The Communications Market in Wales

1 The market context

1.1 Wales: setting the scene

Key facts

Figure	Wales	UK
Population	2.9 million (1.26 million households)	5% of total UK population
Age profile	Median age of 40	Median age of 38
Language	Welsh spoken by 20.8% of population	Welsh is the first language for 0.4% of the UK population
Income	Weekly household income: £570 Weekly household expenditure: £406.70	Weekly household income: £669 Weekly household expenditure: £459.70
Unemployment	7.7% of working population	7.1% of working population

Source: Welsh Assembly Government, Office for National Statistics

Research

A note on the Wales survey data

We conducted a face-to-face survey of 9,013 adults in the UK, with 1,075 interviews conducted in Wales. Fieldwork took place in January and February 2010.

Some of the survey data in this section of the report are split by geographic areas of Wales.

The survey sample in Wales has error margins of approximately +/- 2-3% at the 95% confidence interval.

In specific geographic areas survey error margins are approximately +/- 3-6%.

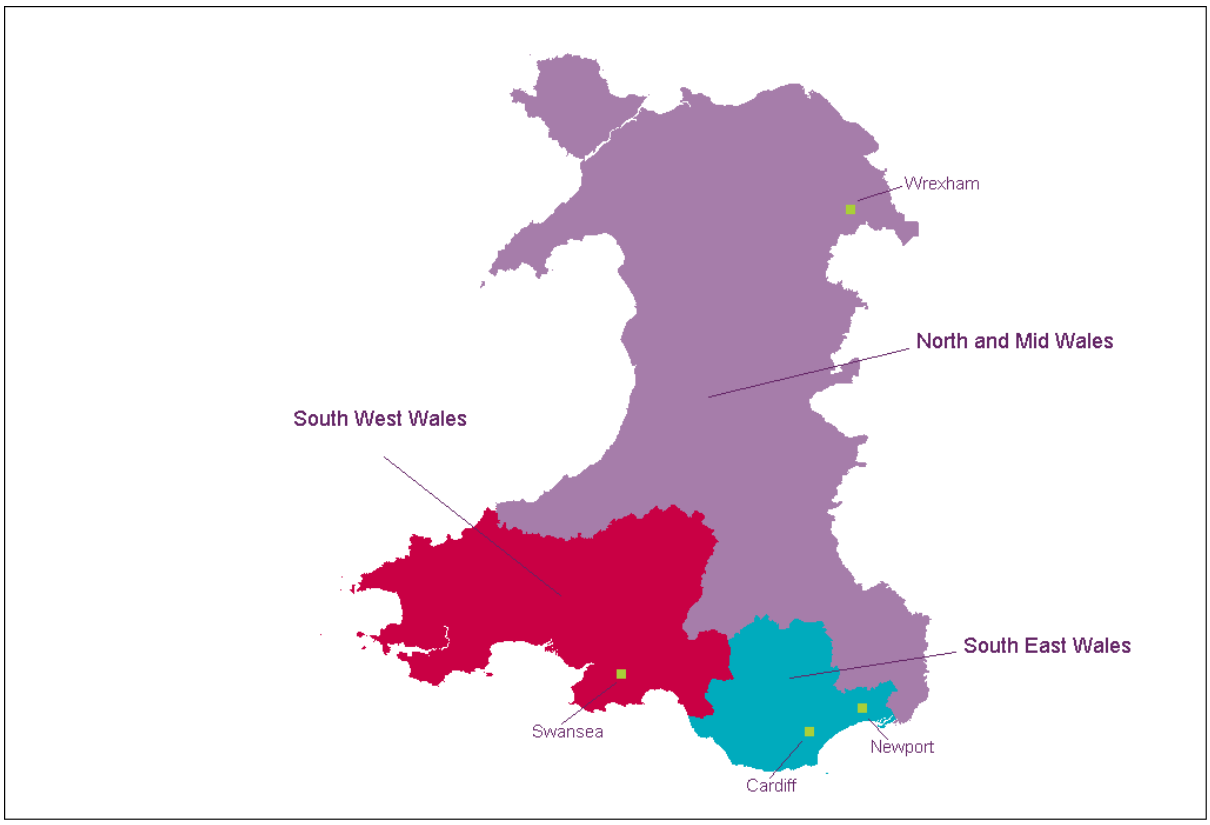
Respondents were defined as urban if they lived in a settlement with a population of 2000 or more and rural if they lived in areas with smaller populations.

Annex 1 contains full details of the survey methodology and error margins.

In addition to the survey data, this section of the report refers to data from a range of other sources, including data provided to Ofcom by stakeholders.

A direct comparison between 2009 and 2010 data from specific geographic areas is not possible as these vary between years.

Figure 1.1 Map of research areas in Wales



Based on Ordnance Survey data, National Statistics Postcode Directory and data from Northern Ireland
Source: Ordnance Survey © Crown copyright 2010 and Office for National Statistics

1.2 Wales' communications market in the UK context

This section sets out a selection of headline figures for Wales' communications market, putting them into a UK-wide context.

1.2.1 Availability of communications platforms and services in Wales

All local exchanges in Wales are broadband-enabled, although speeds and services vary

Figure 1.2 illustrates the availability of communications services in Wales. It compares coverage levels to the comparable figures for the other UK nations and the UK-wide average. With many communications services now well established, service availability in Wales changed little between 2009 and 2010, with the exception of digital television.

The availability of services ranges significantly across Wales; some are universally accessible while others are currently available to only a minority of the population:

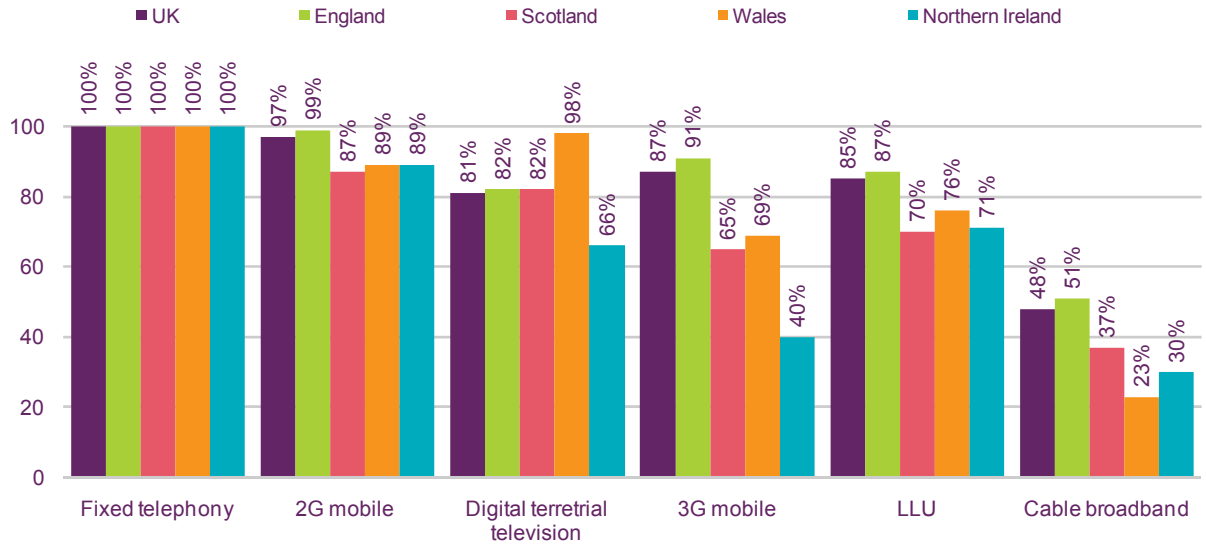
- Digital terrestrial television availability rose from 63% of the population in mid-2009 to 98% twelve months later. The digital switchover programme, completed in March 2010, extended DTT coverage to most households in Wales, with coverage matching that of analogue terrestrial television. Coverage in Wales is now higher than in any other UK nation, although the margin will narrow as switchover is completed in other nations.

- Broadband delivered over a standard fixed telephony line is also available to all homes and commercial properties in Wales, as all local exchanges in Wales are DSL-enabled. But various factors (such as line length and contention) influence the actual broadband speed at customer premises. Cable broadband, offering access to a high-speed internet service, is available to 23% of homes in Wales; this compares to 37% in Scotland, 30% in Northern Ireland and 51% in England.

- 2G mobile services were available to 89% of the population of Wales (and covered 79% of the nation's landmass); this was on a par with Northern Ireland and slightly higher than Scotland (87%), while coverage was higher in England (99%). 3G population coverage in Wales is lower than 2G coverage (at 69%). The service is more widely available in Wales than it is in Scotland (66%) or Northern Ireland (40%).

- The universal service obligation on fixed-line telephony services and dial-up internet access means that it is available to all premises in Wales, in common with the other UK nations.

Figure 1.2 Communications infrastructure availability across the UK's nations, 2010



Sources: Ofcom
1. Proportion of population living in postal districts where at least one operator reports at least 90% 2G area coverage. Sourced from GSM Association / Europa Technologies (Q1 2008). Note that coverage data has been restated; this means that year-on-year comparisons are not possible.
2. Proportion of population living in postal districts where at least one operator reports at least 90% 3G area coverage. Sourced from GSM Association / Europa Technologies (Q1 2008). Note that coverage data has been restated; this means that year-on-year comparisons are not possible.
3. Proportion of premises able to receive DSL services based on data reported by BT
4. Proportion of households passed by Virgin Media's broadband-enabled network
5. Proportion of households connected to an LLU-enabled exchange
6. Availability of 17 services from; figures based on Ofcom estimates.
7. New DAB coverage estimates are forthcoming. Ofcom is currently leading a process to consider the future spectrum planning requirements of digital radio, to prepare for the digital radio upgrade and to make recommendations to Ministers.

1.2.2 Take-up of communications platforms and services in Wales

Digital television take-up rose rapidly in Wales during 2009/10, as a result of the digital switchover programme

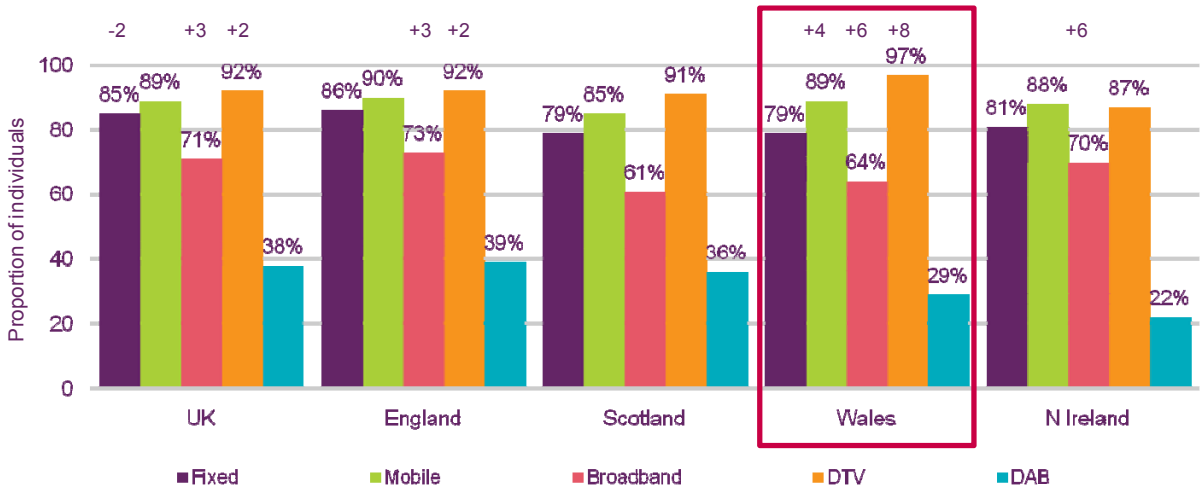
Consumers in Wales adopted a range of digital communications technologies in increasing numbers during 2009/2010 (Figure 1.3):

- Digital television switchover in Wales started in August 2009 and was completed in March 2010. Ninety-seven per cent of consumers with television at home indicated they had digital television on their main set in Q1 2010, up by eight percentage points year on year. The research was conducted while switchover was under way, so the headline figure may have risen still further. The gap with the UK wide average widened – in Wales' favour – by six percentage points in an year.

