



International Communications Market Report

Research Document

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About this document

This report provides comparative international data on the communications sector. The aim of the report is to benchmark the UK communications sector against a range of comparator countries in order to assess how the UK is performing in an international context. The report compares the availability, take-up and use of services in the UK and 17 comparator countries - France, Germany, Italy, the US, Japan, Australia, Spain, the Netherlands, Sweden, Poland, Singapore, South Korea, Brazil, Russia, India, China and Nigeria, although we focus on a smaller subset of comparator countries for some of our analysis.

This report is intended to be used in a number of ways: to benchmark the UK's communications sector, to learn from market and regulatory developments in other countries, and to provide the context for Ofcom's regulatory initiatives. It also contributes to the richness of the information we draw upon, better enabling us to understand how our actions and priorities can influence outcomes for citizens and consumers, and for communications markets generally.

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Introduction

This is the ninth year in which Ofcom has published comparative international data on the communications sector. The aim of the report is to benchmark the UK communications sector against a range of comparator countries in order to assess how the UK is performing in an international context.

We are publishing this report as part of our commitment to carry out and publish market and consumer research, including media literacy, as outlined in our 2014/15 Annual Plan¹. This report complements other research published by Ofcom and forms part of the Communications Market Report series, which includes the *UK Communications Market Report* and specific reports for Northern Ireland, Scotland and Wales (all published in August 2014).²

The information set out in this report does not represent any proposal or conclusion by Ofcom in respect of the current or future definition of markets and/or the assessment of licence applications or significant market power or dominant market position for the purposes of the Communications Act 2003, the Competition Act 1998 or other relevant legislation.

Data and methodologies

This report draws on a combination of consumer research data commissioned by Ofcom, data already held by Ofcom, and data sourced from desk or custom research or from third parties, as well as discussions with industry bodies, operators, regulators and commentators.

Consultancy firm IHS provided data that are drawn on mainly for the *TV and audio-visual* and *Telecoms and networks* chapters. IHS has attempted to verify sources and provide market estimates where data are incomplete. Telecoms pricing consultancy Teligen built a bespoke model to enable our analysis of comparative international pricing, and populated it with specifically-sourced tariff data (collected in July 2014).

Among others, we would like to thank the following for their contributions to the data presented in this report: Analysys Mason, comScore, IMRG, Eurostat, Eurodata TV Worldwide, The European Commission, IHS, Kantar Media, Mediamétrie, The Nielsen Company, Nomura Equity Research, PACT, PricewaterhouseCoopers, The Reuters Institute, Teligen, US Census Bureau, the World Advertising Research Centre, Wik Consult and Zenith Optimedia.

The consumer research undertaken by Ofcom for this report was conducted online with 9,065 consumers in nine countries: the UK, France, Germany, Italy, the US, Japan, Australia, Spain and China. Because the research was undertaken online, samples, and therefore results, may differ from other consumer research conducted by Ofcom, including that published in the *Communications Market Report 2014*, which included face-to-face and telephone interviews. Further information on our online market research methodology is presented in Appendix A.

¹ http://www.ofcom.org.uk/files/2014/03/Annual_Plan_1415.pdf

² <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr14/>

Perspective on China

Due to the large and diverse population in China, conducting survey research is extremely challenging and our research results have some limitations. For example, our questionnaire was translated into Chinese Mandarin, so approximately 30%³ of the population (those who do not speak Mandarin) are likely to have been excluded.

Also, as research was conducted among internet users only, and internet penetration is low in China (around 46%⁴, and centred in the cities), when making comparisons with findings in other comparator countries it is important to note that the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. As such, comparisons with China and consumer research findings in other countries should not be treated as like-for-like.⁵

Comparisons between data in this report and in its predecessors will not always be possible, due to changes in definitions and re-statements over time, the methods of collecting data and the availability of new data sources. For reasons of sampling and definitions, some UK data published in this report may not be directly comparable with data published in other Ofcom reports, such as the *UK Communications Market Report*. We have highlighted incomparability in a number of key instances in this report.

This report is wide in scope, and because of the reliance on third-party data we cannot always fully guarantee the accuracy of data. We have carried out comprehensive checks as far as is reasonably possible and have acted to ensure that the data in this report are comprehensive and the most accurate currently available.

Data in this report generally cover the 2013 calendar year, although other data – notably from Ofcom's consumer research – are more recent. We show trends using a five-year historical time series wherever possible.

