10th position for the medium user basket. Ireland's position dropped by two places for the high user post-paid basket and by one place for the pre-paid user basket, ranking in 12th and 11th respectively.

Figure 1.4.2.1 – Ireland's Position in the Various Mobile Baskets

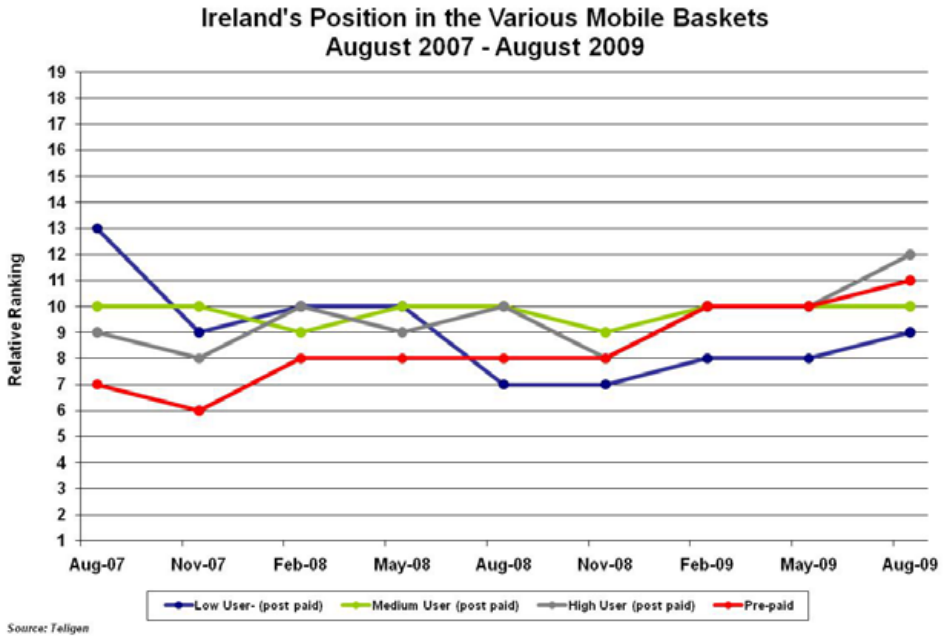
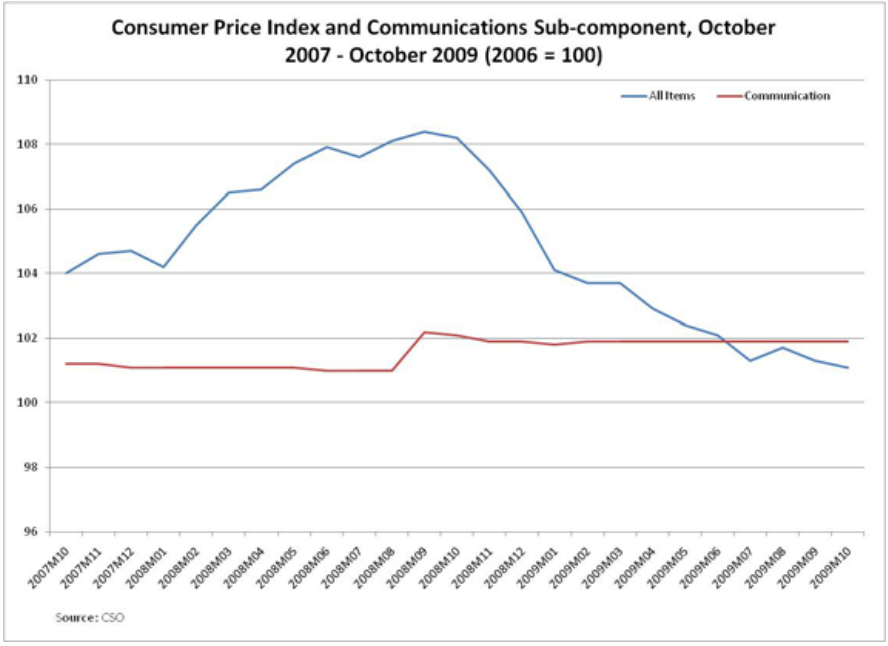


Figure 1.4.2.2 shows the change in the Consumer Price Index (CPI) since October 2007 and the change in its communications sub-component. Communications comprise 3.34% of the consumer price index. Communications prices have been below overall prices for the majority of the period and have remained relatively stable over the period. As the recession has deepened, overall prices have declined, falling quicker than communications prices in the last number of months.

Figure 1.4.2.2 – Consumer Price Index



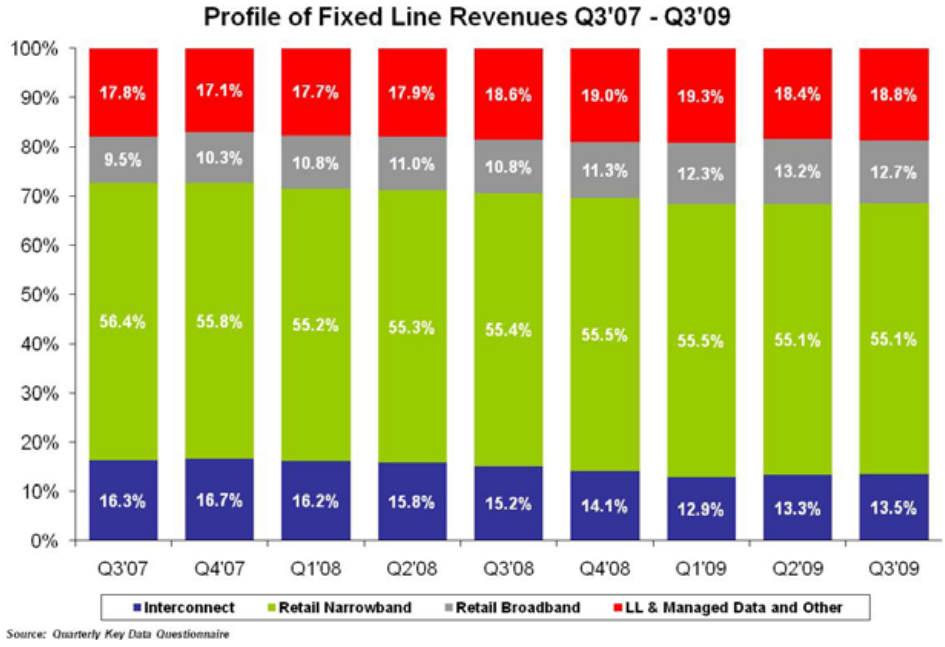
2. Fixed Market Data

2.1 Total Fixed Line Revenues

Figure 2.1.1 shows the profile of fixed line wholesale and retail revenues in Q3 2009. Total fixed line revenues at the end of September 2009 were just over €505 million. This is a 1.2% decrease on Q2 2009 revenues, which were just over €511 million. While leased lines, managed data and other advanced data services revenues experienced a slight pick up this quarter, retail narrowband and interconnect revenues have declined. Retail broadband revenues saw the biggest relative decline this quarter of 4.8%.

This quarter the market share of leased lines, managed data and other advanced data services and interconnect revenues increased by 0.4 and 0.2 percentage points respectively. While the market share of retail narrowband remained unchanged this quarter, retail broadband revenues market share fell by 0.5 percentage points.

Figure 2.1.1 – Profile of Fixed Line Revenues



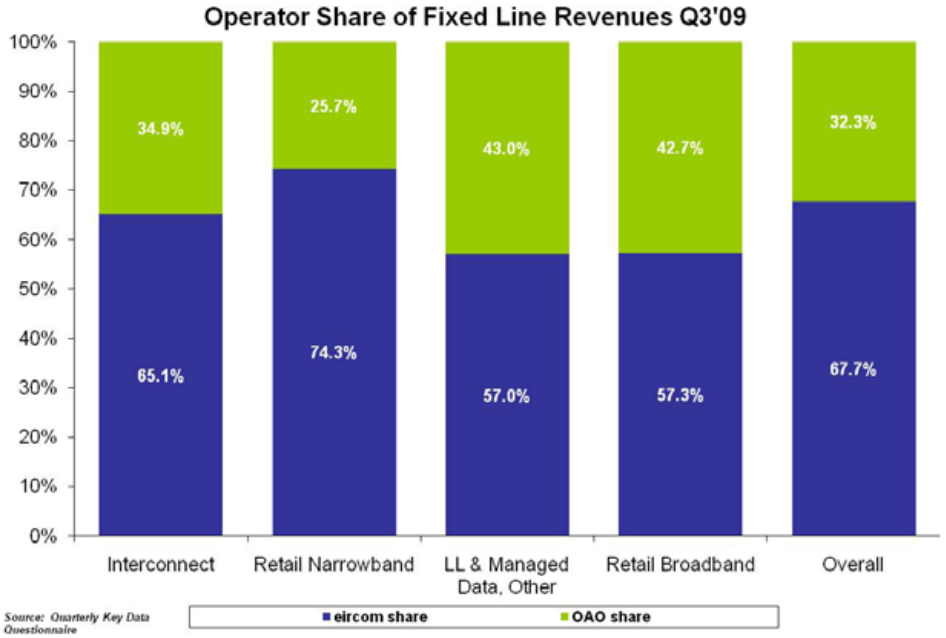
2.1.1 Authorised Operators' Share of Overall Fixed Line Revenues

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 retail narrowband, broadband, and interconnect revenues but lost market share in leased line, managed services and other revenues.

Since last quarter, Eircom's retail broadband and interconnect market shares have increased from 54.4% to 57.3% and 62.7% to 65.1% respectively. Eircom's retail narrowband market share has increased slightly from 74.1% to 74.3%. However, its share of Leased line, managed data and other revenues has fallen from 61.3% to 57%.

Figure 2.1.1.1 – Operator Share of Fixed Line Revenues[5]

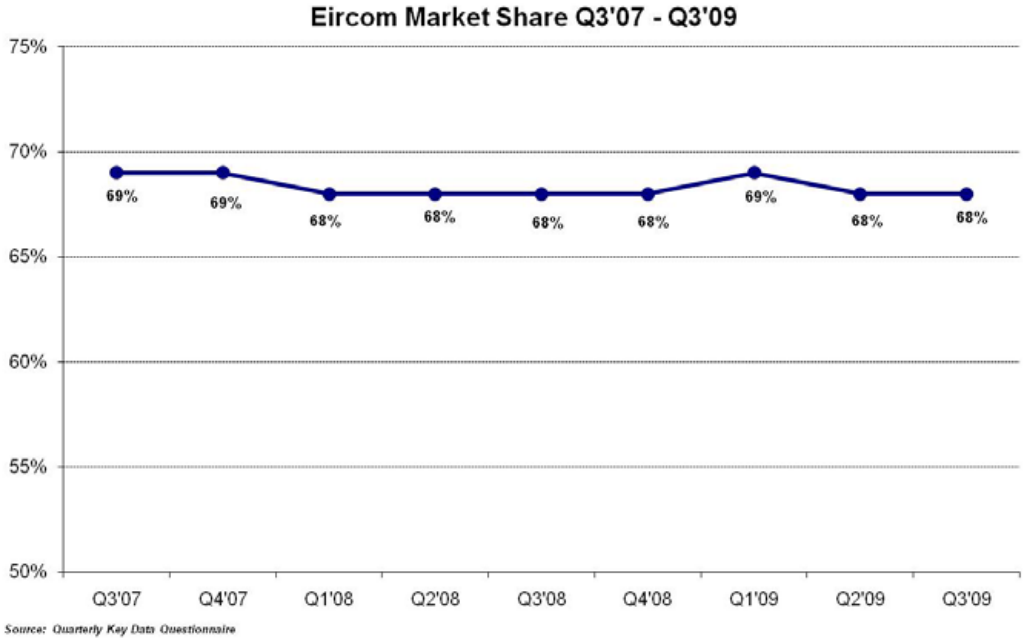


5 Eircom's retail broadband share includes DSL, FWA and Satellite revenues.

Eircom's overall share of fixed line market revenue has increased marginally this quarter, by 0.1 percentage points. However, when compared to its market share two years ago, this is a 1.3 percentage point decrease. Figure 2.1.1.2, below, shows Eircom's market share on a quarterly basis from Q3 2007 to Q3 2009.

Fixed alternative operators' market shares are not presented this quarter given recent operator alliances and ownership changes[6]; this chart will be reviewed for the next quarterly report for the period Q4'09.

Figure 2.1.1.2 – Eircom's Market Share



6 BT transferred residential and some SME customer segments to Vodafone Ireland in September 2009.

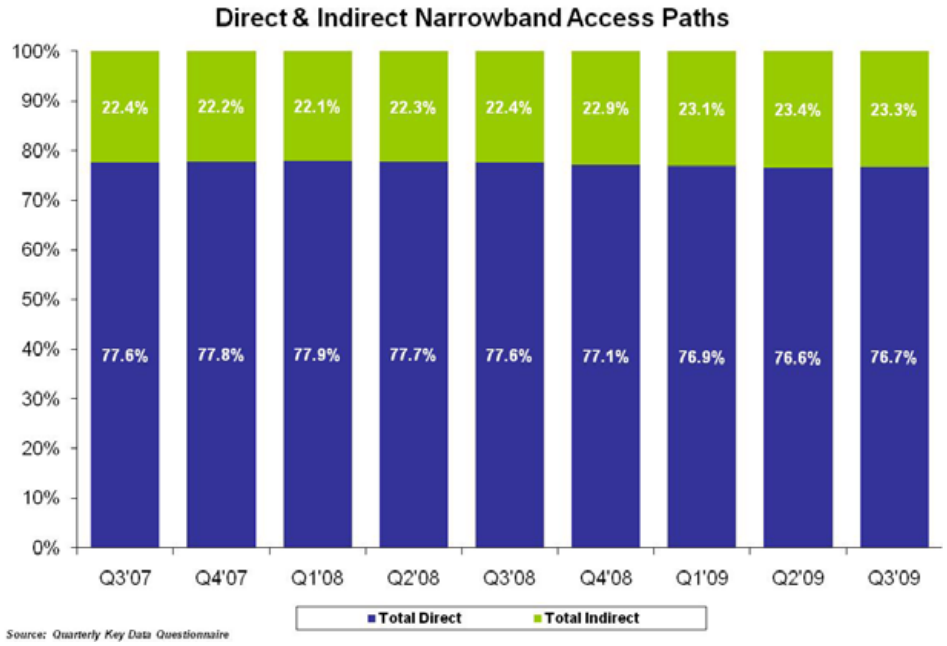
2.2 Fixed Line Access Paths

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[7]. These paths are usually used for voice services and dial up internet access. There were just over 1.96 million direct and indirect PSTN and ISDN access paths in the Irish market in Q3 2009. This represents a decline of 5.3% since Q3 2008 and 1.4% since Q2 2009.

In Q3 2009, indirect access accounted for 23.3% of all access paths in the fixed market slightly down from the previous quarter.[8] 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



7 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.

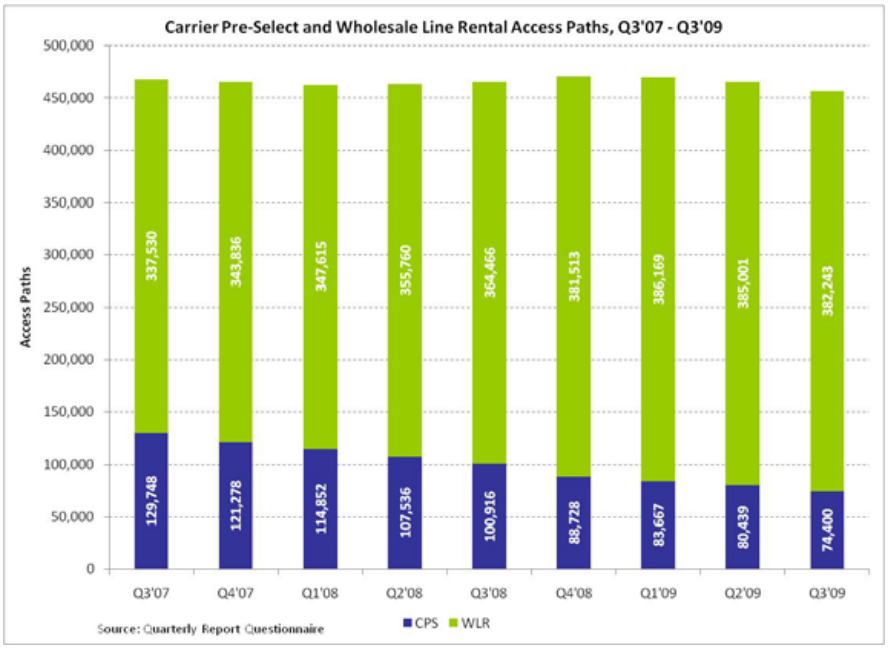
8 Access paths are not synonymous with access lines as for example in the case of ISDN paths, there may be more than 1 path provided via a single ISDN line.

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 Q3 2009, there were 456,643 indirect access paths in Ireland. The number of indirect access paths fell by 1.9% in both Q3 2009 and in the year to Q3 2009.

For the second quarter in a row there was a decline in WLR after continuous quarterly growth over the last three years. Nevertheless, the data indicates that OAOs continue 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 almost 84% of indirect access paths compared to just over 72% in Q3 2007. CPS share of indirect access paths has declined by over 11 percentage points in the last two years.

Figure 2.2.2.1 – Narrowband Indirect Access Paths



2.2.3 Fixed Access Path Trends

Based on data from Informa Telecoms and Media, with the exception of Italy and the UK, which have been experiencing increases in WLR, all EU15 countries have experienced a decline in PSTN lines between Q2'06 and Q2'09. Denmark experienced the biggest PSTN line loss at circa -18%. As per figure 2.2.3.1, Ireland's PSTN lines have declined by approximately 2.6% over the period.

Figure 2.2.3.1– EU15 PSTN Lines, Q2'06 – Q2'09

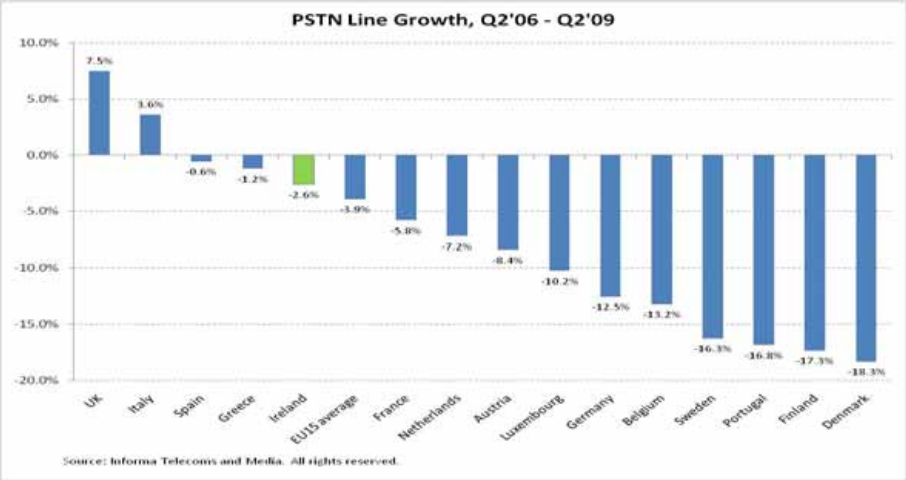
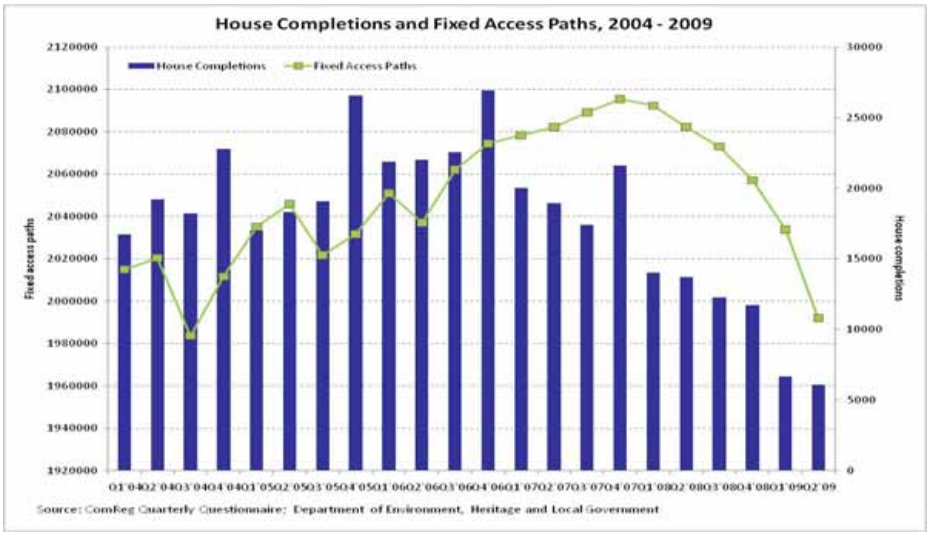


Figure 2.2.3.2 shows that in line with reductions in new house builds, the number of fixed (access paths) connections have declined. Over the same time period mobile subscriptions have increased by 20% according to data from Informa Telecoms and Media.