- Broadband take-up continues to be low in Wales compared to the UK average. However, broadband take-up rose by six percentage points during the year, to 64% of homes. This puts take-up in Wales at seven percentage points behind the UK average, narrowing the gap from ten percentage points in 2009.

- Mobile phone take-up also rose year on year, climbing by four percentage points to stand at 89% in 2010. The gap with the UK average disappeared as a result, with take-up in Wales now on a par with the UK-wide figure.

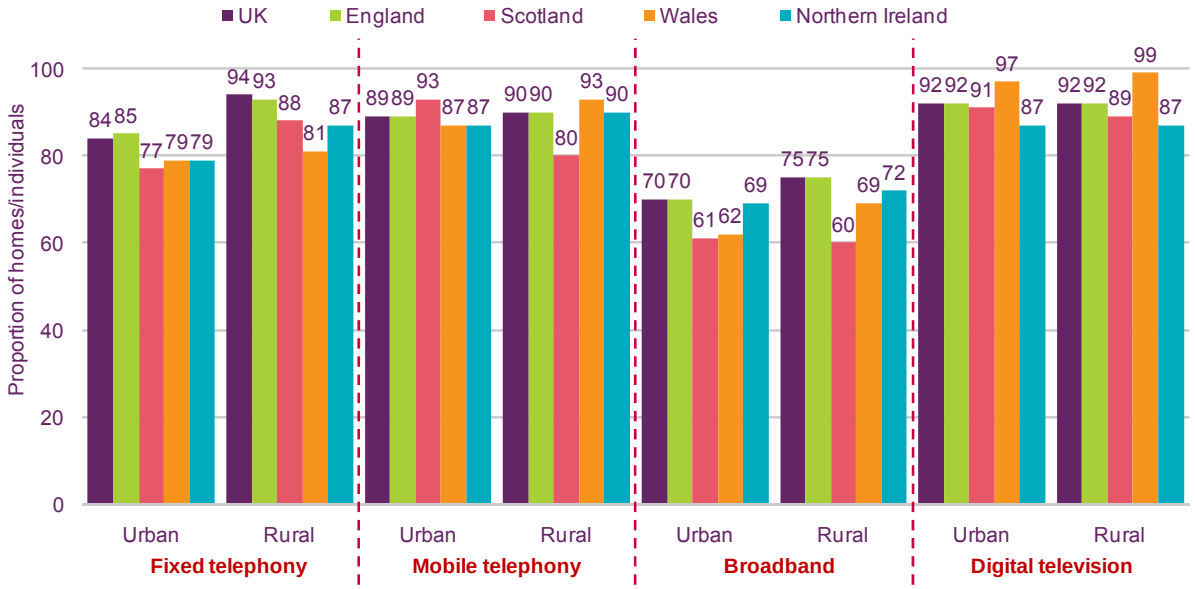
Figure 1.3 Patterns of communications service adoption across the nations of the UK, 2010



Source: Ofcom research, Q1 2010
Fixed line base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)
Fixed line question: Is there a landline phone in your home that can be used to make and receive calls?
DTV base: Adults aged 15+ (n= 9013 UK, 5709 England, 1468 Scotland, 970 Wales, 640 Northern Ireland)
DTV question. Which, if any, of these types of television does your household use at the moment?
Broadband base: All adults aged 15+ (n= 9013 UK, 5709 England, 1468 Scotland, 970 Wales, 640 Northern Ireland)
Broadband question: Which of these methods does your household use to connect to the internet at home?
DAB base: Adults aged 15+ who listen to radio (n= 7017 UK, 4476 England, 1034 Scotland, 854 Wales, 653 Northern Ireland)
DAB question: How many DAB sets do you have in your household? Response represents those with one or more sets.
Note: Remaining percentages are 'Don't know' responses
Mobile base: All adults aged 15+ (n= 9013 UK, 5709 England, 1468 Scotland, 970 Wales, 640 Northern Ireland)
Mobile question: Do you personally use a mobile phone?
Note: The DTV take-up figures in this chart will differ from those presented in the 'Fast facts' table. The different is explained by the base of households over which the two figures are calculated. In this chart, is it all homes with television; in the fast facts, it is all homes (including those that do not have a television).

Patterns of communications service take-up in urban and rural locations vary by service and type across each nation. Take-up of fixed telephony services is a little higher among homes situated in rural parts of Wales than urban (81% versus 79%). There is also a greater proportion of people who claim to use mobile phones in rural locations than urban (93% versus 87%). Take-up of broadband (fixed or mobile) is also higher in rural locations (69% versus 62%). Digital television services are now widely adopted by both urban and rural dwellers.

Figure 1.4 Adoption of communications technology/service in urban and rural locations



Source: Ofcom research, Q1 2010. For questions see notes beneath Figure 1.3.

1.2.3 Consumer take-up of bundled services in the UK

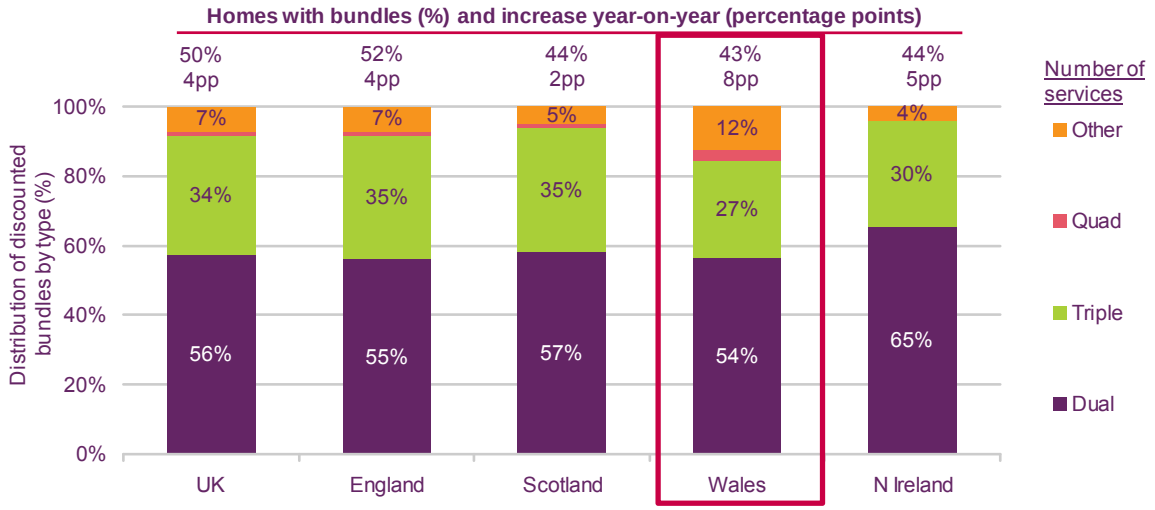
43% of homes in Wales took a bundle of communications services, up by eight percentage points year on year

Figure 1.6 shows that across the UK, 50% of homes bought two or more of their communications services from the same supplier in a bundle in Q1 2010. This was up by four percentage points year on year. The most popular type of bundle – taken by more than half (56%) of those who chose a bundle – was a 'dual' package of services such as fixed-line telephony and broadband.

In Wales, 43% of homes took bundles, and their popularity grew in 2009, with take-up rising by eight percentage points over the year. The gap with the UK-wide average narrowed by four percentage points to seven percentage points. Bundles were marginally less popular in Wales than in Scotland or Northern Ireland (where take-up reached 44%); a larger proportion of homes in England took bundles (52%). The figures for Wales may be influenced both by the lower levels of cable coverage and by fewer telephone exchanges supporting LLU.

The distribution of bundles by type in Wales was broadly in line with the UK-wide average. Fifty-four per cent of those who bundled chose the dual package, in contrast to 56% of those who bundled across the UK. Triple-play packages were substantially less popular in Wales (27% of the total versus 34% of the UK-wide figure).

Figure 1.5 Take-up of bundled services, by nation



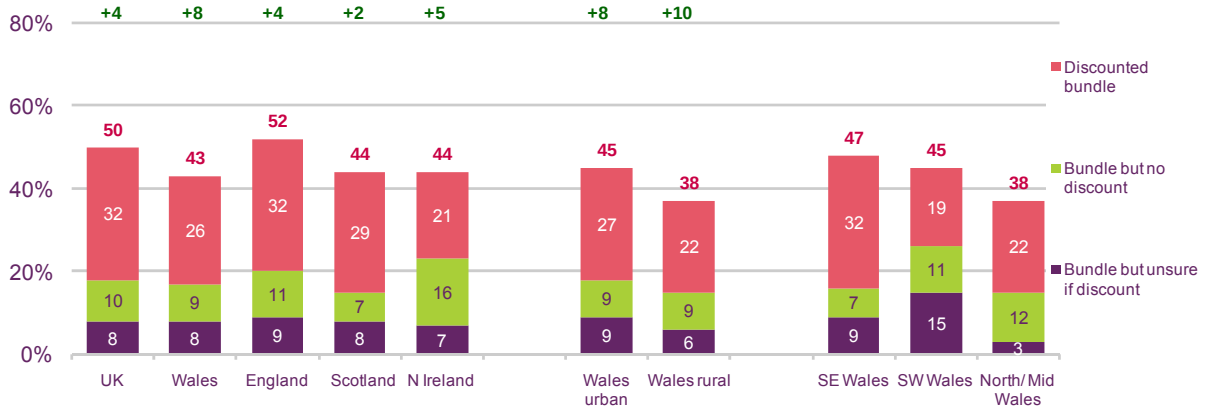
Source: Ofcom research, Q1 2010
Base: All adults aged 15+ with a package of services regardless of whether or not these include a discount (n = 4167 UK, 2793 England, 605 Scotland, 437 Wales, 332 Northern Ireland)
Notes: 1. Remaining percentages are Don't know responses. 2. Bundling is also considered in the UK report; that analysis is based on bespoke research, with a headline bundling figure of 48% (not 50%). The difference arises from different definitions of bundles used in the two pieces of research. In this report a bundle is defined as one where all services are on a single bill, with or without discount. In the UK report research, the definition was of two or more services from one supplier on a single bill and receiving a discount.

Consumers in the South East of Wales most likely to take bundles of communications services

Across Wales, take-up of bundles appears lowest in North / Mid Wales and in rural areas (Figure 1.7). This might be because these areas are less well-served by both cable and unbundled exchanges than the rest of the UK, reducing the supply of bundles and discounted packages available.

Across Wales, service bundling appeared to be more common in urban than in rural areas, and particularly in the larger urban areas of South East Wales, which includes Cardiff and Newport. Again, this is consistent with those areas that have higher LLU and cable availability.

Figure 1.6 Proportion of customers buying bundled services, 2009-2010



Source: Ofcom research, Q1 2010
Base: All adults aged 15+ (n = 9013 UK, 1075 Wales, 5709 England, 1468 Scotland, 761 Northern Ireland, 810 Wales urban, 265 Wales rural, 348 South East Wales, 360 South West Wales, 367 North/ Mid Wales)
QG1. Do you receive more than one of these services as part of an overall deal or package from the same supplier?/ QG3. Do you receive a discount or special deal for subscribing to this package of services?
Note: Figures above chart columns indicate total uptake of bundled service

1.2.4 Spending by public service broadcasters on television and radio content

Expenditure on broadcast-based content produced in Wales totalled £59.40 in 2009, compared to the UK-wide average of £38.56

Figure 1.7 illustrates patterns of expenditure in Wales on broadcasting output. It adjusts for population size by expressing spend on a per-head basis. The chart sets out four types of expenditure:

- The value of networked television spending in Wales –programmes that are produced in Wales (such as *Doctor Who*), which are then broadcast to all UK viewers;
- BBC spending on radio services for listeners in Wales (such as radio Wales);
- Spend by the BBC and ITV1 Wales on television programmes specifically for viewers in Wales (such as *Wales Tonight*); and
- Welsh-language television programmes commissioned by S4C.

Total spending per head on broadcast-based output in Wales totalled £59.87 in 2009, up from £57.49 twelve months earlier. This represented the highest spend per head across the four nations, driven particularly by the programming budget of S4C, which accounted for £26.20 of the total.