All currency conversions use the average market exchange rate across 2013, as provided by the International Monetary Fund (IMF).⁶ We have opted to convert data from every year at this fixed rate, so that currency fluctuations do not obscure market trends. The exception to this methodology is in the international price benchmarking analysis, where we have used purchasing power parity-adjusted exchange rates (more detail can be found in Appendix B). All figures in this report are nominal unless otherwise stated.

Comments and feedback on this report are very much encouraged and welcomed at market.intelligence@ofcom.org.uk.

Structure of the report

The report is divided into six chapters:

- **The UK in context** provides a broad overview by looking at comparative international communications markets from an industry and a consumer perspective, with an overview of the main regulatory developments in the past year. We also present findings from our consumer research across nine comparator countries,

³ <http://www.businessweek.com/articles/2014-09-23/say-that-in-mandarin-please> date of publication 23 September 2014 [accessed 24 November 2014]

⁴ Data for 2013, <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

⁵ Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

⁶ <http://www.imf.org/external/index.htm>

including a look at main sources used for news, online interaction with public services, use of mobile payments and satisfaction and reasons for choosing 4G mobile telecom services.

- **Comparative international pricing** compares the typical prices people pay, across the UK and five other comparator countries, for a range of 'baskets' of communications services.
- **Television and audio-visual** considers developments in broadcast and audio-visual services, and includes analysis of the industries and consumer experience in our comparator countries. This section examines patterns of digital television take-up, including the adoption of high-definition television services, digital video recorders, and internet-connected televisions, and looks at the consumption of audio-visual content online.
- **Radio and audio** compares and summarises key data, including revenue figures, for the radio and audio markets across the UK and our comparator countries. We also include some of the findings from our consumer research on the take-up of digital radio sets and the use of audio services online and via mobile devices.
- **Internet and web-based content** considers how people have adopted the internet to communicate and consume content, and how this differs across our comparator countries. The section takes a high-level look at aspects of internet use, in terms of platforms and devices, as well as content and consumption. We also look at internet advertising markets and e-commerce.
- **Telecoms and networks** examines the major trends in the telecommunications markets, from an industry and operator perspective, in our comparator countries. We also consider the availability and use of telecoms services in the 18 comparator countries. We provide an overview of the industry as a whole, and individual markets in more depth, including analysis of fixed voice, fixed-broadband, mobile voice and data services.
- **Post** considers key data for the postal services markets in the UK and our comparator countries, including trends in addressed mail volume and revenue. We also examine consumer trends in sending and receiving mail, and consumers' perceived reliance on post as a method of communicating.

We include a list of key points for each chapter; these serve as summaries of the main findings.

Key points: the UK in context

- **The communications sector's total global revenues in 2013 were £1,205bn, growing by 2.1% year on year (incorporating the telecoms, television, radio and postal sectors).** Telecoms industries had the largest absolute increase in revenue in 2013, up by £18bn to £842bn. Television revenues continued to grow at the fastest rate among the communications industries, rising by 3.1% in 2013 to £254bn.
- **Among the countries compared in this section, fixed voice connections per 100 people continue to fall across our comparator countries but remain most resilient the UK, where the figure remained unchanged from five years previously, at 59.** The number of fixed-line connections per 100 people was highest in France at 60, representing a fall of four connections per 100 since 2008.
- **Among the countries compared in this section, France had the highest fixed broadband take-up in 2013, at 38 connections per 100 people.** In the UK there were 36 connections per 100 people, the second highest among the countries included in the analysis.
- **The UK has the second highest proportion of fixed broadband lines with a headline speed of 30Mbit/s or higher among the EU5 countries.** At the end of 2013, a quarter of UK fixed broadband connections (25%) fell into this category, a higher proportion than in France (9%), Germany (16%) and Italy (18%), but lower than in Spain (33%).
- **At least half of all internet users had a smartphone in all the countries for which data were available in October 2014.** In the UK, 63% of internet users said that they had a smartphone, the third-highest proportion among the EU5 countries after Spain and Italy. Among internet users in our European comparator countries, personal use of tablets was highest in Spain (59%) and Italy (54%). The UK followed, with the third-highest claimed personal use of tablets among the European countries which we have data for (at over one in three).
- **Among the EU5 countries Germany had the highest proportion of mobile connections that were 4G at the end of 2013 followed jointly by the UK and France.** Among all our comparator countries South Korea had the highest proportion of mobile connections that were 4G with 51% of connections. More generally the US and the Asia Pacific countries had the highest proportion of 4G connections, with more than 20% of mobile connections being 4G.
- **Watching television remains the most popular communications activity,** although this year we see more people claiming to engage with their phone than their TV on a weekly basis in Italy and China, as well as only a 1pp difference in Spain.
- **The UK continues to have the highest take-up of digital radio sets among our comparator countries.** Among the reasons for high digital radio take-up in the UK may be the support that broadcasters have shown for DAB technology, launching 'digital only' stations. DAB coverage is also highest in the UK, reaching 95% of households.

