The Communications Market 2008

5 Telecoms

Contents

5.1 Key market developments in telecoms

5.1.1 UK telecoms industry: key metrics

Operator-reported retail revenue (£bn)	24.7	26.2	27.5	28.0	28.8	29.9
Operator-reported wholesale revenue (£bn)	8.4	8.5	8.6	8.3	8.5	8.9
Fixed voice call minutes (billions)	165	167	164	160	151	148
Mobile voice call minutes (billions)	52	59	64	71	82	99
Average monthly household spend on telecoms services (£)	62.80	66.77	69.60	68.08	66.48	64.74
Fixed access and call revenues (£bn)	11.7	11.2	10.6	9.8	9.4	9.3
BT share of fixed revenues (%)	71.6	71.1	68.9	66.5	63.6	62.8
Proportion of unbundled exchanges (%)				12.4	23.3	31.0
Fixed lines (millions)	35.2	35.0	34.6	34.1	33.6	33.7
Mobile retail revenues (£bn)	9.0	10.5	12.0	13.0	13.8	15.1
Active mobile connections per 100 population	82.6	88.0	99.5	109.1	116.3	122.6
Active 3G mobile connections per 100 population	0.0	0.4	4.3	7.7	13.0	20.9
Internet connections per 100 population	19.3	22.9	25.8	27.2	28.9	30.4
Broadband connections per 100 population	2.3	5.2	10.2	16.5	21.7	26.0

Source: Ofcom / operators

5.1.2 Introduction

As the data above indicate, the size of the UK telecoms industry, in terms of revenues, connections and usage, has continued to increase, despite high mobile penetration and a decreasing number of fixed lines.

In this section, we focus on five key themes that highlight how industry developments may be affecting user behaviour and re-defining the relationship between fixed and mobile markets.

- **Mobiles in the home**. We look at the relationship between fixed and mobile consumption in the voice market, and find that although 70% of mobile users use their mobile phone to make calls within the home, fixed-line use remains resilient; 60% of outbound call volumes were from fixed lines in 2007, and 88% of households have a fixed line.

- **The value of flat-rate pricing**. We examine the rise of ‘all-you-can-eat’ tariffs in fixed-line and mobile. We find that only 16% of pay-monthly mobile users claim to usually exceed their inclusive minutes, and that this ‘flat rate pricing’ has enabled operators to maintain average revenues per user.

- **Broadband on the move**. In the past year mobile operators have focused on the broadband supply market with USB dongle-based consumer services. We find that two-thirds of mobile broadband users also have a fixed-line connection, and look at the relationship between fixed and mobile broadband.

- **UK moves towards super-fast broadband network.** Virgin Media is in the process of upgrading most of its cable network to offer speeds of up to 50 Mbit/s, and in July 2008 BT announced plans for the roll-out of fibre-based broadband to up to 10 million homes by 2012. We review these developments and other next-generation access initiatives.

- **The continued growth of text messaging**. We identify some of the factors behind the increasing use of SMS, which is used by more UK consumers than the internet.

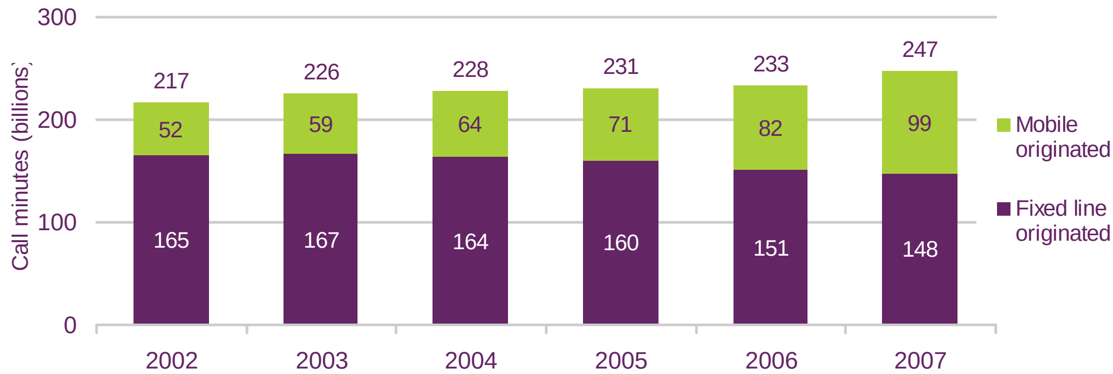
The two following sections combine data sourced from operators with consumer research to examine trends in the sector, first from an industry, and then from a user perspective.

5.1.3 Mobiles in the home: the relationship between fixed and mobile voice

The rise and rise of mobile…

In 2007, 99 billion minutes of outbound calls were made from the UK's 74 million mobile connections – a rise of 91% in the number of minutes and 48% in the number of connections since 2002. Total outbound use across mobile and fixed lines rose by 14 billion minutes in 2007 as British consumers spent 6% longer on phone calls than in the previous year. However, some mobile usage appears to be in place of using fixed lines, with fixed-line call volumes falling every year since 2003 - albeit slowly - despite the increasing availability of flat-rate fixed-line tariffs (Figure 5.1).

Figure 5.1 **Total outbound voice call volumes**

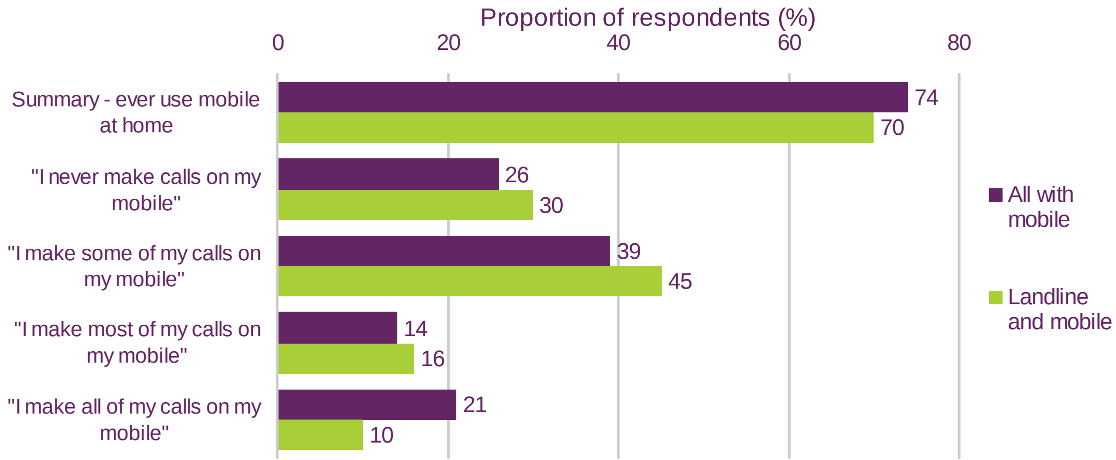


Source: Ofcom / operators
Note: Excludes dial-up internet access

…as seven in ten mobile users make calls from the home…

With 86% of UK adults now owning a mobile phone and the overall number of connections exceeding the population, mobile operators have looked to increase use from existing users in order to continue to increase revenues. One possible target for achieving this is in-home use, if the mobile can be an alternative to a fixed-line phone. Our research finds that 70% of people with a mobile and a fixed-line phone say they use their mobile to make some calls even when they are in the home. In addition, ten per cent of people with a fixed line at home say they never use it, claiming that they always use their mobile (Figure 5.2).

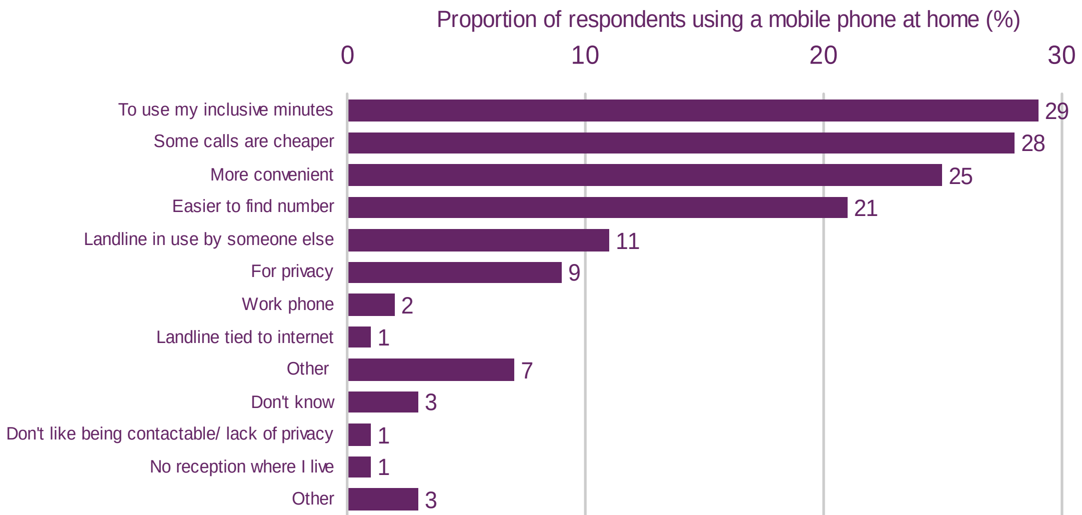
Figure 5.2 Frequency of using a mobile phone in the home



Source: Ofcom research, February / March 2008
Base: All who use a mobile phone

There are a number of reasons why a mobile phone is often preferred in the home, but mobile tariffs are the most important driver. Of those using a mobile in the home, 29% said that one reason was to use up inclusive bundled minutes in a mobile contract, while a similar proportion said that some calls from a mobile were cheaper than the equivalent fixed-line call (Figure 5.3). (It is often the case, for example, that calls from mobile to mobile are less expensive than calls from fixed-line to mobile.)

Figure 5.3 Reasons for using mobile phone while at home



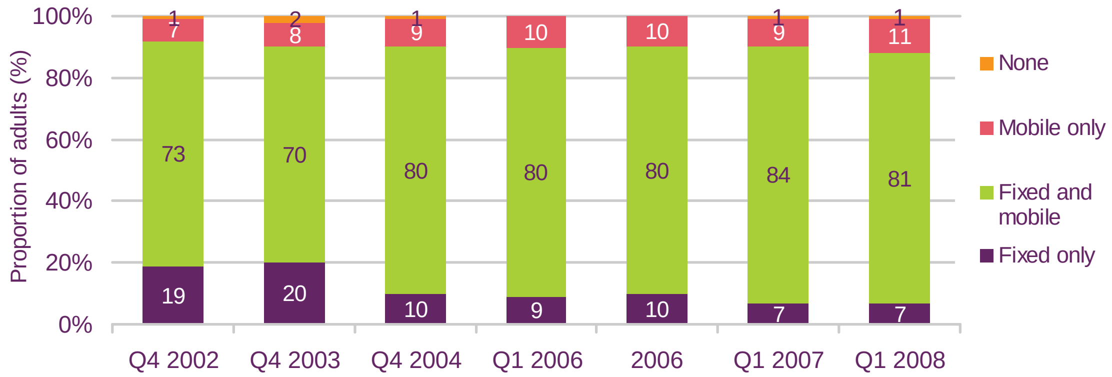
Source: Ofcom research, February / March 2008
Base: All who use a mobile phone at home
Note: Multiple responses permitted

… but fixed-line voice remains resilient

Against the backdrop of rising mobile take-up and use, and its reach into consumers' homes, the resilience of fixed-line voice is a noteworthy characteristic of the UK market. In 2007, 60% of voice minutes originated on fixed lines, with the average residential voice line making 267 outbound minutes a month, compared to 116 outgoing minutes on the average mobile connection.

Most notable is that the proportion of mobile-only households has hardly changed in the past three years, as shown in Figure 5.4, and at the end of 2007 four in five households had both a fixed and a mobile connection.[55]

Figure 5.4 **Household penetration of fixed and mobile telephony**



Source: Ofcom research, Q1 2008
Base: All adults

The number of mobile-only households in the UK is considerably lower than in many other European countries, with a survey commissioned by the European Commission finding, for example, that 37% of Italian households had only a mobile connection at the end of 2007.[56] The recent resilience of the fixed-line voice market to the threat of mobile may partly be explained by two key characteristics within the UK consumer market, which we will explore in the next two sections:

- flat-rate tariffs are the norm for all the largest fixed-line operators, who typically offer unlimited off-peak calls to UK geographic numbers within standard line access charges, and other unlimited calls for additional monthly fees; and
- over 75% of broadband connections are via DSL, which requires a home phone line.

5.1.4 The value of flat-rate pricing: the rise of 'all-you-can-eat' tariffs

'Unlimited' calls are a key component of fixed-line voice pricing

Pricing may be a key tool in operators' efforts to constrain the substitution of fixed-line calls and lines for mobile, and many UK fixed-line operators now include unlimited weekend calls to UK fixed lines within their standard access charges, with 'add-ons' and alternative tariffs typically available to provide unlimited calls for peak time and international calls (Figure 5.5).

As the largest fixed-line operator, with a 66% retail market share of fixed voice connections at the end of 2007, BT's pricing strategy is more influential than that of any other operator in defining the prices consumers pay. BT is also the only European incumbent fixed-line operator which does not have its own mobile network[57], and is more vulnerable to fixed-mobile substitution than integrated operators, whose mobile divisions can attempt to

[55] It should be noted, however, that there are a much higher proportion of mobile-only households in some cities and regions. Our research finds that 28% of households in Greater Manchester were mobile-only in 2007, 23% in Belfast, 21% in Liverpool and 19% in Wales as a whole (Ofcom, *The Nations & Regions Communications Market Report 2008*, http://www.ofcom.org.uk/research/cm/cmrnr08/)
[56] European Commission, *Special Eurobarometer, 293* (June 2008, based on fieldwork in November-December 2006)
[57] BT does operate as a mobile virtual network operator (MVNO)

recapture lost traffic and revenue. It is in this context that BT migrated its entire retail customer base to its '*Together*' packages in 2004 which offered a fixed price for all calls to UK geographic numbers of up to an hour in length, plus inclusive calls (on some options). In April 2008, BT offered free evening calls on all of its tariff options, although only to customers opting in to a 12-month contract which automatically renews unless, following notice, the customer opts not to renew.

Figure 5.5 Unlimited call tariffs from leading fixed-line voice operators

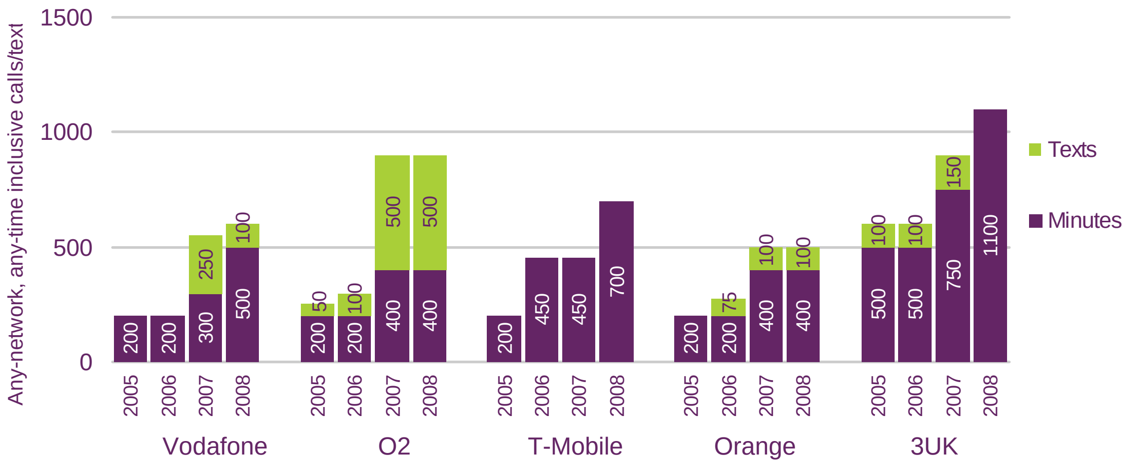
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BT	£10.50	£10.50	£10.50[2]	£16.45	£21.45
Sky Talk	£10.50[3]	£10.50	£10.50	£15.50	£15.50
TalkTalk	£10.50	£10.50	£10.50[4]	£14.99[5]	£14.99[6]
Virgin Media[7]	£11.00	£11.00	£14.45	£18.95	n/a

Source: Ofcom, June 2008
Notes: (1) Number of countries international calls are available to varies (all include at least 20); (2) requires a 12-month automatically which on prior notice enables the customer to opt out and if not, automatically renews; (3) line rental payable to BT; (4) increases to £13.15 after 12 months; (5) increases to £19.99 after 18 months; (6) offer available for a limited period of time; (7) includes basic TV package.
Additional note: This table is indicative of inclusive-call offers only and should not be used to compare overall pricing as many additional factors, including calls to mobile, friends & family tariffs, contract lengths and multi-service bundling, are not included.

High-end mobile packages move towards 'flat-rate' pricing

While the 'unlimited' tariffs of fixed-line operators can in part be seen as a defensive strategy designed to limit fixed-to-mobile substitution, the movement of mobile tariffs to offer ever-increasing numbers of inclusive minutes could be said to be an attempt to increase use and generate greater revenues from a market which is now approaching saturation. As Figure 5.6 indicates, there has been a marked increase in the number of minutes available within standard £30 contracts from all five mobile network operators over the past three years.

Figure 5.6 Inclusive any-network, any-time allowances in £30 per month mobile contracts



Source: Ofcom / tariff data from Pure Pricing
Notes: Data based on tariffs available in June of each year; standard tariff selected which offers highest number of any-time, any-network minutes for £30 or less on an 18-month or 12-month contract; excludes tariffs only available online or direct; excludes specific promotions; excludes SIM-only deals; some variation between 2006 and 2007 is caused by greater availability of 18-month contracts; this table is indicative of inclusive any time, any

network minutes only (and texts when they are additional to the maximum number of minutes) and should not be used to compare overall pricing as many additional factors are excluded, such as handset, on-net calls, off-peak calls, data bundles and metered pricing.

While the cost of mobile termination rates means that any-time, any-network mobile calls are never genuinely unlimited, the trend towards higher inclusive minutes means that many consumers are effectively on flat-rate tariffs (for the consumer who does not use the inclusive allocation of minutes, the cost of each incremental minute is effectively zero).

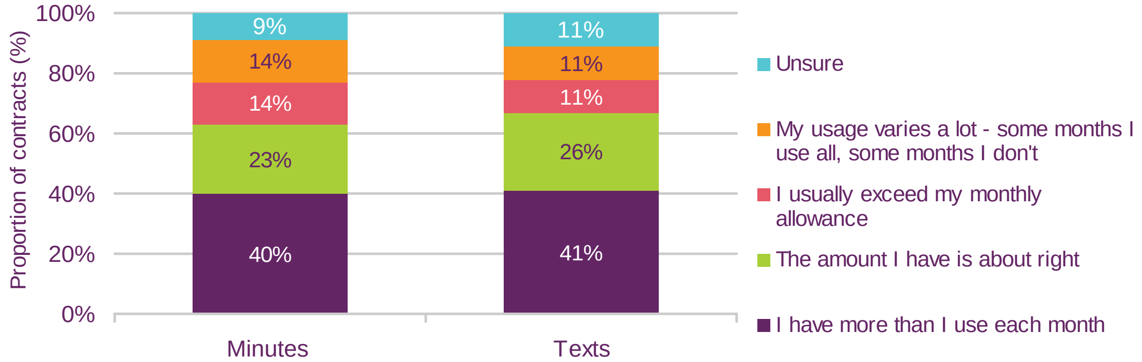
It appears that this trend will continue; earlier this year, new propositions from mobile operators have included T-Mobile launching its new SIM-only tariff *Solo* with 1400 minutes and unlimited texts for £30 a month, and Vodafone offering free any-network weekend calls to existing customers renewing on a £40+ plan with an 18-month contract.

Only 14% of mobile contract users usually exceed their inclusive minutes

Our research indicates that around 40% of pay-monthly mobile consumers claim that they have more inclusive minutes than they use every month, and 41% have more texts than they use, while few in comparison (14%) claim to usually exceed their inclusive minutes, and 11% usually exceed their inclusive texts (Figure 5.7).

Figure 5.7 **Use of inclusive minutes and texts**

Do you generally use all your inclusive minutes / texts or do you tend to have some left over at the end of each month?

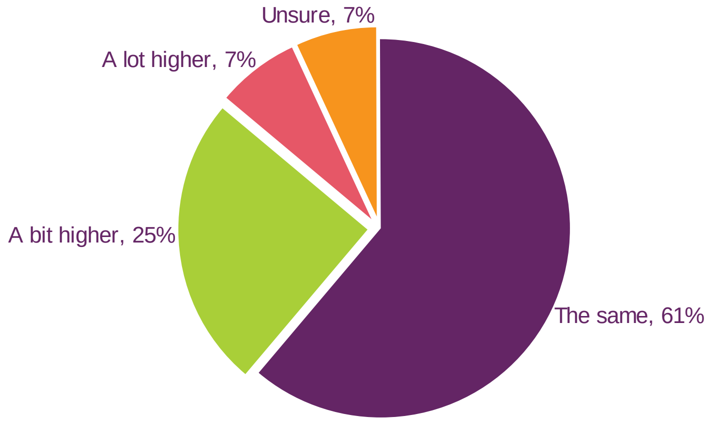


Source: Ofcom research, July 2008
Base: Adults 16+ who have a post-pay mobile contract. Excludes 9% of users who did not know whether they exceeded their minutes allowance and 21% who did not know whether they exceeded their texts allowance.

So, in terms of usage, a large proportion of pay-monthly consumers are effectively on 'flat-rate' tariffs, and this is backed up by research that finds that the majority of pay-monthly mobile consumers believe that their total monthly bill is usually the same as their standard monthly line rental payment (Figure 5.8). Of course, many consumers who do not exceed their inclusive minutes allowance receive bills higher than their standard monthly rental because there are many types of calls, including special rate calls and international calls, that are not included within inclusive allowances.

Figure 5.8 **The relationship between monthly bill and monthly line rental for pay-monthly mobile consumers**

Would you say that your total monthly bill is usually the same, a bit higher or a lot higher than your fixed monthly payment?



Source: Ofcom research, July 2008
Base: Adults 16+ who have a post-pay mobile contract.
Note: The 'fixed monthly payment' was defined to respondents as "the amount you would have to pay for line rental even if you did not make any calls or receive any texts".

'Inclusive' tariffs offer greater value... but overall spend remains steady

The prevalence of unused minutes within inclusive allocations provides a caveat to the greater 'value' that mobile contract consumers are getting, in terms of the number of minutes available for a fixed price. Average cost per minute used has fallen, but an overall fall of 17% in the five years since 2002 is not as much as might be expected, given the rise in inclusive minutes. Despite prices apparently falling between 2006 and 2007, mobile operators have been able to maintain average revenue per connection (Figure 5.9).

Figure 5.9 **Voice revenue per contract connection and revenue per minute**

Source: Ofcom / operators
Notes: Includes line rental and additional voice revenue; based on network operator-reported figures; includes estimates where Ofcom does not receive data from the operators.