The year-on-year increase was brought about in part by higher spending on Welsh-language programming and by output that was produced for UK-wide audiences.

Figure 1.7 Spend per head on UK-originated content by broadcast by PSBs on TV and radio, 2010

Source: Ofcom analysis and broadcasters

1.2.5 Consumption of television and radio services by people in Wales during 2009

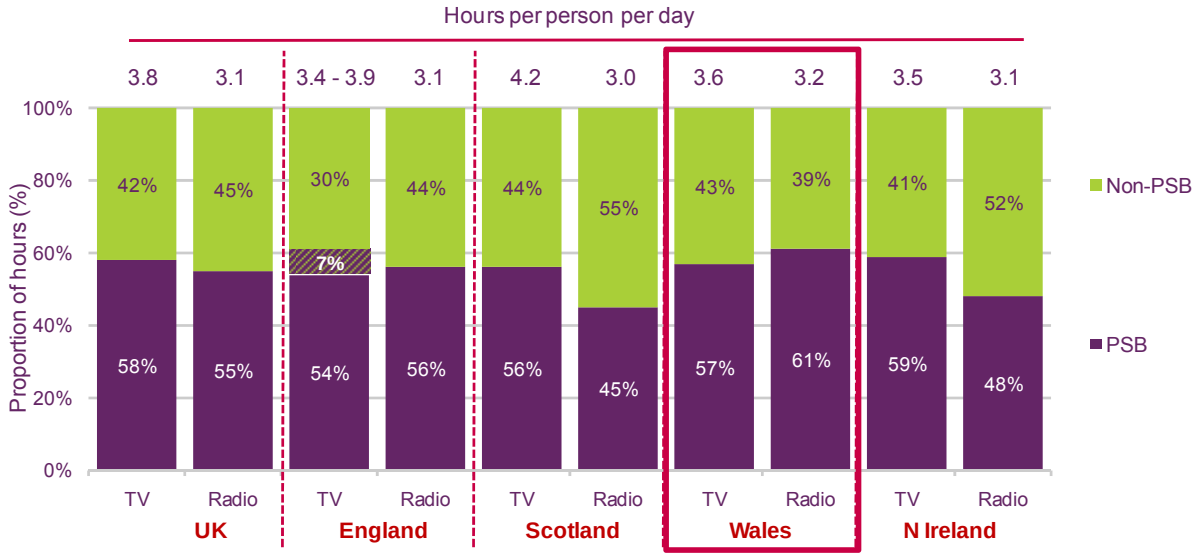
BBC radio services more popular with consumers in Wales than anywhere else in the UK

People in Wales spent a total of 6.8 hours a day watching television and listening to the radio. This was in line with the UK-wide average of 6.9 hours per day, and comparable to patterns of viewing and listening in Northern Ireland. Television viewing was most popular in Scotland, with viewers watching/listening for an average of 7.2 hours a day. Hours of television viewing per head in Wales rose by 9% year on year, while radio listening remained largely static.

The BBC's radio services were more popular in Wales than in any other nation, commanding a 61% share of listening in 2009, compared to the UK-wide figure of 55%. In terms of station choice there are currently 15 local commercial analogue radio stations licensed to broadcast in locations in Wales, which is equivalent to around 5% of the UK total of 296 local commercial stations. This compares to the 10 local commercial stations licensed in N. Ireland, 39 in Scotland, and 232 in England. BBC services include the 11 BBC network stations and the two national services, (BBC Radio Wales and Cymru), with nine national commercial stations also available on DAB. Wales also has nine community radio licences serving local populations across the country.

PSB television channels took a 57% share of all viewer hours in Wales – broadly in line with the UK-wide figure of 58% (Figure 1.8).

Figure 1.8 Hours of daily viewing of television and radio, by nation, 2010



Source: BARB and RAJAR

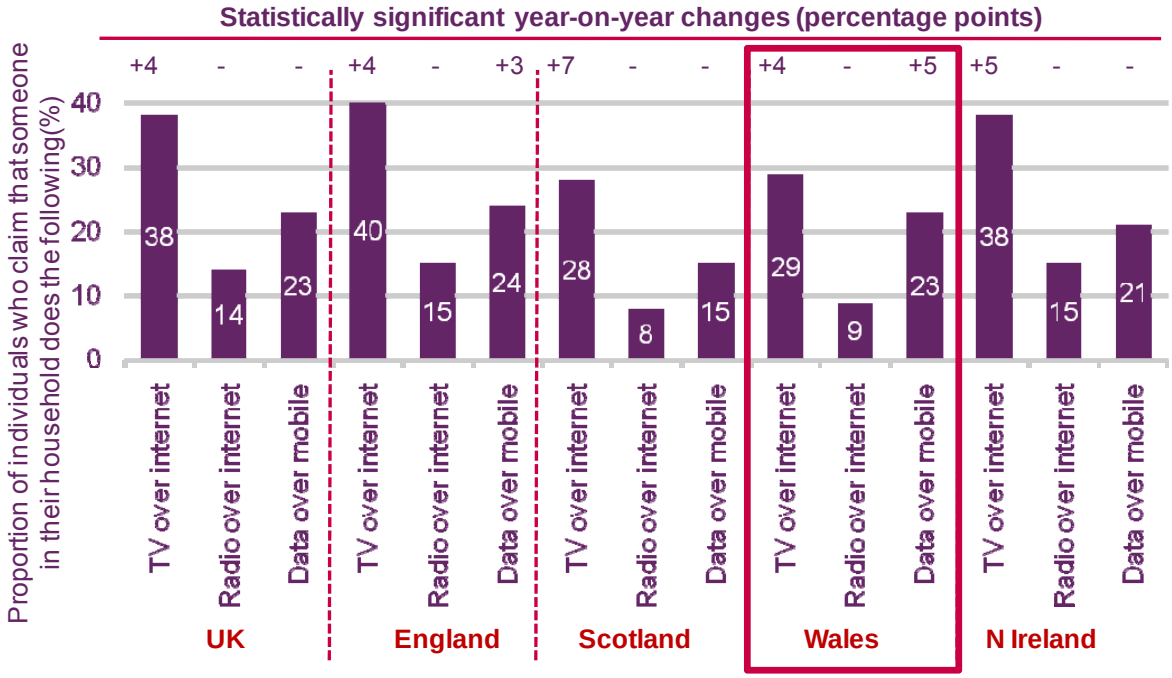
1.2.6 Consumers in Wales' use of converged platforms and devices.

A growing proportion of mobile handset users in Wales are using their phones to access the internet

A growing proportion (23%) of consumers in Wales claimed to be using their mobile handsets to access data services (including the internet) (Figure 1.9). This represented a five percentage point increase over a twelve-month period, and was on a par with the UK-wide average. It compared to 24% of mobile handset users in England, 15% in Scotland and 21% in Northern Ireland.

Figure 1.9 illustrates that 29% of respondents also claimed to use the internet to watch audio-visual output in Q1 2010, on a par with people in Scotland, but behind those in England and Northern Ireland. A further 9% of people in Wales listened to audio content delivered over the web (comparable to those in Scotland, but again, lower than the comparable figure for England and Northern Ireland). Take-up of broadband services may well explain the differences between Wales and Scotland versus England and Northern Ireland (see page 18)

Figure 1.9 Consumers' use of converging platforms, 2010



Source: Ofcom research, Q1 2010
Base: All adults aged 15+ (n = 9013 UK, 5709 England, 1468 Scotland, 1075 Wales, 761 Northern Ireland)
Q: For the TV and radio question - Which, if any, of these do you or members of your household use the Internet for whilst at home?
For the data question - Which if any, of the following activities, other than making and receiving voice calls, do you use your mobile for? Figure represents the of responses to the following: download free applications, download paid for applications, send/ receive emails, accessing the internet, connecting to the internet using Wi-fi, using VoIP service, download a new video clip, video streaming, TV streaming, accessing/ receiving, sports/ team news/ scores, accessing/ receiving news, use IM/ Instant messaging

1.3 Wales: Communications and the economy

1.3.1 Introduction

Since the last *Communications Market Report: Wales* was published in August 2009, the UK economy has shown signs of recovery following the official end of the recession. In last year's report we explored the impact of the economic downturn, both on consumer attitudes towards communications services and on the communications industry. In June 2010 we repeated last year's study to update the findings and assess the extent to which consumer spending and attitudes towards communications services in Wales have changed over the past 12 months.

1.3.2 Consumer spending on communications services

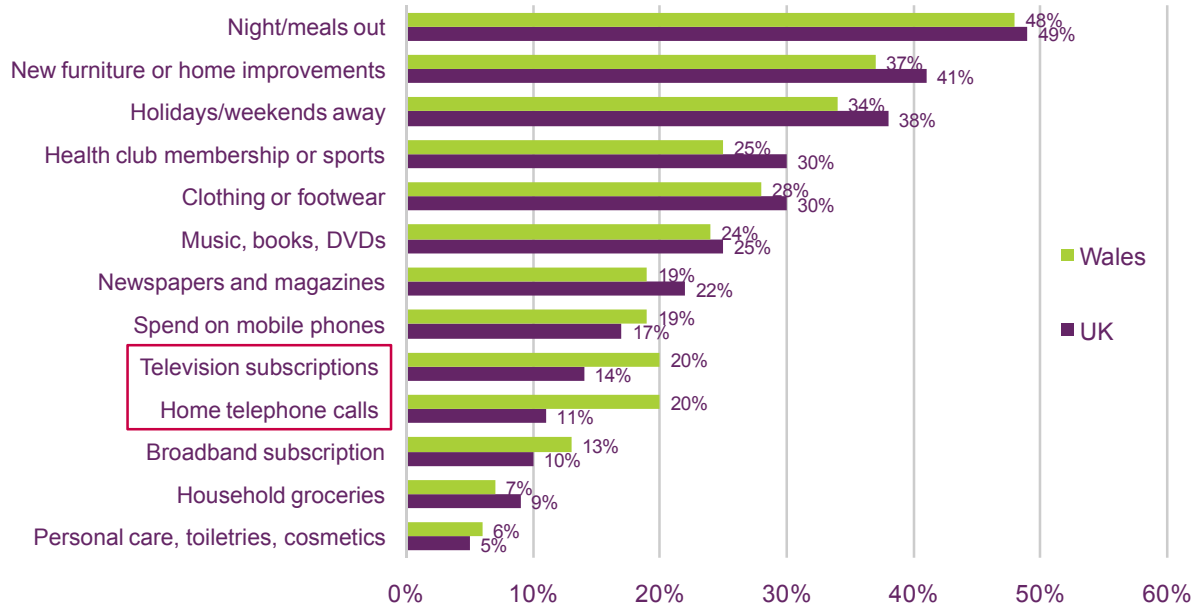
Consumers in Wales appear more inclined to consider pay-TV subscriptions and home telephone calls as a possible candidate for cuts

When asked to select three products or services where they could make savings, respondents in Wales were more likely to reduce spend on holidays and nights out than on communications services. Only household groceries (7%) and personal care products (6%) ranked as more important than communications services. Overall these findings are consistent with the UK-wide results and with the research we conducted in Wales in 2009.

However, in 2010 respondents living in Wales were more likely to cut costs on pay-TV subscriptions (20% Wales vs. 14% UK) or home telephone calls (20% Wales vs. 11% UK) if forced to reduce spending. This represents a slight change to the 2009 results, which revealed few substantial differences in this area between people in Wales and those in the rest of the UK.