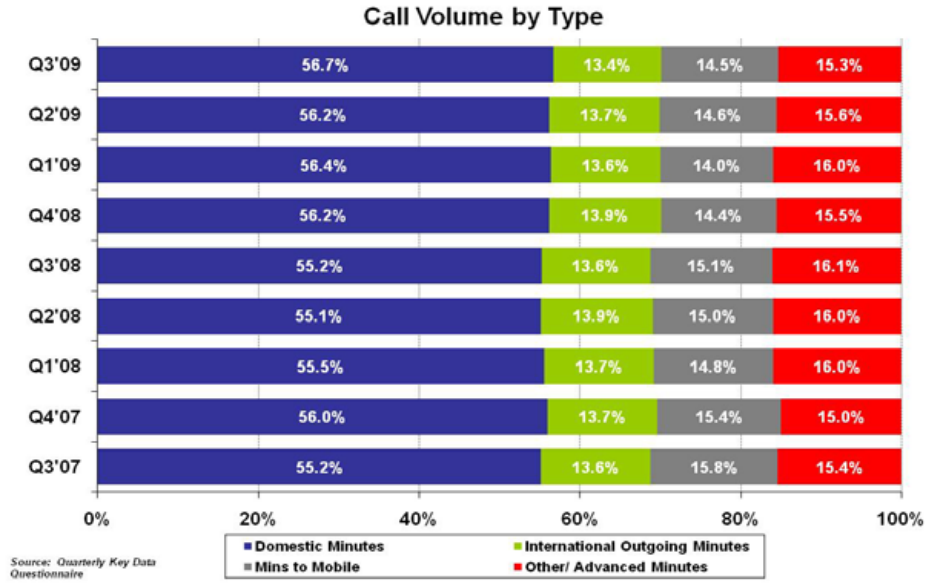
Figure 2.2.3.2 – House Completions and Fixed Access Paths, 2004- 2009



2.3 Fixed Voice Call Volumes

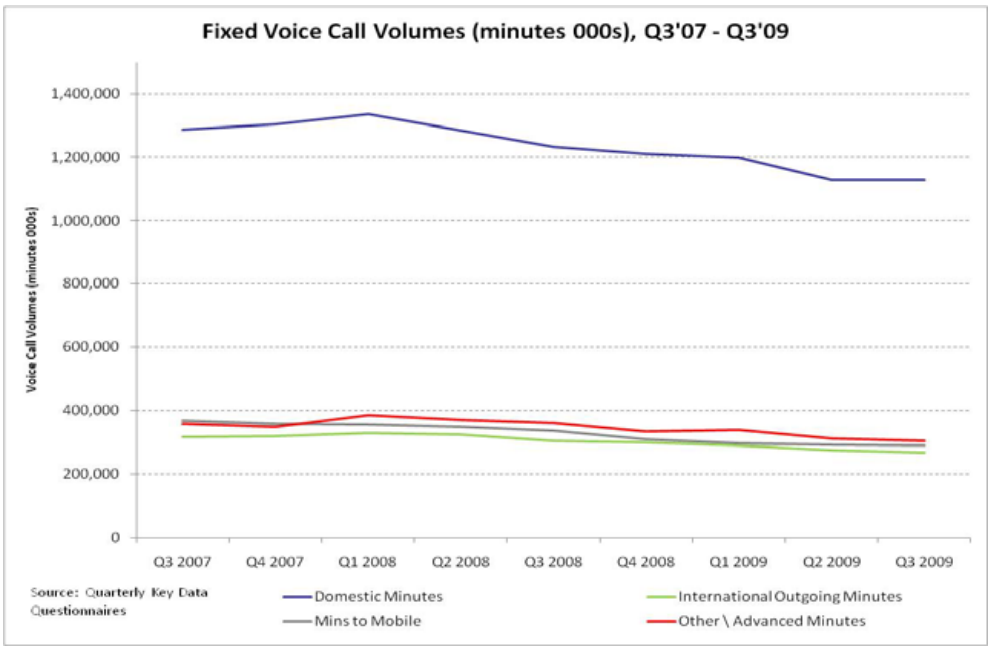
Fixed voice call traffic in Q3 2009 was just almost 1.99 billion minutes, which was a 0.9% decrease since Q2 2009 and a fall of 11% since Q3 2008. The volumes of all categories of minutes have fallen this quarter with the exception of domestic minutes which increased very slightly (by 0.1%). Voice over broadband (VoB) minutes now account for approximately 2.7% of total fixed voice minutes up from 2.1% in Q2'09. ComReg data shows almost 53 million managed VoB minutes for Q3 2009, an increase of 60% since Q3'08 when managed VoB minutes were almost 33 million. VoB subscriptions 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. International outgoing minutes fell by the greatest amount this quarter (by 2.9%) and have declined by 12.2% since Q3 2008. Minutes to mobile decreased by 1.1% this quarter and now represent 14.5% of all fixed voice minutes. Domestic minutes increased by approximately 0.1% in Q3 2009 but are down by 8.6% since the same period last year. Other/advanced minutes (which include VoB minutes) have fallen by 2.4% this quarter and by 15.1% since Q3 2008. 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 and voice over broadband substitution. Figures 2.3.1 and 2.3.2 illustrate trends in fixed voice call minutes since Q3 2007.

Figure 2.3.1 – Fixed Voice Call Volume (Minutes)[9]



9 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.

Figure 2.3.2 – Fixed Voice Call Volume (Minutes), Q3'07 – Q3'09



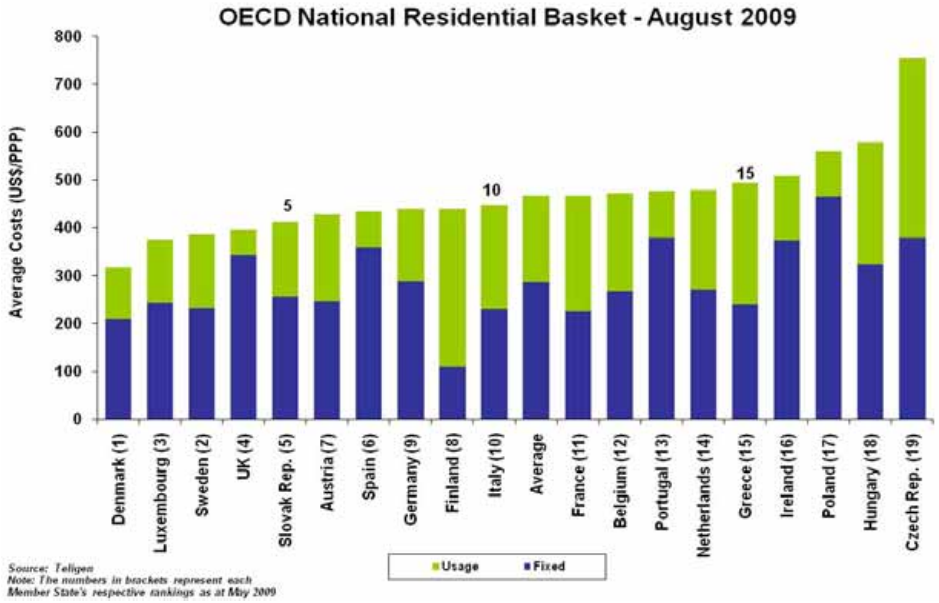
2.4 PSTN Pricing Data

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[10]. 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 August 2009 Ireland ranked in 16th position, 6 places behind the average of the EU19 countries in terms of the most competitive pricing for this basket. Ireland's position for this basket remains unchanged since February 2009.

Figure 2.4.1.1 - OECD National Residential Basket – August 2009[11]



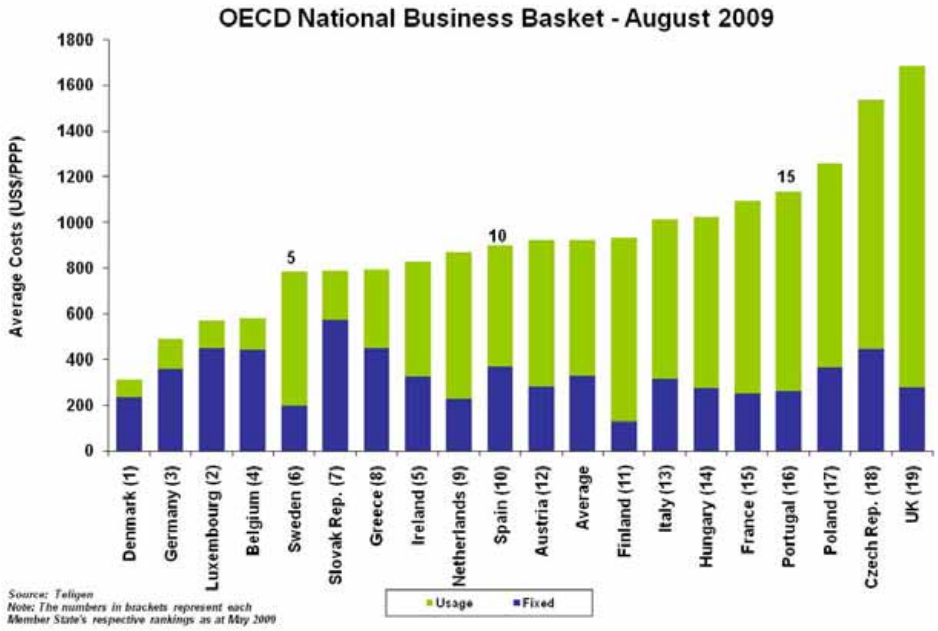
10 This will be determined by whether the EU country is also an OECD member.

11 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 is approximately 10% cheaper than the EU19 average but has moved down three places to 8th since May 2009.

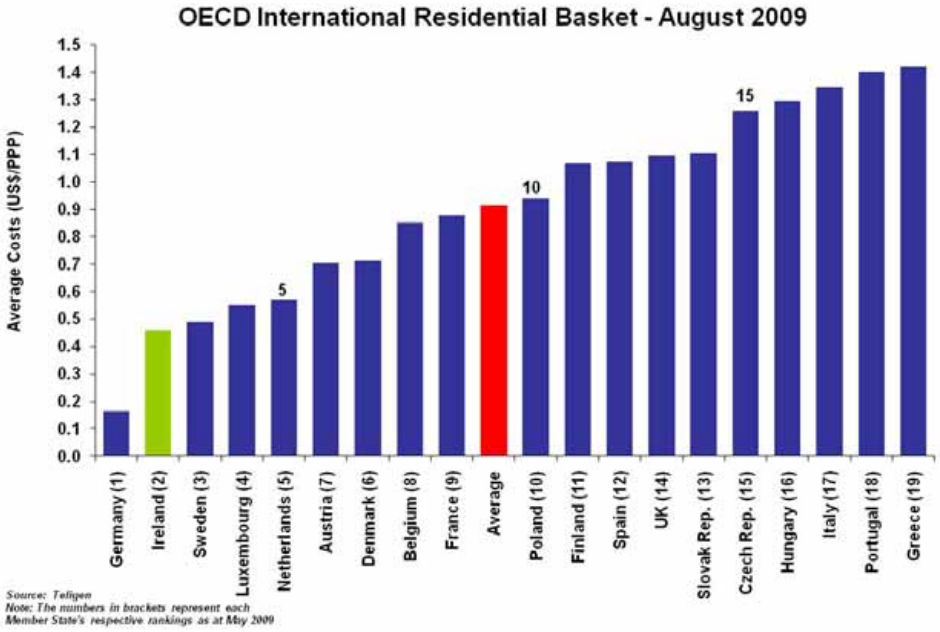
Figure 2.4.2.1 - OECD National Business Basket – August 2009



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. The average cost for Ireland is approximately 50% cheaper than the EU19 average, and Ireland's position has remained unchanged since May 2009 in 2nd place.

Figure 2.4.3.1 - OECD International Residential Basket – August 2009[12]

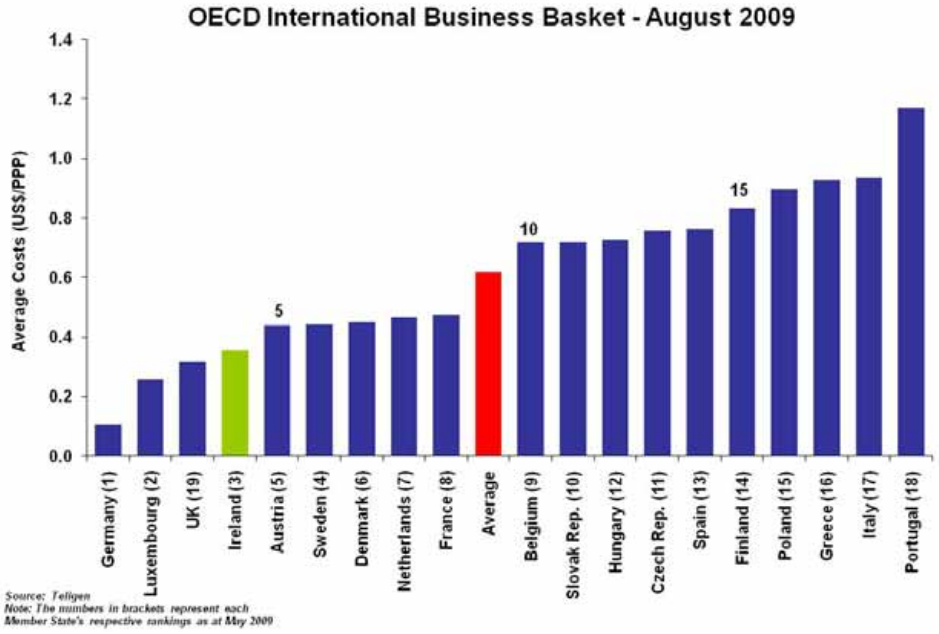


12 Residential tariffs include VAT. VAT rates vary between member states.

2.4.4 OECD International Business Basket

As with the previous chart, figure 2.4.4.1 ranks 19 EU countries (including Ireland) 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. The average cost for Ireland is approximately 43% cheaper than the average of the EU19 countries but Ireland has fallen in ranking by one place to 4th this quarter.

Figure 2.4.4.1- OECD International Business Basket – August 2009



3. Internet and Broadband

3.1 Total Internet Subscriptions

At the end of September 2009, there were over 1.517 million active internet subscriptions in Ireland.[13] This is a 2.2% increase on the previous quarter and a 9.4% increase on September 2008. Overall, narrowband subscriptions have continued their decline since 2004. Flat-rate narrowband subscriptions fell by 15.9% and metered narrowband subscriptions decreased by 11.5% on the previous quarter. Total broadband subscriptions continued to grow (in the quarter by 4.2% and yoy by 21%), but growth is slowing compared with late 2007 and 2008. The continued strong decline in narrowband subscriptions coupled with the increase in broadband subscriptions suggests continued narrowband migration to broadband. Growth in broadband subscriptions this quarter was mainly driven by net increases in mobile broadband (41,431) and cable (13,292). If mobile broadband (HSDPA) subscriptions are excluded, quarterly growth for Q3 2009 was 1.4% and year on year, 10.9%. In absolute terms, mobile broadband (via HSPA) showed the largest net additions (41,431) this quarter, and showed an 11.2% increase, which represents a pick up in the rate of growth from the previous quarter. Cable broadband additions showed the second strongest growth performance this quarter, up 10.7%, an increase of 13,292 in absolute terms. In the twelve months to September 2009 mobile broadband subscriptions increased by 53.3%, while cable broadband subscriptions are up by 44.1% for the same period. Figure 3.1.1 shows the total number of narrowband and broadband internet subscriptions in Ireland.

Figure 3.1.1 – Total Number of Active Internet Subscriptions

Subscription Type	Q3'09 Subs	Quarterly Growth Q2'09- Q3'09	Year-on-Year Growth Q3'08- Q3'09
Metered Narrowband	135,317	-11.5%	-39.8%
Flat Rate Narrowband	20,878	-15.9%	-43.4%
DSL Broadband[14]	696,641	+1.3%	+10%
Mobile Broadband	411,855	+11.2%	+53.3%
Cable Broadband	137,601	+10.7%	+44.1%
Other Broadband[15]	115,157	+1.8%	+13.4%
Total Internet Subscriptions	1,517,449	+2.2%	+9.4%

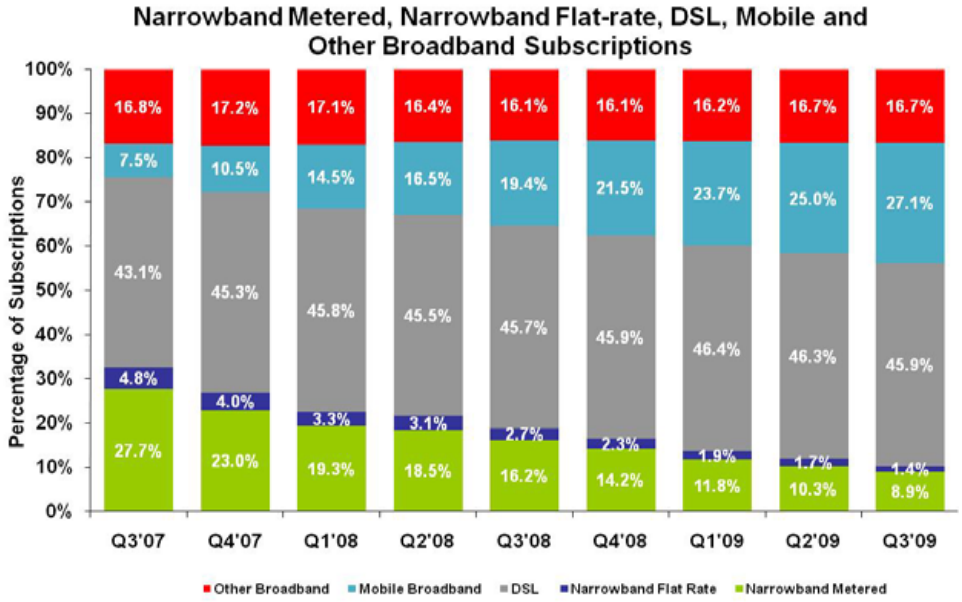
13 Total internet subscriptions have been revised for the period Q2,09 to 1,484,206.

14 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.

15 Other Broadband includes fixed wireless access, fibre, satellite broadband connections.

Figure 3.1.2 profiles internet subscriptions in Ireland using the classifications of subscription type outlined in figure 3.1.1. Broadband subscriptions account for 89.7% of all internet subscriptions. Figure 3.1.2 provides a profile for the periods Q3 2007 – Q3 2009. DSL subscriptions alone account for 45.9% of all internet subscriptions. While DSL growth has been slowing, DSL's share of total internet subscriptions has increased by 0.2 percentage points over the last year. Metered narrowband and flat-rate narrowband's combined share has fallen by 8.6 percentage points over the same period. Meanwhile mobile broadband subscriptions market share of all internet subscriptions has been growing strongly from 7.5% in Q3'07 to 27.1% in Q3'09.

Figure 3.1.2 – Profile of Active Internet Subscriptions



Source: Quarterly Key Data Questionnaire

Figure 3.1.3 shows the change in internet subscriptions overtime. Broadband subscriptions have grown on average 25% each quarter over the period while narrowband subscriptions have declined on average by 5% each quarter over the period. Broadband subscriptions exceeded narrowband subscriptions for the first time in Q1'07.