The implications of the trend towards fixed-rate mobile pricing are, therefore, higher average use and lower average prices per minute, but little impact on average spend. Other implications of the trend towards fixed-rate mobile pricing include:

- Because consumers often have more inclusive minutes than they need each month, they change their behaviour; they are likely to spend more time on their mobiles, and may use their mobile phone in the home in preference to a fixed line.

- The overall trend towards increasing the number of minutes available within high-value contracts favours high users, with fewer benefits for lower users.

- In order to drive incremental revenue, operators have focused on the pricing of calls and messaging that is not typically included within the 'any time, any network' headline proposition. For example, T-Mobile significantly increased the price of calling 0870, 0871, 0844 and 0845 numbers in June 2008.

- A focus on the headline proposition of number of minutes / texts per month has led to operators increasingly highlighting, or separating out, the cost of the mobile handset. This has led to SIM-only deals having much higher prominence in marketing communications to both existing and potential customer bases, while 3UK's *Mix & Match* tariffs make explicit the different monthly fees associated with each model of handset.

5.1.5 Broadband on the move

Mobile broadband is the new, new thing

In previous years, the *Communications Market Report* has examined how mobile operators have looked to drive additional revenues through offering data services, including internet browsing, on mobile phones. The past year has seen some significant advances, including continuing falling prices for internet access on mobile phones and the launch of Apple's *iPhone*, including the 3G version in July 2008, which has been heralded as marking a step change in usability of the internet via mobile[58]; iPhone users' data consumption is reported to be up to 30 times that of other users[59].

But perhaps the most significant change in the past year has been the growth of 3G mobile USB modems, or 'dongles', which enable consumers to access the internet using a cellular network by plugging the dongle into their laptop. The roll-out of High Speed Packet Access (HSPA) technology across 3G networks has enabled mobile operators to offer broadband access at headline speeds comparable to low-end fixed broadband offers. The three mobile operators without their own fixed-line broadband network have made the biggest play in mobile broadband: Vodafone was first to upgrade sections of its HSPA network to 7.2 Mbit/s in late 2007, while 3UK and T-Mobile have targeted subscribers with sub-£15 a month offers (these two networks also announced a 3G network sharing deal in December 2007).

In Q1 2008, research by GfK found that around 6% of UK internet users aged 16 or over were using mobile broadband (around 4% of all over 16s). The take-up of mobile broadband from a consumer perspective is covered in Section 2.1.4 of this report, while the following section explores two key questions facing telecoms operators:

- Does mobile broadband offer the potential for mobile operators to continue to increase their revenue? (Many commentators are predicting that revenues from voice and text will flatten in a saturated market.)

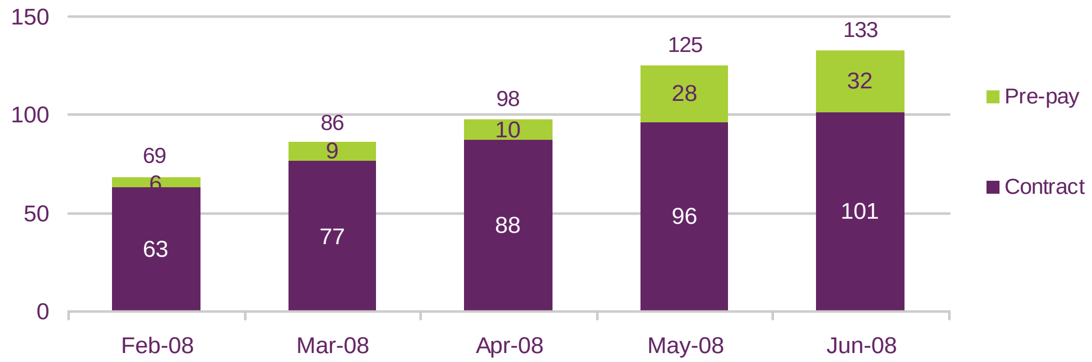
- Do the mobile network operators represent a serious threat to fixed-line ISPs?

[58] For example, IDATE states that "2007 may well be remembered as the year of the iPhone, whose influence is comparable to that of the iPod when it first hit the market", IDATE, *DigiWorld Yearbook 2008*, p63.
[59] Informa, 'Mobile broadband is opening new doors for FMC', *Mobile Communications Europe,* 24 June 2008

Mobile broadband – a significant new revenue stream for mobile network operators?

In the five months from February 2008 (the first month for which data are available), an estimated 510k mobile broadband connections were sold by the UK's five mobile network operators, 425k of which were contract connections (an average of 85k contract subscribers a month) (Figure 5.10). This compares to an estimated 491k mobile handsets sold with post-pay mobile contracts per month in Q1 2008[60] (plus an unknown number of SIM-only connections).

Figure 5.10 **New consumer mobile broadband connections**



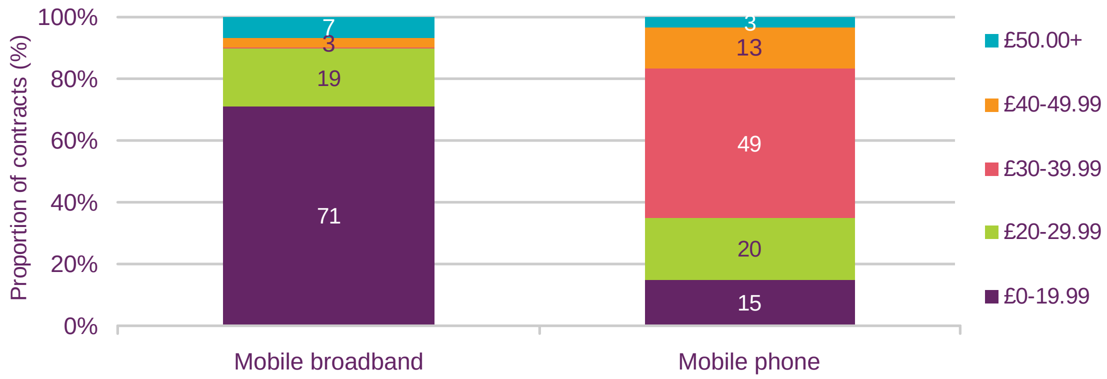
Source: GfK retail data (includes only consumer channels)

Revenue from mobile broadband contracts is typically between £10 and £20 per month, while nearly half of all mobile contract connections sold with a handset in Q1 2008 were in the £30-£40 bracket (Figure 5.11), and average revenue per connection for mobile contract customers in 2007 was £33.06 (see Section 5.2.4). Clearly, therefore, although mobile broadband may come to represent a significant new revenue stream for mobile operators, in terms of both volumes of subscribers and revenue per subscriber it is dwarfed by current voice and text revenues from mobile phones. A projection of three million subscribers accessing broadband via a mobile dongle in the next couple of years at an average of £15 a month per subscriber would generate a total of £540m per year – or just over 3.5% of the £15.1bn total retail revenue generated by the UK's mobile operators in 2007.

It is also worth noting that, compared to voice, the revenues from mobile broadband are massively disproportionate to the network capacity required; T-Mobile announced in April 2008 that data traffic already exceeded voice traffic on its network (Informa, *Mobile Entertainment*, April 2008).

[60] According to GfK retail data, 1.473 million mobile handsets were sold with post-pay mobile contracts in Q1 2008.

Figure 5.11 **Monthly line rentals for mobile broadband contracts and mobile phone contracts, January – May 2008**



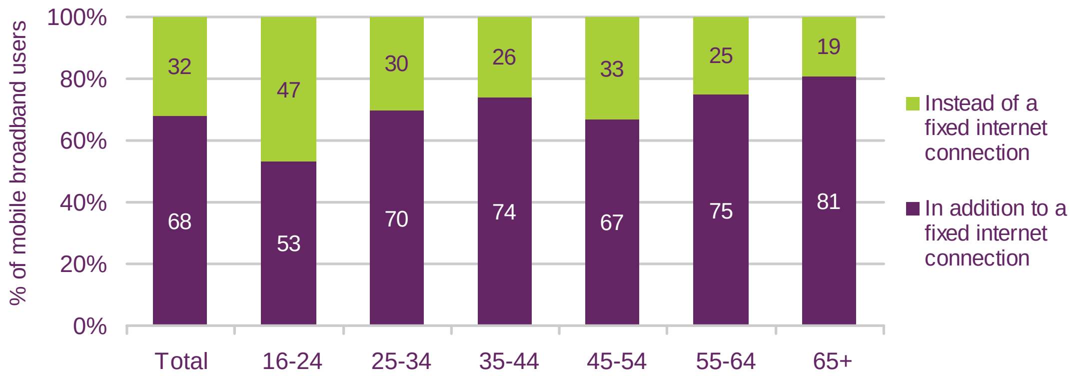
Source: GfK retail data (includes only consumer channels)
Notes: Mobile broadband data based on new contracts in February-June 2008; mobile phone data based on new contracts (excluding SIM-only) in January-March 2008

Some evidence of mobile broadband being substituted for fixed broadband

With similar price points to fixed-line broadband, and with headline speeds similar to low-end fixed-line packages (see below), mobile broadband providers have increasingly targeted the same consumers as fixed-line broadband. However, research indicates that most mobile broadband users take the service in addition to fixed-line broadband, with over two-thirds of all mobile broadband subscribers also having a fixed-line broadband connection (although this may partly be caused by some consumers being tied in to minimum contract periods) (Figure 5.12).

Figure 5.12 **Use of mobile and fixed-line broadband**

Is your mobile broadband in addition to, or instead of, a fixed connection?



Source: GfK consumer tracking panel
Notes: multi-code question; caution: low sample for 16-24 and over 65 – use as a guide only

Need for speed and capacity favours fixed-line broadband

In the medium term at least, two key trends in the mobile broadband market are likely to constrain it emerging as a viable alternative to a fixed-line connection for the majority of users. Firstly, increasing take-up of video services such as the BBC *iPlayer* means that some consumers will require speeds that are higher than those typically experienced via mobile broadband. Secondly, the use of these data-hungry services means that the monthly capacity constraints associated with most mobile broadband offers are likely to be insufficient for an increasing number of broadband users.

- In terms of speed, mobile broadband is significantly slower than fixed-line broadband, offering headline speeds of 3.6 Mbit/s or 7.2 Mbit/s, but with actual speeds reported as being around 1 Mbit/s[61]; insufficient, for example, to stream standard-definition video at full screen size. The Long Term Evolution technology path of cellular networks (see Section 2.3.4) means that in the next decade there may be the capability for much higher speeds, although there are a number of uncertainties about how and when this might happen. In the long term. WiMAX technology is also an alternative to LTE for the delivery of wireless broadband.

- In terms of capacity, all mobile broadband offers put a cap of 1-3GB per month on their basic services and typically have high charges for any use above this cap.[62] This compares to fixed-line offers which frequently offer 'unlimited' usage, often subject to a fair use policy (for example, in June 2008, BT Retail's *Option 1* offered 10GB per month, while Virgin Media has no download limits associated with any of its packages).

Limited capacity, both in the radio network and in backhaul to the core network, combined with the need to prioritise voice traffic, means that as take-up of mobile broadband grows contention problems are likely to increase (in the short term at least, until network investment is made). Therefore, mobile operators are at a competitive disadvantage to fixed-line operators as demand for higher capacity increases.

5.1.6 UK moves towards super-fast broadband network

BT plans to offer fibre-based access to 10 million homes by 2012

In July 2008 BT announced plans to roll out fibre-based, super-fast broadband to up to 10 million homes by 2012, predominantly based on fibre-to-the-cabinet (FTTC). BT claims that initial headline speeds will be up to 40 Mbit/s, although in new-build sites fibre-to-the-home (FTTH) will enable speeds of up to 100 Mbit/s. These fibre-based next-generation access (NGA) networks allow consumers to run multiple high-bandwidth applications; for example, enabling one member of a family to watch a high-definition film, while another plays an interactive high-definition game and yet another has a video conference call. BT plans to invest £1.5 billion in this deployment, with initial investment of £100m in each of the 2008/9 and 2009/10 financial years.

We expect BT to offer wholesale access to its proposed NGA network, similar to the way that it wholesales its existing copper-based ADSL network. This supports consumer choice of suppliers by enabling other operators to retail the service and offer 'bundled' services (for example, high-definition television, broadband and voice) over BT's fibre network.

No details are yet available on where BT's fibre networks will first be deployed. While the higher population density in large cities provides incentives for investment, BT has stated its

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[61] Research commissioned by Vodafone and conducted by LCC International in March-May 2008 found that average speeds for Vodafone were 1.2 Mbit/s with average speeds for other networks varying between 683kbit/s and 993kbit/s, http://www.vodafone.com/start/media_relations/news/local_press_releases/uk_press_releases/2007/independent_trials.html

[62] In June 2008, Vodafone and Orange charged £15 per GB for use above the cap, 3UK charged 10p per MB (equivalent to £100 per GB), O2 charged 20p per MB (equivalent to £200 per GB with charges waived until November 2008) and T-Mobile did not charge extra but instead have a fair use policy which Applies speed controls if use is in excess of the fair use limit; international roaming charges are also currently very high, with typical rates of around £3 per MB, equivalent to £3,000 per GB.

hope that both rural and urban areas will benefit, and will be working with government and regional and local authorities to identify areas where there is demand for these services.

Virgin Media upgrades two thirds of its cable network to offer speeds up to 50 Mbit/s

Perhaps the best indication of investment in next generation access in order to offer speed as a competitive differentiator is Virgin Media's announced upgrade of two-thirds of its cable network to a DOCSIS 3 standard, offering speeds of up to 50 Mbit/s to 9 million premises by the end of 2008. This investment comes in the context of a 71% increase in broadband traffic on the Virgin Media network between February 2007 and April 2008[63], and the company has used speed as a key market differentiator in its marketing of the cable network as '*the mother of all broadband*'.

As an upgrade to an existing network, which requires investment in backhaul network infrastructure but no large-sale physical work, the Virgin Media upgrade has features in common with mobile network upgrades from 3G to HSPA, and potentially, in the future, through Long Term Evolution.

Other NGA plans indicate range of incentives for investment

The announcements by Virgin and BT (the UK's largest two ISPs) that they are investing in large-scale NGA deployments have had the highest profile, but three other NGA initiatives provide insights into the market incentives for investment in high-speed access networks that are relevant to the future development of next-generation fixed and wireless broadband networks.

- BT's first deployment of a next generation access network is to newly-built homes in Ebbsfleet Valley in the Thames estuary. Aiming eventually to offer fibre-to-the-home to all 10,000 homes in the development, the first customers are expected to get connected during 2008. As a greenfield site, Ebbsfleet is acting as a trial which will inform decision-making on the investment criteria for further fibre deployments, both for BT as it develops its plans for rolling out a wider fibre-based network, and for other operators, fixed and mobile, as they assess the demand for, and scalability of, high-speed access networks.

- H2O Networks Ltd has announced plans to build fibre networks in Bournemouth from September 2008 and in Dundee from January 2009, using municipal sewers, with 'six to ten' more projects to follow. The use of the sewerage system illustrates how accidents of urban design can provide supply-side incentives for localised investment (some cities have sewerage systems appropriate for carrying fibre cables; some cities do not). It also indicated the potential limitations that fixed-line operators have in installing new network infrastructure, compared to mobile operators for whom carriage over the airwaves depends less on physical geography. Wireless technologies may be particularly suited to rural or low-rise areas where the per-capita cost of fixed-line investment may be prohibitive and where there is less potential for wireless signals to be obstructed by buildings.

- The *Digital Region* project in South Yorkshire has begun implementing the roll-out of fibre-to-the-cabinet services, which will offer broadband speeds of up to 25 Mbit/s to approximately 600,000 premises. Backed by four local authorities and with some EU funding, its objectives are to spur economic regeneration by providing high-bandwidth services to consumers, businesses and the public sector. As such, it will

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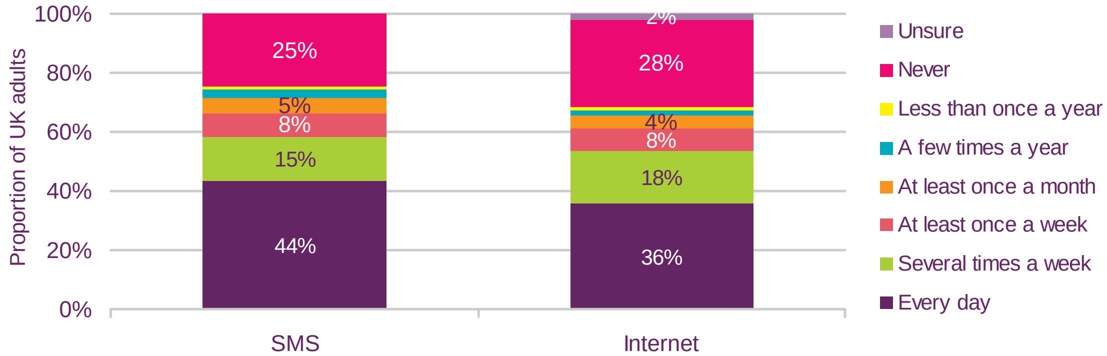
[63] Virgin Media, Q1 2008 presentation, http://library.corporate-ir.net/library/13/135/135485/items/292674/VMED_Q12008_presentation.pdf

form a useful case study for the benefits of high-speed networks to previously economically disadvantaged regions, which will be of interest both to fixed-line operators seeking public support for infrastructure works in areas where it may not be commercially viable, and mobile operators looking to utilise sections of the radio spectrum for high-speed access networks.

5.1.7 More UK consumers use text messaging than use the internet

While mobile operators and fixed-line operators may increasingly be competing for the provision of internet services, the most widely-used data application in the UK remains the 160-character Short Message Service (SMS). Our research in Q1 2008 found that 44% of UK adults use text messaging on a daily basis, compared to 36% who use the internet. Only 25% of adults never use text messaging, compared to 28% who never use the internet (Figure 5.13).

Figure 5.13 **Use of SMS and use of the internet**



Source: Ofcom research Q1 2008
Base: All UK adults

Despite technological advances which have made multimedia messaging, email and instant messaging available on most handsets, the use of SMS has accelerated in the past year. As Figure 5.14 below indicates, the growth in numbers of SMS increased by 32% in 2007 (compared to a compound annual growth rate of 27% in the five years from 2002).

This increase is in part related to the increasing numbers of SMS included with monthly tariffs (due both to the growth of tariffs such as T-Mobile's *Flext* tariffs which allow users to 'spend' their inclusive allocation on either text or voice, and the growth of tariffs which are targeted specifically at heavy text users, such as Orange's *Dolphin* tariffs). However, as indicated in Section 5.3.2, out-of-bundle text messaging now accounts for a larger element of the total cost of services than out-of-bundle on-net and off-net mobile-to-mobile calls combined.

The reasons for the continuing rise of SMS are complex, and include cultural drivers as well as operator initiatives; text messaging is far more popular in the UK than in other European countries, with UK consumers sending an average of 67 text messages every month per mobile connection in 2007, compared to German users sending an average of 22.8 and French consumers sending an average of 20.4 text messages in 2006 (the most recent year for which data are available).[64]

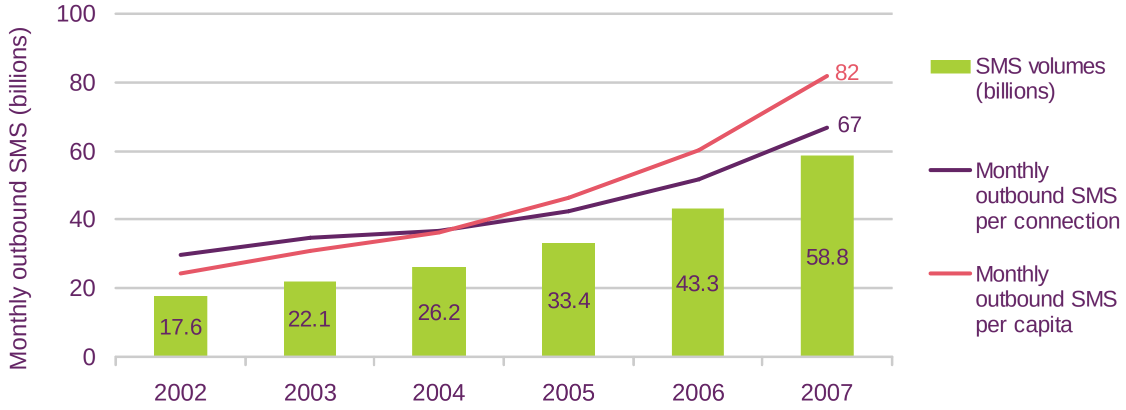
However, text messaging's continuing popularity with mobile users is indicative of two qualities which other communications technologies are struggling to match: its ubiquity (nearly every mobile phone has the functionality and inter-connection is available through all

[64] IDATE / national regulators

operators) and its simplicity (sent to a mobile phone number, with no separate 'SMS address' as is usually necessary for email).

In Section 5.2.4, we highlight how increases in SMS messaging were behind much of the mobile operators' revenue growth in 2007, while in Section 5.3.6 we highlight research which indicates that children who use a mobile phone are more likely to send a text message than make a call.

Figure 5.14 **Outbound SMS volumes**



Source: Ofcom / operators

5.2 The telecoms industry

5.2.1 Introduction

This section of the report examines recent major trends in the UK telecommunications market from an industry and operator viewpoint, while the subsequent section looks at the same trends from an end-user perspective.

5.2.2 Industry overview

According to the ONS, the UK telecommunications industry (including network operators, equipment manufacturers and infrastructure providers) generated £61.5bn in turnover during 2007, an 8% increase on 2007 (Figure 5.15). To put this into perspective, the ONS estimated combined turnover from restaurants and bars at £48.7bn in the same year, and from the retail sale of automotive fuel at £20.7bn.

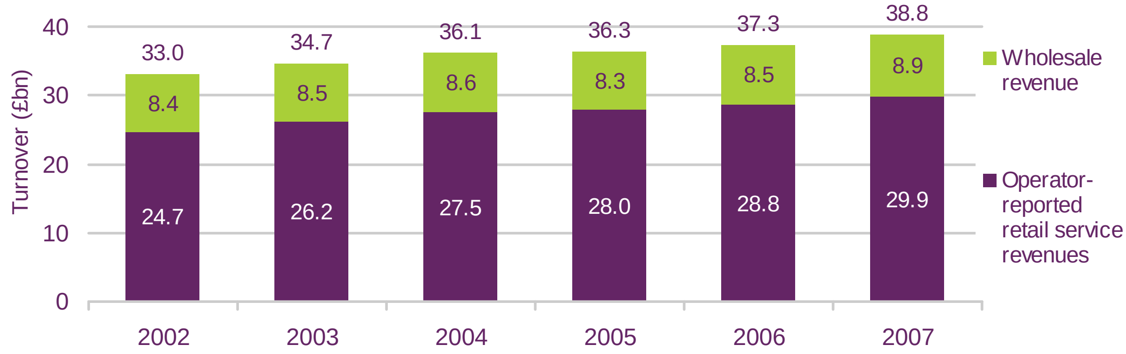
Ofcom's own regular data collection exercise estimates total wholesale and retail telecoms revenue to be £38.8bn in 2007, 4% higher than in 2006. There are a number of reasons for the large discrepancy between the ONS turnover and the Ofcom revenue figures. Our figures exclude revenue from a number of services which the ONS include, such as the sale and manufacture of telecoms network equipment, revenues from value-added mobile services such as the downloading of mobile ringtones, and handset sales in operator-owned stores.