Figure 1.10 Items where consumers are most likely to cut back their spending

Items mentioned as first, second or third choice (%)

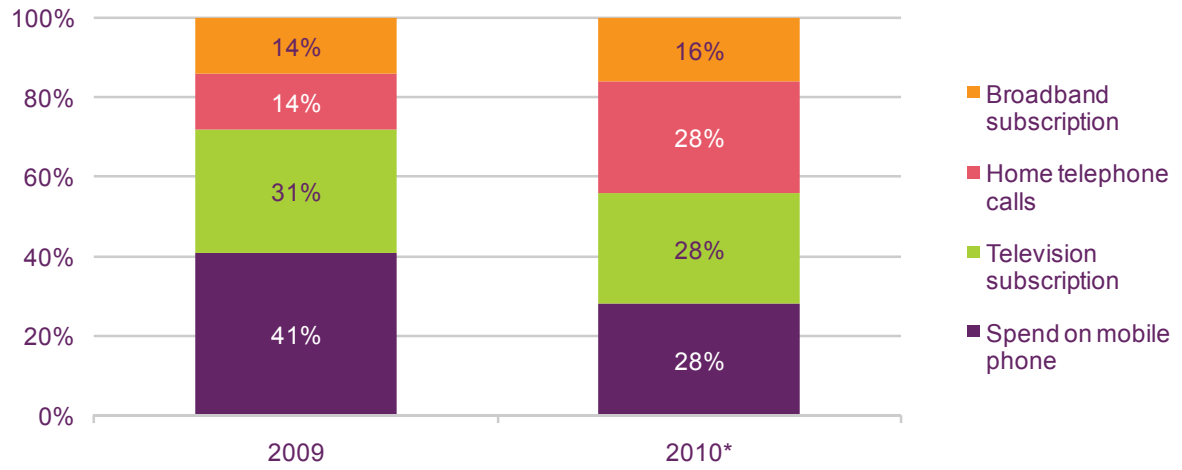


Source: Ofcom-commissioned research
Base: Total sample UK (n=2444), Wales (n=203)
Question: If you were forced to cut back on spending, which of the following items would you be most likely to spend less on?

If forced to choose, consumers in Wales with all four communications services were equally likely to cut spend on home telephone calls, pay-TV subscriptions and their mobile phone (all 28%). In comparison to 2009, the proportion of respondents in Wales who chose to cut their mobile phone spend fell by 13 percentage points (though care must be taken in making comparisons due to the small sample size for this question in 2010). Conversely, there was an increase in the proportion of consumers most likely to cut home telephone calls, which rose by 14 percentage points to reach 28%.

Figure 1.11 The communications service where consumers would be most likely to cut

Proportion of respondents (%)



Source: Ofcom-commissioned research
*Base: Those with all four communications services 2009 (n=83) 2010 (n=63)*Note small base size for 2010; results should be treated as indicative only.*
Question: Which ONE of the following would you be most likely to cut back spending on?

Consumers in Wales perceive that communications providers are responding to the recession with better deals

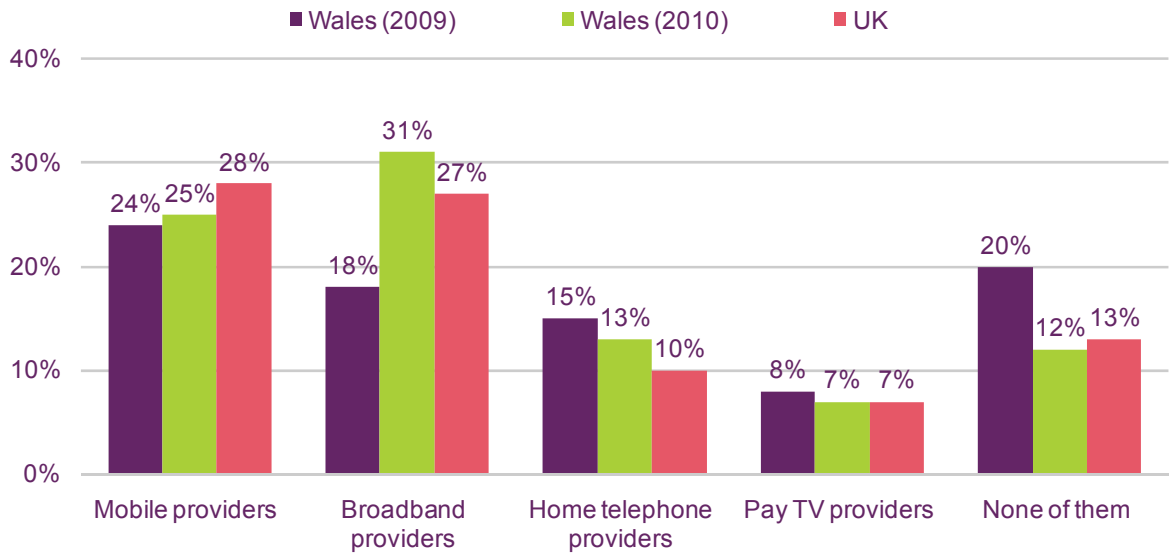
A greater proportion of consumers in Wales and throughout the UK believe that communications providers are offering improved deals now, compared with 12 months ago.

In 2009 one in five consumers in Wales believed that *no* communications providers were offering better deals; in 2010 this figure dropped to just 12%. This decrease is consistent with the trend across the UK and in all nations and regions. It points to the possibility that consumers throughout the UK are gaining confidence that providers are responding to the recession by offering better value packages for communication services.

In Wales this confidence appears to be driven by the perception among consumers that broadband providers offer better deals than a year ago. As illustrated in Figure 1.12, the proportion of respondents in Wales who believed that broadband providers are offering improved deals rose by 13 percentage points, from 18% in 2009 to 31% in 2010. Conversely, in comparison to 2009 slightly fewer respondents in Wales thought that home telephone providers offer better customer deals now than a year ago.

Figure 1.12 Proportion of consumers in Wales agreeing that communications providers offer better deals now than a year ago

Proportion of respondents agreeing/disagreeing (%)



Source Ofcom-commissioned research
Base: Total sample UK (n=2444) Wales (2009 n=202, 2010 n=203)
Question: And which of the following providers, if any are offering better deals than they were 12 months ago?

1.3.3 Bundling

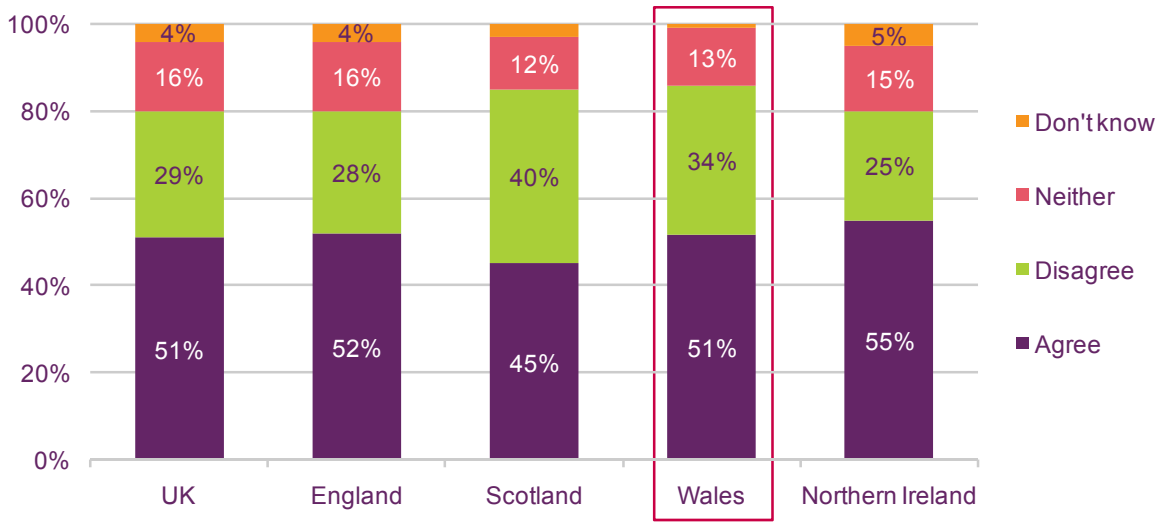
Purchasing communications services in bundles remains popular among consumers in Wales

Last year's results suggested that consumers across Wales, and the UK as whole, were showing a growing appetite for purchasing multiple communications services from the same supplier. In 2010 this trend continued across the UK; just over half (51%) agreed that they were more likely to buy communications services in a bundle now than 12 months ago.

In Wales, 51% of consumers agreed that they were more likely to consider purchasing services in bundles (Figure 1.13). This mirrors the UK-wide average, although the proportion of respondents in Wales disagreeing with this statement was slightly higher (34% in Wales vs. 29% across the UK).

Figure 1.13 Consumers' agreement/disagreement that they were more likely to take communications services in a bundle

Proportion of respondents (%)

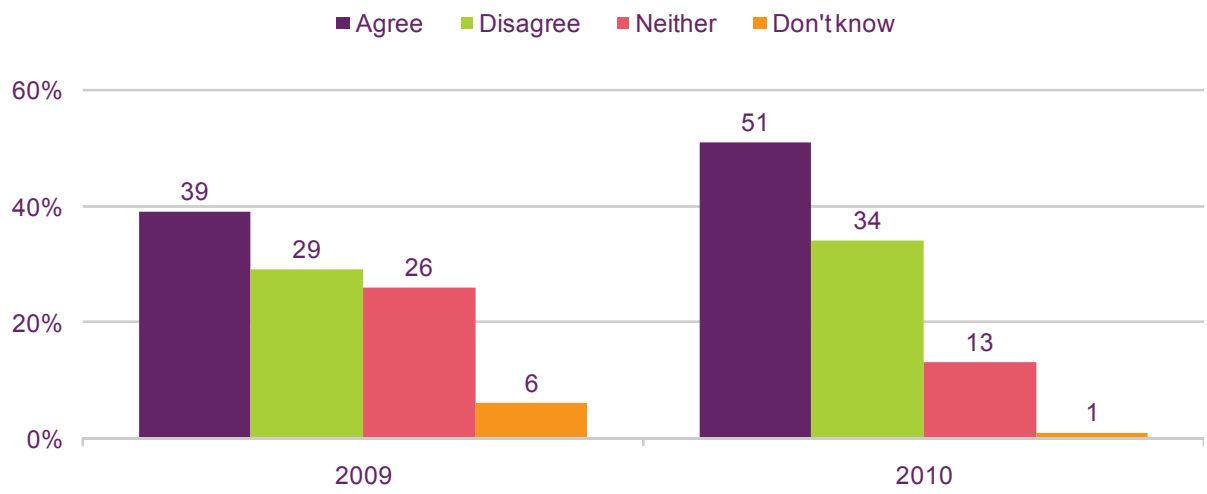


Source: Ofcom-commissioned research
Base: Total sample (n = 2444) England (n = 1727) Scotland (n =285) Wales (n = 203) Northern Ireland (n = 229)
Question: How much do you agree or disagree... I'm more likely to consider purchasing TV, broadband and phone services in a package from the same supplier as it offers better value for money

As shown in Figure 1.14 below, consumers in Wales became more inclined to take bundles, year on year. In 2009, 39% of people in Wales who did not currently buy their communications services in a bundle said they were thinking about signing up to bundled services. In 2010, this rose to 51%.