Key points: comparative international pricing

- **In general, UK communications service prices compare favourably to those in the other countries included in the analysis in 2014.** Our analysis shows that, excluding the TV licence fee, the UK had the lowest 'weighted average'⁷ stand-alone prices for four of the five household usage profiles used in the analysis.
- **The UK compared less well in terms of the 'lowest available'⁸ prices for our five household usage profiles.** None of the cheapest possible prices for our households were found in the UK, and the UK's ranking for this metric fell from second to third compared to our other comparator countries in the year to July 2014.
- **Overall, the UK ranked joint top with France among our comparator countries when combining 'weighted average' stand-alone and 'lowest available' prices.** The UK benefited from low fixed broadband and mobile phone services, while France had comparatively cheap mobile phone service prices.
- **The UK's average rank across all households and both pricing metrics was unchanged in the year to July 2014.** In France, which had the lowest 'weighted average' stand-alone price for one household and the 'lowest available' prices for three households, the average rank improved during the year, largely as a result of falling 'lowest available' mobile phone prices.
- **In all comparator countries, it was cheaper to purchase bundled services where the household usage profile required a fixed broadband connection.** However, the savings that were available when buying the cheapest combination of services, including a bundle, compared to the cheapest stand-alone services for these households, varied widely, ranging from 1% to 40%.
- **The service for which the UK did not compare favourably was HD premium pay TV.** UK stand-alone retail prices for these services were the second most expensive among our comparator countries, after the US, although this was partly due to differences in the quality and amount of content provided with each service.

⁷ 'Weighted average' price refers to the sum of the weighted average single-service price of each service included in the household usage profile, these averages being calculated as the average of the lowest priced tariffs offered by the three largest operators which provide the service in each country, weighted by the market share of each service provider.

⁸ 'Lowest available' refers to the lowest price a consumer could pay for a service, or basket of services, using the tariffs offered by those providers who are included in the Teligen pricing database used for the analysis. 'Lowest available' prices can either include or exclude bundled services.

Key points: TV and audio-visual

- **Global TV revenues (including broadcast advertising, channel subscription and public licence fees only) increased by 3.1% in 2013 to reach £254bn.**
Subscription revenues continue to be the key driver of this growth, rising by 4.4% to reach £127bn, exactly half of this revenue. Advertising and licence fee revenues grew at a more modest 1.9% and 1.6% respectively in 2013.
- **The UK experienced the largest annual growth in television revenues among the European comparator countries,** increasing by 3.4% or £0.4bn in 2013. Revenues fell year on year in Italy, Spain and Poland, with Spain having the largest proportional year-on-year decline, falling 6.2%, or £0.2bn.
- **Revenues from online TV and video in the UK continue to rise, up by £227m to £648m in 2013.** However, the US market is by far the largest online TV and video market among our comparator countries; between 2009 and 2013, online TV and video revenue grew from a base of £1.0bn to £5.1bn.
- **The UK is one of only five countries to have 100% of all main TV sets receiving digital TV (DTV) in 2013.** *In the UK, Italy, Japan, Australia and Singapore, 100% of all main TV sets received DTV in 2013.*
- **The number of homes taking pay TV continues to rise, driven by growth in developing markets.** On average, 67% of TV households among the comparator countries had pay TV in 2013, up from 65% in 2012. Growth among the BRIC countries (66% take-up in 2013 compared to 63% in 2012) was a key driver.
- **A third of the online population in the UK use the internet to watch TV programmes or films at least once a week.** In terms of types of content ever watched online, TV programmes are more popular than films in the UK.
- **Among those who watch TV online, almost half (48%) watch catch-up TV services from free-to-air broadcasters on a weekly basis, the largest proportion among comparator countries.** Thirty-eight per cent of respondents in the US had used a non-broadcaster subscription VoD service in the past week, a higher percentage than any comparator country other than China.
- **Among its European counterparts, the UK leads the way in smart TV use - almost a quarter of UK consumers claim to have a smart TV,** with the vast majority (84%) having connected their TV and used the internet functionality.
- **Across the ICMR comparator countries, audiences watched an average of 224 minutes per person per day in 2013.** The US had the highest level of TV viewing of all of the comparator countries (293 minutes per person per day) while Sweden had the joint lowest level at 159 minutes. The UK ranked seventh of the 15 ICMR countries, with viewers watching on average 232 minutes a day in 2013. TV viewing declined in nine of the 15 ICMR comparator countries in the past year.
- **TV owners in the UK are the most aware of the watershed.** In the 50th year of the watershed in the UK, Ofcom research shows that 94% of TV owners are aware of the watershed in the UK, more than in any other comparator country which has similar provisions to protect children from harmful content.