Figure 5.15 **UK telecoms industry turnover**

Source: Ofcom / ONS / operators
Note: Includes estimates where Ofcom does not receive data from operators; total turnover figures are not comparable with those published in the 2007 Communications Market Report as they no longer include an estimate for other retail revenue.

It is difficult to ascertain the size of the telecoms market in revenue terms due to large-scale wholesale turnover in the form of intra-industry revenue transfer. However, we estimate that these transactions amounted to £8.9bn in 2007, or 23% of the £38.8 billion total known service revenues (Figure 5.16). Operator-reported revenue from retail services grew by 4% in 2007 as a result of increasing take-up and use of mobile phones.

Figure 5.16 **Operator-reported UK telecoms revenue**

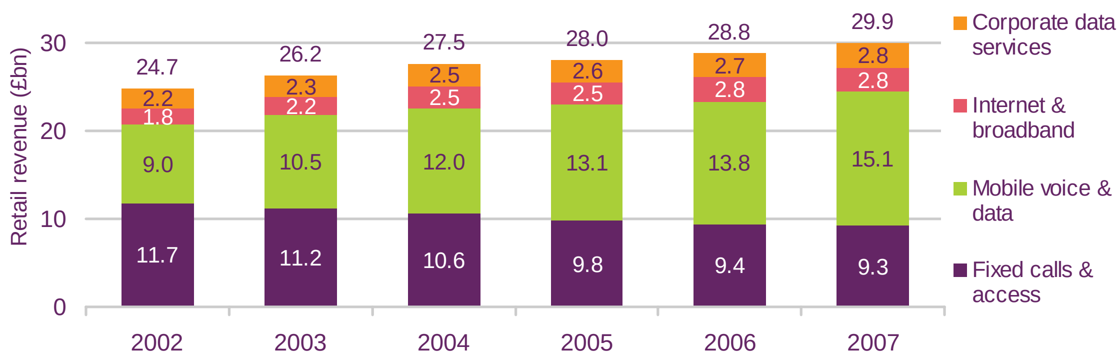


Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

Mobile accounts for over 50% of retail revenue

In 2007 revenues from mobile telephony services were for the first time greater than those from fixed telephony, internet and corporate data services combined. Total known retail telecoms revenue was £29.9bn in 2007, 4% higher than in the previous year (Figure 5.17). Revenue from fixed-voice telephony continued to fall, as mobile voice and data continued to increase their share of both use and revenue. Revenue from internet and broadband were stable, as the effect of increasing broadband take-up was offset by falling retail prices.

Figure 5.17 **UK telecoms industry retail revenue**

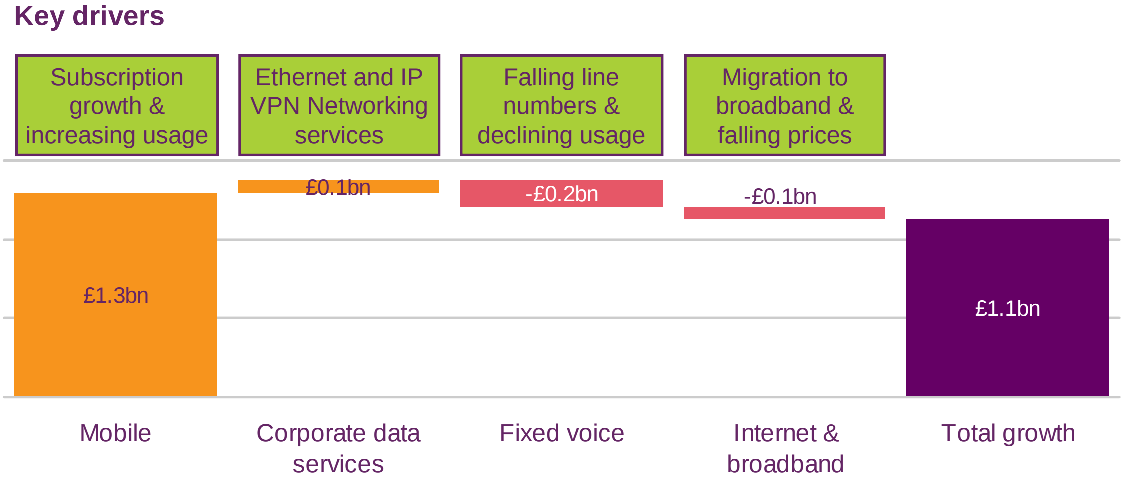


Source: Ofcom / operators

The proportion of operator-reported retail telecoms revenue generated by fixed-voice telephony fell by two percentage points to 31% of the market total in 2007, while internet and broadband revenues made up 9% of revenues, a one percentage point decrease on 2006. The proportion of total telecoms revenue that was generated by mobile voice and data services increased by two percentage points, to 51%.

Of the three main retail consumer telecoms services (fixed telephony, mobile telephony and internet services), only mobile telephony saw an increase in revenue, as growth in the number of connections continued despite high penetration levels (Figure 5.18).

Figure 5.18 **Telecoms revenue growth between 2006 and 2007**

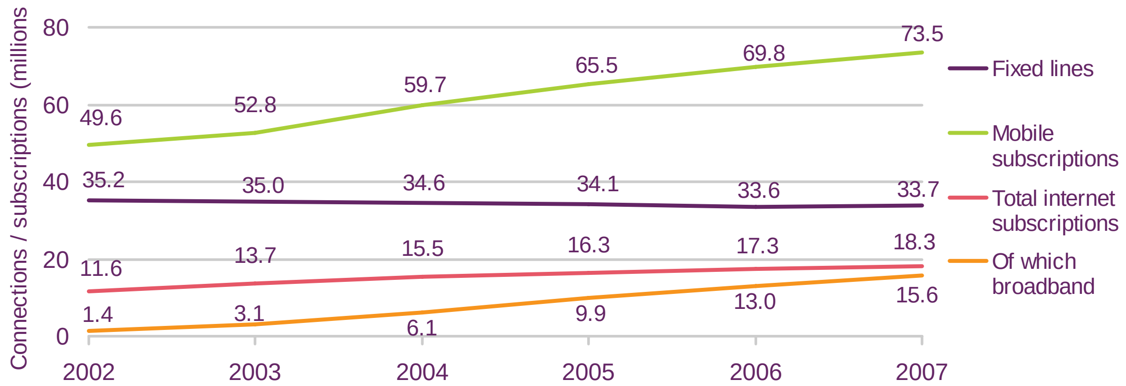


Source: Ofcom / operators

At the end of 2007 there were 73.5 million active UK mobile subscriptions[65] equating to approximately 1.25 connections per head of population (Figure 5.19), with growth being driven by take-up of devices for business purposes (including mobile data cards and 3G dongles) and many consumers having more than one phone to take advantage of call rates from different suppliers.

Against this trend, there was a slight increase in the number of fixed lines in 2007, to 33.7 million, as a result of growth in the number of business lines. The number of residential and SME internet connections also increased to 18.3 million during the period as broadband penetration grew, while the number of broadband connections (excluding corporate connections) grew to 15.6 million.

Figure 5.19 **Total telecoms connections**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators; broadband excludes corporate connections

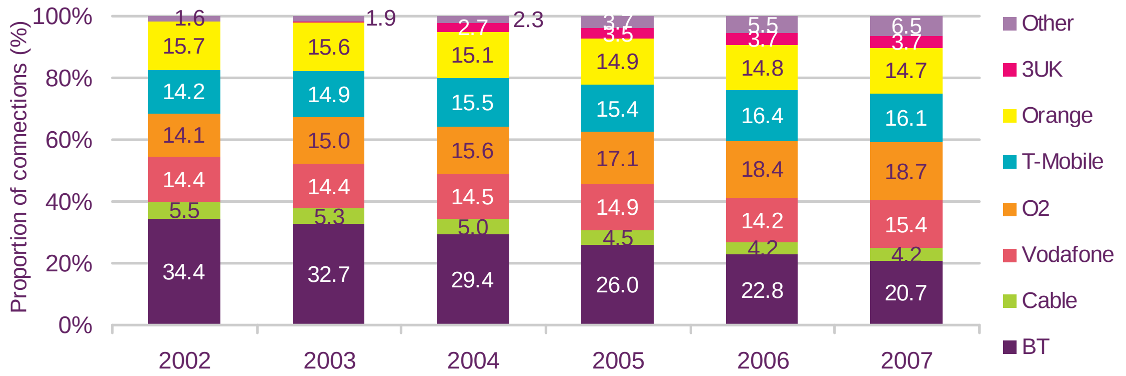
Mobile sector's share of total connections continues to increase

The continued growth of mobile meant that by the end of 2007, mobile connections accounted for 69% of total telecoms connections. BT continued to have the largest number of connections, but its share of total connections fell from 22.8% to 20.7% during 2007

[65] Based on operator-reported figures. Most operators define a mobile connection as active if it has been used to make or receive a call or text message within the last three months.

(Figure 5.20). Connections to 'other' operators accounted for 6.5% of total connections by the end of the year. The majority of these are the connections of MVNOs such as Virgin Mobile and Tesco Mobile.

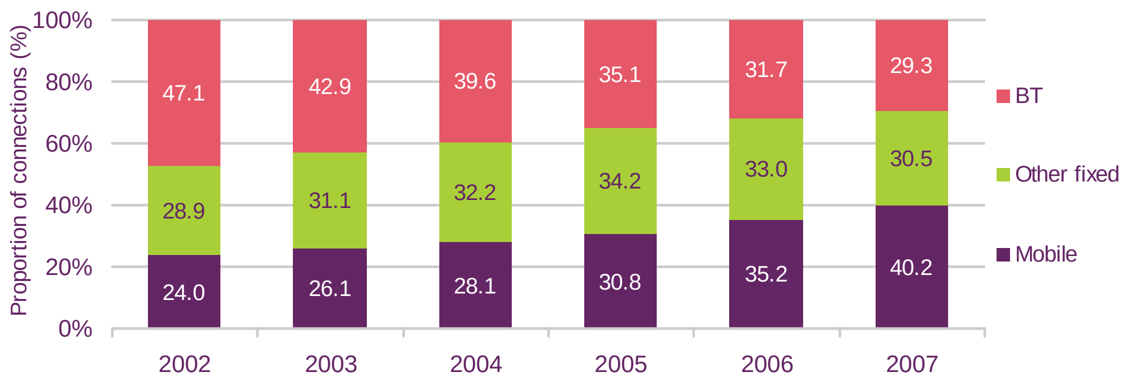
Figure 5.20 **Share of total UK fixed and mobile telecoms connections**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators; 'other' includes CPS, WLR, mobile ISP and MVNO subscribers in additional to fixed other licensed operators

The growing importance of mobile telephony to the UK telecoms industry is reflected in its share of outbound voice call volumes (Figure 5.21). In 2007 over 40% of voice call minutes were made from mobile phones, compared to less than 25% five years before, while BT's share of originating voice call volumes fell to under 30% for the first time. Non-BT fixed-line services saw a 2.5 percentage point fall in their share of outgoing voice volumes in 2007, despite an increase in the number of lines during the period, although non-BT fixed operator's share of fixed voice volumes was unchanged at just over 50%.

Figure 5.21 **Share of outbound voice call volumes**



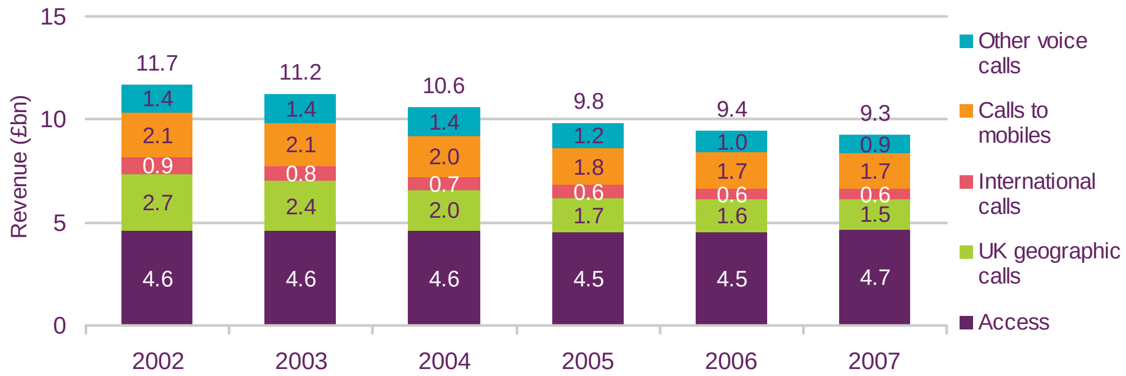
Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

5.2.3 Fixed-line access

Fixed revenues

While fixed voice telephony revenues continued to fall during 2007, the rate of decline slowed (Figure 5.22). Fixed voice revenue in 2007 was £9.3bn, 2% lower than in 2006, as a result of falling revenues for all call types, as call volumes continued to decline. Line rental revenue increased by 3% during the year to £4.7bn as take-up of tariffs offering inclusive calls in return for a higher monthly access fee increased. For example, at the end of 2007, BT's *Option 2* landline tariff offered bundled off-peak calls for an additional £3.45 a month and its *Option 3* tariff offered free landline calls at any time of the day for £7.95.

Figure 5.22 **Fixed voice telecoms revenue**



Source: Ofcom / operators

Average spend continues to decline

Average monthly revenue per fixed line continued to fall during 2007 as a result of declining call volumes per line (Figure 5.23). Average revenue per fixed line was £23.32, a fall of 3% from 2006. This continues a long-term trend which has seen call revenues fall significantly; only partially offset by increasing access revenues, as consumers pay higher monthly fees in return for inclusive calls. In 2007, average monthly access revenues increased by 3% to £11.51, while monthly call spend fell by 8% to £11.81.

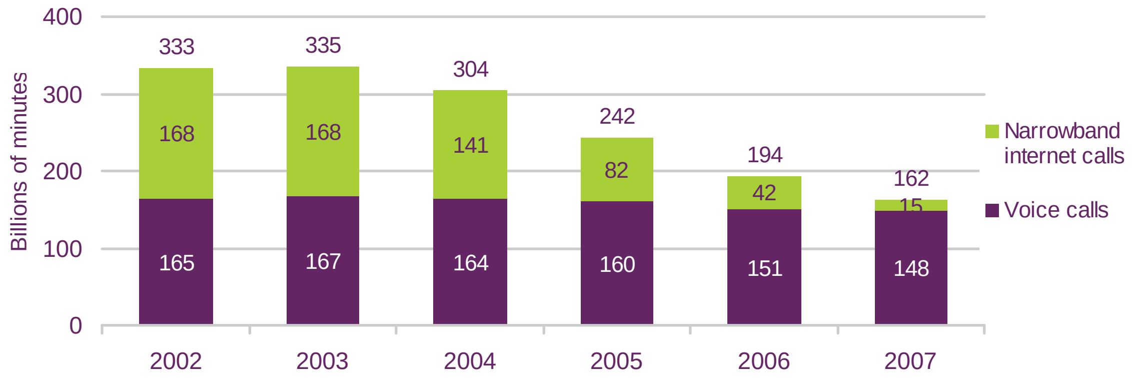
Figure 5.23 **Average monthly voice revenue per fixed line**

Source: Ofcom / operators
Note: Includes spend on non-geographic voice calls

Fixed voice and narrowband call volumes are falling

Fixed call volumes continued to decline during 2007, partly as a result of narrowband internet users migrating to broadband services (Figure 5.24). Total fixed call volumes fell by 16% during the year to 162 billion minutes, with most of the fall due to a reduction in narrowband internet call volumes, which fell by 66% to 15 billion minutes. Fixed voice call volumes (including non-geographic voice calls) decreased by 2% during the year, to 148 billion minutes.

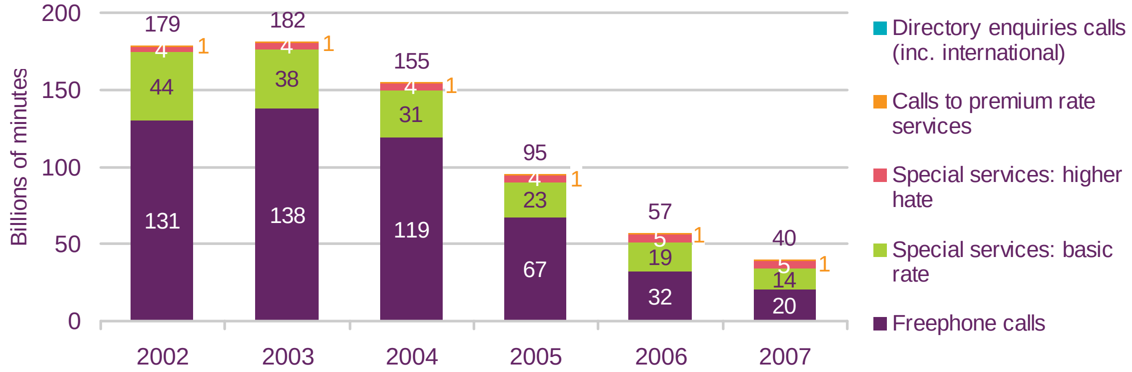
Figure 5.24 **Fixed telecoms call volumes**



Source: Ofcom / operators

Non-geographic voice call volumes continued to decline in 2007, as shown in Figure 5.25. Falling narrow-band internet call volumes (which are categorised as 'basic rate special services' and 'freephone calls' for metered and unmetered calls respectively) were reflected in a 30% decrease in total non-geographic call volumes from 57 billion minutes in 2006 to 40 billion minutes in 2007.

Figure 5.25 **Non-geographic fixed call volumes from fixed lines**

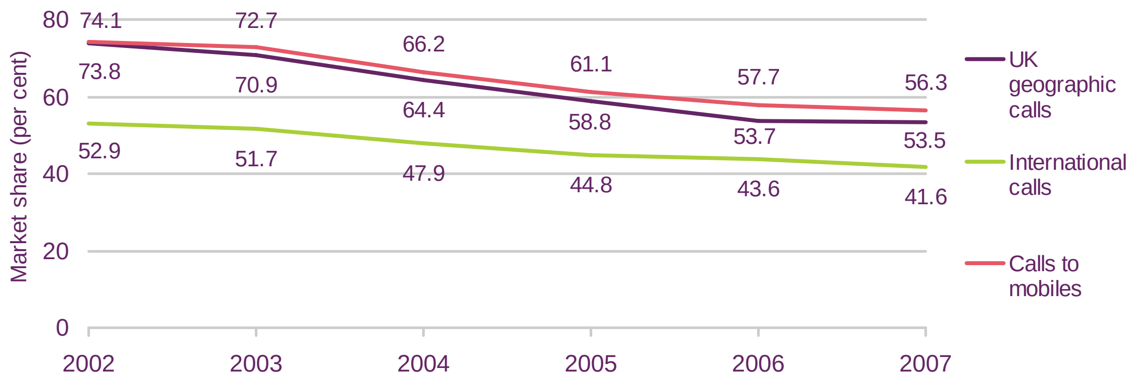


Source: Ofcom / operators

Decline in BT's share of fixed voice calls slows

BT's share of fixed voice call volumes continued to fall for all types of geographic calls during 2007 (Figure 5.26). However, after five years of steady decline, its share of UK geographic call volumes steadied, falling by just 0.2%. This may be the consequence of take-up of tariffs which offer customers unlimited calls for certain call types. The greatest decline was in international calls, where BT's share fell by two percentage points to 41.6%, while its share of calls to mobiles fell by 1.4 percentage points.

Figure 5.26 **BT share of residential voice call volumes, by type**



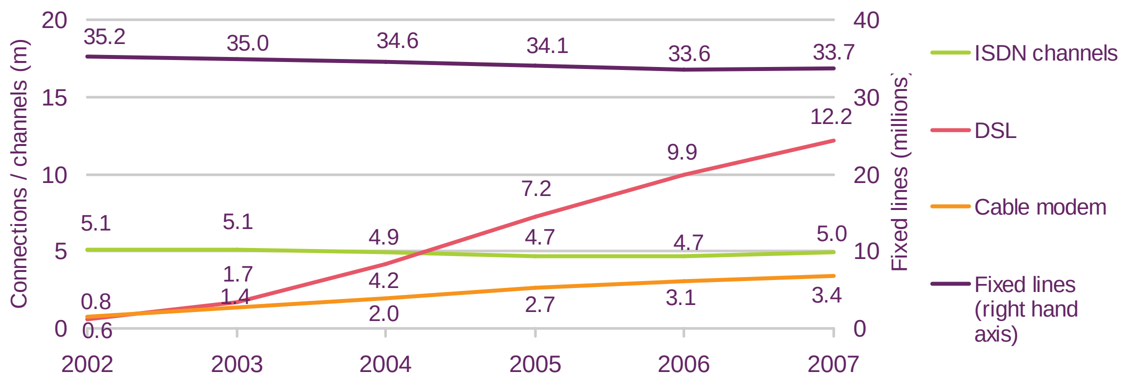
Source: Ofcom / operators

The number of fixed lines stabilises

The total number of UK fixed lines increased by 0.1 million to 33.7 million during 2007, as a result of growth in the number of business lines (Figure 5.27). This came after a five-year period during which the number of fixed lines fell and mobile penetration grew. The downward trend in the number of residential fixed lines continued in 2007, although there was evidence that the rate of decline was slowing and in two quarters there was growth in the number of lines.

The number of ISDN channels increased to 5.0 million during 2007, again following a sustained period of decline, driving growth in the number of business lines. The number of DSL and cable modem broadband connections continued to grow in 2007 as broadband penetration increased, with growth in DSL connections outstripping that of cable broadband connections.

Figure 5.27 **Fixed telecoms lines**



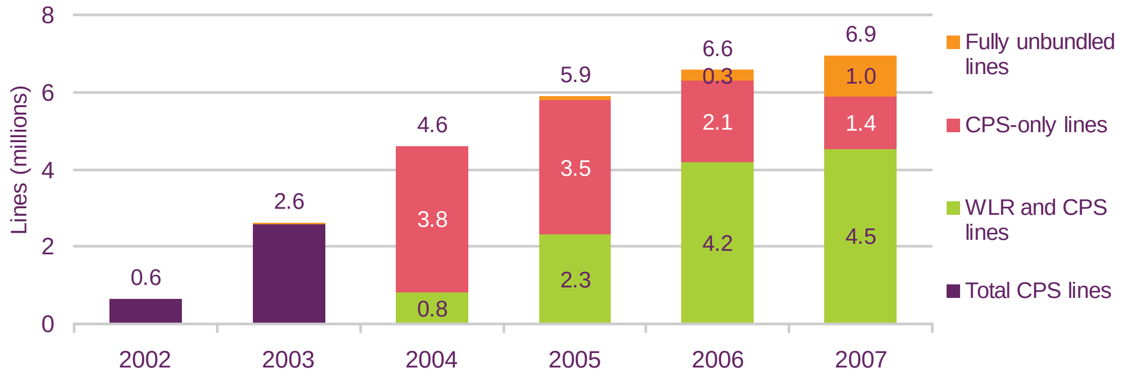
Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators; broadband excludes corporate connections

Increasing competition has been fuelled by LLU operators

Carrier pre-selection (CPS) allows customers with BT lines to route their calls via an alternative operator, while continuing to pay line rental to BT (or another provider, if the line is also WLR-enabled). Over the last few years CPS and WLR (where an operator buys a wholesale access product from BT and bills the end-user for line rental) have enabled providers to compete in the fixed market without the requirement for expensive network infrastructure investment. In 2007 the number of CPS-enabled lines declined for the first time (Figure 5.28).