Figure 1.14 Consumers' agreement/disagreement that they were more likely to take communications services in a bundle

Proportion of respondents agreeing/disagreeing (%)



Source: Ofcom-commissioned research
Base: Total sample (n = 203)
Question: How much do you agree or disagree... I'm more likely to consider purchasing TV, broadband and phone services in a package from the same supplier as it offers better value for money

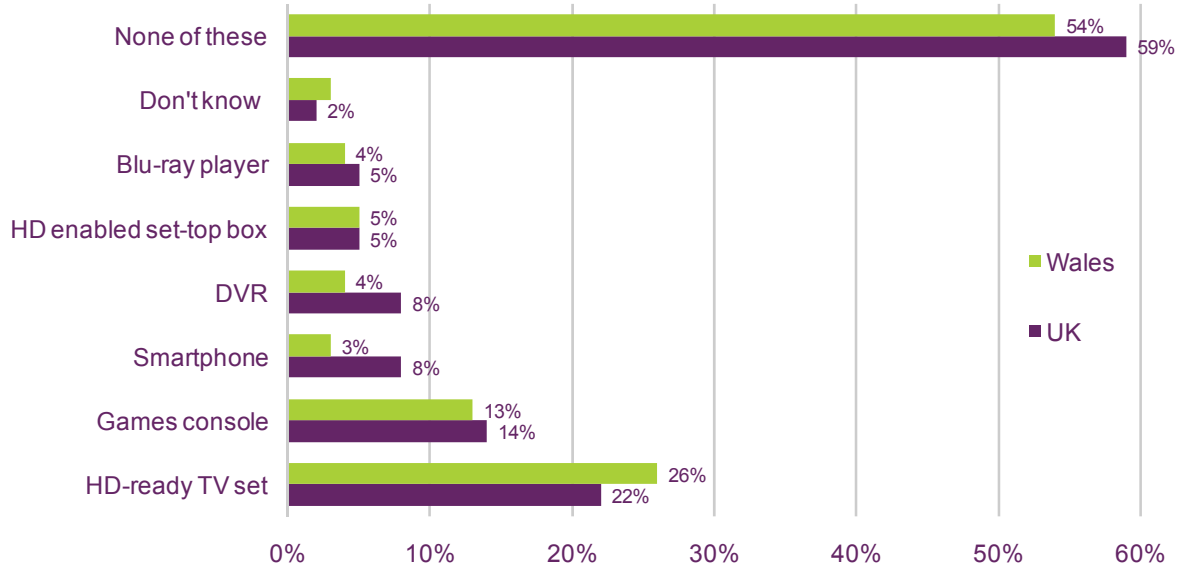
1.3.4 Acquisition and use of new communications equipment

Consumers in Wales embrace HDTV in spite of the economic downturn

Our research also examined consumer spending on communications devices over the past year. The findings indicate that Welsh homes mainly invested in HD-ready TV sets (26%) and games consoles (13%) over the last 12 months. Although the popularity of HD-ready TV sets in Wales is consistent with the UK-wide results, the recent TV switchover to digital-only broadcasting might explain the reason behind some of the additional purchases of new TV sets in Wales.

By comparison, fewer people in Wales than the UK average claim to have bought digital TV recorders (4%) or smartphones (3%).

Figure 1.15 Selected communications devices bought in the last 12 months

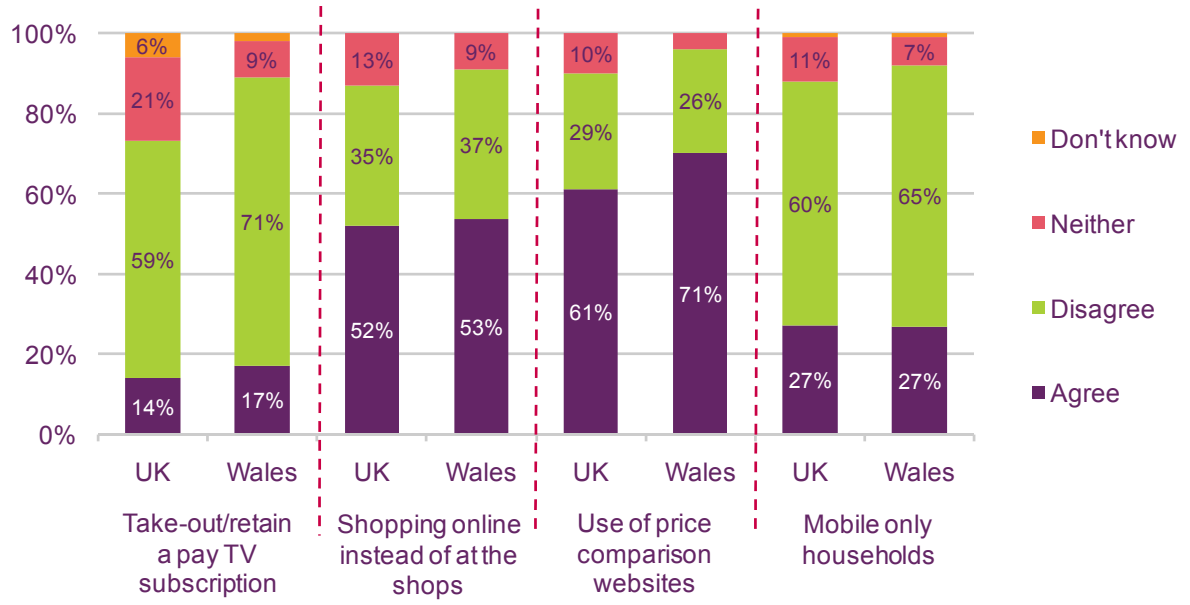


Source: Ofcom-commissioned research
Base: Total sample (UK n=2444, Wales n=203)
Question: Which, if any, of these products or services have you or your household bought in the last 12 months?

In comparison to the UK average, consumers in Wales appear less likely to take out a pay-TV subscription than 12 months ago, with 71% of respondents disagreeing with this statement compared to 59% across the UK. Conversely, one out of every seven respondents (71%) in Wales claimed to use price comparison websites more when shopping online, ten percentage points more than the UK average.

Figure 1.16 Consumers' agreement with a range of statements exploring changes in behaviour over the last twelve months

Proportion of respondents agreeing/disagreeing (%)



Source: Ofcom-commissioned research
Base: UK (n=1300, 1554, 1554, 2099) Wales (n=98,109, 109, 178)
Question: I am now going to read out a number of statements other people have made about how the recession has changed their spending on TV, broadband, mobile and home phone services. For each statement please tell me how much you agree or disagree.

1.3.5 Context – consumers' attitudes towards the economy

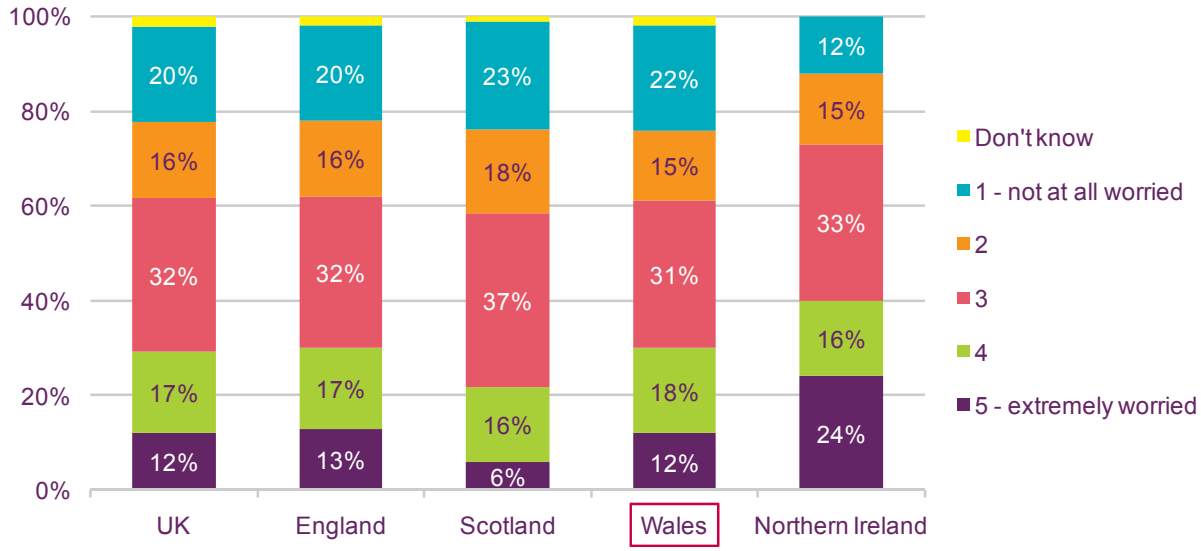
A greater proportion of consumers in Wales (relative to the UK average) continue to have concerns about the personal impact of the economic situation

Our research has revealed that consumer attitudes to the economic downturn have remained largely stable throughout the UK and also in Wales. With the economy entering a period of slow positive growth in recent quarters, concern about the economy persists among consumers in Wales and in the UK as a whole.

In line with our 2009 research, 30% of consumers across the UK continue to feel worried about the economic situation, while 37% have few personal worries. The proportion of consumers in Wales who have concerns about the recession is similar to the UK average (30% vs. 29% in the UK).

Figure 1.17 Consumer attitudes towards the recession by nation

Proportion of respondents agreeing/disagreeing (%)



Source: Ofcom-commissioned research
Base: Total sample (n = 2444) England (n = 1727) Scotland (n =285) Wales (n = 203) Northern Ireland (n = 229)
Question: On a scale of 1 to 5, where 5 is extremely worried and 1 is not at all worried, how worried are you about being personally affected by the recession?

1.4 ‘Not-spots’: the consumer experience in Wales

1.4.1 Introduction and context

This year, one of Ofcom’s annual planning priorities is to make progress on broadband and mobile phone not-spots[2]. To reflect this, this section brings together in one place relevant data that have in the past featured throughout the CMR: Wales report.

Section 1.4 below sets out the context for availability and take-up of broadband and mobile services in Wales.

The overall picture is that a good proportion of the population have access to 2G mobile and fixed-broadband services at home, and a substantial proportion of the population have both.

But there are limitations on the ability of broadband-enabled fixed telephone exchanges to deliver high bandwidths. These limitations include long line length, which can compromise the ability of fixed lines to support popular internet-based activities such as watching broadcast-quality television output.

Moreover, while mobile population coverage in Wales is comparatively high, the figure for geographic coverage is lower. The result is that a proportion of Wales’ landmass is not covered by a mobile service from any operator.

1.4.2 Fixed broadband services

In some parts of Wales, very slow ‘broadband’ speeds may inhibit internet use

All local telephone exchanges in Wales are now DSL-enabled, meaning that most homes in Wales now have access to a broadband service. However, because of the length and/or quality of the copper telephone wire between exchanges and consumer premises, not all consumers are able to receive downstream broadband speeds sufficient for many internet applications.

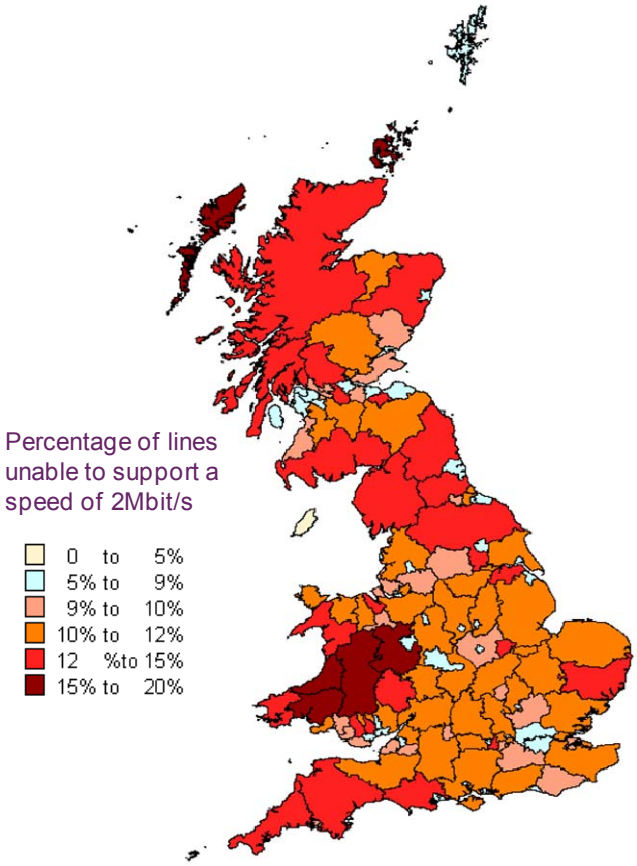
Broadband ‘not spots’ typically arise when the length or quality of copper telephone lines is not sufficient to support speeds via DSL broadband which are much higher than those available through ‘dial-up’ internet access. Generally, ‘not spots’ are most likely to arise in rural areas where there can long distances between homes and the local exchange. However, this can also be the case in some urban areas, for example when new housing developments are built on the edges of towns and are served by telephone exchanges in town centres.

The previous UK Government’s 2009 *Digital Britain* report[3] estimated that around 11% of UK households were unable to get a broadband service with a downstream speed of 2Mbit/s or more. This is the connection speed the report believed was necessary to stream a TV programme and watch it online.[4]

[2] Ofcom Annual Plan 2010/11: http://www.ofcom.org.uk/about/accoun/reports_plans/annual_plan1011/annplan1011/annplan1011.pdf
[3] http://www.culture.gov.uk/images/publications/digitalbritain-finalreport-jun09.pdf
[4] Note, however, that the BBC recommends a minimum download connection speed o 0.5Mbit/s for its iPlayer service.