Figure 3.1.3 – Total Internet Subscriptions, Q1'03 – Q3'09

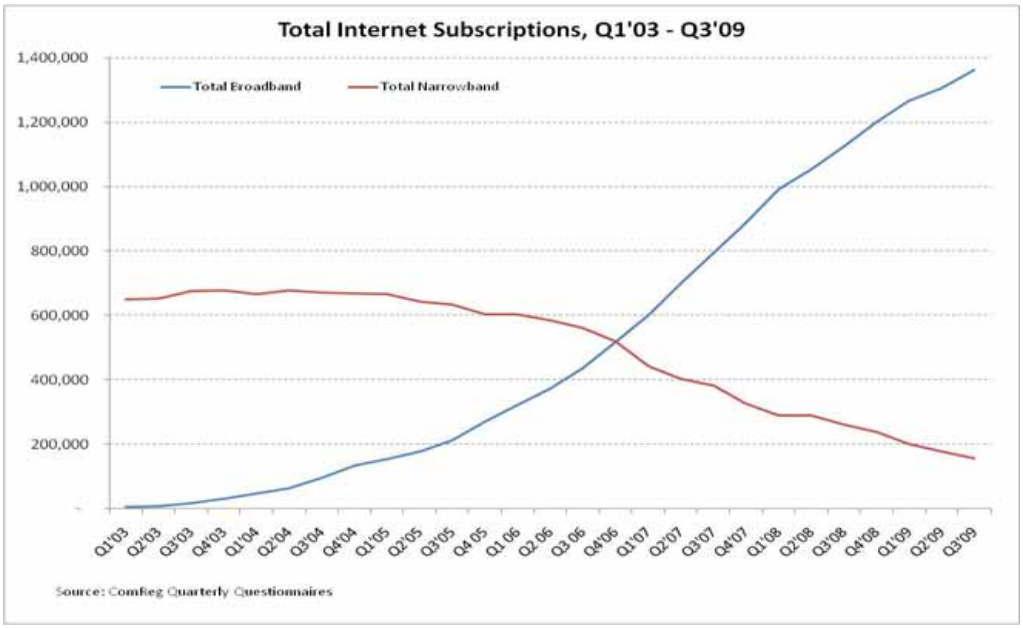
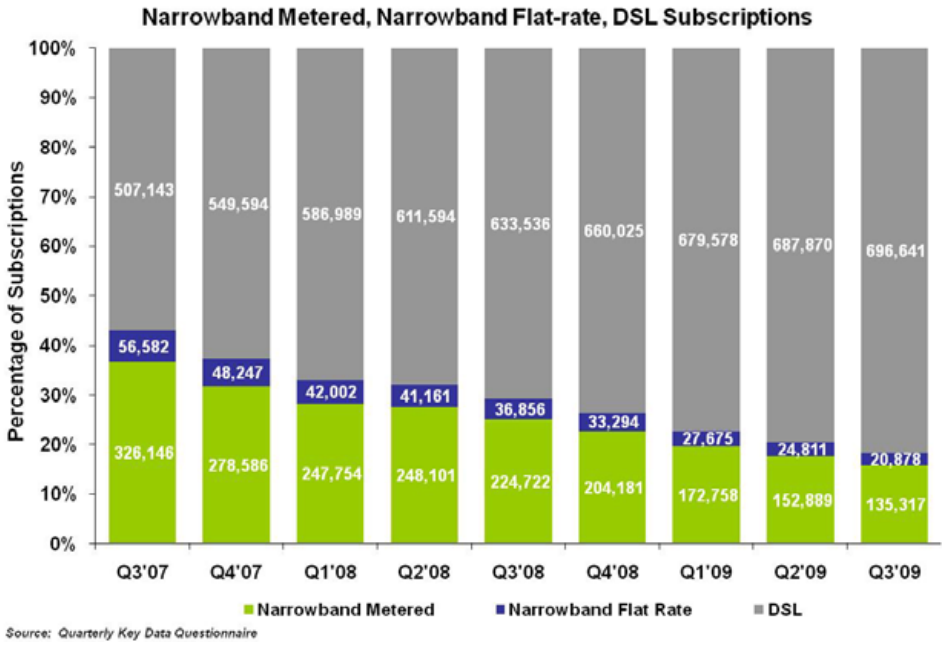


Figure 3.1.4 profiles only those internet subscriptions delivered over the copper telecoms network. It includes an analysis of metered or pay-as-you-go narrowband subscriptions, flat-rate narrowband subscriptions and DSL subscriptions. There were 852,836 active internet subscriptions over the copper telecoms network at the end of September 2009. This was a decline of 12,734 (-1.5%) in the total number of copper-based subscriptions since Q2 2009 due to falls in narrowband subscriptions.

DSL accounted for 81.7% of copper-based internet subscriptions in Q3 2009 compared to 79.5% in Q2 2009. Metered narrowband subscriptions accounted for 15.9% of internet subscriptions over copper compared to 17.7% in Q2 2009. Flat-rate narrowband internet subscriptions made up the remaining 2.4% of copper-based internet subscriptions compared to 2.9% in the previous quarter.

Figure 3.1.4 – Profile of Copper Based Internet Subscriptions

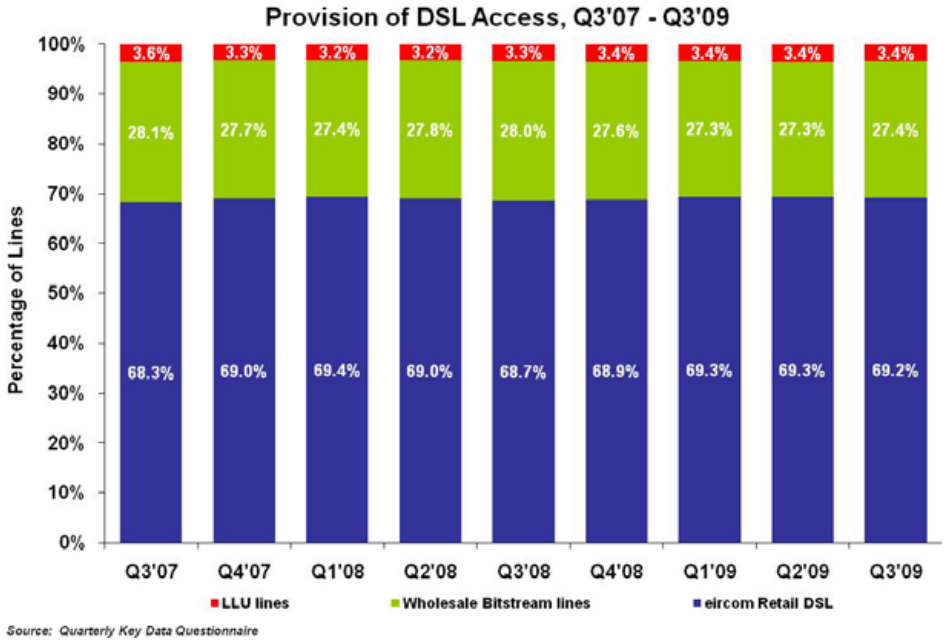


3.2 Provision of DSL Access

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 69.2% of all DSL subscriptions in September 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 September 2009, 27.4% 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. At the end of September 2009 there were 23,619 local loops unbundled. Eircom's market share of retail DSL lines has grown by 0.9 percentage points over the last two years.

Figure 3.2.1 - Provision of DSL Access

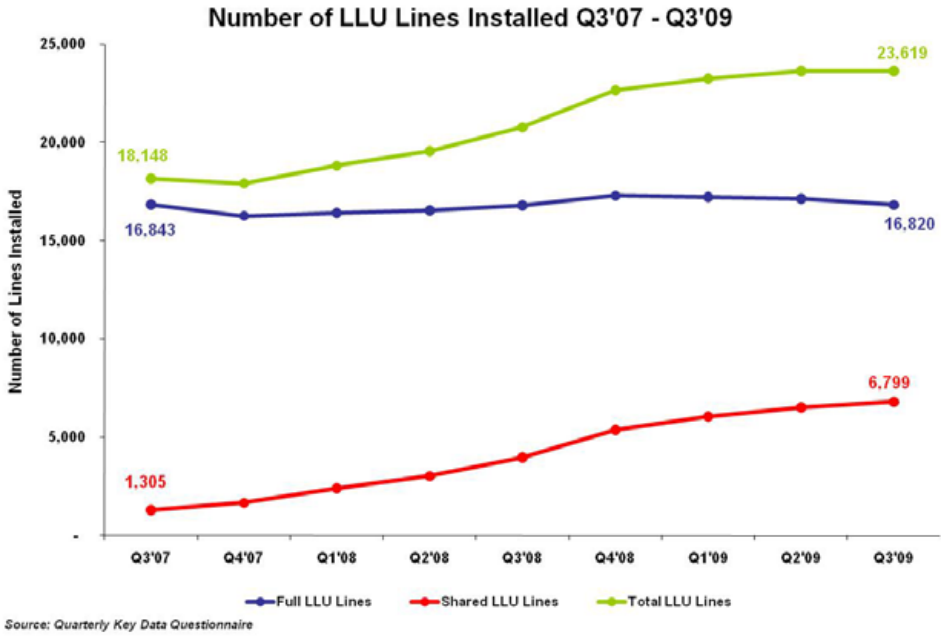


Source: Quarterly Key Data Questionnaire

Figure 3.2.2 shows the number of unbundled lines classified by shared and full[16] status. Between Q3 2007 and Q3 2009 the total number of LLU lines increased by 30%. However, full LLU growth has been slowing over the last number of quarters turning slightly negative in Q3 2009 possibly due to legal uncertainty because of Eircom's recent challenge to a decision[17] by ComReg to reduce wholesale line share charges from €8.41 to €0.77.

Fully unbundled lines accounted for 71.2% of total LLU lines in Q3 2009. The proportion of shared lines relative to the total number of LLU lines has continued to increase over the last two years, accounting for almost 29% of all LLU lines in Q3 2009.

Figure 3.2.2 – Number of Local Loops Unbundled



Source: Quarterly Key Data Questionnaire

16 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.

17 Decision D4/09 available at http://www.comreg.ie/_fileupload/publications/ComReg0966.pdf

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 / Uplink Packet Access (HSDPA/HSUPA) 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[18] report.

At the end of September 2009, there were 1,361,254 broadband subscriptions in Ireland. This represents a growth rate of 4.2% in the number of subscriptions for this quarter. FWA subscriptions continued to decline since its peak in Q1'08, falling by 7.7% in Q3 2009. Mobile broadband showed the strongest growth this quarter, followed by cable.

Figure 3.3.1 – Broadband Subscriptions[19] and Growth Rates by Platform

Platform	Q3'09 Subs	Quarterly Growth Q2'09 – Q3'09	Year-on-Year Growth Q3'08 – Q3'09
DSL	696,641	+1.3%	+10%
Cable	137,601	+10.7%	+44.1
FWA	106,519	-7.7%	-9.6%
Other[20]	8,638	+1.8%	-10%
Sub-Total	949,399	+1.4%	+10.9%
Mobile Broadband	411,855	+11.2%	+53.3%
Total	1,361,254	+4.2%	+21%

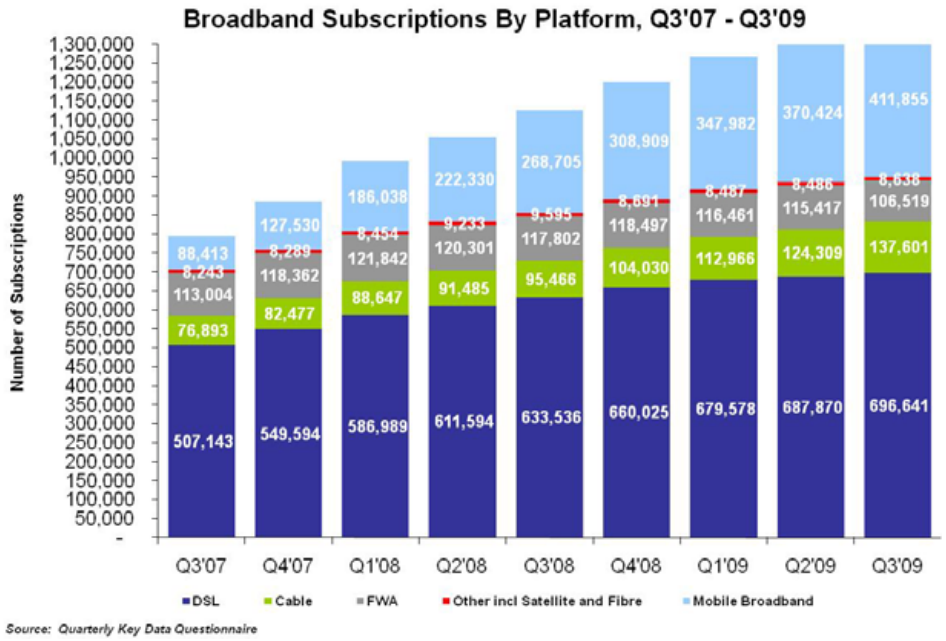
18 In Q2 2007 an estimate of 45,000 mobile broadband subscriptions was used.

19 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.

20 Other Broadband includes Satellite and Optical Fibre broadband subscriptions.

DSL remains the largest broadband access platform in terms of subscriptions, accounting for 51.2% of all broadband subscriptions, which is a slight decrease since Q2 2009 (52.6%). Other platforms account for the remaining 48.8% of connections. Figure 3.3.2 illustrates the split by type of broadband subscriptions in the Irish market since Q3 2007.

Figure 3.3.2 – Broadband Subscriptions by Platform



Source: Quarterly Key Data Questionnaire

Figure 3.3.3 shows the number of broadband net additions by platform for each quarter since Q3 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 54,748 net additions to broadband this quarter, compared to 41,032 in Q2 2009.

Mobile broadband grew by 41,431 customers in Q3 2009, almost an 85% increase on the number of mobile broadband additions since the last quarter reflecting net additions more in line with quarters prior to Q2'09. DSL added 8,771 subscriptions in Q3 2009, an increase of 5.8%, in terms of additions, on Q2 2009. However, since Q3 2007, net quarterly DSL additions have declined by 74.5%. As take up of broadband increases it is to be expected that net additions level off over time.

Net additions to cable continued to increase this quarter reaching 13,292. Cable net additions have grown by 17.2% this quarter. FWA subscriptions declined by 8,898 subscriptions, while subscriptions in the "Other Broadband" category grew slightly this quarter by 152 subscriptions.

Figure 3.3.3 – Quarterly Broadband Net Additions

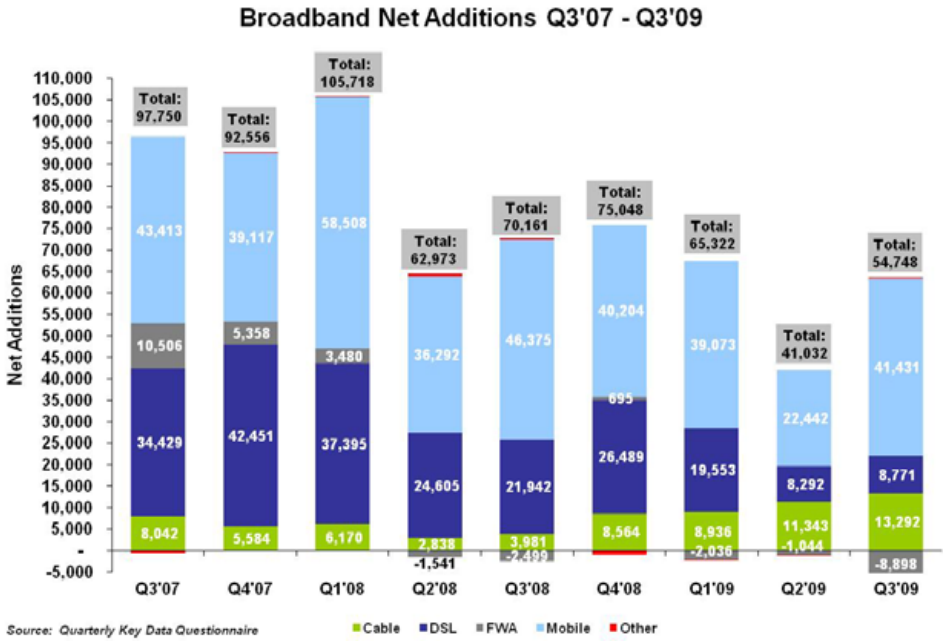
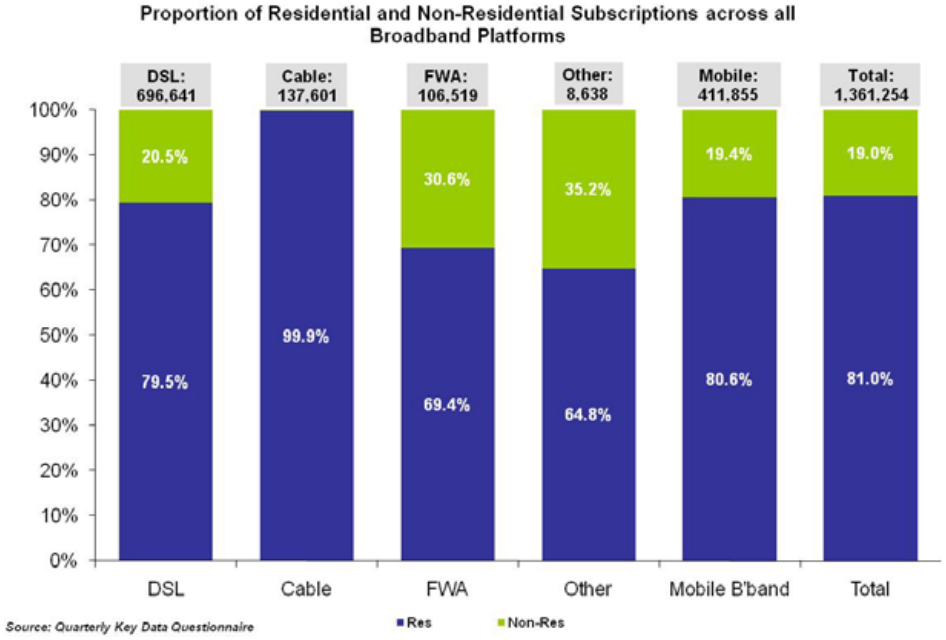


Figure 3.3.4 provides an estimate of the proportion of business and residential subscriptions to DSL, cable, fixed wireless, mobile broadband, fibre and satellite broadband services. At the end of September 2009, 81% of broadband subscriptions on all platforms were residential broadband subscriptions, compared to 77.5% in Q3 2008. The platform with the highest percentage of residential subscriptions is cable broadband, while the satellite and fibre subscriptions (classified as "Other") have the highest percentage split of business customers.

Figure 3.3.4 – Broadband Subscriptions by Subscription Type



Figures 3.3.5 and 3.3.6 illustrate the breakdown of broadband subscriptions by contracted speed across all broadband platforms. The trend of customers moving to higher speeds has continued in Q3 2009 with speeds of 2Mbps and upwards increasing at the expense of 144Kps to 1.99Mbps speeds. Figure 3.3.6 shows that both residential and business users are more likely to subscribe to packages of between 2Mbps - 10Mbps. Many larger firms access their broadband services over leased lines. Leased lines are not included in these charts. Leased line speeds can range up to speeds in excess of 1 gigabyte per second.

Figure 3.3.5 – Broadband Subscriptions by Contracted Download Speeds and Subscription Type

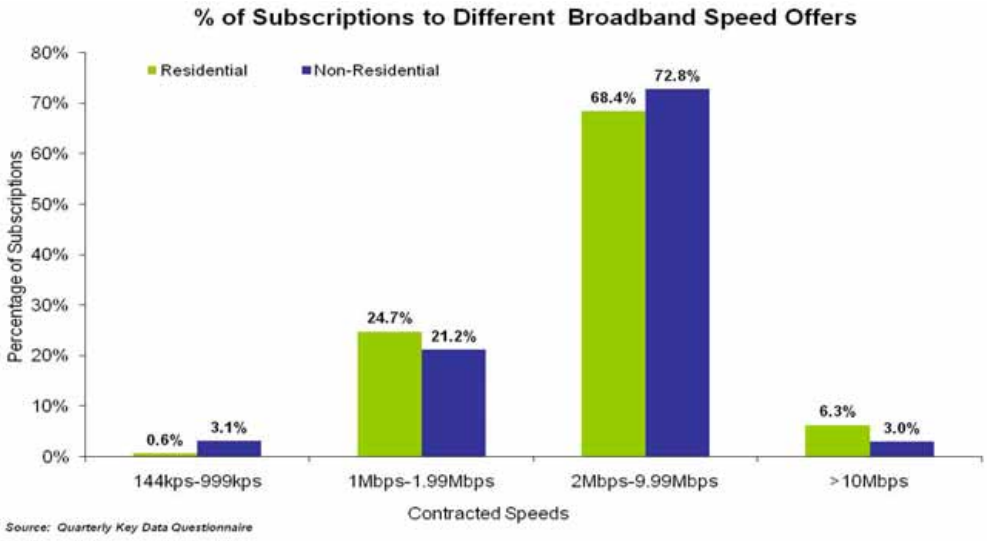


Figure 3.3.6 – Broadband Subscriptions by Contracted Download Speeds, Q1'08 – Q3'09

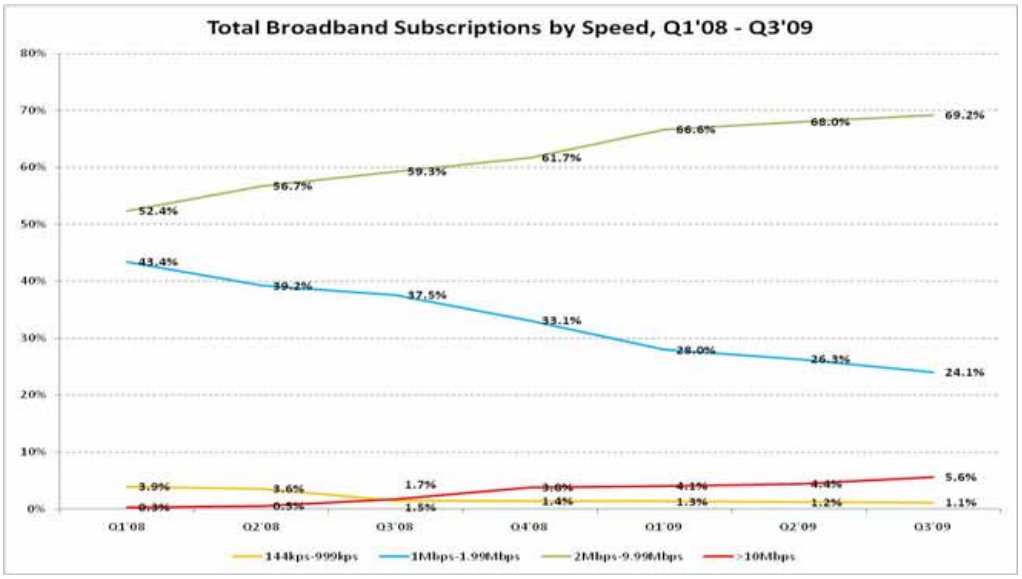
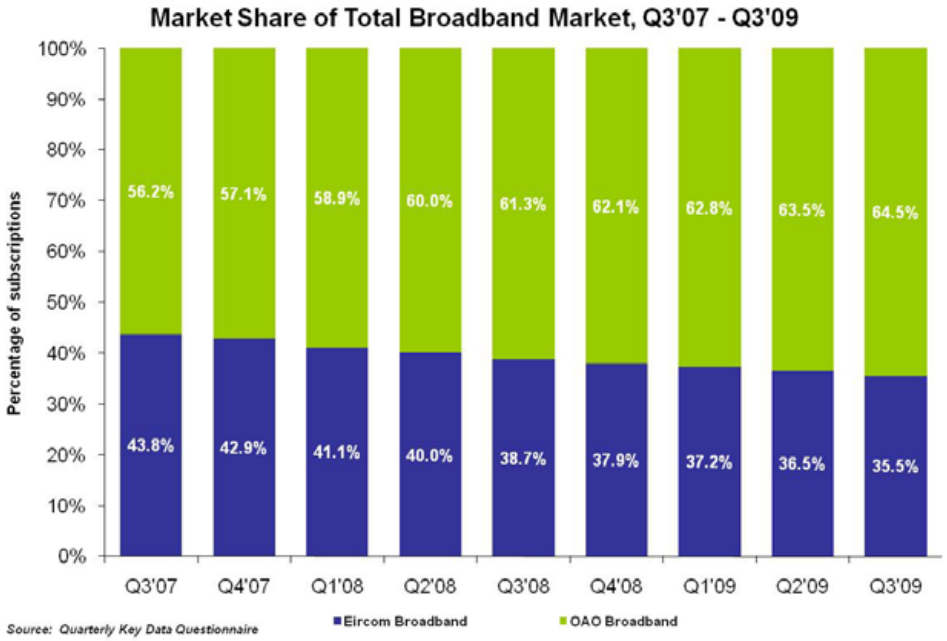


Figure 3.3.7 illustrates Eircom's market share of total broadband subscriptions when compared to other authorised operators' (OAO) share of overall broadband subscriptions, including DSL and alternative access technologies (which includes mobile broadband subscriptions). This quarter Eircom's market share was 35.5% for retail broadband subscriptions, compared to 38.7% in Q3 2008. The remaining 64.5% share of subscriptions was held by operators on alternative broadband platforms which include cable broadband, fixed wireless, fibre, satellite and mobile broadband subscriptions.