The fall in the total number of CPS-enabled lines is a reflection of CPS operators switching their customers to local-loop unbundled (LLU)-based services and BT's *Wholesale Calls* products (a BT-managed calls-only service which allow operators to provide call packages using their own brand). LLU involves an operator locating its own equipment in the local exchange and taking over the connection from the exchange to a customer's premises. With partial LLU the operator provides only DSL broadband service over the line, while full LLU also allows the operator to provide fixed access and call services without being bound to BT's wholesale products. This enables operators with a large enough number of customers in each local exchange to reduce their costs, while consumers have access to a wider range of services and tariffs from a larger number of suppliers. Data from Sam Knows[66] suggest that almost half of all unbundled exchanges have been unbundled by four or more LLU operators.

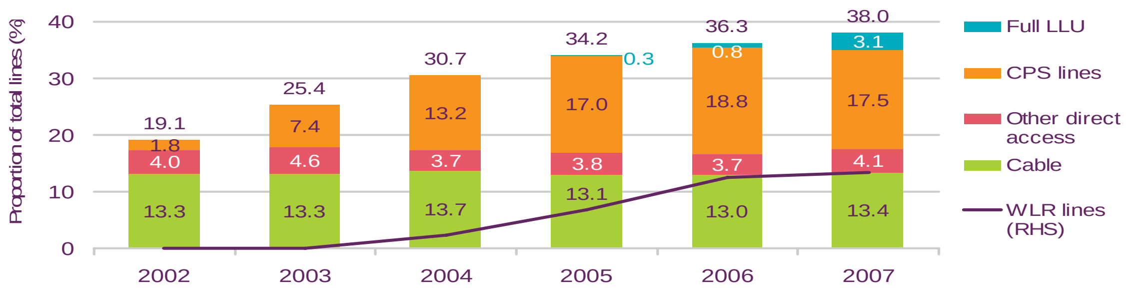
Figure 5.28 **Carrier pre-selection, wholesale line rental and full LLU lines**



Source: Ofcom / operators

While BT's share of fixed lines remains high (66% at the end of 2007), a growing proportion of consumers are taking retail voice services from an operator other than BT, using an alternative network provider (including those using cable networks and LLU) or CPS and WLR-based services. At the end of 2007, 38% of UK fixed lines were taking a fixed-voice service from an operator other than BT, an increase of two percentage points on a year before (Figure 5.29). It should be noted that these figures will be understated as they exclude BT's *Wholesale Calls* packages, which were being used by over 350,000 lines at the end of 2007.

Figure 5.29 **Share of fixed lines taking non-BT voice services**



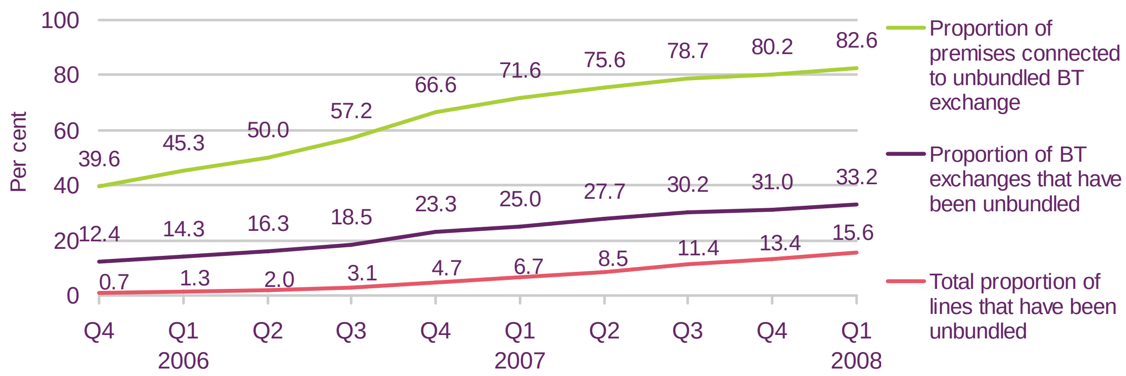
Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators; excludes lines using BT's Wholesale Call products

66 http://www.samknows.com/broadband/

The proportion of premises connected to an unbundled local exchange increased by 14 percentage points to 80.2% during 2007, as the proportion of unbundled exchanges increased from 23.3% to 31.0% (Figure 5.30). Premises connected to an unbundled exchange have access to both partial LLU (DSL broadband only) and full LLU (DSL and fixed voice) services.

The high upfront cost associated with unbundling an exchange means that providers have tended to unbundle those local exchanges which serve a large number of customer premises. The rate at which exchanges are being unbundled slowed during 2007, an indication that most of the larger, and therefore more commercially appealing, exchanges have already been unbundled. However, the rate at which lines are being unbundled has accelerated as more people living in unbundled areas take up LLU services.

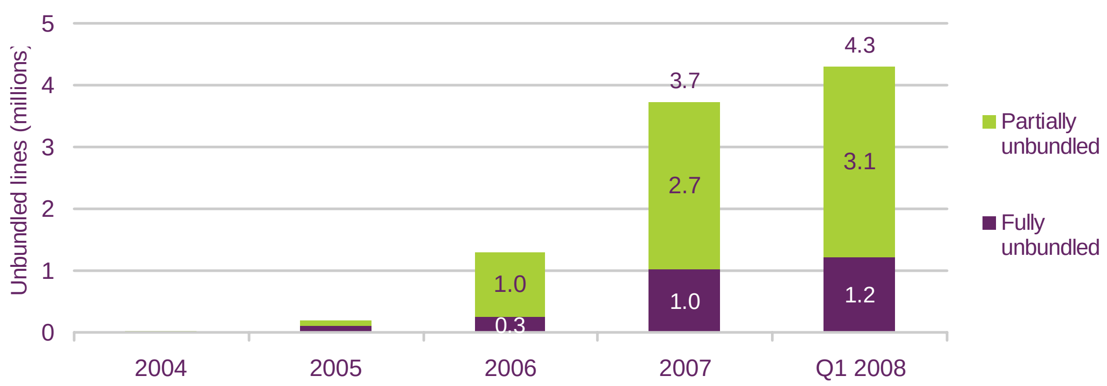
Figure 5.30 **Proportion of unbundled exchanges and connected premises**



Source: Ofcom / operators

Use of LLU-based services continued to increase in 2007, and at the end of Q1 2008 there were 4.3 million fully or partially unbundled lines, a 125% increase on the previous year (Figure 5.31). Growth in LLU has been fuelled to a great extent by the 'free' broadband services offered to consumers taking other communications services, by operators such as BSkyB and TalkTalk. At the end of Q1 2008 15.6% of premises were taking LLU services compared to 4.7% at the end of 2006.

Figure 5.31 **Fully and partially unbundled fixed lines**



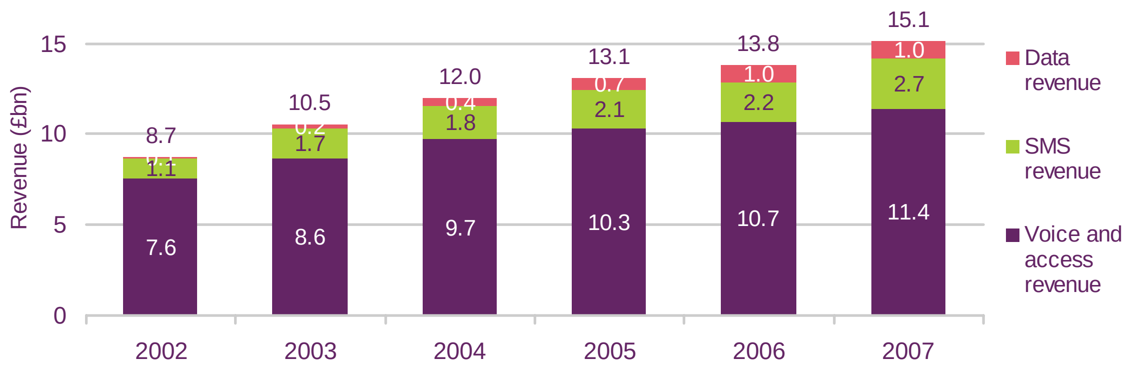
Source: Ofcom / operators

5.2.4 Mobile access

Mobile revenue shows strong growth in 2007

Total mobile voice and data revenues increased by 9% to £15.1 billion in 2007, despite high penetration rates (Figure 5.32). The majority of this growth came from voice and access revenues, which grew by £0.8 billion (7%) during the year, although the strongest growth rate in reported revenues was from SMS messaging, which increased by 25%. Following strong growth in 2006, non-SMS data revenues were unchanged in 2007, partly a reflection of the increased availability and popularity of 'all you can eat' data tariff 'bolt-ons'.

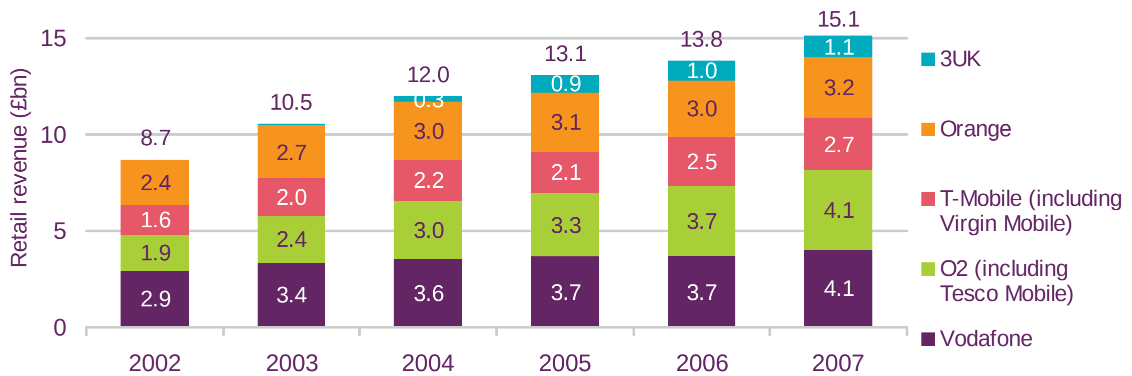
Figure 5.32 **Estimated mobile retail revenue, by service**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

During 2007, O2 (including Tesco Mobile) overtook Vodafone to become the largest UK network in terms of retail revenue, having been the biggest network in terms of active subscribers since 2004. Despite losing its top spot, Vodafone's share of retail revenue continued to grow during 2007, while the shares of Orange, 3UK and T-Mobile (including Virgin Mobile) all declined slightly (Figure 5.33).

Figure 5.33 **Estimated mobile retail revenue, by network operator**



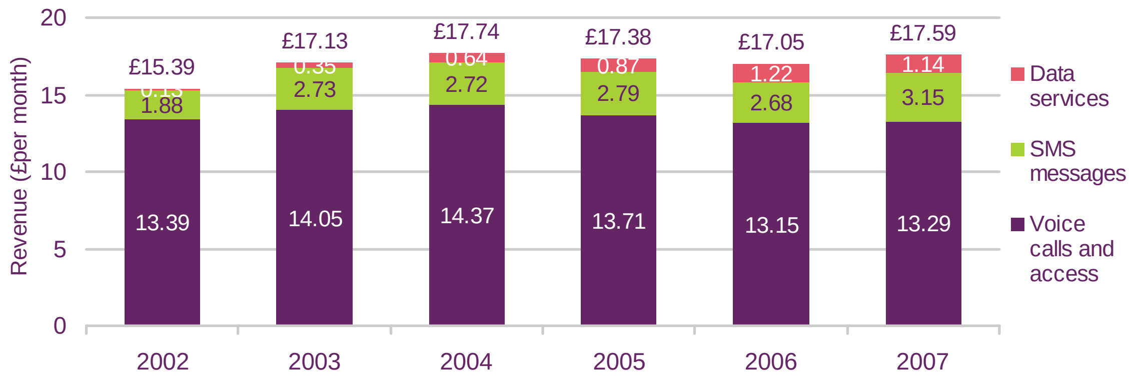
Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

Increasing use leads to growth in revenue per subscription

During 2007 average revenue per active mobile subscription increased by 3% a month to £17.59. This followed two successive years during which average revenue per subscription declined (Figure 5.34). The majority of the increase was due to a 17% increase in average SMS revenue per connection, although voice call and access revenue per connection also increased by 1%, possibly a reflection of the continuing migration of pre-pay customers to monthly contracts.

Average revenue per subscriber for non-SMS data services declined during 2007, partly as a result of increasing take-up of unlimited data add-on packages. This is likely to change in 2008 due to the increasing popularity of mobile broadband USB modems (or 'dongles'), which launched in the second half of 2007 and have experienced rapid take-up during the first half of 2008. Mobile broadband is covered in more depth in Section 5.1.5.

Figure 5.34 **Average monthly retail revenue per mobile subscription**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

Average revenue per mobile connection increased slowly both for contract and pre-pay customers during 2007, as shown in Figure 5.35. Although growth in average revenue per pre-pay connection was slightly higher than that for contract customers, the average contract subscription continues to generate more than three times the monthly revenue of a pre-pay connection.

Figure 5.35 **Average monthly retail revenue per mobile subscription, by subscription type**

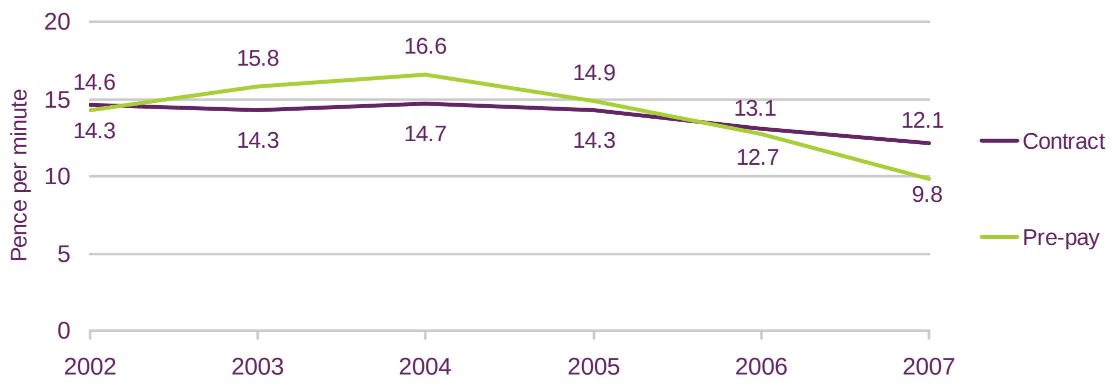
Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

Average revenue per minute continues to fall

The average cost of a voice call minute continued to decline for both contract and pre-pay subscribers in 2007 (Figure 5.36). The rate of decline was far greater for pre-pay calls (23%) than for contract calls (7%) in 2007, when the average cost of a prepay voice minute was 19% lower than the equivalent contract call minute. The rapid decline in the average pence-per-minute cost of a pre-pay call was partly a result of the introduction of unlimited offers on certain pre-pay top-ups. Before 2006 the average contract voice call minute had been less expensive than the average pre-pay voice call minute.

Although pre-pay calls are, on average, less expensive that the contract equivalent, this analysis does not take into account handset subsidies and the differing call patterns of pre-pay and contract users. For example, the popular Nokia N95 handset is available free of charge on certain monthly contracts; a pre-pay customer would have to pay more than £200 for the same handset. The analysis of price per minute for contract calls includes the monthly line rental fee, which often includes a number of inclusive SMS messages and sometimes a data allowance.

Figure 5.36 **Average mobile cost per voice minute, by customer type**

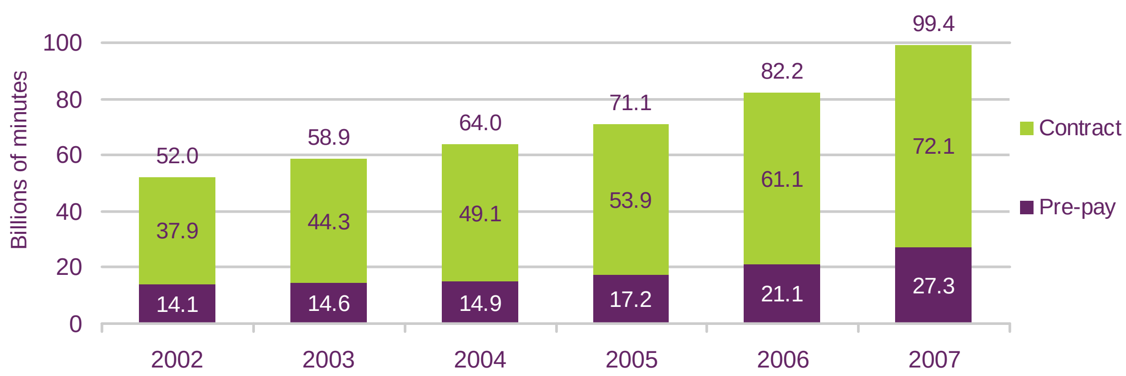


Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators; contract includes rental element; analysis of price per minute for contract calls incorporates monthly line rental which often includes a number of inclusive SMS messages (and sometimes a data allowance); figures are calculated using actual minutes of usage.

Nearly 100 billion outbound mobile call minutes in 2007

Increasing mobile penetration and use per connection contributed to continued strong growth in call volumes during 2007, with outbound mobile call volumes up by 21% to 99.4 billion minutes (Figure 5.37). The strongest growth came from pre-pay call volumes, which increased by 30% over the year, compared to 18% growth in contract call volumes. This contributed to a fall in the proportion of mobile calls made by contract customers, from 74% to 73% during the year, despite an increase in the proportion of total mobile subscriptions which are contract. Again, this was partly a result of the introduction of unlimited call and text offers on certain pre-pay top-ups.

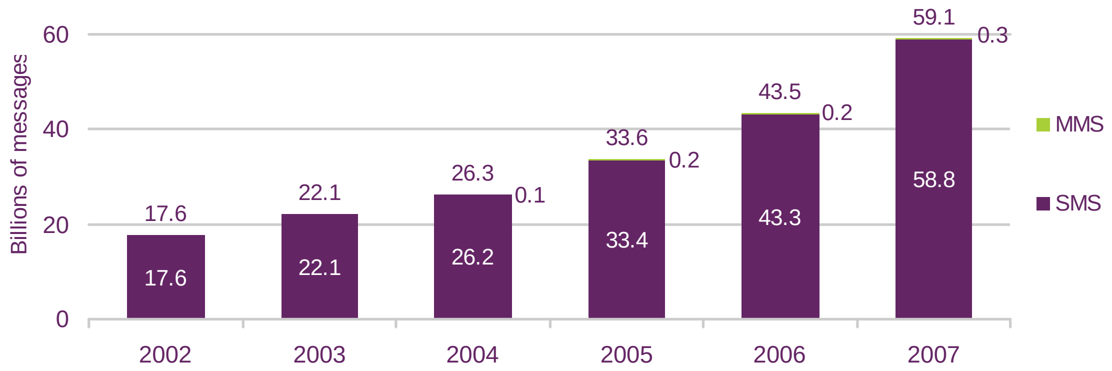
Figure 5.37 **Mobile voice call volumes**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

There was also strong growth in messaging volumes over the year, with the total number of outgoing SMS and MMS messages increasing by 36% to 59.1 billion messages (Figure 5.38). Over 99% of these messages (58.8 billion) were SMS text messages in 2007, equivalent to just under 70 messages per active connection per month.

Figure 5.38 **Mobile messaging volumes**



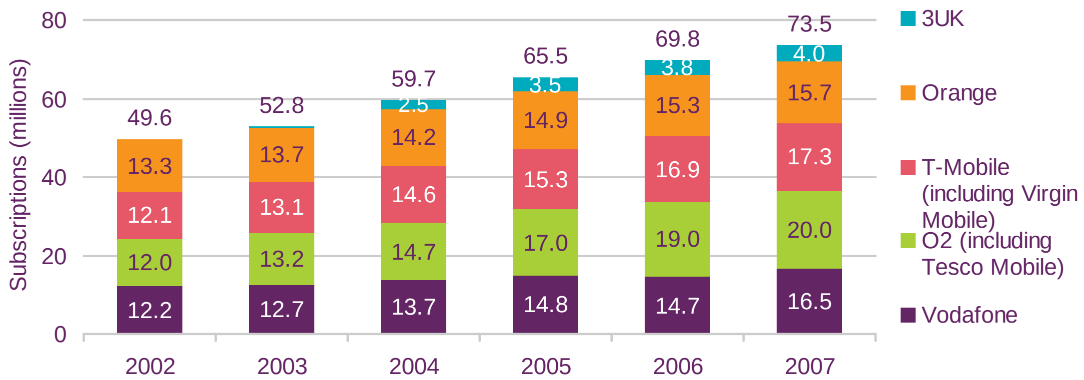
Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

Mobile subscriptions growing, despite high penetration

During 2007 the number of active UK mobile subscriptions increased to 73.5 million, an increase of 5% during the year and equivalent to 1.23 mobile connections per person at the end of the year (Figure 5.39). O2 remained the largest network operator during 2007, with 20.0 million active subscriptions, but Vodafone had the strongest subscription growth at 12%, with 1.8 million net additions during the year, around half of which were contract connections.

Consumers' use of multiple SIM cards is studied in more depth in Section 5.3.3 of this report.

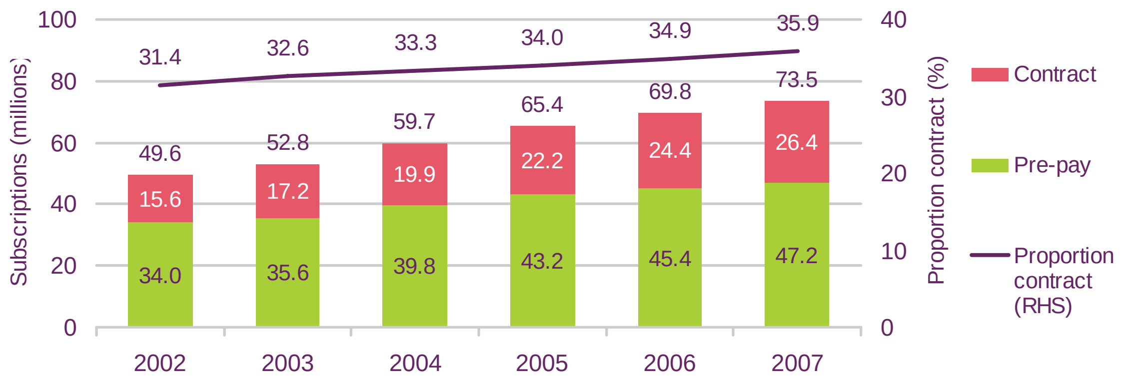
Figure 5.39 **Mobile subscriptions, by network operator**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators

The numbers of both pre-pay and contract mobile subscriptions increased during 2007 (Figure 5.40). Contract subscriptions grew by 8%, twice the growth rate of pre-pay subscriptions (4%) and as a result contract subscriptions as a proportion of total subscriptions increased by one percentage point, to 35.9%. This was partly due to networks trying to migrate pre-pay customers to monthly contracts by introducing low-value contracts, including SIM-only tariffs.