Figure 1.18 indicates that the proportion of 'bad lines' (i.e. lines incapable of delivering download speeds of 2Mbit/s) vary across Wales and Great Britain as a whole. It shows that there are a low proportion of bad lines in the urban areas of South Wales, and a higher proportion of bad lines in Mid Wales.

Figure 1.18 Percentage of 'bad lines' in Great Britain



Source: Digital Britain, final report, June 2009
Note: English, Scottish, Welsh, and Isle of Man counties have been colour accordingly to their number of total bad lines against number of total premises - percentage of total bad lines (due to line length plus network effects)

Ofcom's research into broadband speeds (conducted in association with SamKnows) found that there was very large variation in the performance delivered to a panel of over 1,500 residential broadband users.[5] Average speeds for consumers in rural areas (2.7Mbit/s) were around half of those in urban areas (5.8Mbit/s) and while some consumers taking high speed cable services were able to receive average download speeds of over 40Mbit/s, the average speed received by those with DSL broadband was just 4Mbit/s. Around a third (34%) of those on 'up to' 8 or 10Mbit/s DSL packages, received average speeds of less than 2Mbit/s.

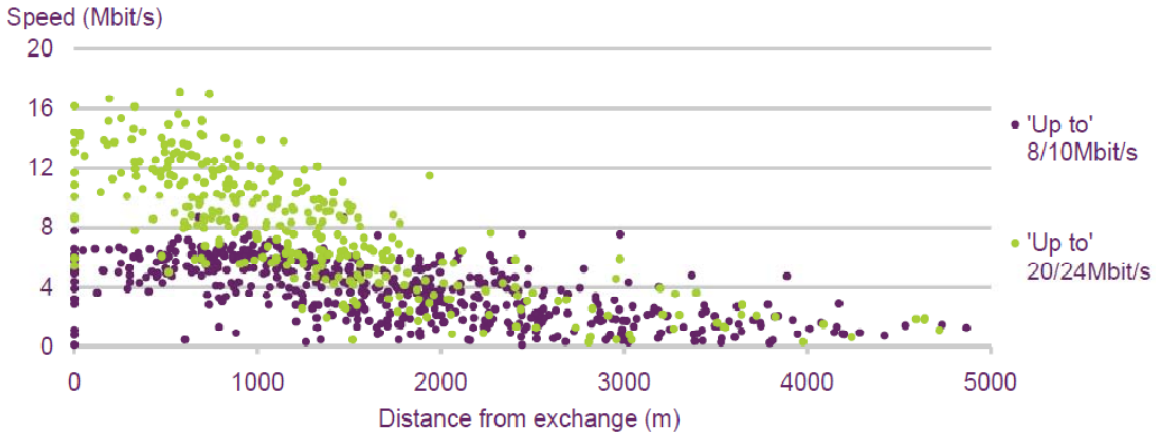
Figure 1.19 maps the average speed of all the DSL panellist in this research against the (straight line) distance between their home and the local telephone exchange. It indicates that speeds typically decreased with the distance from the exchange, indicating that those living more than 4km from the exchange are unlikely to be able to receive speeds of more than 2Mbit/s. However, a few panellists had very slow broadband speeds despite living in

[5] http://stakeholders.ofcom.org.uk/market-data-research/telecoms-research/broadband-speeds/broadband-speeds-2010/

close proximity to the exchange; this is likely to be the result of electrical interference causing signal loss, or very poor quality in-home wiring.

Figure 1.19 Average line speeds versus distance of customer premises from the telephone exchange, May 2010

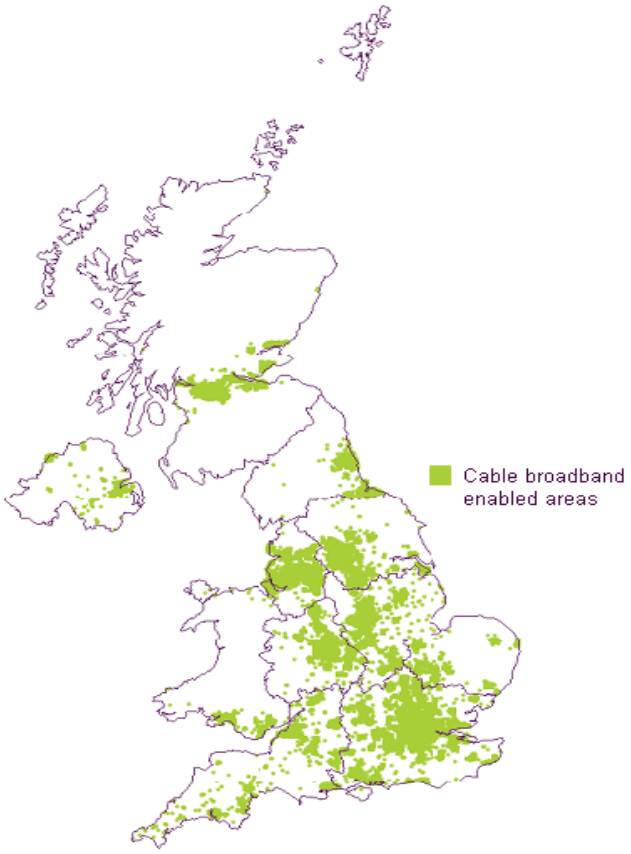
Distance from exchange and average download speeds achieved by panellists on 'up to' 8/10Mbit/s and 'up to' 20/24Mbit/s DSL packages, single thread results, May 2010



Ofcom UK Broadband Speeds Report, July 2010.
Source: SamKnows measurement data for all panellists with a DSL connection in May 2010.

The main alternative to DSL broadband available in the UK is cable broadband, which is available to 24% of homes in Wales (48% of homes in the UK as a whole). However, as shown in Figure 1.20, Virgin Media's cable footprint is largely confined to built-up areas: cable is not an alternative for the large majority of people who live in a DSL broadband 'not spot'.

Figure 1.20 Map of the availability of Virgin Media cable broadband



Source: Ofcom / Virgin Media, September 2009 data

Lower availability and take-up of cable services combined with longer average line lengths means that average broadband speeds in Wales are lower than in England and Scotland, and comparable to those in Northern Ireland (Figure 1.21).

Figure 1.21 Estimated average and maximum download speeds by nation, May 2010

Ofcom UK Broadband speeds report, July 2010
Source: SamKnows measurement data for all panel members with a connection in May 2010. Panel Base: 1506.
Notes: (1) Note that this data has been estimated based on the numbers of households in Geographic Markets 1,2 and 3, and as such is not directly comparable with UK average data published in Ofcom's UK Broadband Speeds, May 2010 report; (2) As sufficient sample sizes were not available for consumers on packages of 'up to' 2Mbit/s or less, data collected for these packages in April 2009 has

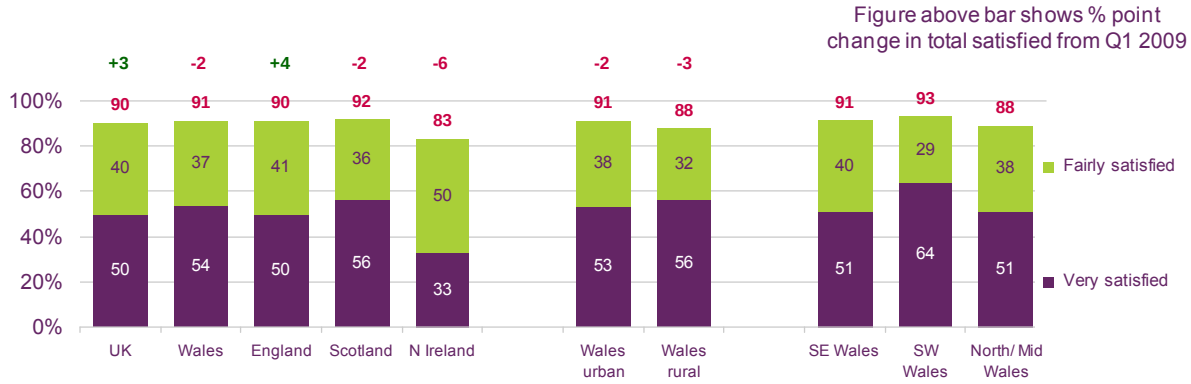
been factored in, in proportion to share of all connections in May 2010 and an estimated split between nations; (3) Data collected from single-thread download speed tests.

People living in urban areas in Wales are the most satisfied with their broadband service

Figure 1.22 shows that satisfaction in Wales (91%) with fixed broadband services was on a par with the UK as a whole (90%), but had fallen by two percentage points in a year.

Satisfaction levels with fixed broadband services were broadly similar across Wales, although marginally lower in rural areas and in North / Mid Wales (importantly, satisfaction levels may be related to consumer expectations – so are lower in areas where actual broadband speeds are lower). This may reflect the lower broadband speeds available to people living in rural areas. It may also be a result of the narrower choice of providers in rural parts of Wales, due to the lack of availability of cable and LLU services. In line with fixed telephony, the proportion who were 'very satisfied' with their fixed broadband service was highest in South West Wales (64%). See Figure 5.20 in the telecoms and networks section for detail on satisfaction with broadband speeds in Wales.

Figure 1.22 Overall satisfaction with fixed broadband service



Source: Ofcom research, Q1 2010
Base: Adults aged 15+ with a fixed broadband connection at home (n= 5410 UK, 604 Wales, 3559 England, 778 Scotland, 469 Northern Ireland, 444 Wales urban, 160 Wales rural, 165 South East Wales, 211 South West Wales, 228 North/ Mid Wales)
QE8a. Thinking about your fixed broadband internet service, how satisfied are you with (main supplier) for the overall service provided by (main supplier)?

1.4.3 Mobile services

Almost 90% of people in Wales live in an area with 2G mobile phone coverage by one or more operators

The phenomenon of mobile voice not-spots, or areas where poor reception make reliable mobile calls difficult, is a familiar experience for some people living in Wales' more rural and remote locations. In these areas, which are characterised by lower population densities and/or challenging terrain, there are physical and economic difficulties that may deter operators from building and maintaining mobile phone masts.

How we measure the availability of mobile telephony in this report

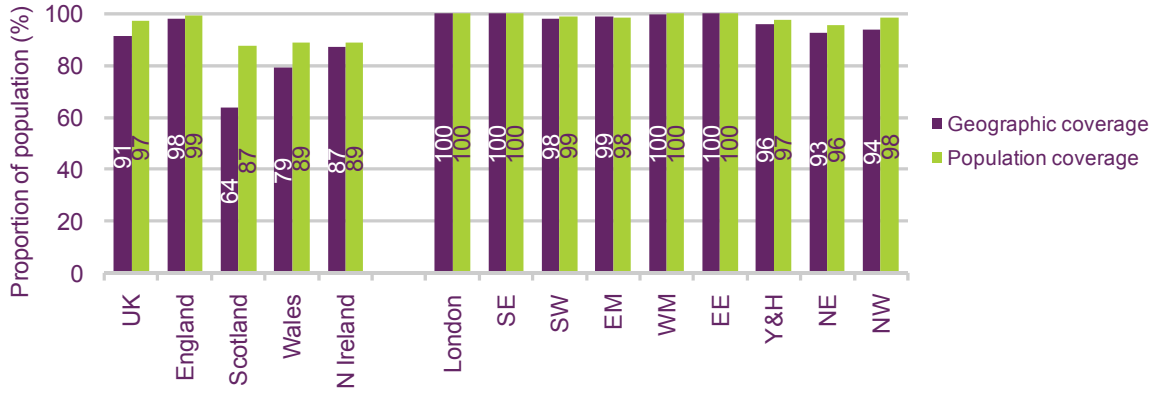
To evaluate the availability of mobile telephony services across the UK we examine the number of mobile networks with second-generation (2G) and third-generation (3G) coverage in each postcode district. For an operator to be counted as having coverage its network footprint has to cover at least 90% of the postcode district, and by using these data in conjunction with population figures we are able to calculate the proportion of people living in postcodes that fall within this coverage threshold.