A further breakdown of alternative broadband operators market shares is not displayed this quarter given recent operator alliances and ownership changes[21] ; this chart will be reviewed again in the next quarterly report for period Q4'09.

Figure 3.3.7 – Market Share of Total Broadband Market



21 BT transferred residential and some SME customer segments to Vodafone Ireland in September 2009.

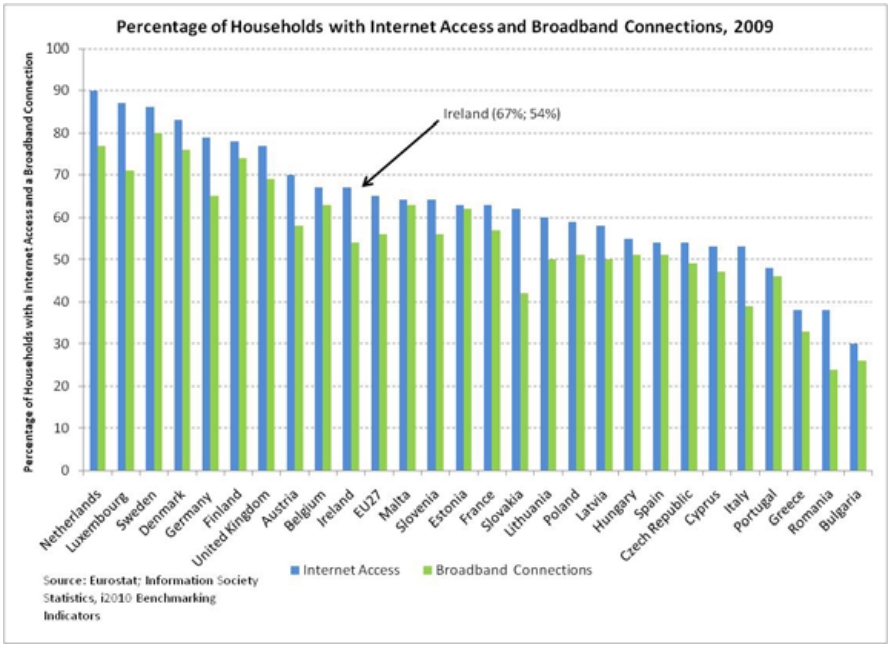
In presenting broadband penetration benchmarks for European countries, ComReg uses the OECD, the European Competitive Telecoms Association (ECTA) or European Commission data. ComReg will endeavour to publish this data on a quarterly basis as detailed in Figure 3.3.8. The data presented is based on the most recently published statistics at the time of publication.

Figure 3.3.8 – Broadband Data Sources

Source	Publish Date	Data Period as of	Included in ComReg Quarterly Report
ECTA	March 2010	December 2009	Q4'09
European Commission	March 2010 (15th EU Implementation Report)	January 2010	Q1'10
ECTA	September 2010	March 2010	Q2'10
European Commission	November 2010	July 1st 2010	Q3'10

Figure 3.3.9 provides an international comparison of household internet access and broadband penetration rates for 2009 based on survey data, from Eurostat. Based on this data, Ireland has a household internet access rate of 67% just above the EU27 average of 65%. However, Ireland's household broadband penetration rate is 54% just below the EU27 average. This represents an increase of 23 percentage points since 2007.

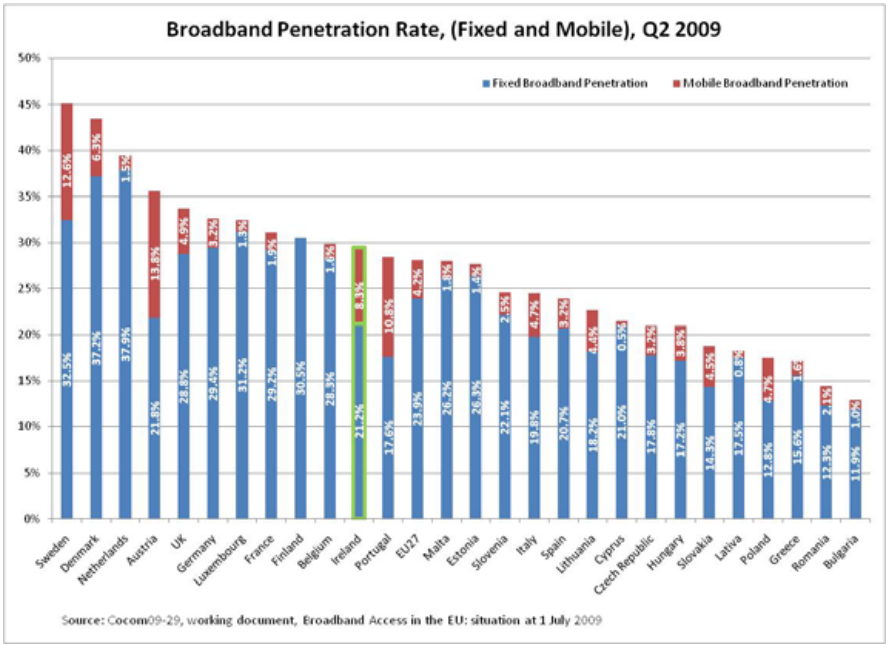
Figure 3.3.9 – European Broadband Household Penetration



The total number of broadband subscriptions in Ireland for Q3 2009 was 1,361,254. The broadband per capita penetration rate in Q3 2009 was 30.5% compared to 29.5% in the last quarter. When mobile broadband is excluded, the penetration rate is 21.3%. These figures are based on a population of 4,459,300 from Central Statistics Office (CSO) data.[22]

Figure 3.3.10 illustrates fixed and mobile broadband per capita penetration rates for EU27 countries as of the 1st July 2009.[23] Ireland had a fixed broadband penetration of 21.2% and a mobile broadband penetration rate of 8.3% as of Q2'09. Ireland's fixed penetration rate is below the EU27 average of 23.9% but Ireland's mobile broadband penetration rate is above the EU27 average of 4.2%.[24] If fixed and mobile broadband penetration rates are combined, Ireland ranks 11th out of the EU27 countries (note: no mobile broadband figure was represented for Finland); 14th among fixed broadband penetration rates only and 4th among mobile broadband penetration rates only.

Figure 3.3.10 – European Broadband Population Penetration



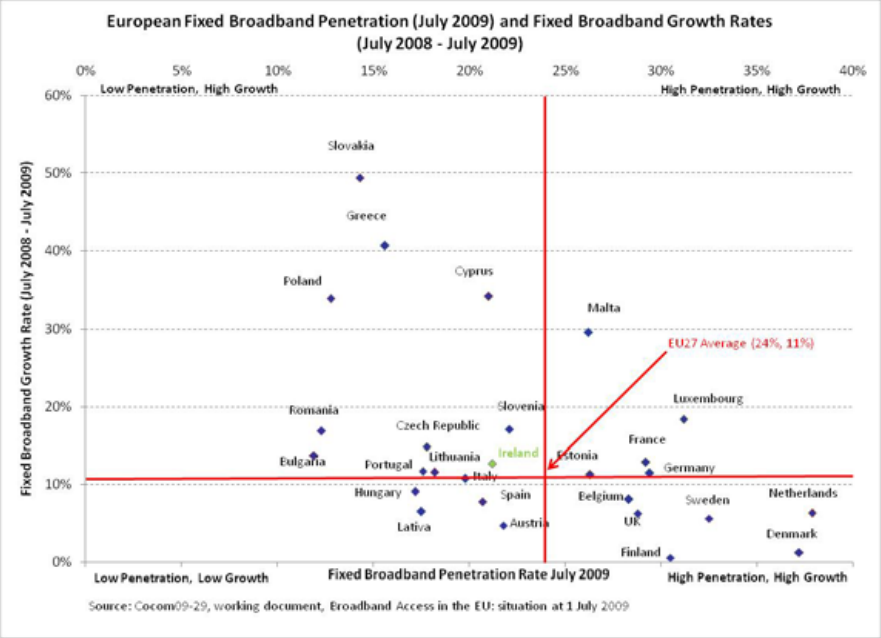
22 http://www.cso.ie/releasespublications/documents/population/current/popmig.pdf

23 Mobile broadband active users (i.e. users using broadband dedicated data services via data modems/cards/keys in the last 90 days)

24 EU mobile broadband penetration rate excludes Finland.

Figure 3.3.11 shows fixed broadband penetration and growth rates among the EU27 countries as of July 2009. Ireland lies behind the EU27 average for fixed broadband penetration but has posted faster growth than the EU27 average between July 2008 and July 2009. Only Malta, Luxembourg, France, Germany and Estonia have higher growth rates and higher penetration rates than the EU27 average.

Figure 3.3.11 – European Fixed Broadband Penetration and Growth, July 2009



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. In addition new and more advanced devices such as the iPhone appear to be driving increased usage of WiFi hotspots. 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[25].

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.

While the number of WiFi Hotspots have decreased by 13.9% since Q3 2008, the number of WiFi access points have increased by 2.8% over the same period. In Q3 2009 there were approximately 21 million WiFi minutes of use in Ireland, an increase of 4.4% from the previous quarter.[26]

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

	Q3 2009	Q2'09-Q3'09 Growth	Q3'08-Q3'09 Growth
WiFi Hotspots	1,166	+1.2%	-13.9%
WiFi Access Points	3,334	+1.7%	+2.8%
WiFi Minutes of Use	21,047,874	+4.4%	-

25 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.

26 Wifi hotspots, access points and minutes for the period Q2 2009 have been revised in this report. 1,200 hotspots have been revised to 1,202 hotspots: 3,160 access points to 3,277 access points: And Wifi minutes of use from 18,849,155 to 20,163,153.

3.5 ADSL Pricing Data[27]

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 for residential consumers and 100 hours per month, 60 minute average session for business consumers.

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 for residential consumers and 20 Gigabytes every month for business consumers. 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 main two fixed line DSL operators (by market share i.e. Eircom and BT for Ireland)[28] under these usage assumptions and the incumbent for cable offerings (i.e. UPC for Ireland). These packages are based on advertised download speeds. The charts below represent speed categories of 1 – 4 Mbps in the residential market, all residential speeds 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 these operators across all benchmarked countries to ensure that a meaningful comparison can be made between packages in terms of contracted speeds offered. Operators' broadband packages are compared on the assumption that their products should be available nationally.

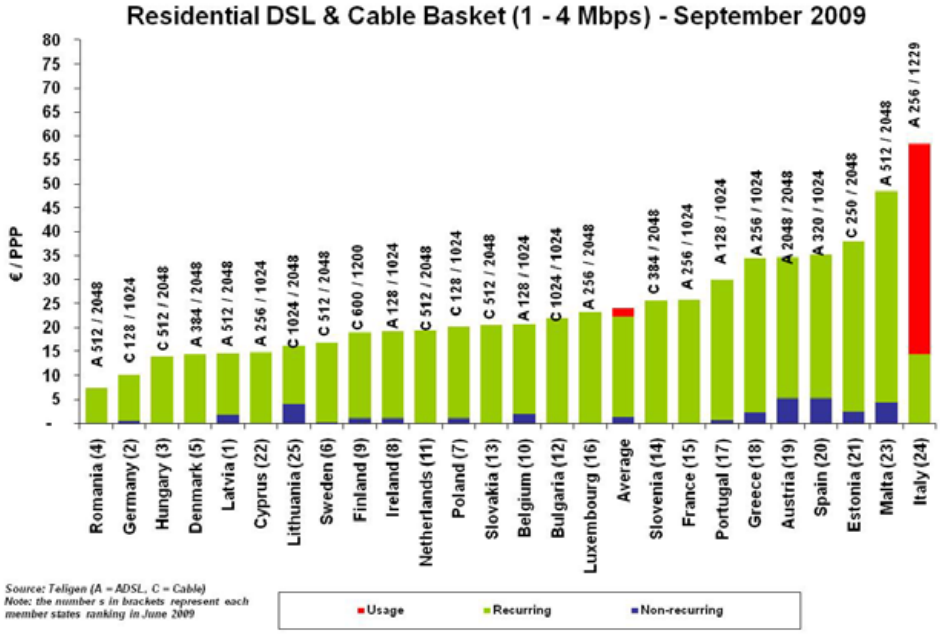
Further information on the composition of the broadband basket can be found in the Explanatory Memorandum which accompanies this report[29].

27 This section does not include broadband tariff packages that are offered as special promotions. All residential tariffs are inclusive of VAT but all business tariffs are exclusive of VAT. VAT rates vary between Member States.

28 It should be noted that the majority of BT Ireland's DSL customers were transferred to Vodafone Ireland in September 2009.

The lowest monthly residential DSL & cable baskets for the 1-4 Mbps speed category are charted in figure 3.5.1. Ireland ranks in 10th place among this group of 25 European countries. Ireland is seven places ahead of, and 14% cheaper than, the European average. The pricing for Ireland is based on BT's option 1 package.

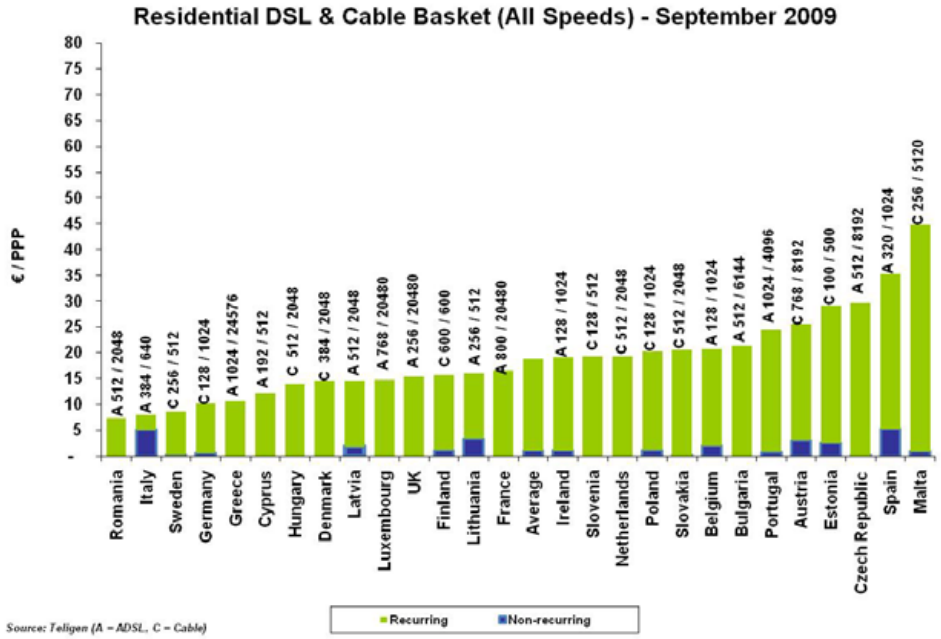
Figure 3.5.1 - Lowest Monthly Rental Residential DSL & Cable Basket (1-4 Mbps)



29 ComReg Document 09/101a

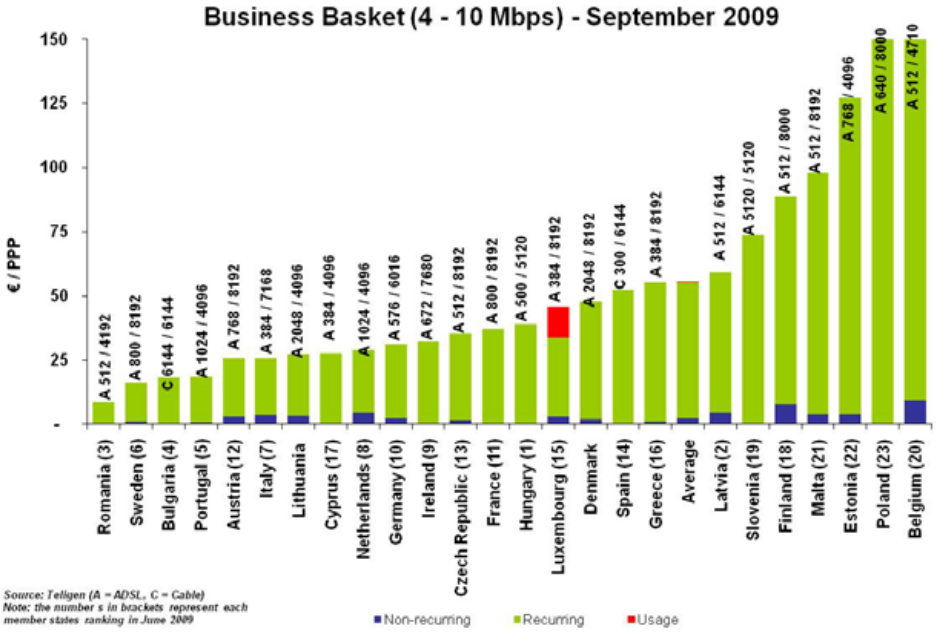
The lowest monthly residential DSL & cable baskets for all speeds are charted in figure 3.5.2. Ireland ranks in 15th place in this group of 27 European countries, just above the European average, and 2% more expensive than the European average. The pricing for Ireland is based on BT's option 1 package.

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



The lowest monthly business DSL baskets are charted in figure 3.5.3. Ireland ranks in 11th place when the results for this group of 25 European countries are compared. Ireland is eight places ahead of, and 42% cheaper than, the European average. The pricing for Ireland is based on Eircom's Business Starter package.