Figure 5.40 **Pre-pay and contract mobile subscriptions**



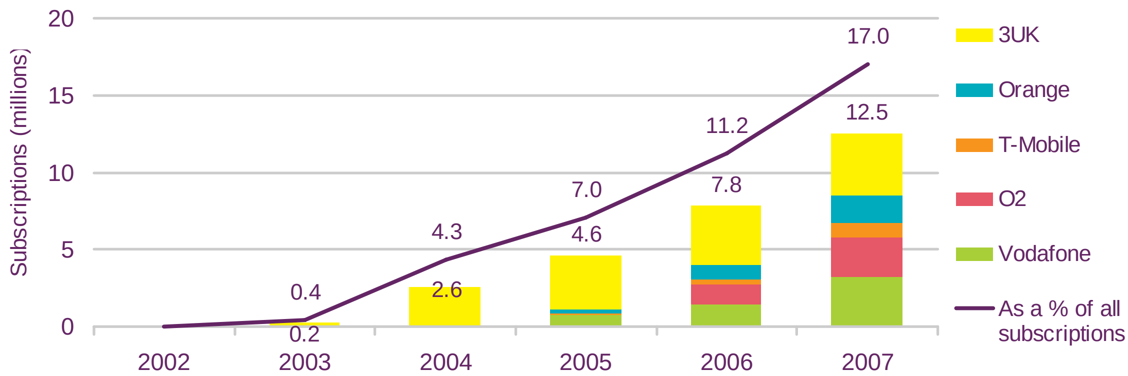
Source: Ofcom / operators
Notes: Based on network operator reported figures; likely to overstate activity in reference quarter; includes estimates where Ofcom does not receive data from the operators

3G connections grow by 60% in 2007

There was strong growth in the number of 3G mobile subscriptions during 2007 as operators continued to migrate customers onto their 3G networks, and as a new generation of 3G handsets, which were more appealing to consumers than previous models, became available. The number of 3G subscriptions grew by 4.7 million (60%) during the year and at the end of 2007 17% of mobile users were using 3G compared to 11% a year previously (Figure 5.41).

Strong growth in 3G subscriptions is likely to continue in 2007 as migration from 2G and 2.5G continues and as a result of rapid take-up of mobile broadband 'dongles'.

Figure 5.41 **3G mobile subscriptions, by network operator**



Source: Ofcom / operators / Informa
Note: 3G connections defined as connections sold with 3G-capable handsets

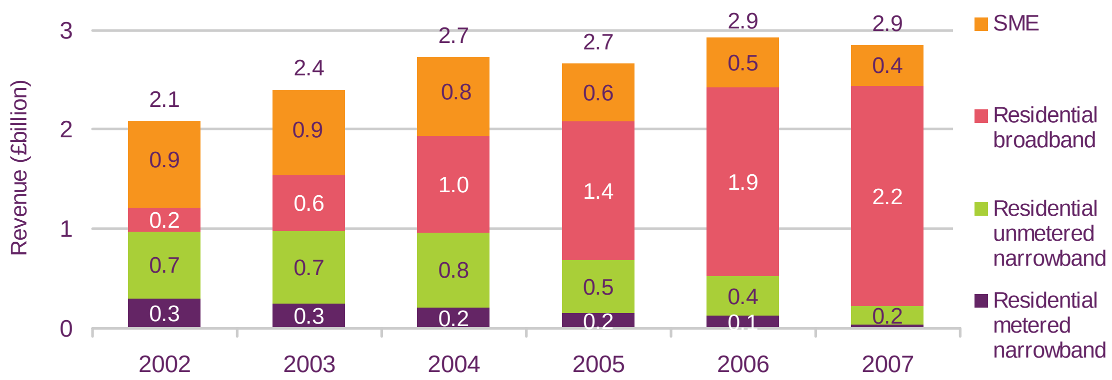
5.2.5 Internet access

Revenues decline slightly as falling prices counter take-up growth

We estimate that during 2007 revenues from residential and SME internet connections declined slightly to £2.9bn (Figure 5.42). This 2% decrease in overall internet revenue is the result of increasing migration from narrowband to broadband internet services, coupled with falling broadband prices. During 2007 the estimated average cost of a residential broadband connection fell by 8% to £14.11 a month, while the average cost of an SME broadband connection fell by 12%, to £18.04 a month (both excluding VAT).

Falling broadband prices are partly the result of increasing levels of bundling, which often enable consumers to obtain discounts by buying more than one communications service from a single provider. Ofcom research, conducted in Q1 2008, showed that 58% of people with a home broadband connection bought it in conjunction with another communications service. Bundling of services is studied in more depth in Section 2.4.4 of this report.

Figure 5.42 **Estimated UK internet and broadband retail revenue**



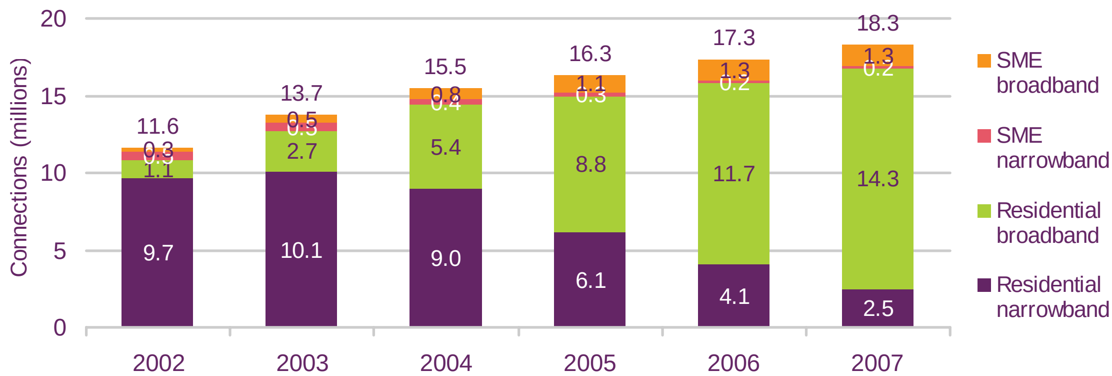
Source: Ofcom / operators
Note: Dial-up metered revenue figure is based on revenue paid to the telecoms provider, not the element retained by the ISP

Internet connections continue to increase

At the end of 2007 there were an estimated 18.3 million UK internet connections. Of these 15.6 million (85%) were broadband, a 10 percentage point increase on a year earlier (Figure 5.43).

The strongest growth in connections was for residential broadband services, where the number of lines increased by 22% during the year, while the number of SME broadband connections increased only slightly during the year. This indicates that a large majority of small businesses now have broadband connections, although it should be noted that some SMEs may be using broadband tariffs intended for the consumer market. The estimated number of residential and business narrowband internet connections fell by 40% and 16% respectively during 2007.

Figure 5.43 **UK residential and small business internet connections**



Source: Ofcom / operators
Note: SME broadband includes some connections over leased lines.

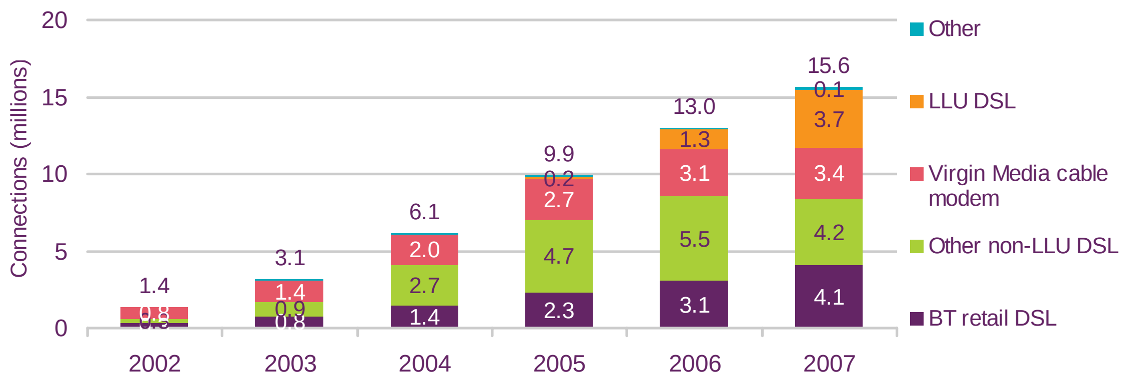
LLU is facilitating broadband growth

During 2007 the number of LLU broadband connections almost trebled to 3.7 million as consumers took advantage of attractive broadband offers and LLU operators migrated existing customers from BT's wholesale broadband products onto their own LLU networks (Figure 5.44).

The scale of migration to LLU networks is clearly indicated by the 23% fall in non-LLU DSL connections in 2007, the majority of which are provided using BT's wholesale products. Service bundling has also been a major driver of LLU take-up, with a number of major LLU operators offering free or reduced-price broadband to consumers who also take the service with other fixed, mobile or pay-TV services.

During 2007 the number of BT retail DSL subscribers increased by 33% to 4.1 million, while Virgin Media's cable modem subscriber base increased by 12% to 3.4 million. BT remained the largest retail provider during 2007 and its market share increased by three percentage points to 26.5%, with most of this increase being due to its acquisition of two smaller ISPs, PlusNet and Brightview.

Figure 5.44 **UK residential and small business broadband connections**



Source: Ofcom / operators
Note: Excludes connections made over cellular networks

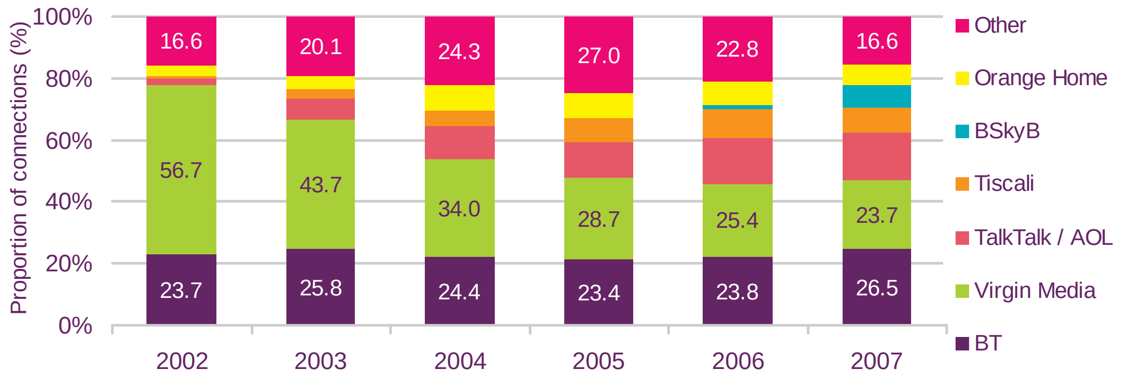
ISP consolidation continues as scale becomes more important

Recent broadband connection market share changes have been driven by two main factors: the introduction of 'free' broadband offers and market consolidation. TalkTalk and BSkyB both introduced 'free' broadband services to customers taking other communications services from them in 2006 and have since captured significant market share.

The rate of consolidation has increased over the past few years as operators have deployed their LLU networks; the LLU cost structure means that the more customers an operator has at an exchange, the greater the opportunity for them to reduce per-user costs and increase profitability. Recent market consolidation has seen TalkTalk / Carphone Warehouse buy AOL, and Pipex buy Bulldog and then in turn be bought by Tiscali. Tiscali, in turn, was recently put up for sale.

The result of ISP consolidation, and of TalkTalk and BSkyB's entry into the market, is shown in Figure 5.45; since 2005 the share of 'other' operators has declined from 22.8% to 16.6%. During the same period BT's market share has increased (partly due to its acquisitions noted above), while Virgin Media's share has continued to decline, albeit more slowly.

Figure 5.45 **Estimated UK broadband service provision: retail connection share**



Source: Ofcom / operators
Note: TalkTalk / AOL, Tiscali, BSkyB, and Orange Home shares are indicative only.

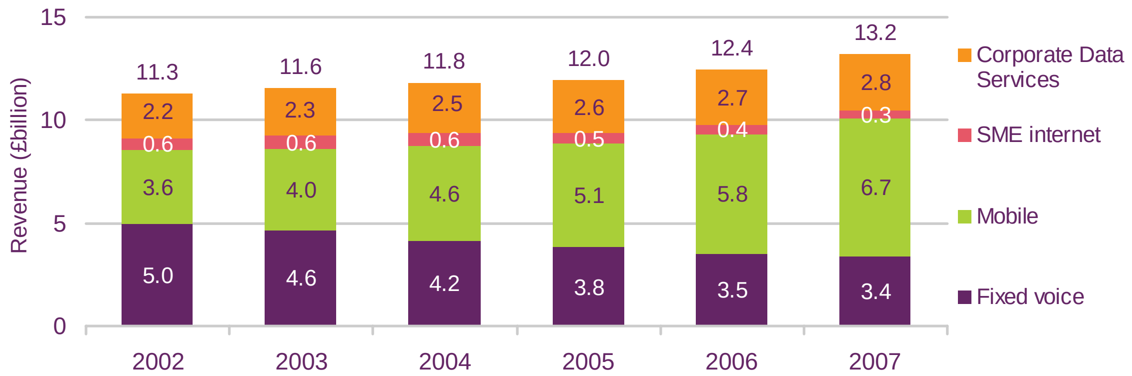
5.2.6 Business sectors

Business revenues continue to grow

Total telecoms revenue from UK business customers increased by 6% during 2007 as a result of growth in revenue from mobile and corporate data services (CDS). Mobile contributed the majority of the increase in total revenue, increasing by £0.9 billion (15%) during the year, while CDS revenues increased by 3% to £2.8 billion (Figure 5.46).

The downward trend in revenue from fixed voice services continued during the year, with revenue from business customers declining by 3% to £3.4bn. Over the same period, revenue from SME internet connections fell slightly as a result of falling broadband prices and slowing growth in connections. Non-corporate internet revenue is likely to be understated, as some SMEs use a residential connection to access the internet.

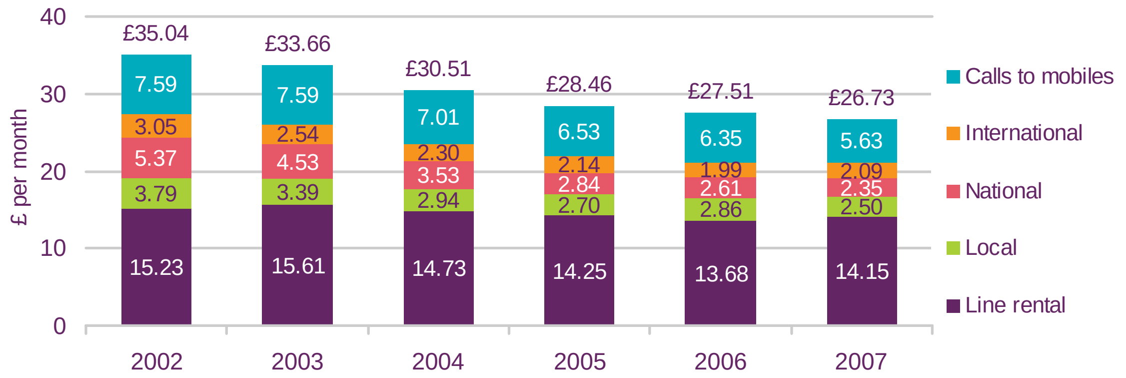
Figure 5.46 **UK business telecoms services revenue**



Source: Ofcom / operators / IDC

Average monthly revenue per business fixed line (excluding revenue from non-geographic calls) fell by 3% during 2007 to £26.73 (Figure 5.47). Average revenue per line fell for all call types except international calls, which increased by 5% as a result of 6% growth in call volumes. Average monthly line rental revenue increased by 3% during the year to £14.15, partly as a result of increasing take-up of ISDN services.

Figure 5.47 **Average voice revenue per business fixed line**

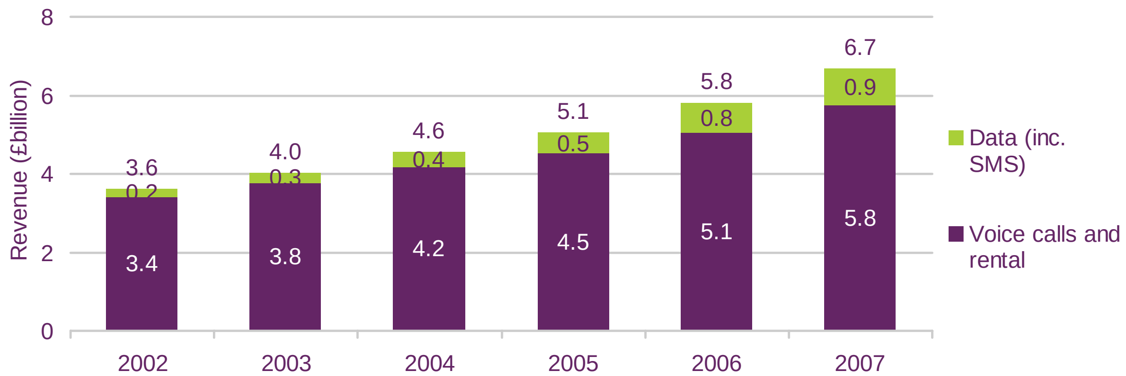


Source: Ofcom / operators
Note: Excludes revenues from non-geographic voice calls

The majority of revenue growth from business mobile services was generated by voice calls and rental, with estimated revenue increasing by 14% to £5.8bn during the year (Figure 5.48). Growth in revenue from data services (which includes SMS revenue) was, at 22%, greater that that of voice calls, although during 2007 these made up only 14% of total business mobile revenue.

Growth in data revenue (including SMS) was partly a result of increasing take-up of devices such as PDAs and BlackBerrys by business users, although growth in 2007 was much lower than the 44% reported in 2006.

Figure 5.48 **Breakdown of business mobile revenue**

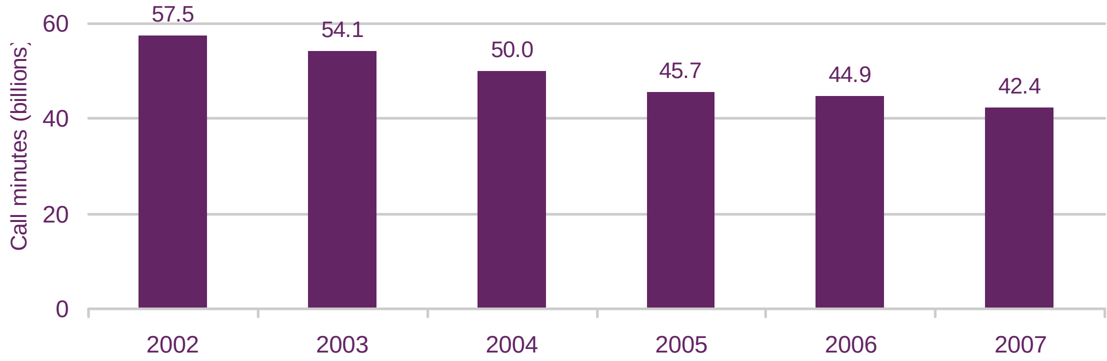


Source: Ofcom / operators
Note: Figures have been restated from the 2007 Communications Market Report to reflect more accurate data

Business call volumes declining

Total business voice call volumes (excluding non-geographic voice calls) continued to decline during 2007 and were 2.6 billion minutes (6%) lower than in 2006 (Figure 5.49). Business fixed voice call volumes have been declining since 2001 as a result of increasing use of mobiles, VoIP and other forms of communication such as email. Business voice call volumes were 26% lower in 2007 than they had been five years previously.

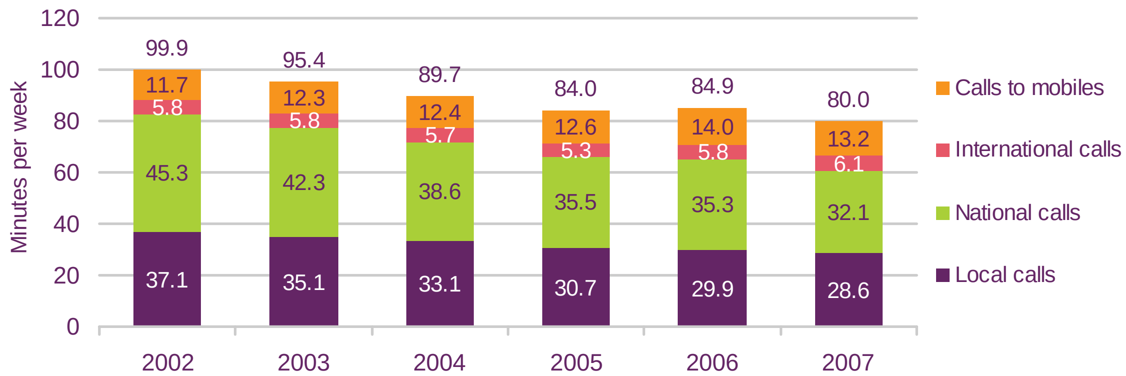
Figure 5.49 **Business fixed voice call volumes**



Source: Ofcom / operators

Average voice call volumes per business fixed line (excluding non-geographic voice calls) fell by 6% to 80 minutes per week during 2007, continuing the downward trend evident in every year since 1997, with the exception of 2006. Average business call volumes per line fell for all call types except international calls in 2007, with the largest proportional fall in national calls, which fell by 9% (Figure 5.50).

Figure 5.50 **Average weekly outbound voice call volumes per business fixed line**



Source: Ofcom / operators
Note: Excludes non-geographic voice call volumes

Business lines increase during 2007

The total number of business fixed lines and ISDN channels increased in 2007 after a sustained period of decline (Figure 5.51). This was due to growth in the number of ISDN30 channels, which are typically used by larger business customers to route voice calls.

Figure 5.51 **Business fixed lines, by type**

Source: Ofcom / operators
Note: Figures may be overstated due to an element of double-counting of WLR lines

5.3 The telecoms user

5.3.1 Introduction

This section looks at trends in consumer take-up of telecoms services to provide a 'bottom-up' approach which relates consumer behaviour to the wider industry trends discussed in the previous section.

We define 'consumer' as any user of telecoms services. These may be separated into two main categories: residential and business.

- We focus in this section on the residential sector, both in order to provide continuity with the rest of this report (as the broadcasting section is also focused very much on the residential sector), and because we believe that the residential sector benefits most from this type of analysis and guidance.

- We do not address business users in any detail for two reasons; firstly, general information about large business organisations is well served by companies' own IT/telecoms departments and relevant industry bodies; secondly, primary data about business behaviour are difficult to obtain, being considered too commercially sensitive for service providers to make publicly available.