Key points: radio and audio

- **Worldwide radio revenues stood at £28.5bn in 2013.** Worldwide radio revenue rose by 2.7% in 2013 to reach £28.5bn. This is the fourth consecutive year of growth.
- **Revenue growth is driven by increases in advertising and subscription revenues.** The largest absolute increase in revenue was in the US, where advertising and subscription revenues contributed to a combined growth of £352m. In the UK, radio revenues decreased by 2.1% to £1.2bn, due to a fall in national advertising and sponsorship revenue as well as licence fee revenue.
- **Revenue growth remains high among the BRIC countries, while Spain and the Netherlands had the largest proportional decline.** Russia had the highest rate of growth, at 15.2%, while the largest proportional decline was in Spain (6.7%), followed by the Netherlands (5.4%).
- **The UK has one of the largest proportions of digital radio stations among the comparator countries.** The 250 digital radio stations available in the UK in 2013 represent 31% of all radio stations, the same as Germany and higher than any other comparator country in 2013.
- **DAB radio set take-up in the UK was 41% in 2014, the highest among the countries that we surveyed.** DAB coverage is also highest in the UK, reaching 95% of households.
- **FM radios are the most common type of set owned by radio listeners in all of our comparator countries.** Take-up is highest in Italy (84%) and Spain (83%). The UK has the lowest take-up of FM-only radio sets, at 59%, although most radio sets with DAB or internet connectivity will also include an FM tuner.
- **The reach of radio is lowest in Nigeria (20.0%) and Japan (37.5%),** and highest in China (97.9%), Sweden (94.0%) and Poland (93.0%). The lowest reach of radio in Europe is in Germany (69.6%).
- **Listeners in Germany tune in to radio for longer than those in any of our comparator countries.** Despite having the lowest reach (among our European comparators), radio listeners in Germany spend the most time listening to radio – an average of 22 hours each week.
- **Between 2008 and 2013, time spent listening to radio fell by 30% in the US.** This is likely to be due to the increased use of online radio stations and other streaming services. In 2013, radio listeners in the US tuned in for an average of 13 hours per week.
- **People in the US are far more likely than in the other countries to use a streaming service to listen to music on their mobile phone;** just over a fifth (22%) of mobile phone users in the US did this.

Key points: internet and web-based content

- **At almost £2000 per person, the UK had the most valuable e-commerce market among our comparator countries in 2013**, significantly higher than the next highest valued markets Australia (£1,356 per head) and the US (£1,171 per head).
- **Two-fifths of all advertising spend in the UK was online in 2013**. The UK continued to have the greatest share of all advertising spend on the internet (40%) followed by the Netherlands (35%), Sweden (32%) and Australia (30%).
- **Mobile advertising spend per head saw significant growth in most comparator markets between 2012 and 2013**. In the UK, spend doubled from £8 in 2012 to £16 in 2013. In 2011 and preceding years, Japan consistently had the greatest spend per head, but was overtaken in 2013, by the UK, the US and Australia.
- **In the US and the UK average time spent browsing on a laptop or desktop has fallen significantly since 2012**: time spent browsing on these devices fell by nine hours per user in the US and seven hours per user in the UK. This may be due to users in these countries substituting mobile browsing for laptop/desktop browsing.
- **The laptop and desktop active audience is getting older in our comparator countries**. People aged over 55 made up the largest proportion of laptop and desktop users in most of our comparator countries. In the UK, a quarter of users (25%) were over 55, up two percentage points since August 2013.
- **Among the comparator countries, Italy had the largest proportion of mobile broadband⁹-only households at 26% in October 2014**, and the highest proportion of households with both fixed and mobile broadband (29%).
- **At least half of internet users had a smartphone in all of the countries for which data were available in October 2014**. In the UK, 63% of internet users said they had a smartphone, the third-highest proportion among the EU5 countries, after Spain and Italy. Among internet users in our European comparator countries, personal use of tablets was highest in Spain and Italy. The UK had the third-highest claimed personal use of tablets among the European countries for which we have data (at over one in three).
- **Social networking, and reading news online, are the two most popular internet activities on a smartphone in all comparator countries except Australia, where mobile banking is more popular than reading news online**. In the UK just under two-thirds of owners claimed to access social networking sites on their phone and 44% read the news online.
- **While the number of weekly social networkers increased year on year in many comparator countries, in the UK, the US, China and Japan the proportion fell**. In 2013, 65% of online adults in the UK reported using social networks at least once a week, this was down to 56% in October 2014. Facebook is the most popular social network in all countries analysed except Japan, where Twitter is more popular.