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

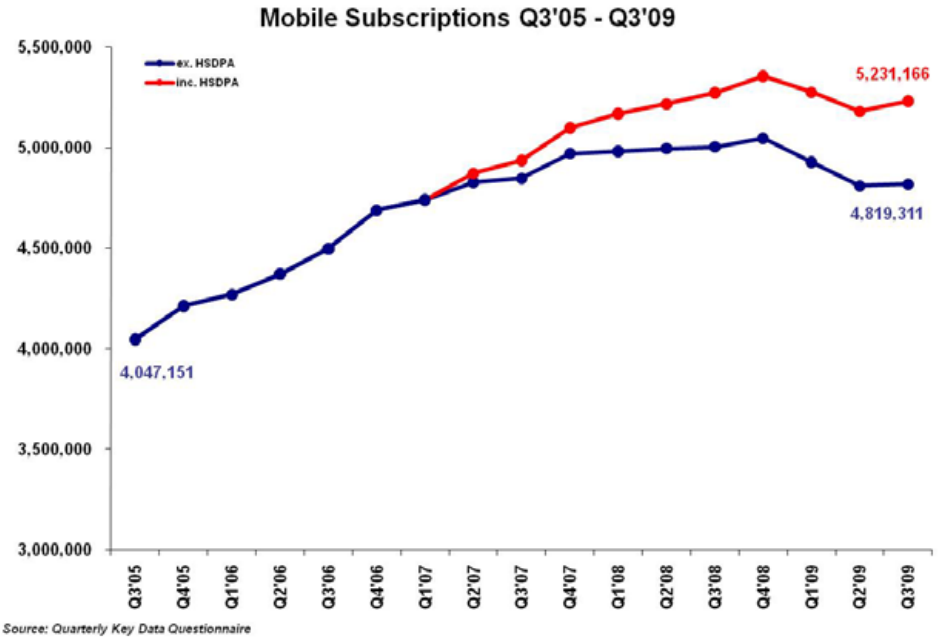


4. Mobile Market Data

4.1 Number of Subscriptions and Penetration Rate

At the end of September 2009 there were 5,231,166 mobile subscriptions in Ireland. HSDPA mobile broadband subscriptions are included in this figure. If HSDPA subscriptions (411,855 this quarter compared to 370,424 in Q2 2009) are excluded, the total number of mobile subscriptions in Ireland was 4,819,311. HSDPA subscriptions increased by 11.2% this quarter (53.3% increase year on year) and mobile subscriptions grew by just 0.2% this quarter (3.7% decrease year on year). Please note that mobile subscriptions in Q3 2009 and previous quarters are not strictly comparable as the definition of mobile subscriptions has been amended for the period Q2 2009.[30] A historical plot is provided below in Figure 4.1.1.

Figure 4.1.1 – Mobile Subscriptions



Source: Quarterly Key Data Questionnaire

30 The term 'prepaid subscriber' refers to an active prepaid subscriber – i.e. those who subscribe to a prepaid tariff plan and/or have made an event that decrements their balance in the previous 90 days such as an outgoing call, SMS, MMS or mobile internet usage. Includes all 2G and 3G SIMs, including 3G SIMs used for mobile broadband. The term 'contract subscriber' refers to those customers with a current post-paid subscription. Includes all 2G and 3G SIMS, including 3G SIMs used for mobile broadband.

Figure 4.1.2 illustrates the growth in mobile penetration since Q3 2005 and shows that at the end of September 2009, mobile penetration, based on a population of 4,459,300 (using a CSO April 2009 estimate), was 117.3%. 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 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 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

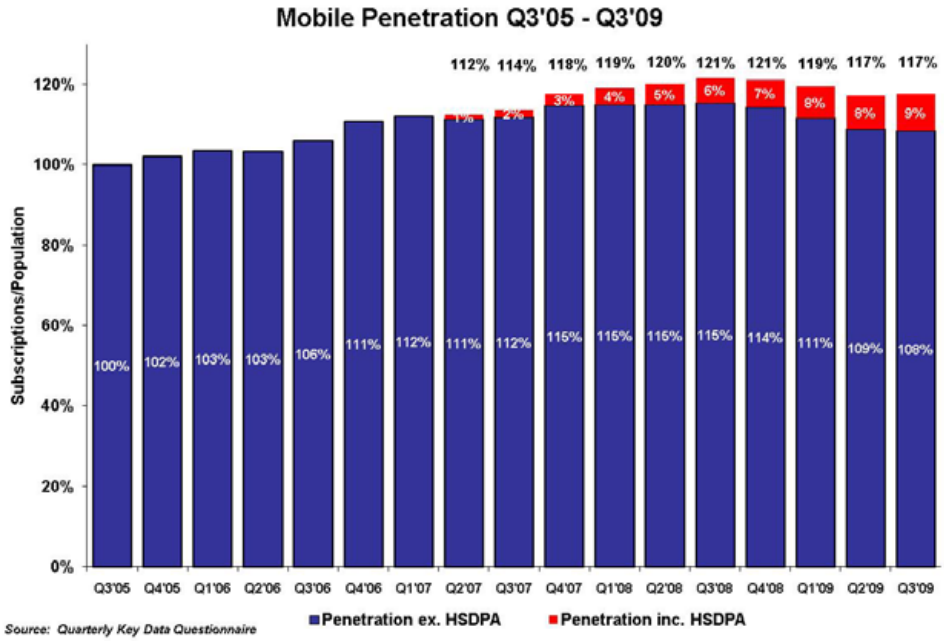
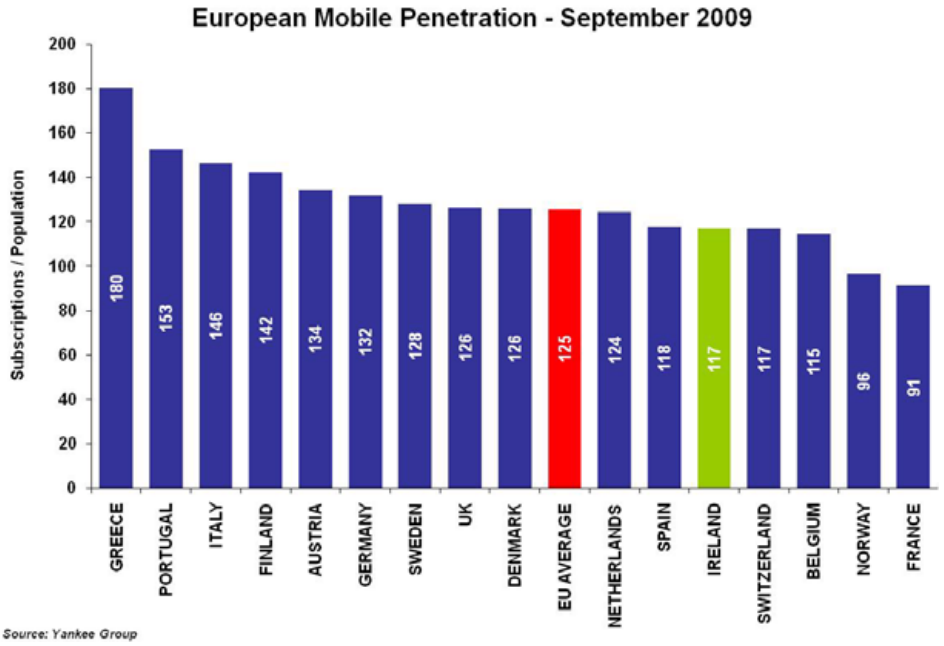


Figure 4.1.3 illustrates the estimated national mobile penetration rates across sixteen European countries, including Ireland, as of September 2009. Ireland (117.3%) is behind the EU average of 125.5%.[31] Greece, Portugal and Italy remain the three European countries with the highest mobile penetration while France, according to Yankee Group data, remains below all the other countries benchmarked with a 91.3% penetration rate.[32] Almost all of the countries in this analysis have seen increases in penetration this quarter, after penetration declines in the previous quarter.

Figure 4.1.3 – European Mobile Penetration Rates



31 Irish data sourced from ComReg includes mobile broadband subscriptions. Not all countries in this chart may include mobile broadband subscriptions.

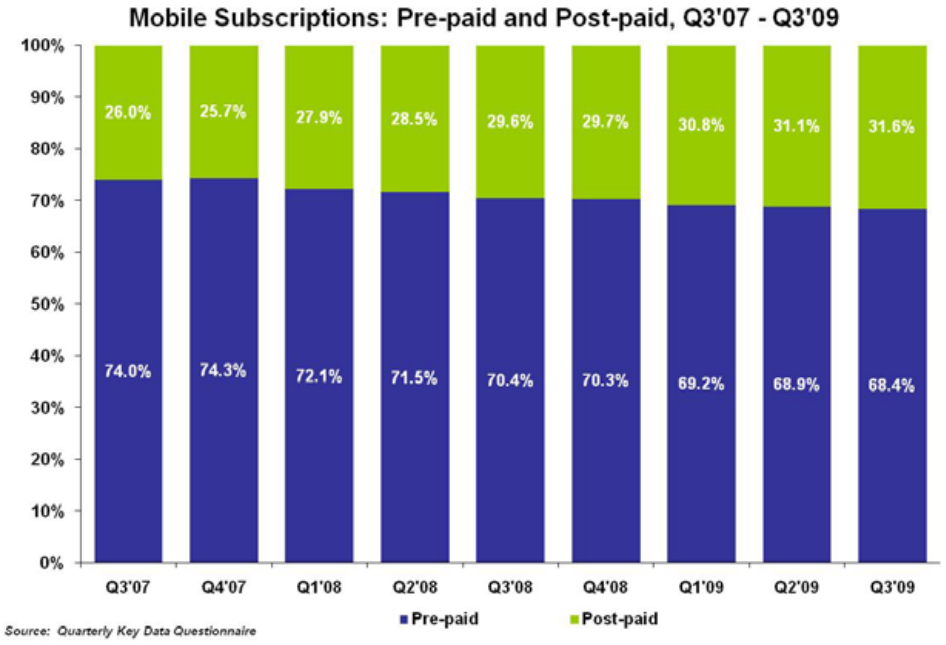
32 The penetration rate for Greece may be inflated due to a high level of inactive pre-paid subscriptions reported in the market.

4.2 The Profile of Mobile Subscriptions in Ireland

Mobile users 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 (including HSDPA) in Ireland classified by the proportion of pre-paid and post-paid subscriptions on both 2G and 3G networks at the end of September 2009[33].

There has been a noticeable shift (more than five percentage points) towards post-paid subscriptions from pre-paid over the last two years driven, primarily, by increases in mobile broadband subscriptions. At the end of September 2009 31.6% of subscriptions were post-paid compared to 26.0% in September 2007.

Figure 4.2.1 – Profile of Pre-Paid and Post-Paid Subscriptions



33 Mobile broadband subscriptions (HSDPA) are included only from Q1 2008 in this chart.

Figure 4.2.2 shows the growth in pre-paid and post-paid mobile subscriptions for 14 European countries, including Ireland, as of September 2009. In general countries with higher post-paid subscription growth have low pre-paid growth. Indeed, in the cases of Ireland, Italy, Sweden, Austria and the UK, pre-paid growth was negative.

Figure 4.2.2 – European Pre-paid and Post-paid YoY Subscription Growth

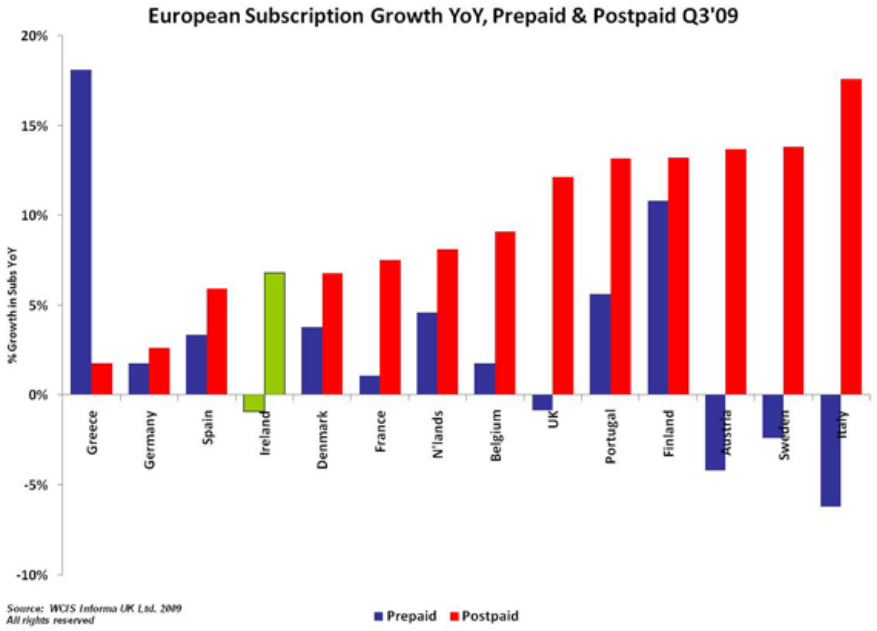


Figure 4.2.3 shows the pre-paid and post-paid subscription profile for each of the mobile operators in the Irish market (mobile broadband subscriptions are included). As of Q3 2009, 67.3% of Vodafone's subscriptions are pre-paid. O2 has 60.6% pre-paid subscriptions, while Meteor has 86.5% pre-paid subscriptions. 3's subscription base is more evenly split, with 41.1% of its subscriptions post-paid and the remaining 58.9% pre-paid. Tesco Mobile reports its entire subscriptions base using the pre-paid payment option.

Figure 4.2.3 – Profile of Pre-Paid and Post-Paid Subscriptions – by Operator

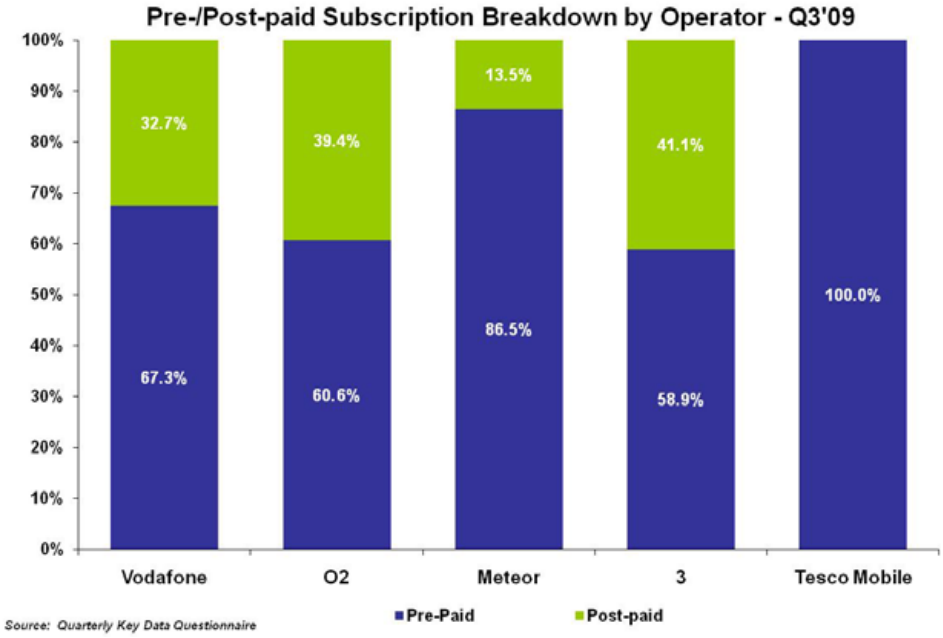
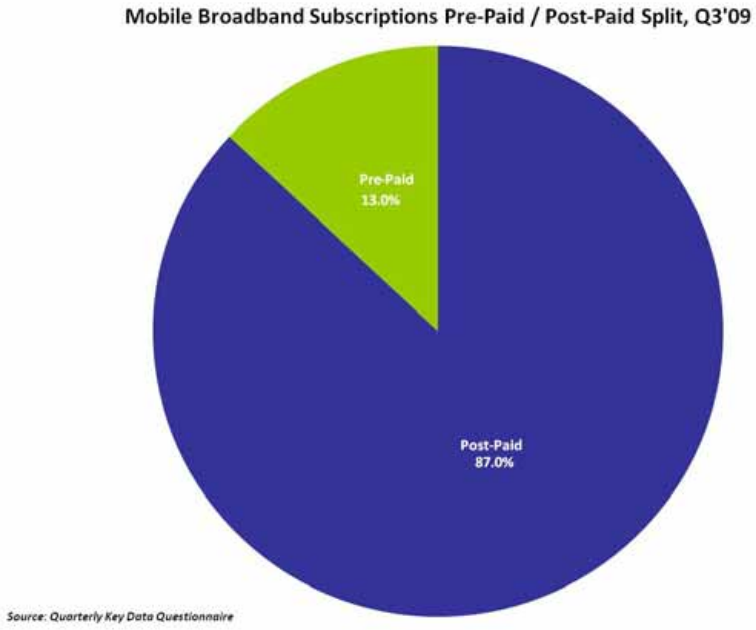


Figure 4.2.4 shows the split between pre-paid and post-paid in terms of mobile broadband subscriptions as of Q3 2009. Vodafone, O2, Meteor and 3 all offer mobile broadband packages. 87.0% of all mobile broadband subscriptions are post-paid as at the end of September 2009.

Figure 4.2.4 – Profile of Pre-Paid and Post-Paid Mobile Broadband Subscriptions

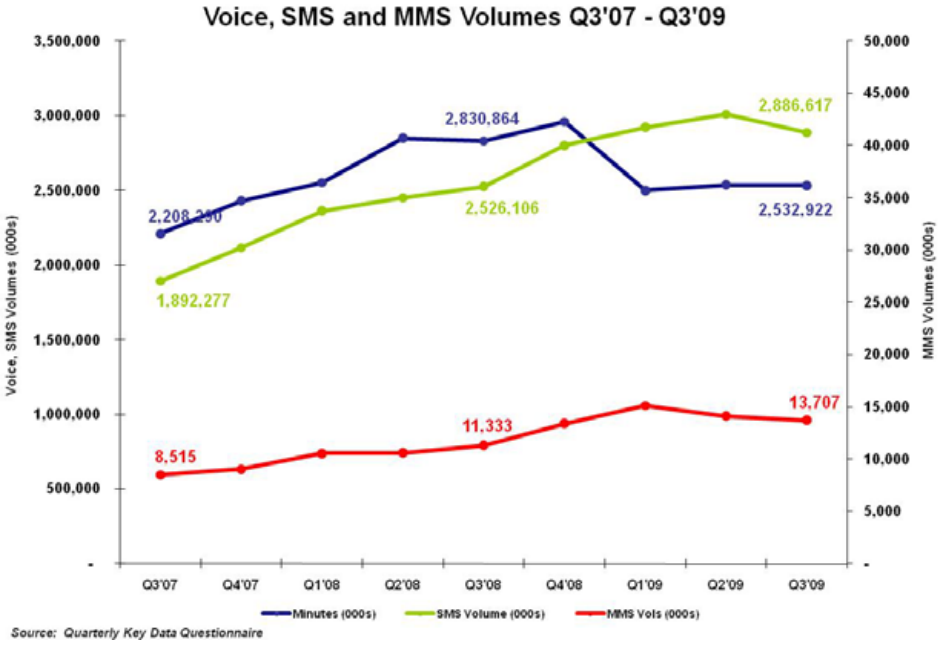


4.3 Mobile Volumes

Figure 4.3.1 illustrates the growth in voice minutes, SMS, and MMS (Multimedia Messaging Service) messages sent over mobile networks since Q3 2007. Total retail mobile voice traffic totalled almost 2.53 billion minutes in Q3 2009, down slightly by 0.2% on the previous quarter and down 10.5% since Q3 2008. The total number of SMS messages sent by mobile users in Ireland totalled almost 2.9 billion in Q3 2009, down 4.1% on the previous quarter. However SMS messaging grew by 14.3% since Q3 2008.

If the total volume of text messages is averaged over all active subscriptions, an average of 184 SMS messages was sent per subscription per month in Q3 2009, compared with 194 in the same period last year. The number of multimedia messages (MMS) sent declined last quarter for the first time since Q4 2006 and also fell in Q3 2009, by 2.9%. There were just over 13.7 million MMS messages sent during the quarter. This is a decrease of 21% on the same period last year.

Figure 4.3.1 – SMS, MMS and Call Minute Volumes

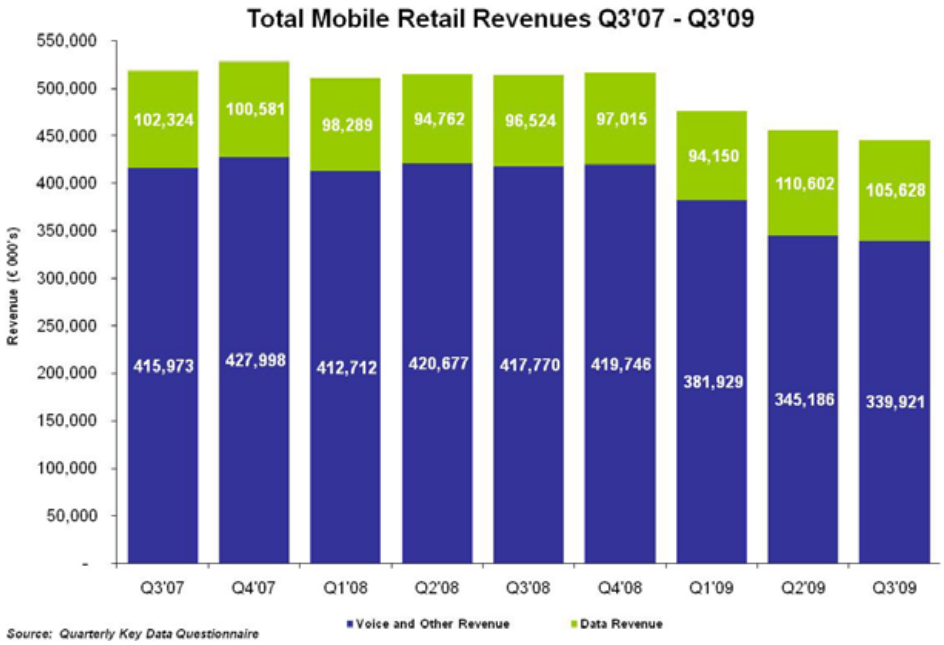


Source: Quarterly Key Data Questionnaire

4.4 Mobile Revenues

Figure 4.4.1 shows that mobile retail revenues for the quarter were just under €446 million, down from €456 million, a drop of 2.2% since Q2 2009 and down 13.4% since the same period last year. This fall can be explained in part due to amendments by ComReg to the mobile revenue definitions, in particular the definition of handset sales revenues, as well as the downturn in the global economy. The definition for handset sale revenues was changed in Q2 2009 from a gross revenue to a net revenue basis, that is handset and device discounts and subsidies are now excluded from the revenue calculation. Data revenues were almost €106 million in Q3 2009 (down 4.5% since the last quarter) with the remaining €340 million (down 1.5% since Q2 2009) comprised of voice and other revenues.[34]

Figure 4.4.1 – Total Mobile Retail Revenues



34 Please note that in Q2'09 the voice and other category revenues includes voice call revenues and net handset sales revenues, connection and rental charges, premium rate SMS and MMS revenues, roaming SMS, MMS and data revenues. Handset sales revenues prior to Q2'09 were reported on a gross revenue basis.