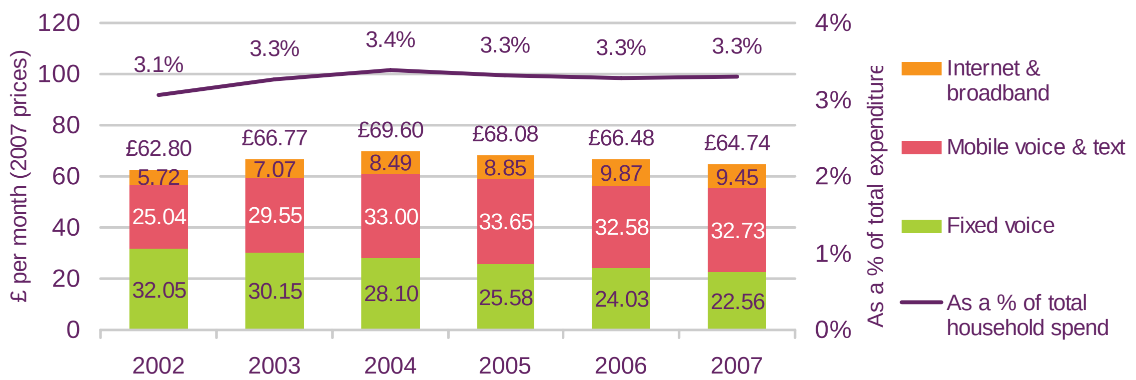
The analysis that follows is based on operators' data and Ofcom's own consumer research. Third-party research is used to supplement this primary data where appropriate.

5.3.2 Household spend and pricing

Mobile takes over half of household spend

For the third consecutive year, household expenditure on telecoms services fell, both in actual terms and, marginally, as a proportion of average total household monthly spend (Figure 5.52).

Figure 5.52 **Real average household spend on telecoms services**



Source: Ofcom / operators / ONS
Notes: Includes estimates where Ofcom does not receive data from operators; adjusted to RPI; includes VAT

Fixed-line voice spend fell by 6.1% during 2007, driven by a fall in the total number of lines and lower use per line, as consumers increasingly substitute voice services over mobile and the internet for fixed-line calls.

Spend on mobile services increased in real terms during 2007, and for the first time mobile accounted for over half of household telecoms expenditure. As highlighted in Section 5.3.2, the average price per minute on mobile is falling as more minutes are included in tariff plans, although overall spend on mobile services per household is rising as mobile use increases.

Average household spend on internet and broadband access fell for the first time in 2007 as falling prices offset increasing broadband take-up. Falling average prices are in part driven by the increasing take-up of 'bundled' services where broadband is included (sometimes as a 'free' offer) with fixed-line voice services (for example, by Talk-Talk), mobile services (for example, by Orange), or TV services (for example, by BSkyB).

An additional factor in reducing overall average prices is the increasing prevalence of lower-priced broadband tariffs (with lower data speeds and download allowances) aimed at lighter users of the internet. The figures are based on operators' own allocation of revenue and should be treated with some caution, as the increased take-up of bundled offerings makes it difficult to precisely apportion spending.

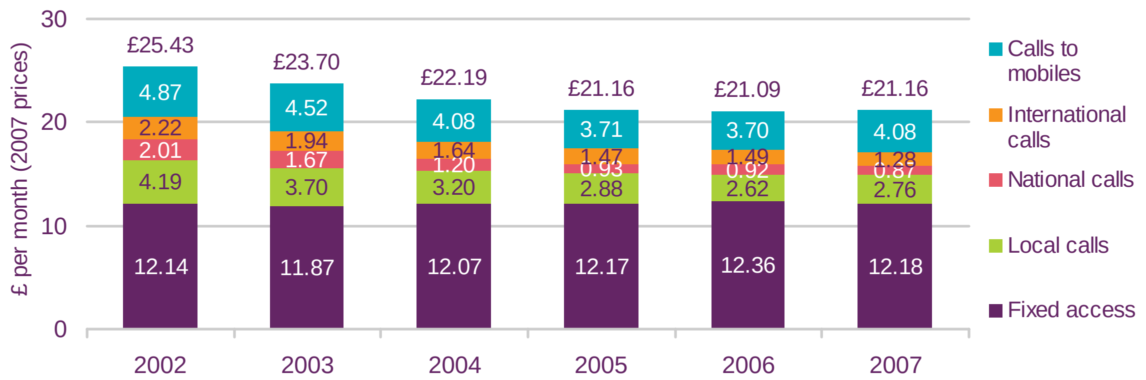
Cost of fixed voice declines

We use analysis of the cost of a basket of telecoms services as a means of comparing costs over time. This analysis derives the 'real cost' to the consumer by identifying the average price per minute for access and calls (and price per message for mobile) in a year, and then defining the 'basket' as the average number of minutes (and messages) used in 2007. Costs are then adjusted for changes in RPI in order to provide a year-on-year comparison.

As Figure 5.53 illustrates, the real cost of a basket of residential fixed voice services increased in 2007, albeit only by 0.3% or 7p per month. The average cost of residential fixed access has remained fairly static over the last five years, while the cost of calls has declined over the same period.

The cost of fixed calls to mobile phones rose by 10% in 2007, suggesting price increases to call charges outside the inclusive tariff offerings, while the increase in the cost of local calls (by 5%) comes as few operators now have differential charging between UK national and local calls, meaning that peak-time local calls are priced the same as peak-time national calls.

Figure 5.53 **Real cost of a basket of residential fixed voice services**

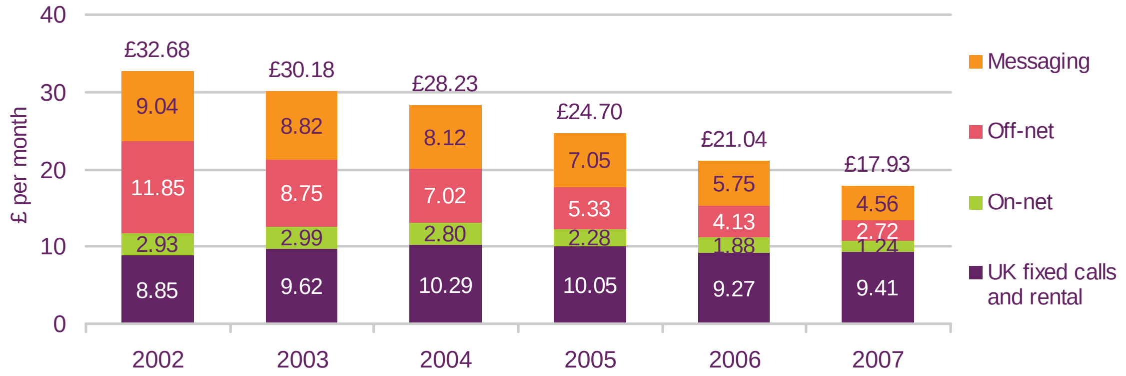


Source: Ofcom / operators
Note: Includes VAT; excludes non-geographic voice calls

Overall costs of mobile fall – but fixed cost element increases

As in previous years, the cost of mobile services fell significantly in 2007, with the average cost of calls to the same network (on-net), calls to other networks (off-net) and the average cost of messaging continuing to decrease (Figure 5.54). Over the five year period as a whole, the cost of the basket of mobile services has fallen by 45%, from £32.68 to £17.93. The inclusion of higher numbers of minutes and text messages within monthly allowances for contract customers (see Section 5.1.4), combined with 'bonus minutes' for pre-pay contracts, have led to significantly reduced costs of metered calls. However, as a corollary to this, the average cost of combined line rental and calls to fixed numbers has increased, due to an increase in the number of contract mobile subscriptions, which accounted for 36% of the total subscription base at the end of 2007, a one percentage point increase since 2006.

Figure 5.54 **Real cost of a basket of mobile services**

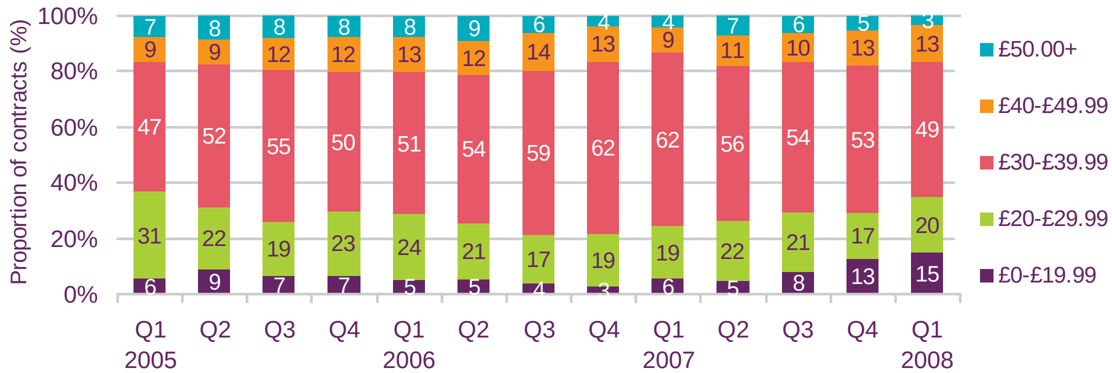


Source: Ofcom / operators
Note: Includes VAT; excludes non-geographic voice calls

Growing popularity of low-cost contract tariffs

Operators have achieved some success in encouraging pre-pay users, particularly those spending less than £20 a month, to switch to contract plans, by offering more inclusive minutes and texts and free or low-priced handsets. Figure 5.55 highlights how the proportion of customers buying a handset with a contract plan below £20 nearly tripled in the year to March 2008. At the other end of the scale, it is also noteworthy that the proportion of mobile contracts costing over £50 a month has more than halved (from 7% to 3%), as the growth in numbers of inclusive minutes at lower prices has made these higher cost contracts unnecessary for many consumers. The most common price points for monthly contracts are between £30 and £39.99 a month, although the share of new contracts in this price range fell below 50% in Q1 2008 for the first time in the three years for which data are available.

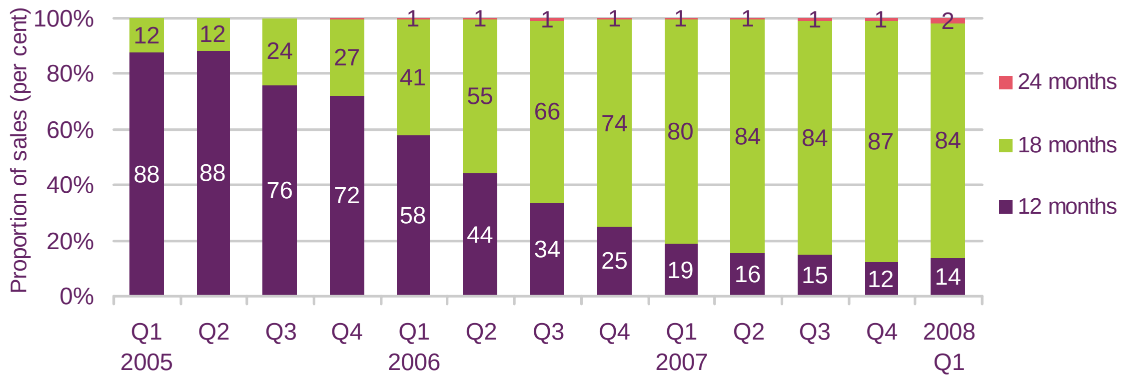
Figure 5.55 **Monthly line rental for new mobile contract connections**



Source: GfK retail data
Note: Based on new contracts with handsets, covers 94% of sales

Since 2005 the majority of contract users have moved from 12 to 18-month contracts. Operators are able to recoup any costs incurred by subsidising 'free' or low-cost handsets over this longer period, in addition to either including more inclusive minutes and/or texts for the same value, or reducing the monthly contract cost. But for the first time the proportion of 12-month contracts increased in Q1 2008, suggesting that more consumers are willing to pay extra (in comparison to a similar 18-month contract) in order to have the flexibility of a shorter tie-in period (Figure 5.56). At the other end of the scale, the proportion of new contracts of 24-month duration doubled, revealing that some users value, and are prepared to take advantage of, lower monthly charges. For example, in March 2008 an Orange user wanting 100 any-network, any-time minutes, plus 300 texts, paid £20 a month on a 24-month contract, compared to £25 a month on an 18-month contract and £30 a month on a 12-month contract.

Figure 5.56 **Length of new mobile contract connections**



Source: GfK retail data
Note: Based on new contracts with handsets, covers 94% of sales

Difference in cost between fixed and mobile calls continues to narrow

The average cost of a mobile minute fell to 11.5p in 2007, 38% more than the cost of average fixed-line call minute in 2007 (Figure 5.57). It should be noted that the cost-per-minute for a mobile is over-stated as it does not include the value of the handset subsidy which mobile operators recoup over the course of the contract.

The average cost of a fixed voice call minute increased in 2007, despite the inclusion of more minutes in fixed-line tariff packages, as overall use fell. By contrast, mobile call charges continued to fall from a peak of 15.2 pence per minute in 2004 to 11.5 pence in 2007. This is the consequence of contract users taking advantage of more inclusive minutes, while more ‘bonus’ minutes have become available on pre-pay plans. For example, in June 2008, Vodafone pre-pay users spending £5 between Monday and Friday received free weekend calls from midnight Friday in the same week.

Figure 5.57 **Comparison of average fixed and mobile voice call charges**

Source: Ofcom / operators

Consumers seek value by purchasing broadband with other services

Unlike fixed and mobile services, which can be purchased separately, broadband services are often purchased as part of a bundle alongside other communications services (58% of households with broadband take it in conjunction with another service from the same provider), making it difficult to calculate the average cost of a broadband service. Some of the leading broadband providers, including BSkyB and TalkTalk, do not offer broadband as a standalone service, but only as part of a double-play (fixed-line voice and broadband), or triple-play (fixed-line voice, broadband and TV) package. A basic broadband service is sometimes offered 'free' in association with another service, while other operators offer substantial discounts when broadband is taken in conjunction with another service; for example, O2's lowest priced basic broadband package costs £7.50 per month to an O2 mobile user and £12.50 to a non-O2 mobile user. Figure 5.58 illustrates the savings that are available by purchasing broadband alongside another service.

Some providers vary the cost of a broadband package, depending on whether LLU is installed at the local exchange. AOL, for example, charges (subject to a BT line) £14.99 a month for broadband access in LLU areas and £19.99 a month in non-LLU areas. Virgin Media charges a higher price for broadband services in areas falling outside its cable network coverage.

Figure 5.58 **Lowest-cost broadband options from major suppliers, June 2008 (£ per month)**

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AOL	25.49	-	-	-
Be	24.50	-	-	-
BSkyB	-	-	26.00	-
BT	26.49	38.99	26.49	38.99
O2	23.00	38.00	-	-
Orange	22.50	37.00	-	-
PlusNet	19.98	-	-	-
TalkTalk	16.39	-	-	-
Tiscali	14.99	-	19.99	-
Virgin Media	20.00	30.00	30.00	40.00
Vodafone	35.00	40.00	-	-

Source: Pure Pricing UK Broadband, Bundling and Convergence Update, June 2008
Notes: Includes £10.50 BT line rental as relevant; lowest cost option / lowest price combination is shown; activation charges and promotional discounts are excluded; mobile options may be SIM-only; allowances for fixed-line and mobile calls, plus availability of TV channels included within packages may differ by operator and option

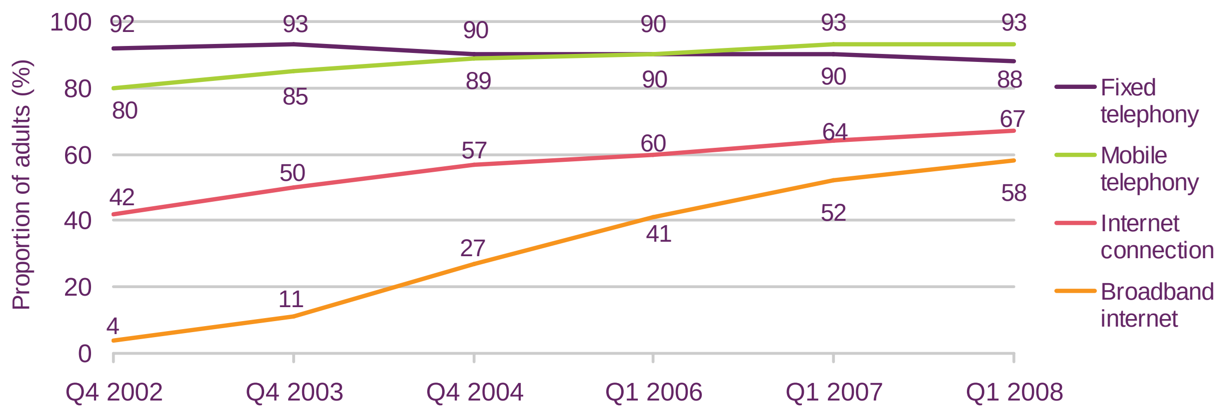
5.3.3 Take-up of services

Residential users drive broadband penetration

Household broadband penetration increased from 52% in Q1 2007 to 58% in Q1 2008, representing a slowdown in growth from previous years, as internet penetration (67%) approaches PC penetration (72%) and the majority of narrowband users have already migrated to broadband (Figure 5.59).

The proportion of households with a fixed connection remained steady at 88% by Q1 2008, a small decrease on the previous year. The higher penetration of mobile (93%) indicates that more households are choosing not to subscribe to a fixed-line service but rely solely on mobile services for their communication needs. The requirement of a fixed phone line for DSL broadband may limit the number of users who chose to subscribe only to mobile for their households.

Figure 5.59 **Household penetration of key telecoms technologies**

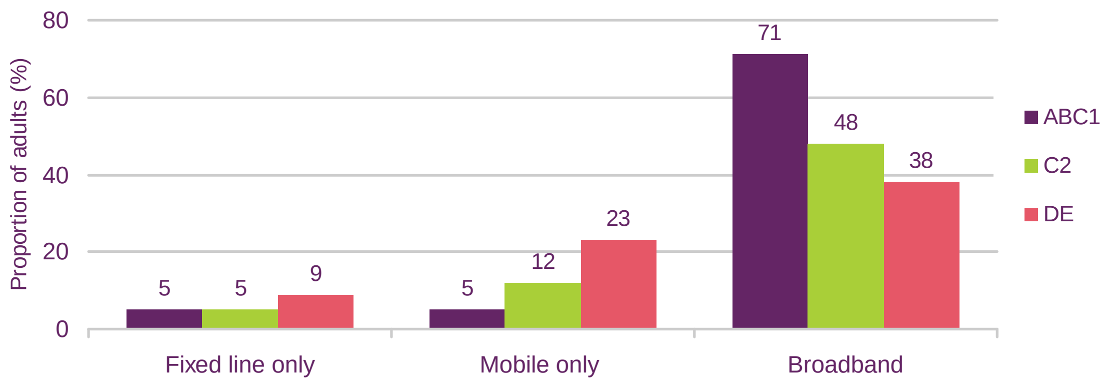


Source: Ofcom research, Q1 2008

Figure 5.60 illustrates that there are significant differences in the household penetration of communications services by socio-economic group. The cost of a broadband connection, combined with the cost of a PC, means that ABC1 households are nearly twice as likely to have a broadband connection as are DE households. However, while just one in twenty ABC1 households are mobile-only, nearly one in four DE households rely exclusively on mobile for their communications needs. A number of factors drive this:

- pre-pay mobile offers those with less disposable income greater control over their spending;
- people in lower socio-economic groups are more likely to live in shared accommodation where a personal device such as a mobile is more appropriate than a fixed line; and
- where a personal device such as a mobile is more appropriate than a fixed line, and the low penetration of broadband means that fixed lines are not needed for internet access.

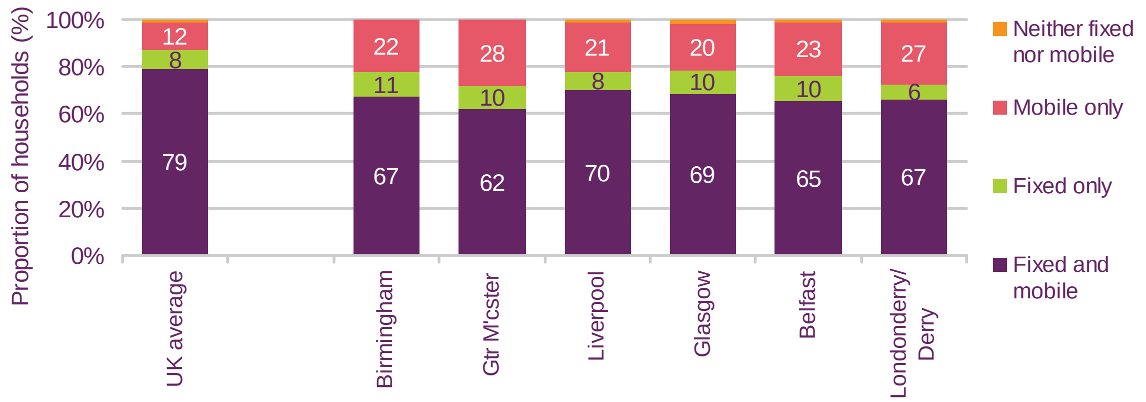
Figure 5.60 **Household telecoms connections, by socio-economic group**



Source: Ofcom research, Q1 2008
Base: All respondents

Mobile-only households are particularly prevalent in urban areas such as Greater Manchester and Londonderry/Derry, among low income and younger consumers (Figure 5.61). These households particularly rely on pre-pay mobile tariffs, allowing users to control spend and top up with credit when available.

Figure 5.61 **Household telecoms connections in urban areas**



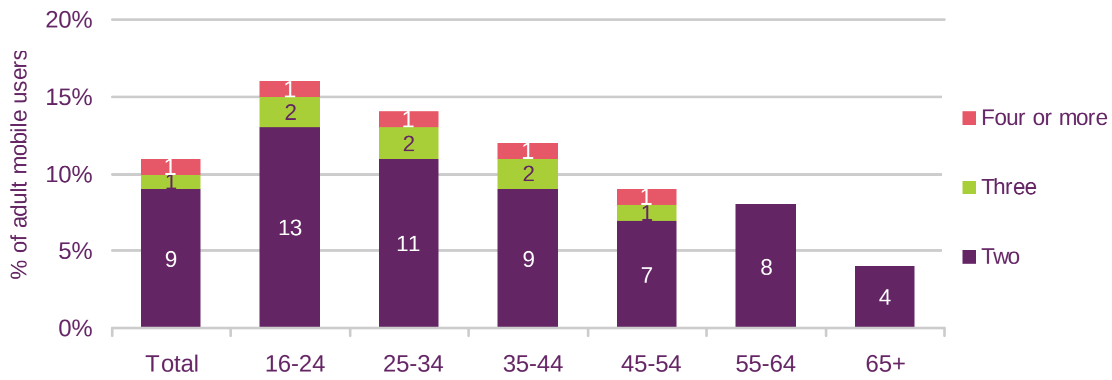
Source: Ofcom research, Q1 2008
Base: All respondents

Growth in mobile connections driven by multiple SIM users

As detailed in Section 5.2.4, since 2005 the number of active mobile connections has exceeded the UK population. At the end of 2007 there were 122.6 active mobile connections in the UK, and with 86% of UK adults owning a mobile phone in Q1 2008, it is clear that growth in the market is coming through some people using more than one SIM. Our research in July 2008 found that 11% of adult mobile users use more than one SIM card (see Figure 5.62), with younger users more likely to own multiple SIMs.