It is important to note that even though a postcode district does not meet the 90% threshold, it does not mean that mobile services are not available there; rather, that none of the mobile operators meets the 90% threshold that we have set in this analysis. The coverage figures we quote, therefore, represent a conservative estimate of the likely coverage that people in Wales will experience.

Our data show that across Wales almost 89% of the population lived in a postcode district with at least 90% 2G area coverage by one or more operators in Q2 2010. This is lower than the UK overall (97%), and lower than England (99%), but on a par with Northern Ireland, and higher than Scotland (87%). People in postcode districts in the remaining 10% of Wales may well receive some 2G mobile phone coverage – but the proportion of the postcode with a 2G signal falls below the 90% threshold.

The figure below also illustrates geographic 2G coverage (using the same 90% coverage threshold). A large majority of postcode districts in Wales (79%) had 2G area coverage from one or more mobile networks in Q2 2010; lower than population coverage (89%). The gap between population and geographic coverage is likely to be wider in those nations with large areas of low population density or where mountainous or hilly landscapes limit the range of cellular masts.

Figure 1.23 2G mobile phone population and geographic coverage

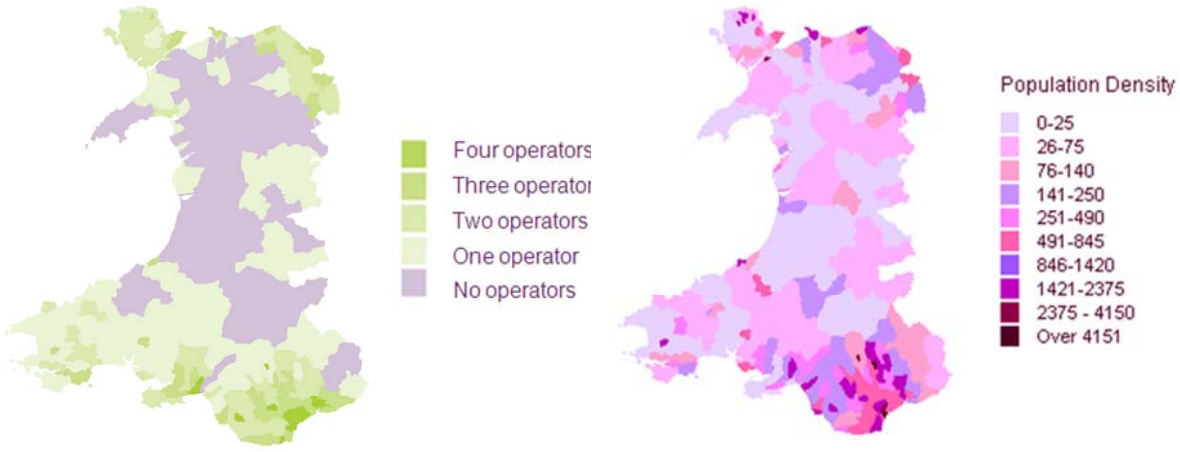


Source: Ofcom/ GSM Association / Europa Technologies; Q2 2010
Note: Figures show the percentage of postcode districts and percentage of population within postcode districts where at least one operator had at least 90% 2G area coverage; data not directly comparable to that published in the 2009 report.

The first map below shows where 2G services were available from one or more operators in Wales and where coverage was less than 90%; the second details the population density of each of the postcode districts covered in this analysis. In Wales, coverage is primarily concentrated in the South East, while there are still sizeable areas, particularly in Mid Wales, where coverage was less than 90%. This is a result of the networks concentrating build in areas of higher population density in the South East and North East of Wales, whereas

mobile coverage is largely lower in those areas with low population density and mountain ranges.

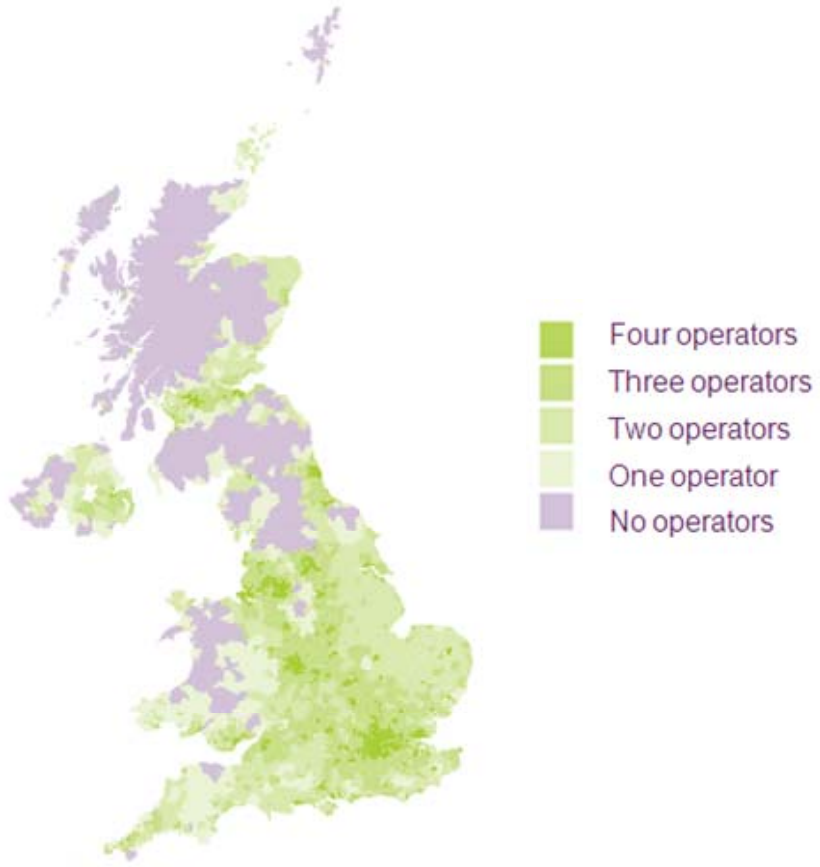
Figure 1.24 2G mobile coverage map and population density, by postcode district



Source: Ofcom / GSM Association / Europa Technologies; Q2 2010, and National Statistics website: www.statistics.gov.uk *2001 Census data. Crown copyright material is reproduced with the permission of the Controller Office of Public Sector Information (OPSI).*
Note: Map shows the number of 2G operators with at least 90% area coverage; not directly comparable to that published in the 2009 report. Population density shows number of people divided by area (km2) of postcode district.

The map of 2G coverage across the UK shows a similar trend, with coverage concentrated in and around major conurbations. Areas of low population density, such as the Scottish Highlands and Islands, the Border areas and the national parks in England have lower coverage.

Figure 1.25 UK 2G mobile coverage map

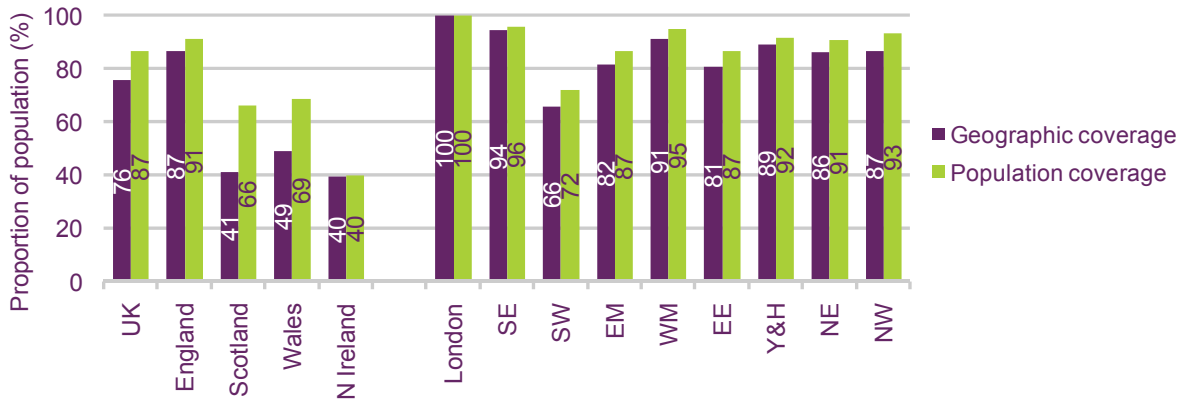


Source: Ofcom / GSM Association / Europa Technologies; Q2 2010
Note: Map shows the number of 2G operators with at least 90% area coverage; not directly comparable to that published in the 2009 report.

Across the UK, 3G coverage, supporting multimedia applications such as video and internet access alongside conventional voice services, was generally lower than 2G coverage.

Wales' 3G population coverage (using the 90% postcode district threshold) is lower than 2G at 69%; this is also lower than UK-wide average (87%), but higher than Scotland (60%) and Northern Ireland (40%). As with 2G, geographic coverage of 3G is lower than population coverage. Just under half (49%) of postcode districts have 90% area coverage from at least one mobile operator. This is significantly lower than the UK as a whole (76%) and England (87%) but higher than Scotland (41%) and Northern Ireland (40%).

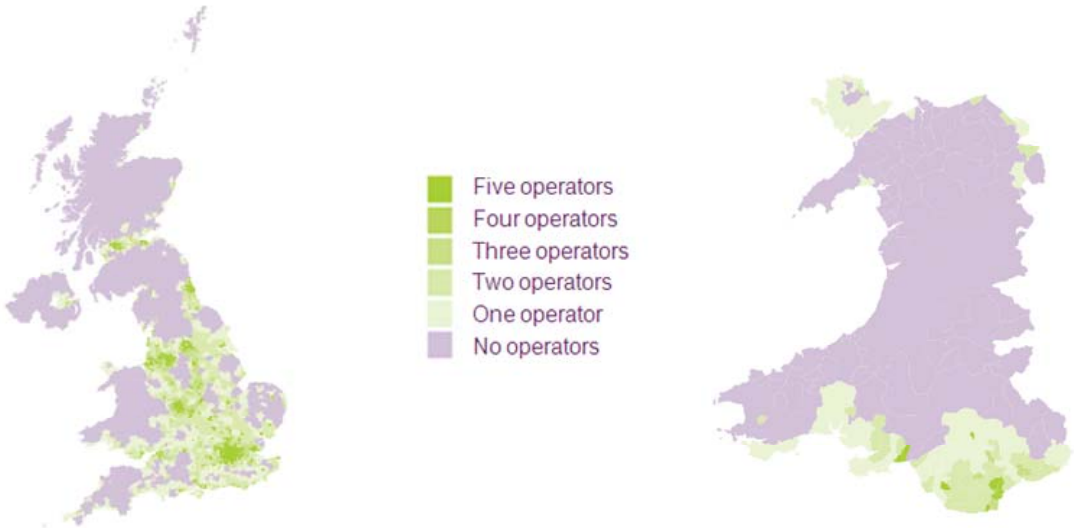
Figure 1.26 3G mobile phone population and geographic coverage



Source: Ofcom/ GSM Association / Europa Technologies; Q2 2010
Note: Figures show the percentage of postcode districts and percentage of population within postcode districts where at least one operator had at least 90% 3G area coverage; data not directly comparable to that published in the 2009 report.

Figure 1.27 shows that within Wales the postcode districts with 90% 3G area coverage are largely concentrated around the urban areas of Cardiff, Swansea and Newport, where population density is greatest (and where the geographic terrain is less challenging). In contrast there are large areas with lower population density, particularly in Mid and North Wales, where 3G coverage falls below the threshold used in this analysis. Geographic coverage of 3G services provided by four or more operators remains at 7%, the same level as in 2009.

Figure 1.27 3G coverage map



Source: Ofcom / GSM Association / Europa Technologies; Q2 2010
Note: Map shows the number of 3G operators with at least 90% area coverage; not directly comparable to that published in the 2009 report.