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

Irish mobile operators rank eighth (last quarter Ireland was seventh) in comparison to other European operators in terms of levels of data revenues as a percentage of overall revenues. A number of countries, including Ireland, saw data revenues' percentage of total revenues decrease this quarter. In Q3 2009, 25.2% (compared to 25.5% in the previous quarter) of total mobile revenues were contributed by data revenues in Ireland, according to the Yankee Group data.

Figure 4.4.2 - Data Revenues as % of Total Mobile Revenue

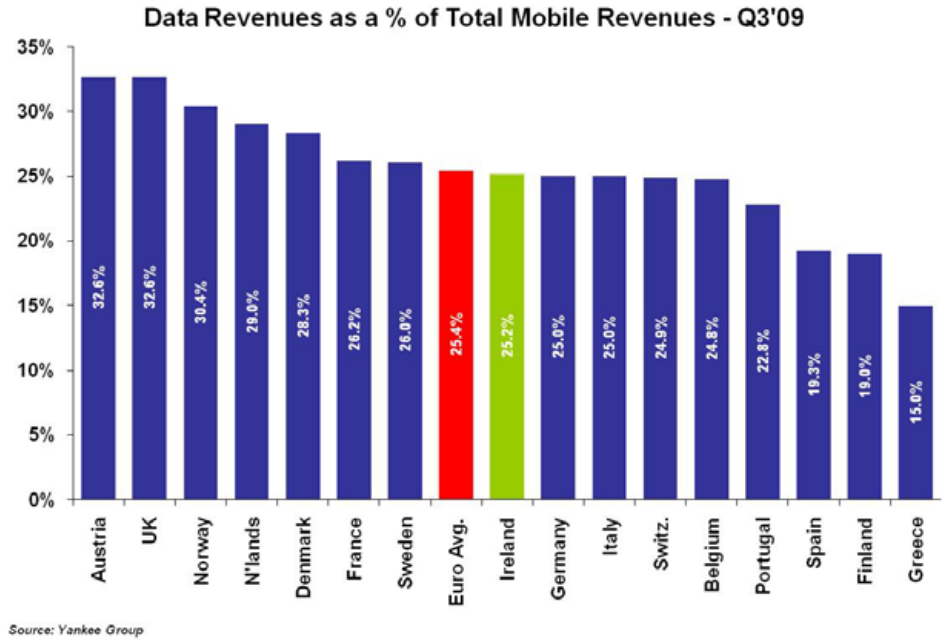
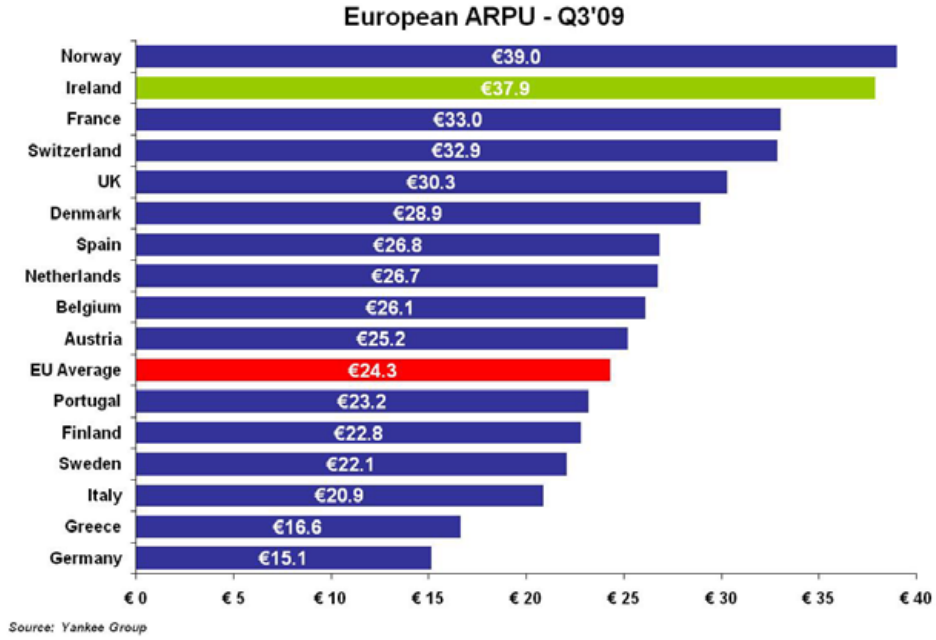


Figure 4.4.3 compares ARPU (average revenue per user) across sixteen European countries[35], including Ireland. Average revenue per user is an indication of average monthly revenue generated by mobile subscriptions in each country. While overall retail mobile revenues obtained from operators include handset sales revenues, the ARPU figures in this report do not incorporate handset sales revenues. Mobile ARPU in Ireland is estimated at €37.9 per month, which is second to that of Norway. The EU average ARPU was €24.3 in Q3 2009.

Figure 4.4.3 – European Comparison of ARPU



35 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 includes all EU-15 countries except Luxembourg where no data was available.

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.[36]

The average minutes of use in Ireland for Q3 2009 were 225.6 minutes per month, a 2.7% decrease on usage since the previous quarter. Minutes of use have increased this quarter in all other countries benchmarked, with Spain experiencing strongest growth of 1.4%.

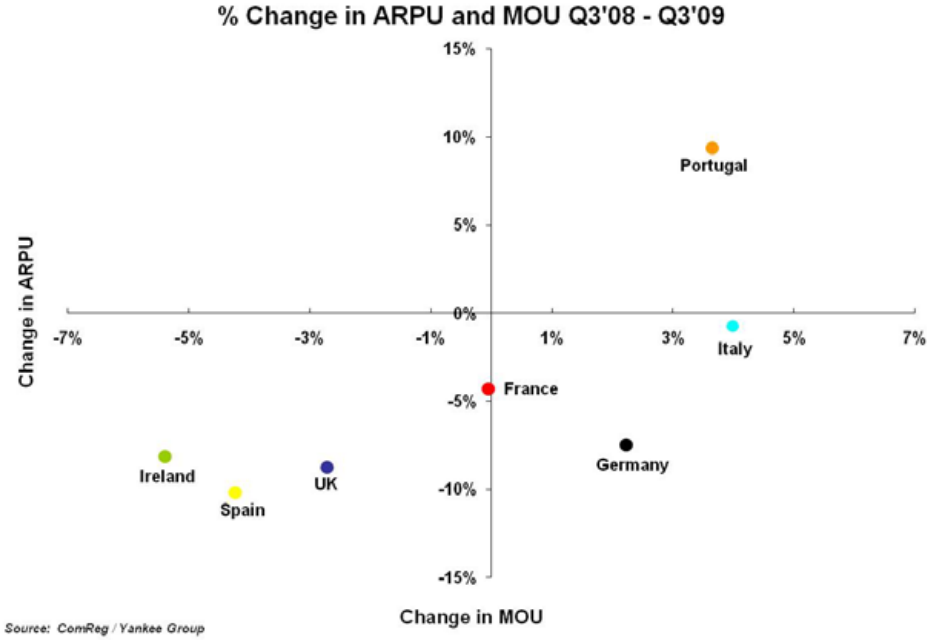
Figure 4.5.1 – Minutes of Use

Country	MoU Q3'09	MoU Q2'09	Quarterly Change Q3'09 – Q2'09
France	252.7	252.5	+.06%
Ireland	225.6	231.9	-2.7%
UK	177.3	177.0	+0.2%
Spain	159.6	157.4	+1.4%
Italy	136.8	136.5	+0.2%
Portugal	124.3	124.0	+0.3%
Germany	104.2	104.1	+0.2%

36 ComReg Document 09/101a

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[37]. Only Portugal has seen an increase in both MOU and ARPU over the last year. For Ireland ARPU fell by just over 5% and MOU has decreased by around 8%.

Figure 4.5.2 – Annual Change in European ARPU and MOU



37 Data was only available for Ireland, France, Spain, UK, Germany, Italy, and Portugal.

4.6 Competition in the Mobile Market

Figures 4.6.1 and 4.6.2 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's market share is presented as a percentage of all market subscriptions in Ireland, 3 operates only in the 3G sector. While Tesco Mobile is not included in figures 4.6.1 and 4.6.2, as of Q3 2009, Eircom Mobile subscriptions are now being reported within Meteor's data. Vodafone's market share, (39.0% if HSDPA is included and 39.9% if HSDPA is excluded), has declined quarter on quarter over the last two years including and excluding mobile broadband. However changes to the definitions of active mobile subscriptions in Q2 2009 accounted for a large part of Vodafone's decline. O2's market shares (33.0% if HSDPA is included and 33.5% if HSDPA is excluded), saw a slight decrease this quarter. Meteor accounts for 19.8% of the total active mobile subscription base in Ireland including mobile broadband and 21.1% excluding mobile broadband. 3 has a market share of 8.2% including mobile broadband and 5.5% excluding mobile broadband. Meteor and 3 now account for 28% of the market including mobile broadband and 26.6% excluding mobile broadband.

Figure 4.6.1 – Market Share – Number of Subscriptions (inc. HSDPA)

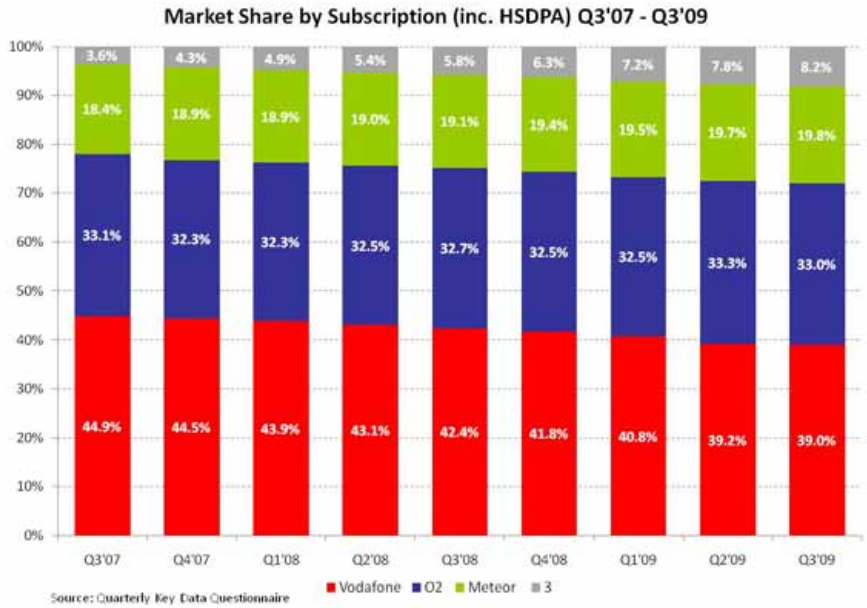


Figure 4.6.2 – Market Share – Number of Subscriptions (ex. HSDPA)

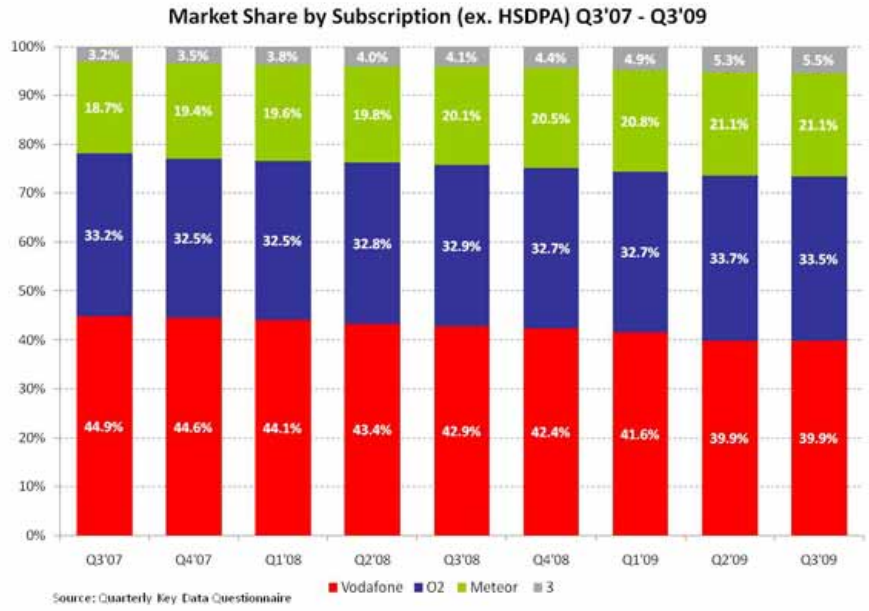


Figure 4.6.3 shows the subscription market share of the largest mobile network operators in fourteen European countries, including Ireland as of Q3 2009. Ireland is among a group of six countries where the largest mobile network operator has a market share of less than 40%.

Figure 4.6.3 –European Mobile Operators' Market Share of Subscriptions

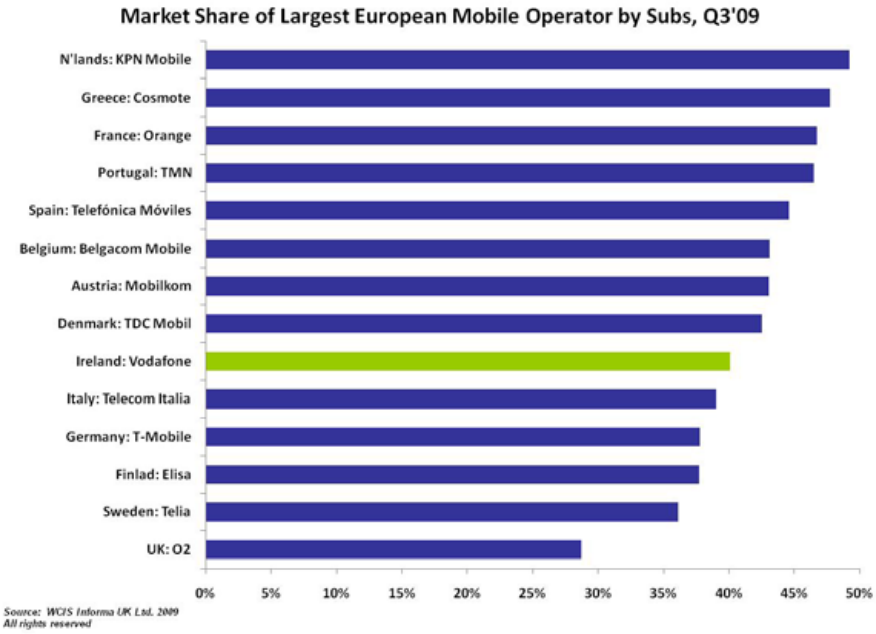
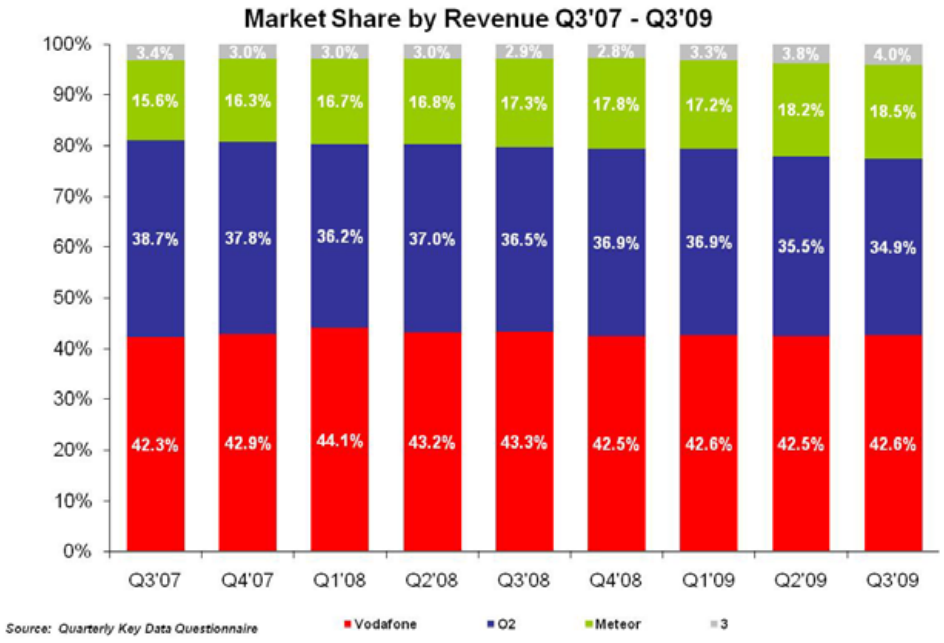


Figure 4.6.4 provides an analysis of market shares by revenue for mobile operators in the Irish market. Tesco Mobile is not included in this chart while Eircom Mobile data is now reported within Meteor. Vodafone's market share increased slightly this quarter to 42.6% while O2's market share declined by 0.6 percentage points to 34.9%. In contrast, Meteor's market share increased to 18.5% while 3's market share grew to 4.0%.

Figure 4.6.4 – Revenue Market Share

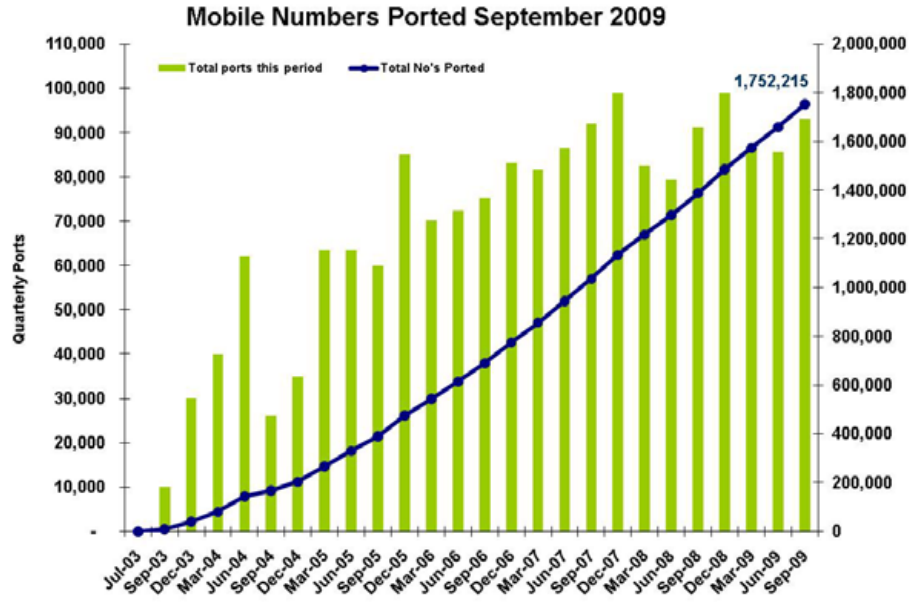


4.7 Switching in the Mobile Market

Figure 4.7.1 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.

Just over 1,752,000 subscriptions have used MNP to switch operator since June 2003, an increase of 5.6% since Q2 2009 and an increase of 26.2% since the same quarter last year. In the quarter to September 2009 more than 93,000 numbers were ported to another operator (just over 364,000 numbers in the 12 months to September 2009). Over the last 12 months to September 2009 an average of 91,045 numbers has been ported each quarter.