Figure 5.62 **Use of more than one SIM by UK mobile users**

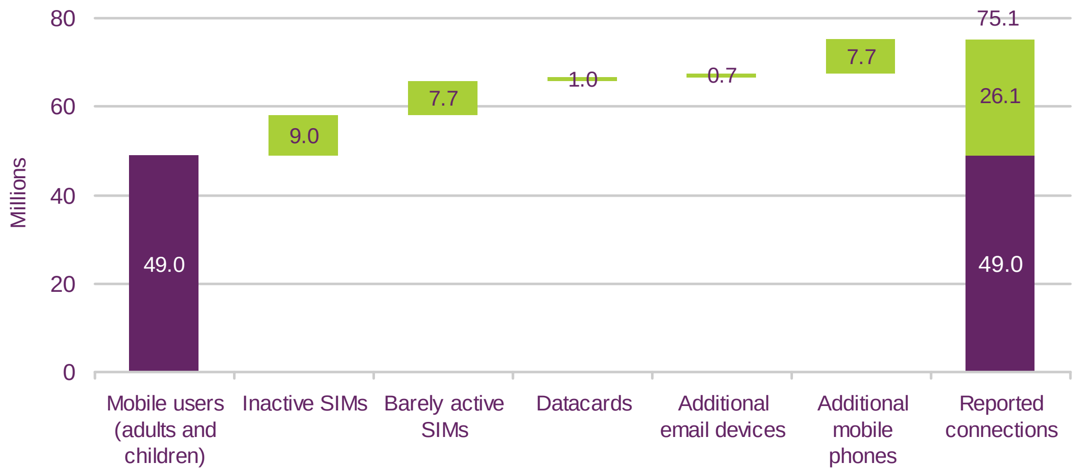
How many mobile phones or SIM cards with different telephone numbers do you currently use?



Source: Ofcom research, July 2008

Based on research in April 2008, Enders Analysis estimated that 49 million people in the UK used a mobile phone, and a total of 75.1 million SIM cards. Figure 5.63 details Enders' estimate of the breakdown of these additional 26.1 million connections. Nine million were completely inactive, and waiting to be removed from operators' books (only SIMs which have been used in the last 90 days are classified as active) and a further 7.7 million are barely used but are defined as active because they occasionally receive incoming calls or text messages. This leaves 9.4 million genuine second SIMs in use, consisting of 1.0 million datacards / dongles, 0.7 million handheld business email devices used as additional devices, and 7.7 million second handsets.

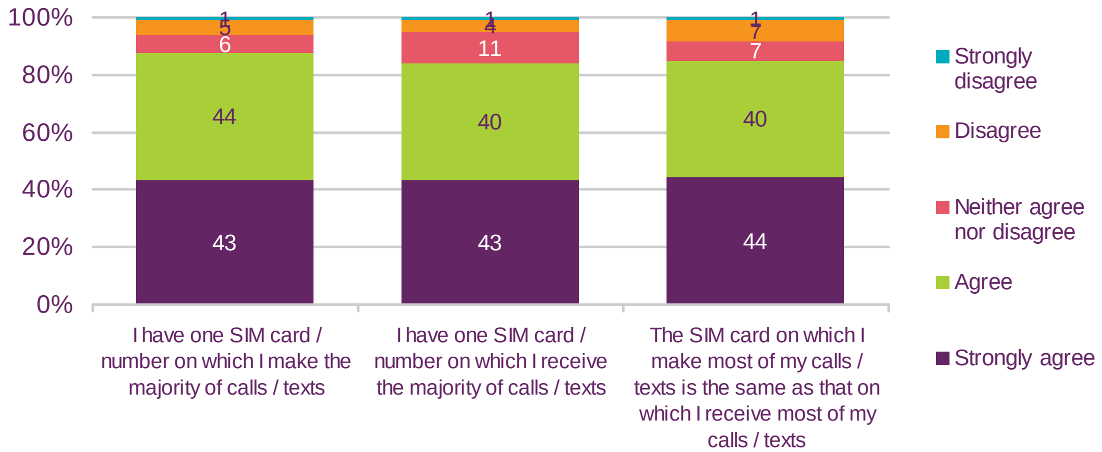
Figure 5.63 **Breakdown of the difference between mobile users and reported mobile connections**



Source: Based on Enders Analysis, UK mobile user survey, April 2008

It is also apparent that the large majority of multiple-SIM users make and receive the majority of calls on one of their SIMs, with over 80% of multiple-SIM users agreeing that they have one SIM on which they make and receive the majority of calls / texts (Figure 5.64).

Figure 5.64 **Tendency to use one main SIM, among multiple-SIM users**

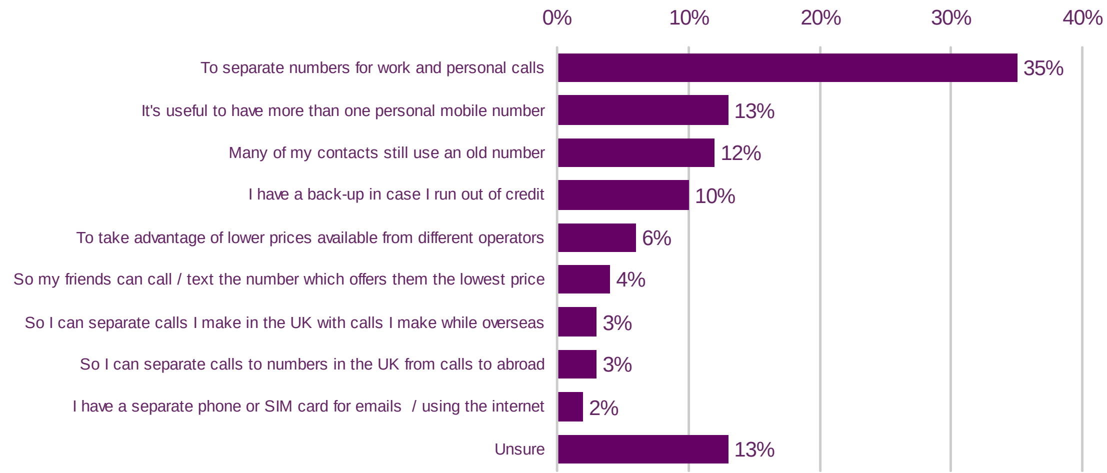


Source: CAPI OmniBus, July 2008
Base: Adults 16+ who personally use more than one SIM card

It therefore appears that despite there being around 26 million more mobile connections than there are mobile users in the UK, relatively few consumers are using multiple SIMs on a daily basis. Around 11% of mobile users claim to use more than one SIM, and of these only 13% do not have a single SIM on which they make the majority of calls / texts. This implies that around 1.4% of UK mobile phone users (around 700,000 people) are frequent users of more than one SIM.

There are many reasons why users have more than one SIM (Figure 5.65). The most common reason is to separate work and personal calls, with over a third of those with more than one SIM card claiming that this is the main reason. However, there is only limited evidence of SIM-swapping to take advantage of cheaper calls (on-net calls are typically cheaper than off-net calls): 6% of those with multiple SIMs claim this as a main reason, with a further 4% claiming that their main reason is so that friends can call or text them at lower cost.

Figure 5.65 **Reasons for multiple SIM ownership**

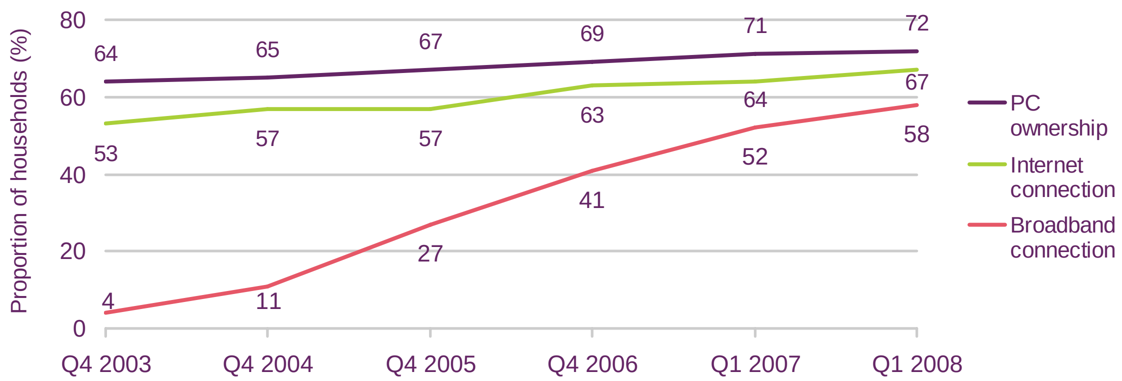


Source: CAPI OmniBus, July 2008
Base: Adults 16+ who personally use more than one SIM card

Internet penetration level approaches PC ownership

By Q1 2008, household internet penetration was within five percentage points of household PC ownership (Figure 5.66). This suggests two things: firstly, that PC owners increasingly regard internet access as an integral part of the use they get from a PC, and secondly, that a higher level of PC ownership is needed before there can be any significant growth in overall internet penetration.

Figure 5.66 **Household PC and internet penetration**

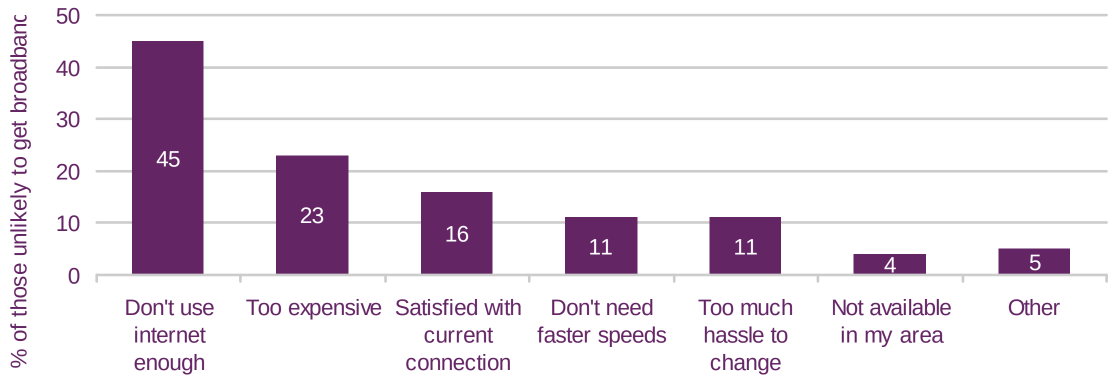


Source: Ofcom / operators

2.5 million households still use narrowband

Despite the continuing growth of broadband, there is still a significant minority of UK households (2.5 million) which still rely on a dial-up narrowband connection to access the internet, although 45% of narrowband consumers claim they are likely to subscribe to broadband within 12 months (Figure 5.67). Perceived cost appears to be the main barrier preventing consumers upgrading to broadband, with 23% saying that broadband is too expensive, and a further 45% claiming that they don’t use the internet enough (presumably to justify the additional expenditure). However, a significant number of narrowband users believe that a narrowband connection meets their needs (16% claim they are satisfied with their current connection and 11% say they do not need faster speeds), while 4% of those using dial-up claim it is because broadband is not available in their area (this conflicts with BT's claims that 99.6% of BT lines can support speeds of more than 512kbit/s).

Figure 5.67 **Reasons for not taking up broadband**

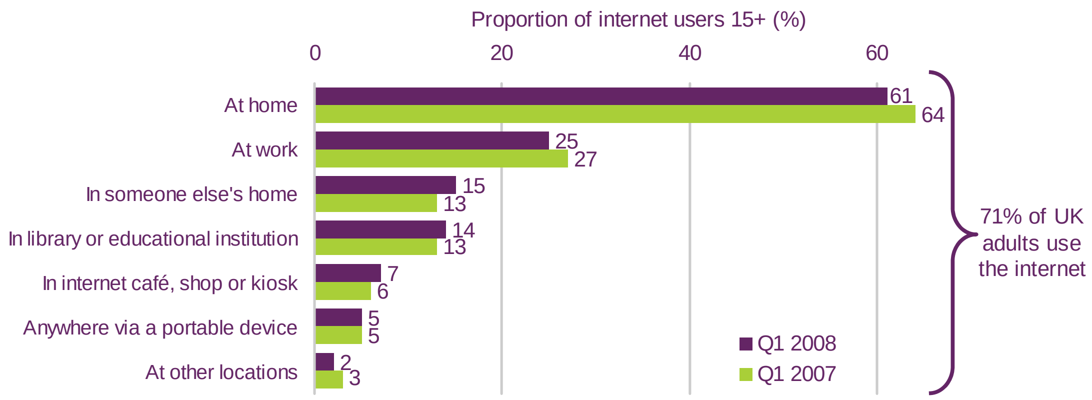


Source: Ofcom research 2007
Note: Multi code question
Base: All without broadband

Only one in 20 UK adults access the internet on a portable device

Overall, 71% of UK adults claimed to use the internet in Q1 2008, with 61% of UK adults accessing it in their homes (compared to 64% in 2007). Outside the home and work, consumers are most likely to access the internet in someone else's home or in a library or educational institution (Figure 5.68). Just 6% of UK adults ever use internet cafes or kiosks to access the web, while the proportion accessing the internet via a portable device remained unchanged between Q1 2007 and Q1 2008 at 5%, despite growth in the number of 3G connections and in mobile broadband, as highlighted in Section 5.1.5.

Figure 5.68 **Location of internet access**

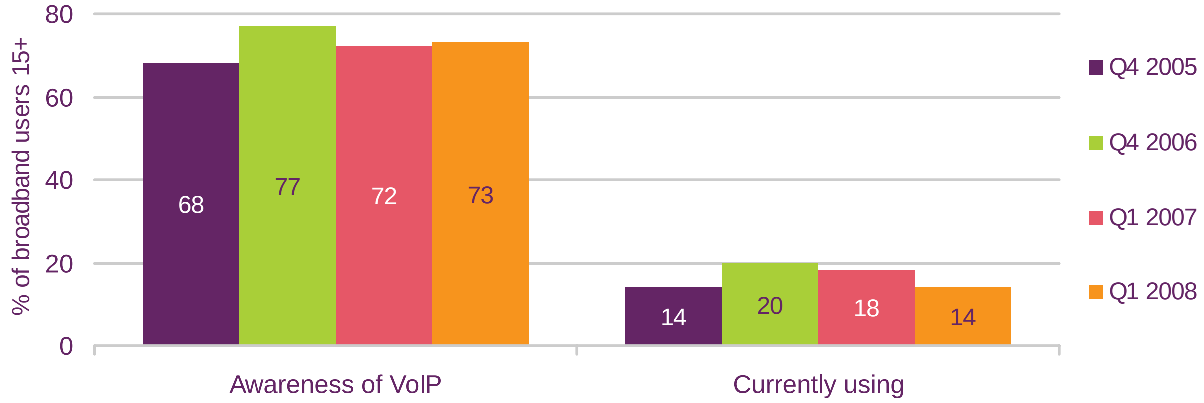


Source: Ofcom research, January 2008

VoIP user base declines

A significant gap remains between the awareness of Voice over Internet Protocol (VoIP) and its actual use, with the number of users actually falling in 2008. This indicates that while there remains a core group of consumers of VoIP services, the majority of broadband users are still choosing not to use VoIP, perhaps because of issues over VoIP quality of service or because of competition from low-priced fixed and mobile telecoms services. For example, VoIP is often marketed as a cheap way to make international calls, but as highlighted in Figure 5.69, the cost per minute of making international calls over fixed and mobile connections continues to decline, while use continues to grow. With flat rate tariffs and add-ons becoming an increasingly prevalent component of both fixed and mobile tariffs (see Section 5.1.4), the incentives to use VoIP services are decreasing.

Figure 5.69 **Awareness and use of VoIP**

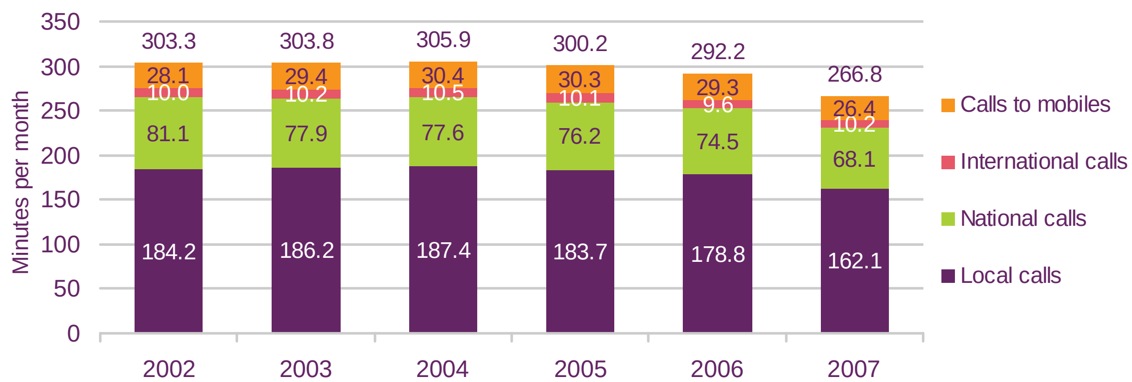


Source: Ofcom research, January 2008
Base: All adults with broadband

5.3.4 Fixed-line and mobile use

Average voice call volumes per residential fixed line fell by nearly 9% in 2007 as mobile took an increasing share of call volumes (Figure 5.70). All types of fixed-line calls declined, with the exception of international call volumes. These are less likely to be substituted by mobile, as international calls from mobiles generally cost more than from a fixed line, and international call minutes are generally not included in call allowances within monthly mobile contracts.

Figure 5.70 **Average monthly voice call volumes per residential fixed line**



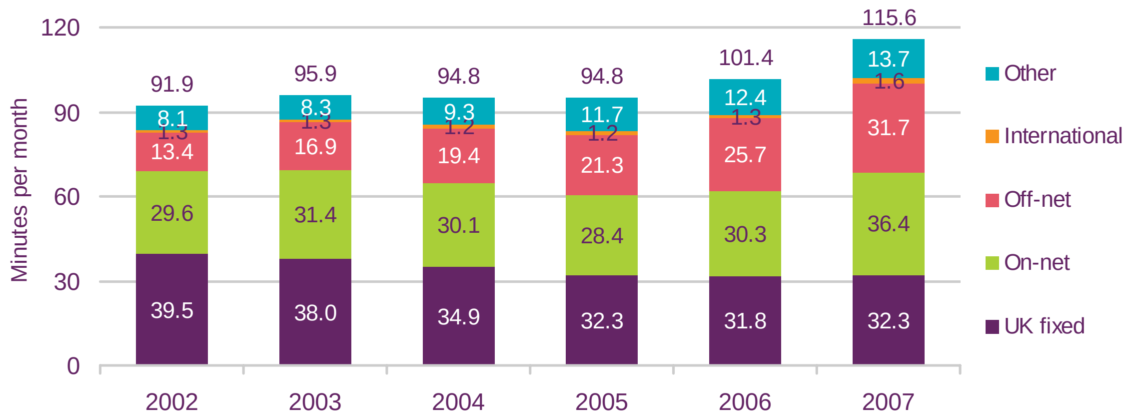
Source: Ofcom / operators
Note: Excludes non-geographic voice calls

Calls between mobiles drive up volumes

Calls from fixed lines still account for the largest proportion of voice calls made within the UK, although the proportion fell by four percentage points to 60% in 2007 as more calls were made from mobiles (see Section 5.1.3 above) The increasing volume of mobile-to-mobile calls is the main driver of growth in mobile call volumes (Figure 5.71), due to the increasing number of inclusive any-network minutes in mobile contract tariffs. International call volumes increased significantly through 2007, driven by lower prices caused by the introduction of the Eurotariff in August 2007, the greater take-up of special bundles such as O2's *International*

Caller ‘bolt-on’ and the launch of low-cost international call rate service providers such as Lebara Mobile.

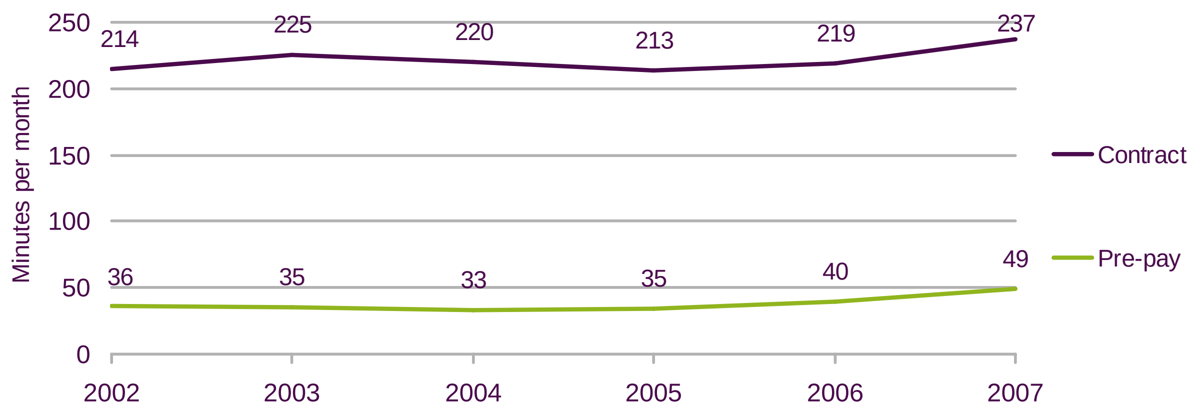
Figure 5.71 **Average monthly outbound voice minutes per mobile connection**



Source: Ofcom / operators
Note: Excludes 3UK; ‘Other calls’ include roaming, premium rate calls, WAP calls and all other call types

Average voice use per contract and per pre-pay connection increased throughout 2007. Contract users used nearly five times as many call minutes on average as pre-pay users, as they took advantage of inclusive allowances within their monthly line rental fees (Figure 5.72). However, there was a greater proportional increase in pre-pay use per connection, with voice minutes increasing by over 20% in 2007 as a result of reduced pricing, including the rise of tariffs incorporating ‘bonus’ minutes for high-end users, such as O2 giving 200 bonus minutes to pre-pay users crediting their account with £30 or more in the previous month.