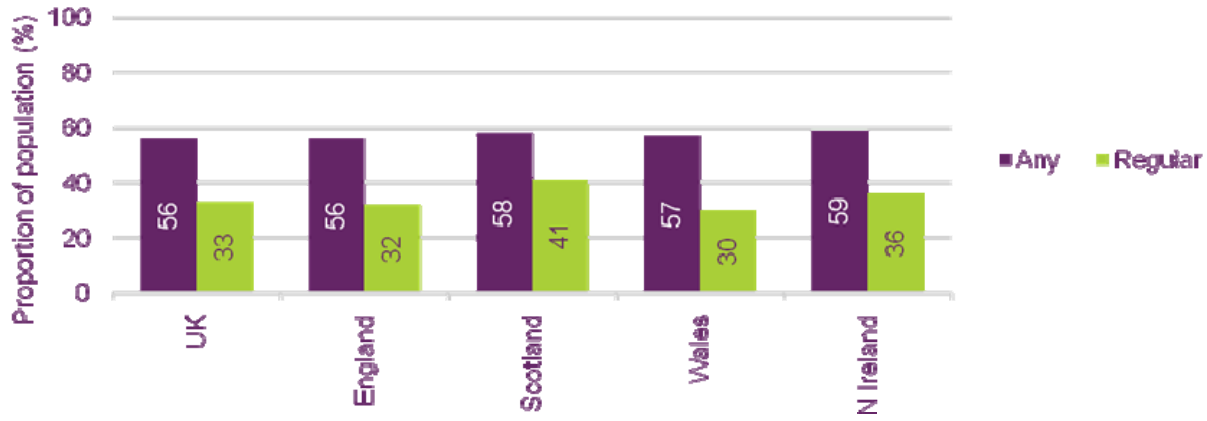
Almost a third of Wales' mobile phone users claim regularly to experience mobile not-spots

Mobile phone take-up in Wales is in line with take-up across the UK population as a whole. The importance of mobile coverage to consumers in Wales is reflected in the fact that there are more mobile-only households in Wales than elsewhere in the UK. In Q1 2010, the figure stood at 19% of all households, compared to 14% across the UK as a whole. Consumers in Wales are also more likely to claim that they use a mobile broadband service, at 16% of households, compared to the UK average of 15%. For these consumers, the reliability/widespread availability of the mobile signal is particularly relevant.

In October 2009, the Communications Consumer Panel published a review of mobile coverage[6]. Its research (Figure 1.28) found that over half (57%) of people with a mobile phone in Wales had experienced problems with mobile coverage.

Of these, nearly a third (30%) had experienced problems regularly. This was lower than the UK average (33%) and lower than any other nation (for example, 41% of consumers in Scotland had regularly experienced problems with coverage).

Figure 1.28 Proportion of UK adults with a mobile phone experiencing problems with coverage



Source: Mostly Mobile, Communications Consumer Panel report, 2009
Question: Which of the following problems, if any, have you had in the past in terms of your mobile reception…? Which of them, if any, do you experience regularly?
Base: All those who use a mobile for personal use (UK n = 1716, England n = 1439, Scotland n = 144, Wales n = 84, Northern Ireland n = 50.

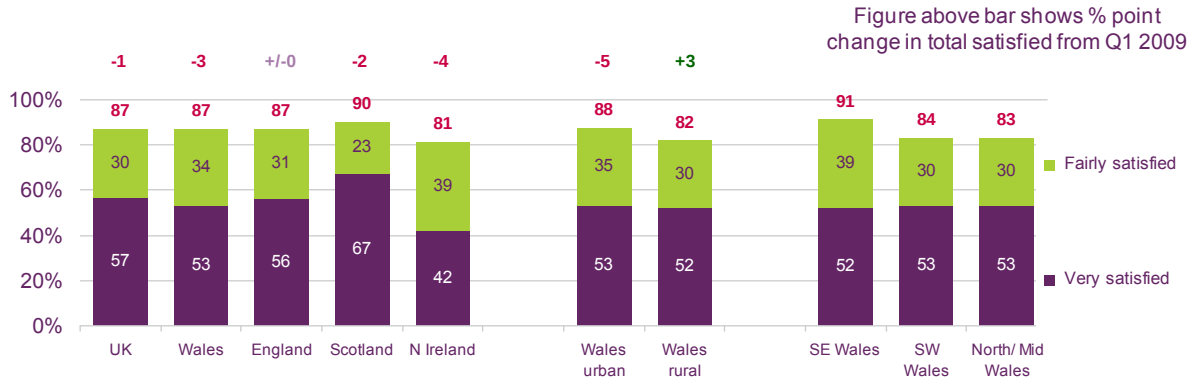
Most mobile phone users report that they are satisfied with their mobile phone service

The proportion of people who were satisfied with their mobile reception in Wales (90%) was slightly higher than the UK average (88%) (Figure 1.29).

However, levels of satisfaction were significantly lower in rural (79%) than in urban (93%) areas. In particular, satisfaction in Mid Wales and the north coastal regions was especially low; this may be related to the lower levels of mobile phone coverage in these areas.

[6] *Mostly Mobile*, Communications Consumer Panel, October 2009: http://www.communicationsconsumerpanel.org.uk/Mobile_coverage_consumer_perspective.pdf

Figure 1.29 Satisfaction with reception of mobile phone service



Source: Ofcom research, Q1 2010
Base: Adults aged 15+ who personally use a mobile phone (n = 7826 UK, 923 Wales, 5008 England, 1237 Scotland, 658 Northern Ireland, 683 Wales urban, 240 Wales rural, 293 South East Wales, 303 South West Wales, 327 North/ Mid Wales)
QD21c. Thinking about your mobile phone service only, how satisfied are you with (main supplier) for reception/ accessing network?
Note: Figures above chart columns indicate the proportion of people who were 'very' or 'fairly' satisfied with their mobile reception.

1.4.4 Consumers' experience of mobile not-spots in Wales

To better understand consumers' experience of not-spots in Wales, we commissioned some qualitative research using telephone and face-to-face interviews, and diary exercises, to explore the effect on the small numbers of people who cannot get a mobile signal.

In Wales, the research was conducted in:

- rural locations: Pontrhydfendigaid in Dyfed and Burry Port;
- urban locations: Penylan in Cardiff; and
- the transport links between Tregaron, Brecon and Llanrwst.

In the research, consumers in Wales highlighted the importance they placed on services such as mobile access and fixed broadband. For example, consumers in rural Wales said that:

"I have to use the Internet for my business everyday and e-mail my clients so it is very important that it works."

"We do everything on the Internet, shopping, finance, e-mailing and MSN, it is much more reliable than mobile phones."

This research is part of our UK-wide work on better understanding the issue of mobile not-spots (reflecting our Annual Plan priority). The full results of this will be published later this year as part of our overall consideration of the issues relating to mobile not-spots.

As part of our research we conducted a small number of in-depth interviews with people who are affected by not-spots. The case study below describes the experience of a business user in Wales.

Case study: The impact of not-spots for a business user in Cardiff

Gwen has two children and works as an estate agent in the Cardiff area. As part of her work, she spends many hours outside the office and being contactable 24/7 is essential to generate business.

She is generally satisfied with her mobile coverage, except when travelling in 'dead areas' where she has no contact with colleagues or family. As well as being concerned that her children might not be able to contact her when they need to, Gwen finds that travelling in areas without coverage has an adverse effect on her business. Delays in receiving messages have an impact on her ability to serve her customers, as *"coverage is mainly my time. If someone wants a decision to be made they want to be able to contact me ASAP."* Gwen's employer also has expressed concerns about her safety when she has to make trips to remote areas.

Gwen has switched network in the past and better coverage was an important part of that decision. She also makes sure she lets people know that she will be out of contact for a while when she is entering areas which are well-known not-spots.

She is convinced that additional masts would sort the problem, as she believes that the poor coverage is due to the geographical landscape. She doesn't blame her network and has no concerns about additional masts being erected: *"Masts are fine. Most people rely on mobiles more than a landline, so it's important to have coverage."*

Note: The case study above is taken from one of the in-depth interviews conducted by the research agency as part of the not-spots qualitative research. The respondent's name has been changed to ensure anonymity.

1.4.5 Current progress and future work on not-spots

Emergency mobile roaming

A joint effort between Ofcom, mobile network operators, emergency authorities and the fixed operators who act as call handling agents has resulted in the development of new emergency roaming procedures. These were introduced in 2009 and allow mobile phone users to call the emergency service numbers using another mobile network operator if their own service provider does not offer coverage while an alternative provider does.

This means that in a situation that requires an emergency call to be made, people are now able to call 999 or 112 from their mobile phone using another network if their own network is not available and an alternative provider has coverage. In this case, the phone automatically switches over to whichever network operator has the best signal in that area.

For people living, working and travelling through areas where there are mobile not-spots, this provides them with reassurance that – should they need to make an emergency call – the call can still be made, provided that at least one mobile network operator has coverage in that area.

Mobile not-spots

Ofcom is undertaking further research to better understand mobile not-spots.

As outlined above, one of Ofcom's priorities for 2010/11 is to make progress on broadband and mobile phone not-spots. As such, we are undertaking a programme of research to improve our understanding of mobile not-spots. Ofcom intends to publish further thinking on the causes of not-spots; where they are; and what impact they have on citizens and

consumer across the UK, later this year. We plan to use this evidence base to consider whether there are any appropriate solutions, within the scope of our duties and powers, for improving coverage.

Fixed broadband not-spots

The UK coalition Government has announced a plan – subject to European state aid rules - to roll out 2Mbit/s broadband across the UK by 2015. Ofcom will provide technical advice to assist with this process.

As well as municipal schemes, an alternative way of targeting fixed broadband not spots may be through the use of local schemes. For example, people experiencing fixed broadband not spots might be able to gain broadband access through point-to-point wireless networks, or satellite broadband provision. The emergence of increasingly fast and affordable mobile broadband - which is now used by 16% of people in Wales – may also provide an important alternative to people who are unable to receive a fixed broadband service – though there may also be areas where the not spots are concurrent.

The Welsh Assembly Government has launched several initiatives to address not-spots in Wales

The roll-out of the EU-approved Regional Innovative Broadband Support Scheme (RIBS) contract, which was awarded to BT, has ensured that almost all premises in Wales are connected to an ADSL-enabled exchange.

The Assembly's RIBS contract has already delivered current-generation broadband connectivity to around 8,500 premises in not-spot areas in Wales, and the Assembly recently announced plans to improve connectivity in four additional not-spot areas, following the six areas that it addressed jointly with Openreach last year. In July this year, it announced two other major initiatives: the Broadband Support Scheme[7] and a new economic renewal framework, which includes a commitment to provide every business in Wales with next-generation broadband by mid-2016, and all households by 2020[8].

Work to address not-spots in six exchange areas in West and North Wales was completed last year, with the cost divided equally between the Assembly Government and Openreach. Subsequently, under the RIBS contract, Openreach and the Assembly Government have identified a further four not-spot areas: Cil y Cwm, Beulah, Llanfynydd and Ystrad Meurig, where work has started and will be completed over the summer to bring broadband services to these communities via copper-based ADSL.

The Assembly has a not-spot registration site where people in un-served areas can register their details[9]. The total number of registrations reduced from 1775 in 2009 to 1549 by summer 2010; this reduction is likely to continue. The Assembly continues to announce not-spots that will be dealt with under the existing contract with BT, and is developing alternative complementary schemes to benefit remote areas.

The Assembly Government is delivering the Public Sector Broadband Aggregation (PSBA) Project, which aims to aggregate demand and establish new and more effective ways of procuring broadband connectivity across the public sector in Wales. In July 2010 the Assembly announced two further initiatives to tackle the current generation of not-spots in Wales and to extend the provision of super-fast broadband services.

[7] Welsh Assembly Government statement 3 July 2010.
[8] Statement by Deputy First Minister, Ieuan Wyn Jones AM, 5 July 2010.
[9] See http://wales.gov.uk/docs/det/publications/090820broadbandnotspotregs.pdf

The Broadband Support Scheme will enable individuals and communities in Wales based in the remaining not-spot areas to approach service providers directly and receive financial support from the Assembly Government up to a maximum of £1000 for individual premises. Initial funding of £2 million has been allocated to the scheme and discussions to secure further funding from Europe under the Rural Development Plan.

On 5 July the Assembly Government published *Economic Renewal: A New Direction*, which set out a new framework for business support in Wales. The new strategy aims to target systemic issues within the Welsh economy, including investment in infrastructure, and included a commitment for every business in Wales to have access to next-generation broadband by the middle of 2016 and all households by 2020.