Figure 4.7.1 – Cumulative Mobile Numbers Ported



Source: Quarterly Key Data Questionnaire

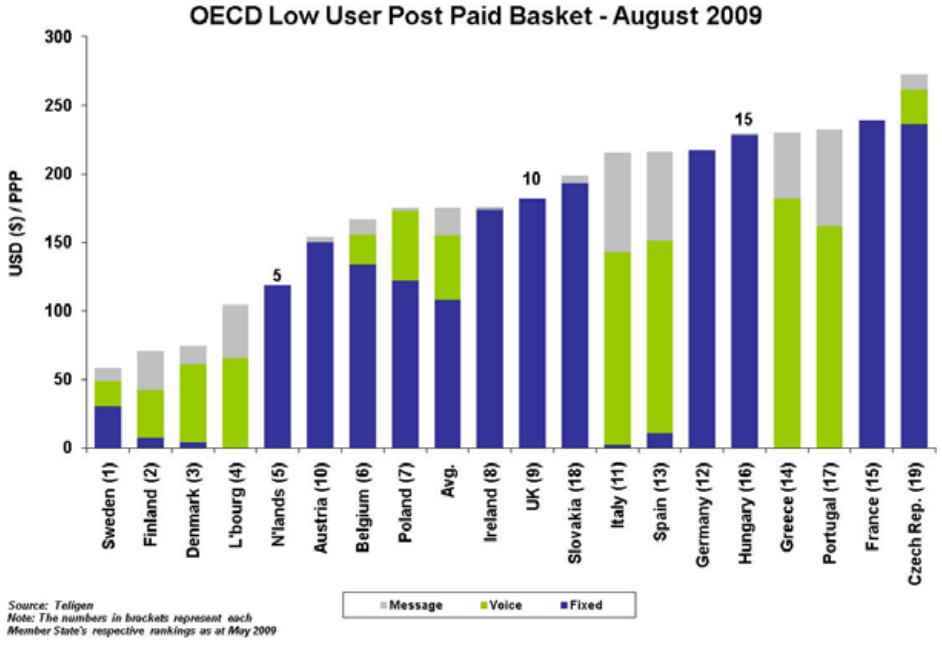
4.8 Mobile Pricing Data[38]

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 services. It should be noted that this data is based only on the two biggest providers in each market so cheaper packages may be available from other operators in each market.

4.8.1 Low User Post Paid Mobile Basket[39]

Ireland has dropped back one place and ranks 9th out of the 19 European countries benchmarked for the low user post-paid basket. Ireland is now one place behind the European average for this basket, approximately 1% more expensive. The Irish package used this quarter was O2's "Clear 50".

Figure 4.8.1.1 - OECD Low User Post Paid Mobile Basket



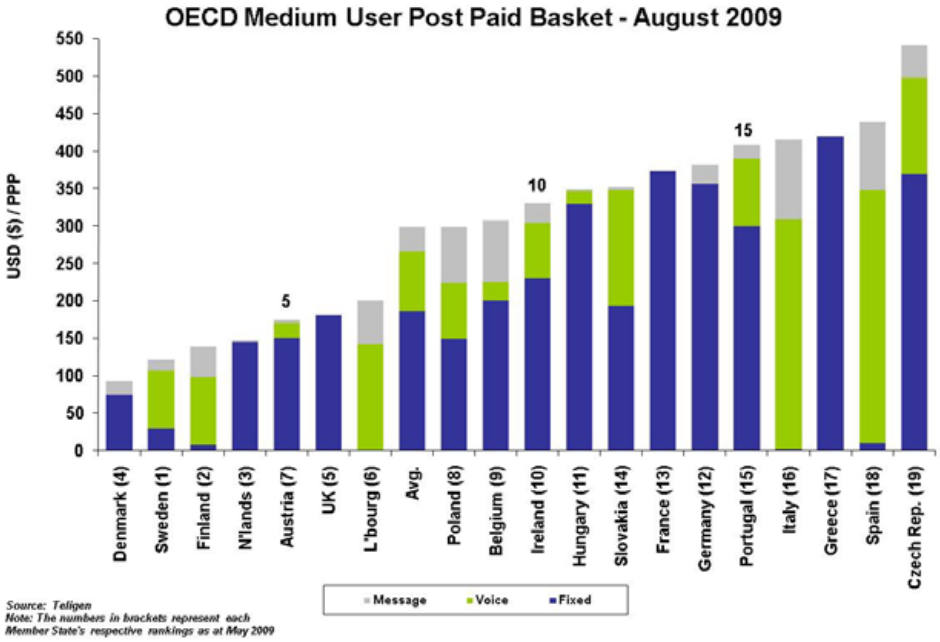
38 The 'Fixed' component of price refers to the standard charges imposed by operators, regardless of the amount of calls made (i.e. connection and rental). Teligen's calculation of this Figure is made up of: Installation Charge/5 + Rental charge for 1 year. The 'Voice' component of price refers to the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

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

4.8.2 Medium User Post Paid Mobile Basket

Compared to last quarter Ireland again ranks in tenth place in the medium user post paid mobile basket. The package used for Ireland this quarter was Vodafone's "Simply 30 day SIM only". Ireland ranks two places behind the European average, almost 11% more expensive.

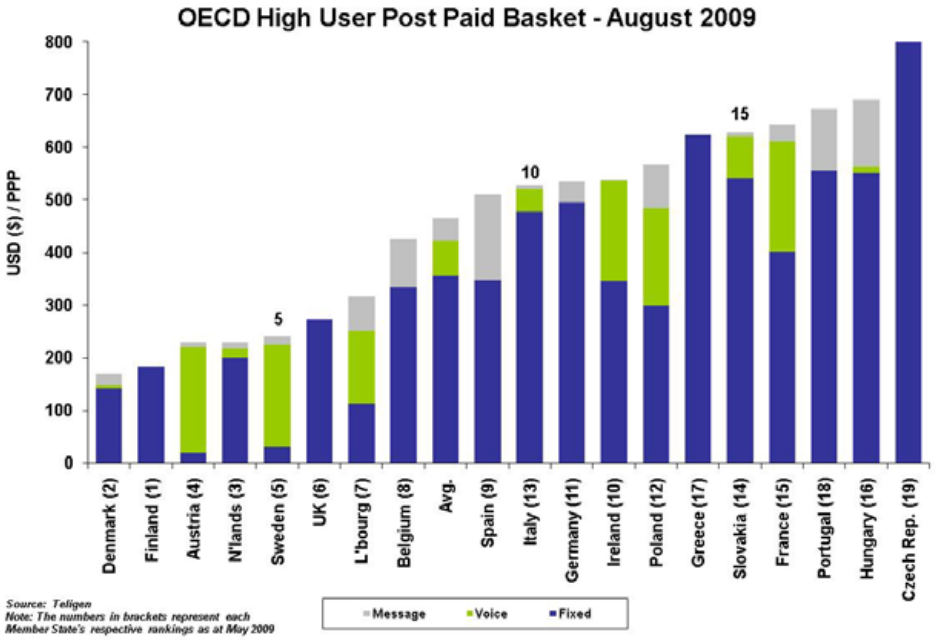
Figure 4.8.2.1 - OECD Medium User Post Paid Mobile Basket



4.8.3 High User Post Paid Mobile Basket

In the High-User Post-Paid basket, Ireland ranks twelfth among the 19 European countries, falling back two places since the last quarter. The Irish package used for this quarter was O2's "Clear Unlimited SMS & Calls". Ireland is now four places, almost 16% more expensive, behind the European average. Finland and Denmark have been, and continue to be, the cheapest countries for this basket since February 2009.

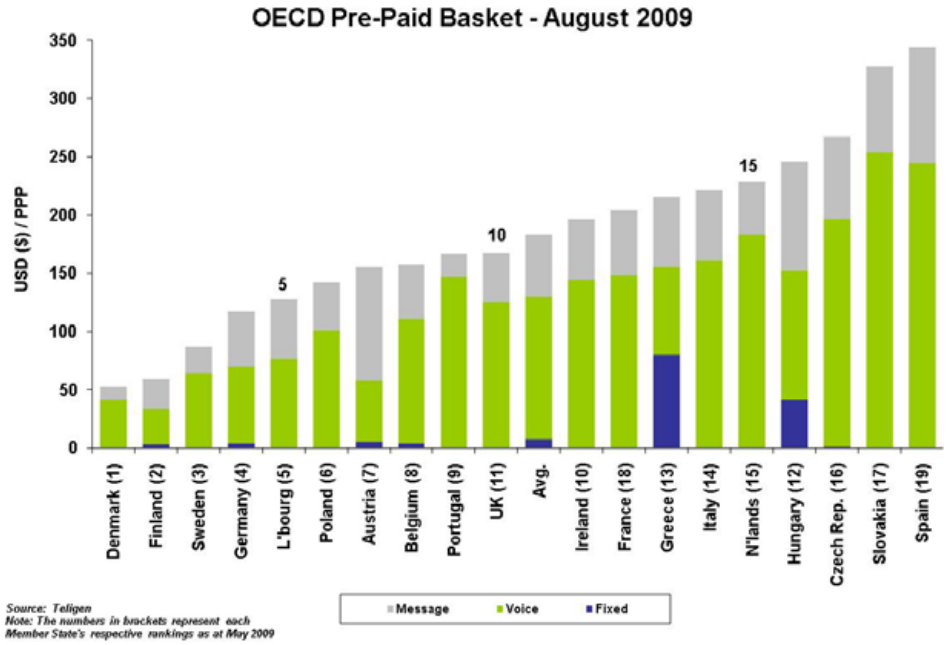
Figure 4.8.3.1 - OECD High User Post Paid Mobile Basket



4.8.4 Pre-Paid Mobile Basket[40]

For the pre-paid mobile basket, Ireland has fallen back one position to eleventh in this quarter's rankings. The package used for Ireland in this basket was Vodafone's "Advantage". Among the 19 European countries charted, Denmark, Finland and Sweden remain the three countries with the cheapest pre-paid offering. The cost of this basket in Ireland is approximately 7% more expensive than the EU average.

Figure 4.8.4.1 - OECD Pre-Paid Mobile Basket

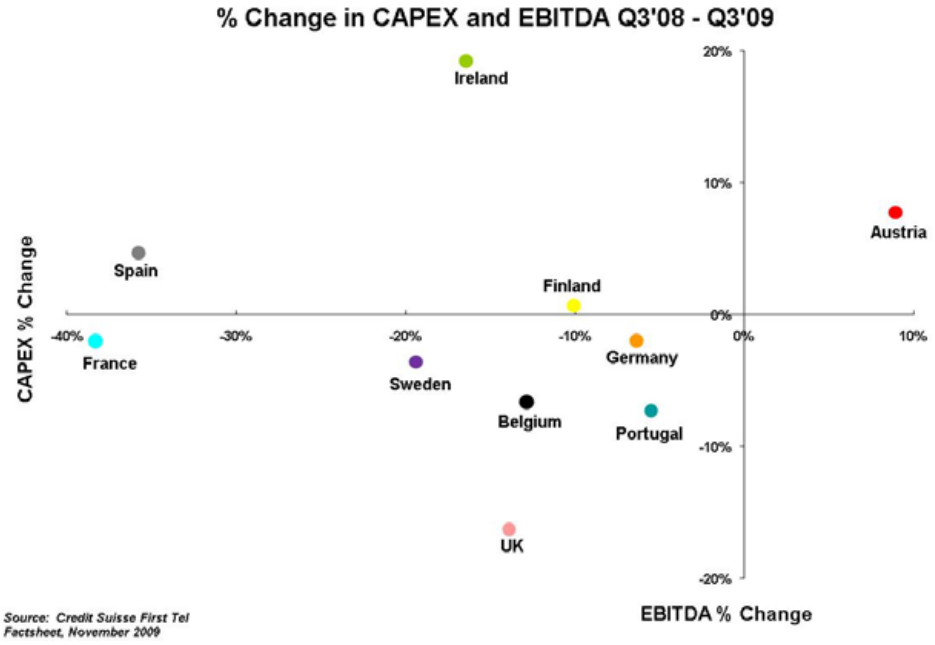


40 The OECD has found that there is little difference between the average pre-paid usage and low-user post-paid usage. Thus, the pre-paid and low user post paid baskets are based on the same usage assumptions.

4.9 Mobile Operators' Capital Expenditure and EBITDA

Figure 4.9.1 charts the annual change in capital expenditure against the annual change in earnings (before interest, taxation, depreciation and amortisation) of mobile operators in ten European countries including Ireland. The data, provided by Credit Suisse First Boston, indicates that Irish operators have seen EBITDA levels increase at the same time that CAPEX levels have fallen. Spain and Finland have had a similar experience, while Austria has seen growth in both CAPEX and EBITDA over the year to September 2009.

Figure 4.9.1 – European Mobile Capex and EBITDA



5. Broadcasting

5.1 Overall Broadcasting Market

The broadcasting analysis provided in this report uses operator data in conjunction with CSO estimates[41] 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[42] television service. Of the total number of TV households at the end of September 2009 there were 496,931 subscriptions to cable[43]/MMDS[44] television services in Ireland, down 1.5% from the previous quarter. For the same period, ComReg estimates that BSkyB had 592,270 Irish satellite[45] TV subscriptions, a growth of almost 6,000 subscriptions on the previous quarter and more than 30,000 since the same reporting period last year. The total number of pay TV households in Ireland (cable, MMDS and satellite) is 1.09 million.[46] 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 Q3'09	Quarterly Change Q2'09 – Q3'09	Annual Change Q3'08 – Q3'09
Analogue Cable	164,203	-9.5%	-25.8%
Digital Cable	254,280	+5.3%	+17.6%
MMDS	78,448	-4.1%	-15.5%
Satellite	592,270	+1.0%	+5.5%
Total-Pay-TV H'holds	1,089,201	-0.2%	-0.2%
Free-to-View	370,935	+0.5%	+1.2%
Total TV H'holds	1,460,136		

41 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 1.460 million households while the 2004/5 household budget survey indicated that 99.6% households in Ireland had access to a TV. As the household budget survey is undertaken every 5 years, this figure will remain fixed and will be updated once results from the next household budget survey are published.

42 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.

43 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.

44 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.

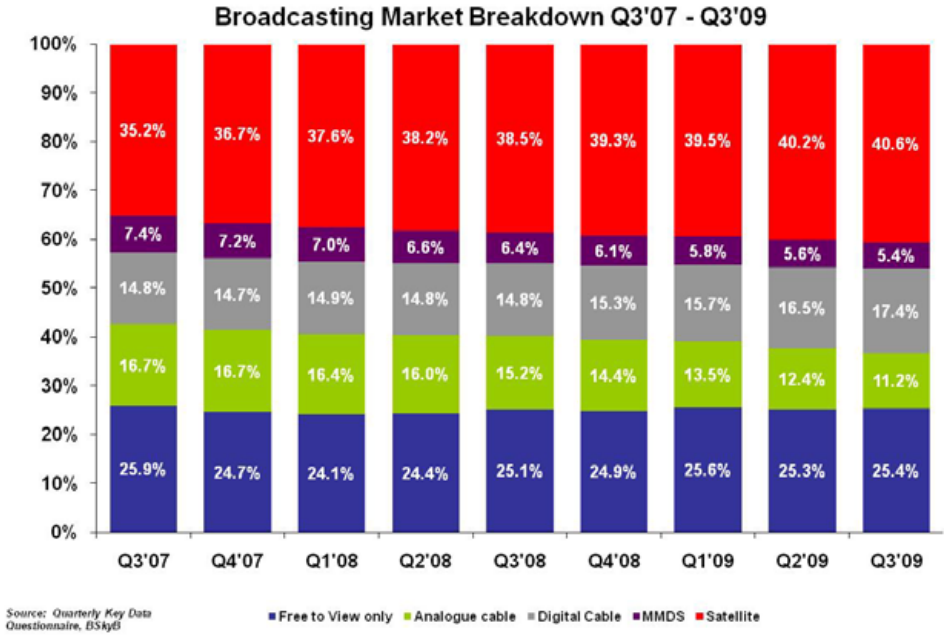
45 Satellite television is television delivered by way of communications satellites, as compared to conventional terrestrial television and cable television. As of Q3 2008, BSkyB Irish Subscription data is based on ComReg estimation of BSkyB group data.

46 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 that subscribe to an analogue or digital cable television service, MMDS, a digital satellite service, or a free-to-air television service. Between Q3 2007 and Q3 2009 the share of satellite subscriptions increased by 5.4 percentage points.

Over the same period, the market shares of both MMDS and analogue cable decreased by 2.0 percentage points and 5.5 percentage points respectively. There remains a significant portion of households that use Free to View television only; this could be as a primary means of watching television or as a backup to their satellite or cable connection.

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 subscriptions to an analogue service provided by cable operators and those to a paid digital TV service, provided via either digital cable (inc. MMDS) or satellite with the number of free-to-view TV households in Ireland. In Q3 2009 74.6% of all TV homes in Ireland subscribed to a paid television service. This has increased by approximately 0.5 percentage points over the last two years. However, over the last few quarters the market share of paid television service in Ireland has remained relatively constant around the 75% level.

Of those subscribing to a paid television service, 54.4% had a satellite subscription while 84.7% (922,452) of paid television subscriptions in Q3 2009 were digital. This represents an increase of 6.7% since Q3 2008 and an increase of 1.7% since Q2 2009. 63.2% of all TV households in Ireland now receive their TV service via a digital television signal, based on digital cable, digital MMDS or satellite.

Figure 5.2.1 - Pay TV Market

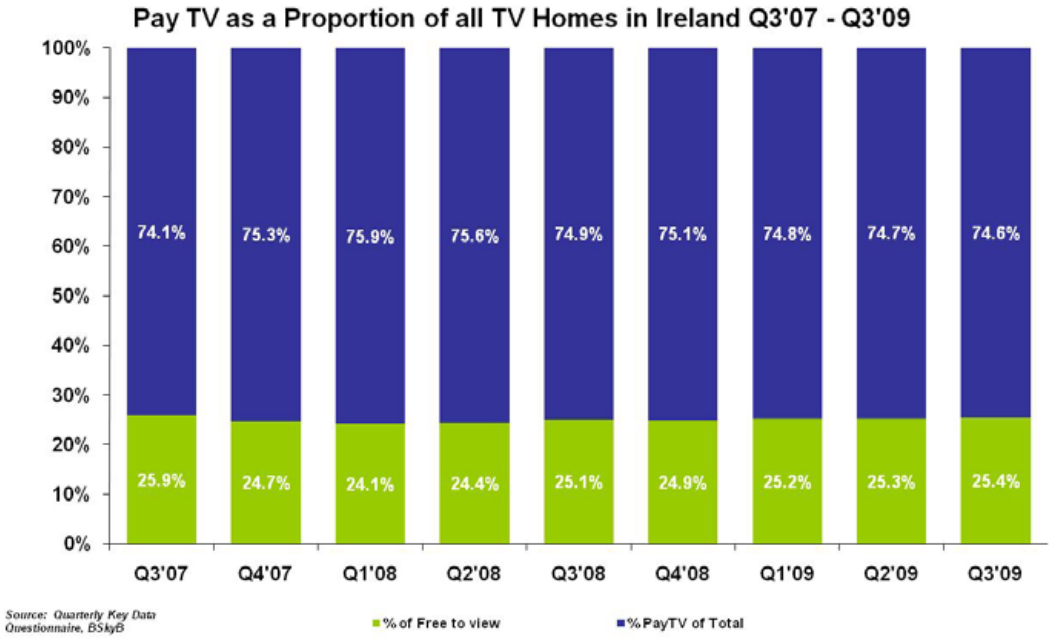
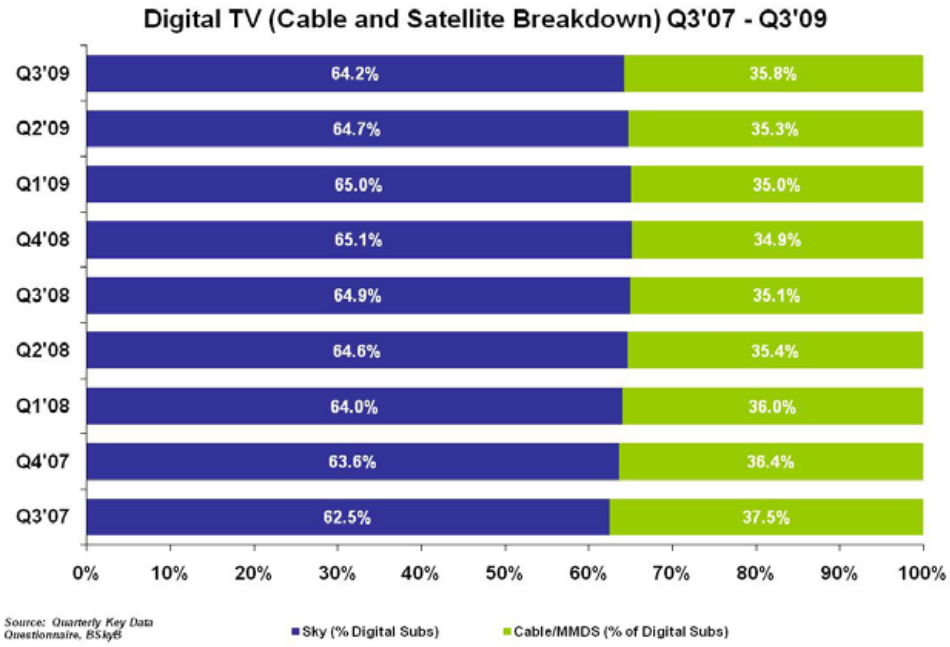


Figure 5.2.2 profiles the digital TV market, examining the proportion of digital subscriptions who receive their TV signal via a satellite subscription compared with those using digital cable (inc. MMDS). The proportion of digital cable/MMDS subscriptions has decreased by 1.7 percentage points over the last two years.

Figure 5.2.2 - Digital TV



5.3 International Television Data

Figure 5.3.1 uses data provided by the e-Media Institute and shows the top 10 digital TV European countries, according to their penetration rate, as at December 2008. While digital TV is ubiquitous in Finland and almost all-pervading in Iceland, other countries still have some way to go to achieve universal penetration rates, including Ireland. However, adoption of digital TV in Ireland continues to grow and penetration remains ahead of the majority of European countries.