Figure 5.72 **Average outbound mobile minutes, by customer type**



Source: Ofcom / operators
Note: Includes estimates where Ofcom does not receive data from operators; excludes 3UK

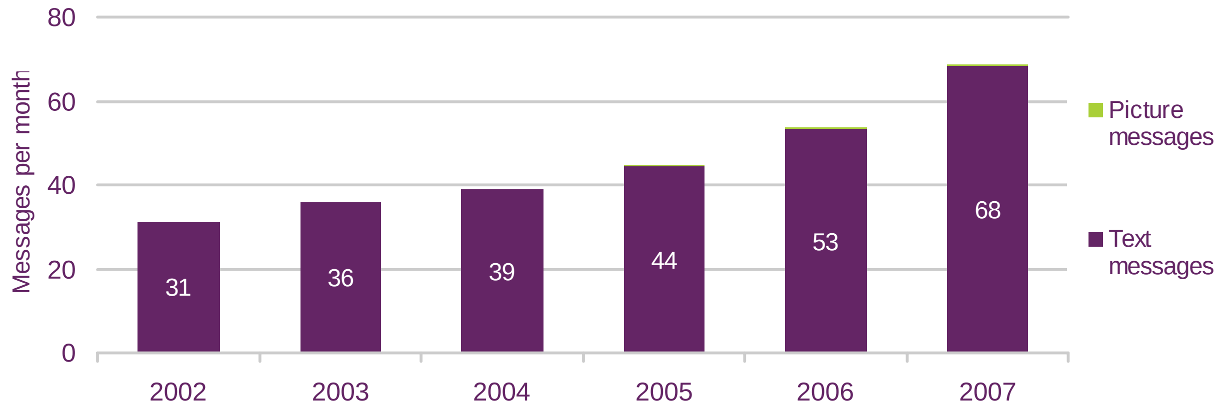
A nation of texters: SMS rises by 28% per user

Despite the increased availability of alternative messaging services (such as email and instant messaging) on internet-enabled mobile handsets, the volume of outgoing text messages grew by 28% in 2007, twice the growth rate of voice minutes (Figure 5.73). In 2007 an average of 68 text messages per month were sent from every UK mobile connection; this compares with an average of 20.4 SMS sent per mobile connection in France and 22.8 in Germany in 2006 (the most recent year for which data are available)[67].

And despite the almost universal availability of cameras on new mobile phones, picture messaging has had very low take-up, with just 0.37 multimedia messages (MMS) sent per mobile connection in 2007.

As with voice minutes, the inclusion of more text messages, or even unlimited texts on some tariff plans, such as T-Mobile's *Combi* plans at £30 and above, is contributing to this growth. However, out-of-bundle text messaging now accounts for a larger element of the total cost of services than out-of-bundle on-net and off-net mobile-to-mobile calls combined.

Figure 5.73 **Monthly outbound messages per mobile connection**



Source: Ofcom / operators
Note: Excludes 3UK

5.3.5 Customer satisfaction and switching

Nine in ten fixed and mobile customers satisfied with their service

Overall, the large majority of fixed and mobile users are satisfied with the service they receive (Figure 5.74). Satisfaction with mobile services increased between Q4 2006 and Q1 2008, while satisfaction with fixed services declined slightly (although the proportion of consumers who were 'very satisfied' increased significantly).

This reflects the dynamic nature of the market. Mobile users have also benefited from operators' focus on improving the overall customer experience, loyalty rewards and retention processes, all designed to reduce churn among existing users in what is largely a saturated market.

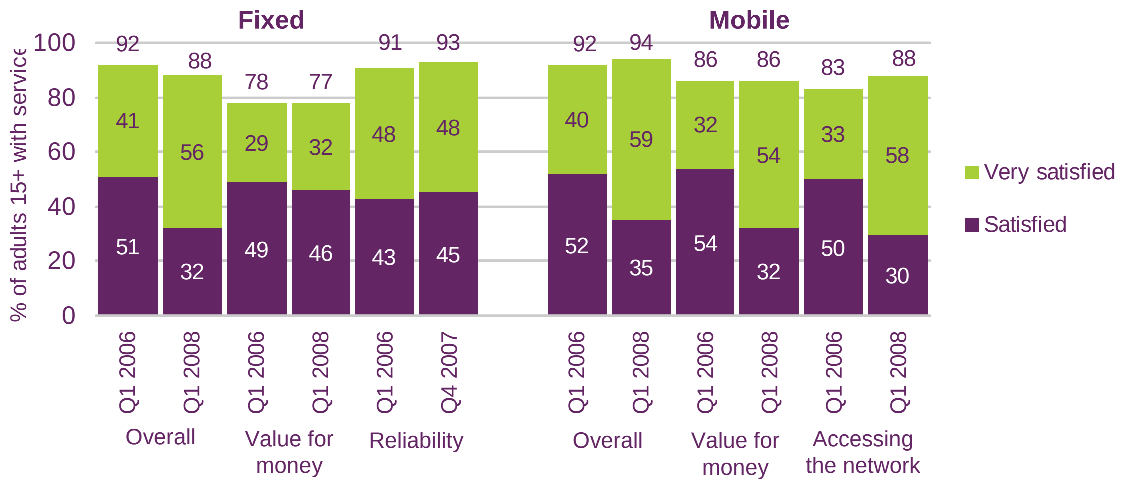
Mobile customers have benefited from falling prices as more inclusive minutes are typically included within monthly contracts, and have enjoyed better network coverage as 3G roll-out has neared completion and as technical issues relating to the handover between 2G and 3G networks have largely been resolved. By contrast, there has been more flux in the fixed-line markets, as alternative networks offering services through LLU or WLR have gained market share from BT.

The rise in the number of fixed customers who are 'very satisfied' is likely to be a reflection of the wider range of tariffs available, the better value offered by double-play and triple-play offers, and the wider availability of inclusive calls within standard monthly access fees. The

[67] IDATE / national regulators

increase in the proportion of consumers who are 'not satisfied' is likely to be a comment on the raised expectations created by these new services, and perceived disadvantages such as longer contract commitments, raised monthly access fees in return for inclusive calls, and for some, frustration that a fixed line is required in order to have a phone line for DSL broadband.

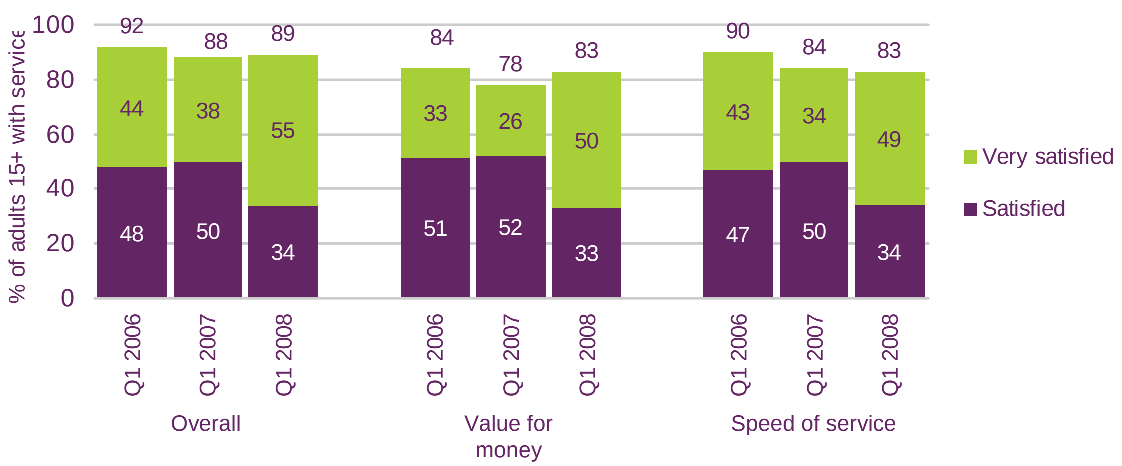
Figure 5.74 **Residential consumer satisfaction with fixed and mobile services**



Source: Ofcom research
Note: Includes only those who expressed an opinion

Overall satisfaction with broadband service was similar to that for fixed-voice services, with nine in ten consumers saying that they were either 'very' or 'fairly' satisfied and five in ten 'very satisfied'. Satisfaction levels, both with value for money and with connection speed, were slightly lower than overall satisfaction levels, at 83% for each, and satisfaction with speed has fallen from 90% two years ago (Figure 5.75).

Figure 5.75 **Residential customer satisfaction with aspects of broadband service**



Source: Ofcom research
Note: Includes only those who expressed an opinion

Broadband speeds meet most customers' expectations

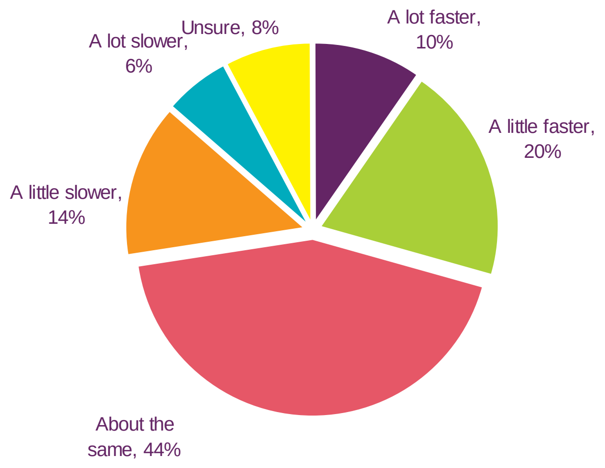
The issue of broadband speeds has received significant attention in the consumer and industry press in the past year, both in the context of the debate as to when investment should be made in ultra-high-speed next generation access networks, and also in the context of the differences between the 'headline' speed of a broadband package and the actual speed experienced. Actual speeds are frequently significantly lower than headline speeds because of a number of factors, including degradation caused by the distance of the premises from the exchange (for DSL connections) and contention ratio (speeds decrease when backhaul bandwidth is shared by simultaneous users).

Against this background, it is not surprising that satisfaction with broadband speed fell between Q1 2006 (90%) and Q1 2008 (83%), although the proportion of consumers dissatisfied with the speed of their broadband connection was only 8% (with 9% of consumers being neither satisfied nor dissatisfied). It also appears that consumers are largely getting the broadband speeds that they expect, with just 6% of them claiming that speeds are “a lot slower” than they expect, and 74% claiming that speeds are as expected or faster (Figure 5.76).

However, the increasing use of high-bandwidth services such as the BBC’s *iPlayer,* which benefit from faster connection speeds to help maintain the quality of the programme being watched, may have a negative effect on levels of satisfaction in the future, especially among users of lower-speed connections.

In order to better understand actual broadband speeds across the UK and how they vary by location, choice of ISP, distance from exchange and time of day, Ofcom is conducting a major research programme into broadband service quality. A report will be published in the first half of 2009.

Figure 5.76 **Are broadband speeds meeting expectations?**



Source: Ofcom research, Q1 2008
Base: All with broadband

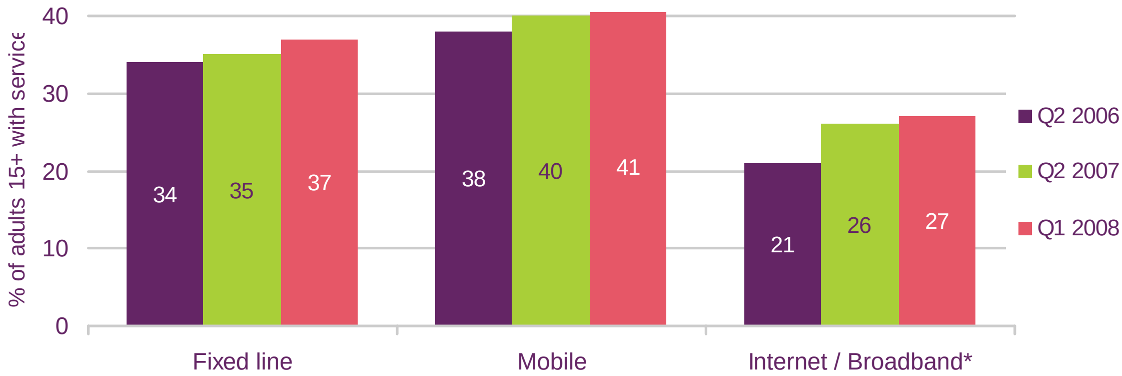
Most fixed-line voice, mobile and broadband consumers have never switched supplier

The proportion of fixed-line voice users that have switched provider remained steady between Q4 2006 and Q1 2008. This is perhaps surprising, given the growth in users of WLR and LLU services offered by providers other than BT. It suggests that repeated switching is occurring among a core group of value-seeking users, while the majority of consumers have maintained their BT service.

Mobile has historically had very high churn rates, but 59% of mobile users have never switched providers, indicating that a large proportion of mobile users are loyal to their first mobile provider (Figure 5.77).

Given that broadband is a relatively new technology with most users only having connected within the last three years, it is significant that 27% of users have already switched provider. This is evidence of a dynamic market, characterised by price competition and the availability of double-play and triple-play tariffs.

Figure 5.77 **Proportion of consumers who have ever switched provider**



Source: Ofcom research
** Note: 2008 data is the proportion of broadband consumers who had ever changed broadband provider, and is not directly comparable with 2006 and 2007 data which is the proportion of internet consumers who had ever changed internet provider*

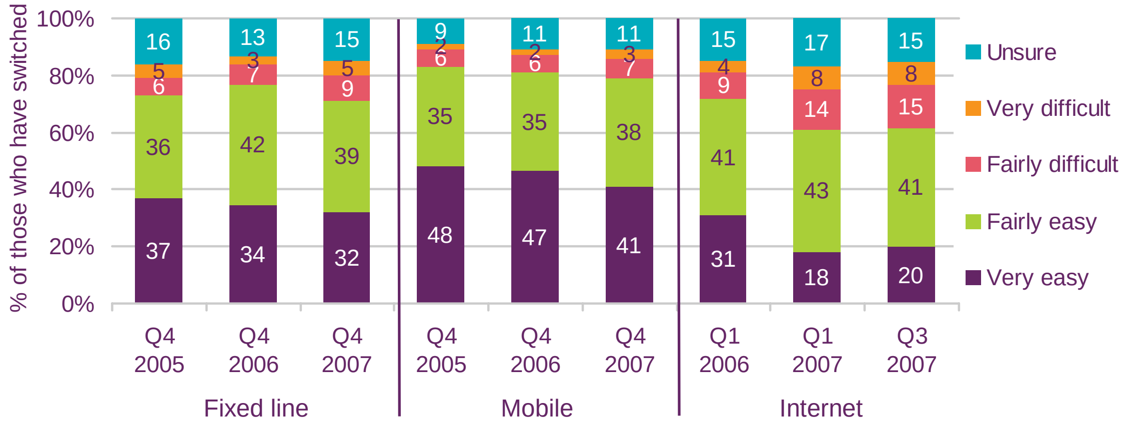
Ease of switching supplier

There continues to be significant differences between the different telecoms services in consumers' experience of switching supplier, with 79% of mobile users finding it easy compared to 71% of fixed-line users and 61% of internet users (Figure 5.78). The mobile figure is slightly down on 2006 (82%), perhaps because of the increasing proportion of pay-monthly customers tied into 18-month rather than 12-month contracts. In April 2007 Ofcom reduced the maximum time within which mobile operators are required to transfer a number (when a user is switching providers) from five to two days, and there are plans to reduce this to two hours. Previously the time taken to port a number had been seen as a barrier to consumers switching network.

Switching internet provider continues to be perceived as difficult for a greater proportion of users. This is likely to be related to the high proportion of broadband connections that are taken in association with another service (in Q1 2008, 58% of households with broadband took it in a 'bundle' with another service), while it may also reflect the more complex back-end processes that operators need to undertake in order to switch connections, due to the multiple wholesale and LLU broadband products on offer. Alongside this, there have been a number of specific problems around switching broadband services, leading to Ofcom introducing a new General Condition to address these difficulties in February 2007. These problems included difficulties for consumers in obtaining a Migration Authorisation Code (MAC) necessary for seamless switching between internet providers, as well as the presence of 'tags[68] on the line' which prevent the supply of broadband services to a consumer.

[68] 'Tag' on a line is a marker or tag left by a broadband provider on a line which delays a customer taking a service with another provider

Figure 5.78 **Ease of switching supplier**



Source: Ofcom research, Q2 2008
Base: All adults who have ever switched

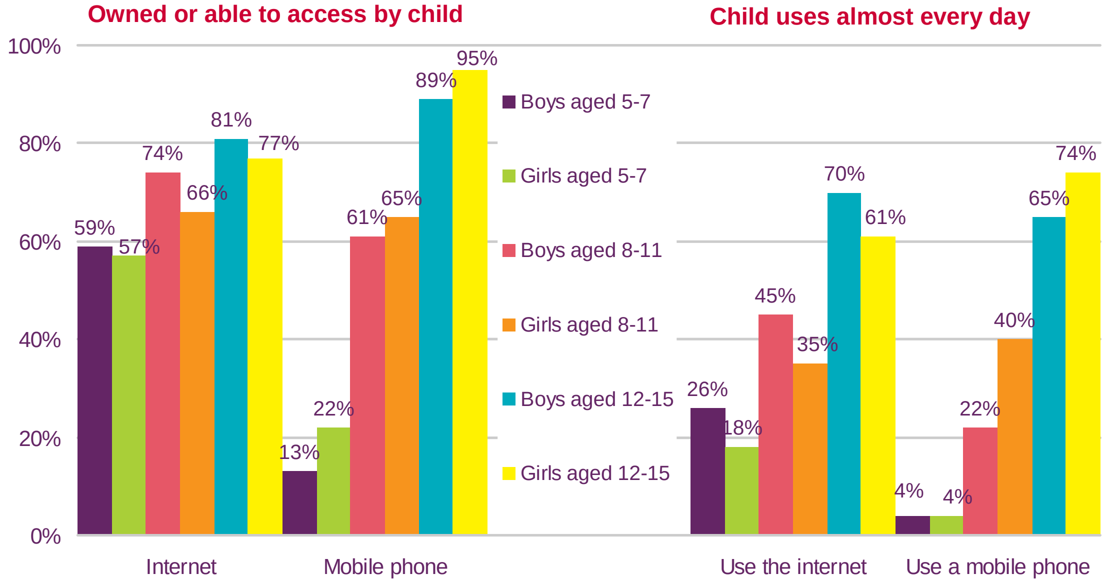
5.3.6 Children's use of telecoms services

The majority of 8-11 year-olds use a mobile phone

As Figure 5.79 below illustrates, mobile phones and the internet are part of everyday life for children of all ages. The majority of children aged 5-7 have access to the internet; most children aged 8-11 have access to a mobile phone and the majority of children aged 12-15 use both almost every day. While one PC can serve an entire household, mobile phones tend to be owned and used by one person, which may explain why children of all ages have greater access to the internet than to a mobile.

The research also highlights significant differences in the use of communications services by boys and girls: a higher proportion of boys use the internet than girls, but this trend is reversed for mobile use; with nearly twice as many girls aged 8-11 using a mobile almost every day as boys in the same age group.

Figure 5.79 **Children's ownership and use of the internet and mobile phones**



Source: Ofcom research, fieldwork carried out by Saville Rossiter-Base in April to May 2008
Base: Children aged 5-15 (132 Boys aged 5-7, 150 Girls aged 5-7, 189 Boys aged 8-11, 178 Girls aged 8-11, 187 Boys aged 12-15, 189 Girls aged 12-15)

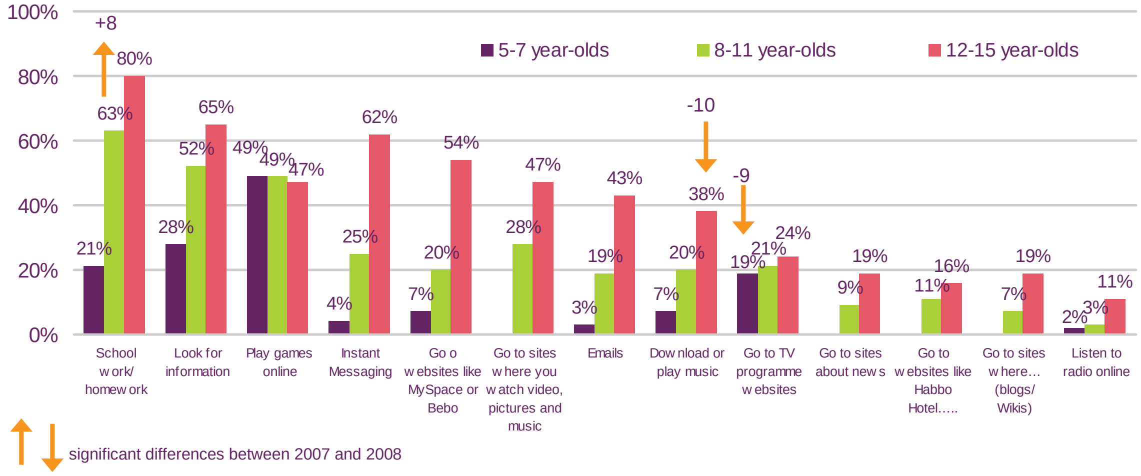
Children use instant messaging more than email

Instant messaging is more popular across all children's age groups than email, indicating a major difference between the behaviour of children and adults on the internet; our research found that 80% of adult broadband users use email, and 34% use instant messaging or chat rooms (Figure 5.80).

The educational benefits of the internet are highlighted by the finding that 63% of 8-11 year-olds (55% in 2006) and 80% of 12-15 year-olds claim to use the internet for schoolwork, while among 5-7 year-olds, playing online games is the most common activity. The majority of 12-15 year-olds use social networking sites, as do one in five of 8-11 year-olds.

A significant decline in downloading music over the internet by 12-15 year olds in 2007 suggests older children are using alternative services such as their mobile phones. All five of the UK's mobile operators offer a dedicated music download service either via unlimited subscription such as the Vodafone MusicStation or on a pay per download. Device manufacturers such as Nokia, Sony Ericsson and Apple are also offering music services through their own mobile portals.

Figure 5.80 **Uses of the internet by children**



Source: Ofcom research, fieldwork carried out by Saville Rossiter-Base in April to May 2008
Note: Yellow arrows indicate statistically significant differences from Q2 2007.
Base: Children aged 5-15 who use the internet at home (157 aged 5-7, 253 aged 8-11, 304 aged 12-15)

Children are more likely to send a text than make a call

If the UK is a nation of texters (see Section 5.1.7 above), the trend seems set to continue, with children more likely to send a text than make a voice call (Figure 5.81). A 7% decline in the regular use of voice calls suggests that older children are increasingly relying on text as the main way to communicate on their mobile. While part of this may be the additional features of text messaging compared to voice communications (the ability to send one-to-many text messages, and the privacy compared to voice calls which may be overheard), pricing is also likely to be a factor. Unlimited inclusive text messages are an increasing feature of both contract and pre-pay tariffs, while the fixed price of a text message (compared to a voice call which varies with duration), enables children and parents to control the amount spent using a mobile and prevent ‘bill shock’ where a user receives an unexpectedly high bill.

In contrast to average adult behaviour (see Section 2.4.4), older children are more likely to take photos and listen to music on mobile phones, indicating that children regard mobile phones as converged devices, offering more than basic voice and text services. The increasing popularity of sending or receiving photo messages and video clips on mobile phones by children may be an extension of the popularity of sharing images on social networking sites, while a decline in playing games on a mobile phone may be due to the popularity of dedicated handheld gaming devices such as the Nintendo DS.

Figure 5.81 **Children's use of mobile phones**

Source: Ofcom research, fieldwork carried out by Saville Rossiter-Base in April to May 2008
Note: Yellow arrows indicate statistically significant differences from Q2 2007.
Base: Children aged 8-15 with their own mobile phone (213 aged 8-11, 347 aged 12-15). NB Base too small for 5-7 year olds.