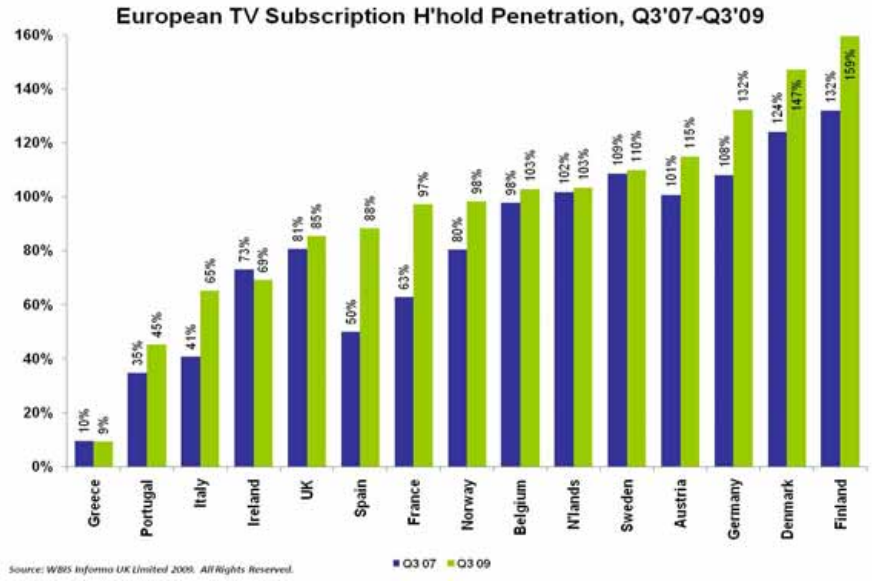
Figure 5.3.1 – Top 10 Digital TV European Countries

Ranking	Country	Digital TV Penetration Rate Dec 2008 (%)
1	Finland	100.0
2	Iceland	98.4
3	UK	88.4
4	Norway	72.2
5	France	70.0
6	Ireland	64.2
7	Cyprus	64.1
8	Spain	63.8
9	Sweden	63.7
10	Malta	62.6

Source: e-Media Institute 2009 (http://www.e-mediainstitute.com/en/default.content)

Using data from Informa, figure 5.3.2 compares household penetration of subscription based television packages[47] for fifteen European countries between Q3 2007 and Q3 2009. Household penetration for Ireland has actually dropped off slightly over the two years of the analysis but remains ahead of Italy, Portugal and Greece.

Figure 5.3.2 – European TV Subscription Household Penetration



47 This includes Digital Terrestrial Television, Satellite and Cable subscription packages.

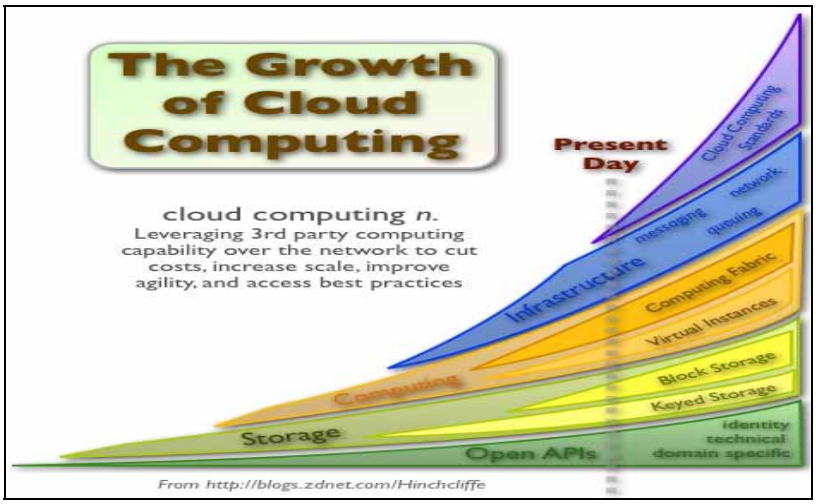
6. Emerging Trends – Cloud Computing

At the September 2009 announcement of Microsoft's new Dublin data centre, the president of Microsoft International, Jean-Philippe Courtois said "Cloud computing and the evolution of software-as-a-service offers is a major opportunity for Ireland to be a pioneer for the digital economy".

6.1 What is cloud computing?

Since 2008, cloud computing has become a popular way to refer to a number of interlinked information technology trends. There are competing interpretations of what cloud computing is about, but basically the expression refers to the provision of computing resources remotely or at a distance from the user, over the internet. The metaphor of the cloud is intended to suggest the storage and processing of data and delivery of services from large data centres and hosting services via the internet. One aspect of the metaphor is some notion of geographic indeterminacy – customers may not know where their data is at any given moment, accessing computing resources drawn from an "ill-defined elsewhere."

Figure 6.1.1 – The Growth of Cloud Computing



This is not true for all enterprise cloud applications, however, some of which will be supported from a small number of readily identifiable data centres. What is common, however, is the idea that the service can be delivered without necessarily paying undue regard to the location of the customer. Armed with a web browser on an internet connection, the cloud enables users to access the services from anywhere.

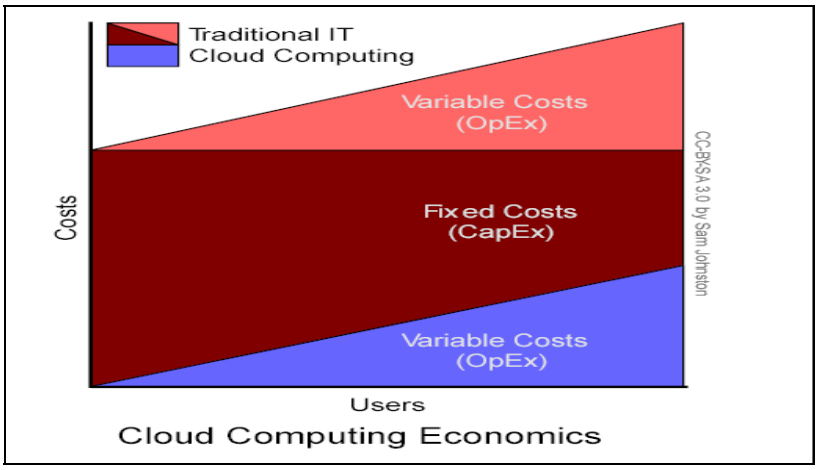
Cloud computing has built on trends like the widespread availability of broadband, inexpensive storage, virtualisation and grid computing. Although a variety of definitions

are offered for cloud computing, commonly identified characteristics include scalability on demand, the ability to pool computing resources, and payment models oriented around usage-based costing. Many of the best-known services are classified as "public cloud" because they are deployed via the public internet and share computing resources, but some commentators consider cloud services to include "private cloud" operations with data and enterprise applications running on secure off-site data centres. There are also hybrid models that may leverage both private and public cloud services.

6.2 The economics of cloud computing

Cloud computing users can avoid capital expenditure on hardware, software, and services when they pay a provider only for the services that they use. Consumption is usually billed on a utility or subscription basis with little or no upfront cost. A few cloud providers are now beginning to offer the service for a flat monthly fee as opposed to on a utility billing basis. The benefits of this time sharing-style approach are low barriers to entry, shared infrastructure and costs, low management overhead, and immediate access to a broad range of applications.

Figure 6.2.1 – The Economics of Cloud Computing



However, research[48] recently conducted by f5, found that efficiency, not reduction of costs was the primary driver for public cloud computing adoption and that despite budgetary constraints, 71% of organizations would see an increase in fund allocation for the purposes of public and private cloud computing initiatives. But a reduction in total capital expenses still ranked high with 68% of respondents citing a reduction in capital expenses as a driver toward public cloud computing and 63% citing the same as a driver for private cloud computing. The study appears to show that the current macroeconomic climate is not having a big impact on cloud computing adoption. In particular, the cost-

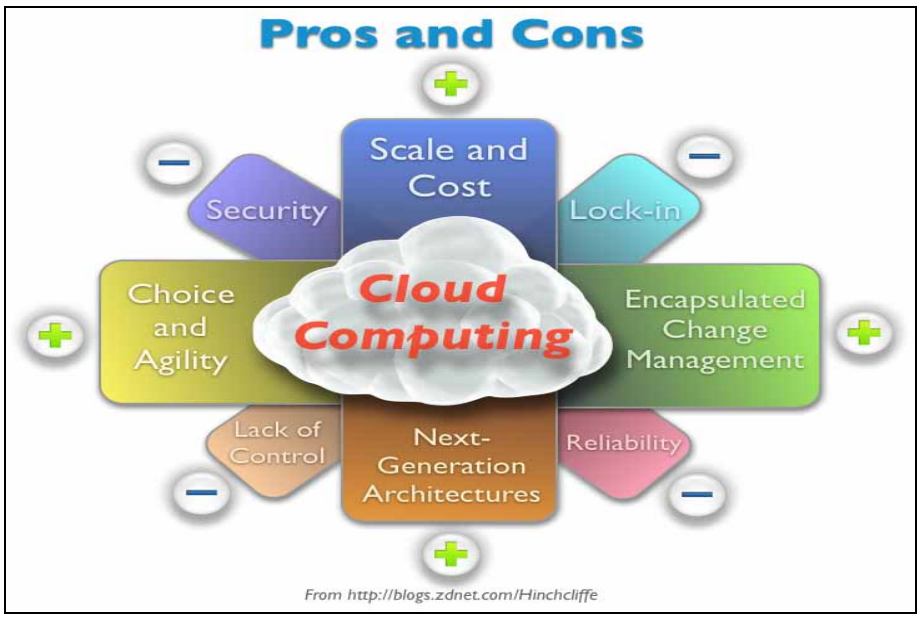
48 http://www.f5.com/pdf/reports/cloud-computing-survey-slides-2009.pdf

savings purported to be offered by the cloud do not seem to be the major selling point. And yet, companies are adopting cloud computing technologies, so it must make business sense.

6.3 The pros and cons of cloud computing

Cloud computing represents a major change in how we store information and run applications. However, as shown in figure 6.3.1 and explained below there are disadvantages as well as benefits:

Figure 6.3.1 – The Pros and Cons of Cloud Computing



Pros:

- Lower costs and improved performance: no need for high-powered and high-priced computers to run cloud- based applications. The desktop PC doesn't need the processing power demanded by traditional software.
- Instant software updates: when the application is cloud-based, updates happen automatically and are available at the next instance of logging into the cloud.
- Easier group collaboration: sharing documents leads directly to collaborating on documents. To many users, this is one of the most important advantages of cloud computing – multiple users can collaborate easily on documents and projects.
- Device independence and mobility: users are no longer tethered to a single computer or network. Existing applications and documents can follow a user through the cloud.

Cons:

- Content rich applications will require higher speed broadband connections and this is may impact on the rate of uptake particularly among SMEs.
- Can be slow: even on a fast connection, web-based applications can sometimes be slower than accessing a similar software program on a desktop PC.
- Features might be limited: today many web-based applications simply aren't as full-featured as desktop-based applications. For example, users can do a lot more with Microsoft PowerPoint than with Google Presentation's web-based offering.
- Legacy integration: legacy systems can be deeply integrated with many on-site systems and these may break down when even one integration point is moved into the cloud.

Those who might benefit from cloud computing include those who:

- Collaborate with other people on group projects
- Work in different locations; in the office, on the road, at home
- Are cost-conscious
- Have increasing needs in terms of data storage

Those who may not currently benefit from cloud computing include those who:

- Do not have the internet or have a slow (dial-up) connection
- Work in an offline environment
- Are locked in to existing applications as, for example, many web-based applications are not completely compatible with Microsoft's file formats

6.4 The Irish experience

In August 2009 the Irish Internet Association's Cloud Computing Working Group[49] conducted a market research survey in order to understand how Irish companies are responding to the cloud computing opportunity. 61% of respondents indicated they were either a provider or end user of cloud computing. Approximately half of those surveyed said they had a clear understanding of what cloud computing was and 72% were confident in the potential of cloud computing. However, 52% of respondents point towards security and reliability concerns along with lack of integration with legacy systems as the main barriers to their company using cloud computing technology. 65% of respondents believe Ireland is lagging compared to 33% who believe Ireland's adoption is consistent with international adoption and just 2% who believe Ireland is leading as an early adopter.

49 http://www.iia.ie/about-us/working-groups/cloud-computing-working-group/

This is supported by a recent report from Fergus Gloster[50]. According to the report, Irish software companies are lagging behind their global counterparts in their adoption of cloud computing technology. Gloster warns that Ireland's indigenous software companies could be missing out on a global market expected to reach $20 million by 2011. According to Gloster, the opportunity provided by cloud computing is that it removes traditional barriers and costs to developing a global Irish software firm. In addition, he said it solved the problem of having little market traction in a small market, and provided companies with a truly global reach.

However, this kind of doubt and pessimism hasn't restricted companies like IBM and Hewlett Packard (HP) from investing significantly in cloud computing research in Ireland. In 2008 IBM announced the development of Europe's first cloud computing centre in Dublin, which will serve as a European hub to provide research and services to a number of satellite facilities to be built in Europe, the Middle East and Africa. IBM experts will work directly with clients in the region, helping them adopt cloud computing solutions that spur technology research and business development. The centre is part of and in addition to IBM's €46m, three-year investment in Ireland announced in July 2006, which pledged 300 high-value new jobs over that period.

In addition, HP has designated its Galway software development centre as a global centre of competency for cloud computing. The first fruit of the new designation is a product recall service for the food industry. The service runs on HP's cloud computing platform for manufacturing and is being offered through a partnership with GS1, a non-profit organisation that attempts to make supply chains more efficient. The GS1 initiative, which will launch in Canada next month before being introduced in other markets, was led by the Galway centre. Galway will become a hub for both research and development and commercialisation of cloud computing initiatives at HP, according to Martin Murphy, managing director of HP Ireland. "By creating a cloud competency centre, it means we have high-value expertise being located in Galway. Jobs will come from this development in the fullness of time," said Mr Murphy.

Another cloud-computing related boost to the Irish economy has come in Microsoft's US$500m 'mega' data centre that will serve as the fulcrum for all of the software giant's EMEA activities from Bing to MSN, the Azure cloud computing platform and software plus services in the form of Microsoft's Business Productivity Online Suite (BPOS). The US$500m investment in the facility builds on the history of investment that Microsoft has made in Ireland over the past 24 years and is a further sign of its continued commitment to Ireland as a strategic location for many global and EMEA operations.

50 http://www.thomondtechnology.com/cloud-computing-report.php

The data centre has been officially recognised by the European Commission's Sustainable Energy Europe Campaign as a "best practice" in environmental sustainability design through its innovative design which has made it 50 per cent more energy efficient than traditional data centres built three years ago. The data centre increases hardware utilisation, reduces the use of resources like water and electricity, and reduces waste material.

The president of Microsoft International, Jean-Philippe Courtois added: "Twenty-five years ago, Microsoft saw the potential for Ireland to become a global strategic hub." Today, the company employs 1,200 people, having evolved from a manufacturing operation to higher value software development and operational work. "By locating this facility here, Microsoft is demonstrating its continued commitment to Ireland. More and more businesses are moving online and the key tools will rely on data centres that host cloud computing. Ireland has already distinguished itself. Our Bizspark programme here saw the highest participation of small companies in the world, proving the country already has a very vibrant developer community embracing cloud computing."

6.5 Regulating the cloud

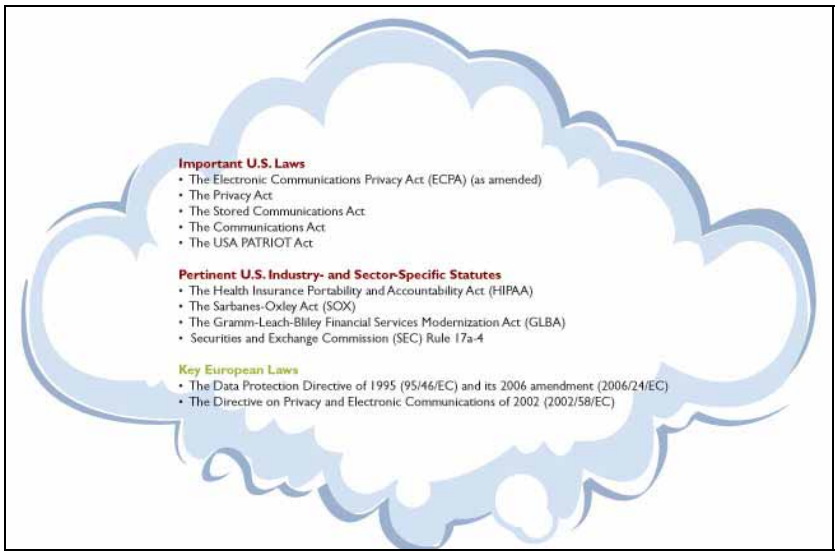
A recent report by the Yankee Group[51] suggests that the pervasive shift to cloud computing will precipitate a morass of legal questions, as well as government and regulatory scrutiny. The cloud will test the current rights, obligations and liabilities of service providers and their partners, businesses and consumers. The debate will play out around three key issues, encompassing multiple sub-issues. These issues are as follows:

- Privacy protection: The protection of personal information and the confidentiality of sensitive business data are central concerns in the current online world. Individual and company assessment of the risks and safeguards surrounding both types of information will be central in shaping the cloud and its attractiveness. Unauthorised access to, or disclosure of, data residing in clouds and its inappropriate use are key topics of debate. At present, this debate raises more legal questions than answers.
- Data protection: Compliance with electronic communications and industry sector-related laws on data security and storage are also mission-critical to the prospects of clouds. When data is handed over to third parties that have multiple other third-party arrangements, questions about who owns and controls the data and who is liable for misuse or a data breach come to the fore.

51 http://www.yankeegroup.com/ResearchDocument.do?id=52141

- Jurisdiction: An overarching factor in the debate relates to jurisdiction and differing applicable national laws based on the physical location of cloud users, service providers, and infrastructure or housed data. This issue is extremely complicated in a cloud context, where data may be transferred across servers in multiple nations and a customer is simply unaware of traffic flows.

Figure 6.5.1 – Cloud Computing Regulation



Sorting out where cloud technology stands vis-à-vis the law is not a simple case of understanding existing electronic communications laws and sector-specific data compliance requirements, and then applying those to the cloud. Some may apply, but some may not, depending on regulatory guidance and legal precedent. And the story is complicated further in that the regulation of current-generation online content remains nebulous or unclear in many nations. The cloud will force regulators to review existing rules and potentially redefine the regulatory parameters around online communications and data.

Based on a review of both existing online privacy and data protection laws in the U.S. and Europe, and pertinent legal precedents, the Yankee Group report's key findings include:

- The cloud will be shaped by both existing and emerging laws, and both cloud providers and customers must focus on understanding the related legal requirements, risks and multiple compliance obligations. These issues particularly relate to the legal treatment of data that is surrendered by an individual or company to a third party or parties. Questions around who controls and has access to this information are critical but unanswered to a significant degree.

- Regulators should issue guidance on how current-generation laws apply to information in the cloud. There are few test cases, but there is enough existing material for regulators and governments to clarify, for example, whether an e-mail is treated from the same legal point of view, irrespective of whether it is delivered via an ISP's server or a Web-based service.
- The success of the cloud will rely on providers establishing more transparent and accountable security and privacy policies. Broad industry buy-in will be necessary to set baseline standards that yield customer trust and assurances. This is not to suggest that a cloud provider will be able to assure a 100 percent guarantee of service reliability or security. There is room for improvement, however, in current standard customer agreements.

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: Q2 2009

Jul-09

Order Type	% Orders Validated within Performance Target	% Orders Delivered within Performance Target
DR	-	99.33%
LE	-	99.29%
PW	-	98.00%
LNI/LTI/MI	-	97.93%
LNI/LTI/MI	-	99.79%
CL	-	99.00%
LNN/LTN/MN	99.07%	92.52%
CH	-	99.01%
CN	-	100.00%
CM	-	99.90%

Aug-09

Order Type	% Orders Validated within Performance Target	% Orders Delivered within Performance Target
DR	-	99.70%
LE	-	99.63%
PW	-	97.14%
LNI/LTI/MI	-	96.17%
LNI/LTI/MI	-	99.27%
CL	-	98.18%
LNN/LTN/MN	97.70%	91.21%
CH	-	98.72%
CN	-	99.06%
CM	-	100.00%

Sept.'09

Order Type	% Orders Validated within Performance Target	% Orders Delivered within Performance Target
DR	-	98.58%
LE	-	92.84%
PW	-	98.68%
LNI/LTI/MI	-	93.98%
LNI/LTI/MI	-	97.08%
CL	-	99.28%
LNN/LTN/MN	98.94%	89.68%
CH	-	97.91%
CN	-	90.65%
CM	-	98.61%

Count of Time Interval	SLA Type	SB-WLR Repair performance metric Qrt 3 Jul - Sep 2009	
QRT 3 2009	Percentage of faults		
	<=2	<=5	<=10
Grand Total	70.87%	91.43%	97.79%

Glossary

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