⁹A mobile broadband connection is via a dongle or laptop with a built-in SIM, and does not include mobile handset internet access.

Key points: telecoms and networks

- **Total comparator country retail telecoms revenues increased by 1.7% in 2013.** Total retail telecoms revenues (comprising fixed voice, fixed broadband, mobile voice and mobile data services, but excluding narrowband internet revenues) increased by £10bn to £613bn across our comparator countries in 2013, as a result of increasing mobile internet and fixed broadband revenues.
- **Total mobile internet revenues increased by 20% across our comparator countries in 2013.** Total mobile telecoms revenues (including voice, messaging and mobile internet services) increased by £11bn (2.7%) to £407bn in our comparator countries in 2013, as a result of increasing mobile internet revenues.
- **The UK was one of two comparator countries where the number of fixed voice connections increased in 2013.** The number of UK fixed voice connections (which includes fixed lines and managed VoIP connections) increased by 0.2 million to 38 million during the year; Brazil was the only other country which experienced a similar increase during the year.
- **Singapore had the highest take-up of mobile data services at the end of 2013.** Including dedicated mobile data connections and access on mobile handsets, there were 153 mobile data connections per 100 people in Singapore at the end of 2013, twice the UK figure (77 per 100 people).
- **The Netherlands had the highest fixed broadband take-up in 2013.** Fixed broadband take-up ranged from less than one connection per 100 people in Nigeria to 41 in the Netherlands, among our comparator countries. The UK had 36 connections per 100 people, the fourth highest figure among our countries.
- **Less than half of internet users in Japan and the US are regular users of landline services.** In the UK, 60% said that they regularly used a home phone, 18 percentage points less than had a landline. This is because some consumers have a landline solely in order to be able to access fixed broadband services.
- **The UK has the second highest proportion of fixed broadband lines with a headline speed of 30Mbit/s or higher, among the EU5 countries.** At the end of 2013, a quarter of UK fixed broadband connections (25%) fell into this category, a higher proportion than in France (9%), Germany (16%) and Italy (18%), but lower than in Spain (33%).
- **Managed VoIP connections made up the largest proportion of fixed voice connections in the Netherlands and France.** In the Netherlands and France, the proportions of total fixed voice connections¹⁰ that were provided over managed VoIP at the end of 2013 were 71% and 60% respectively, compared to just 12% in the UK.
- **Over three-quarters of UK fixed broadband users are satisfied with their service.** The proportion of fixed broadband users who said that they were satisfied with their overall fixed broadband service ranged from 55% in Japan to 79% in the US (in the UK it was 76%).

¹⁰ Total fixed voice connections are defined as the number of PSTN connections plus the number of managed VoIP connections.

Key points: post

- **The growth of parcels, driven by the increased use of online shopping, is making up for some of the decline in letter mail, and parcels are making a bigger contribution to total mail volumes.** In most of our European comparator countries, as well as the US and Japan, parcels are making up an increasing share of total mail volumes each year since 2008. In Japan, parcels contributed to over 50% of total mail volume in 2013, compared to 17% in Germany and 12% in the UK.
- **Parcel volume per head of population is highest in Japan.** In 2013, there were 72.8 items per head in Japan, far higher than in any other country. The US had the next highest volume per head (36.5), followed by Germany (32.4) and the UK (27.7).
- **Letter mail volumes across our comparator countries have declined by 18.6% since 2008.** The largest decline was in Italy (38.3%), followed by Spain (28.4%) and the UK (28.2%). The only country to experience an increase in letter mail volume was China, where volume has increased by 9.1% since 2008.
- **Letter mail revenue has also fallen, but at a slower rate than volumes, with many countries experiencing an increase.** Poland had the largest decline in letter mail revenue since 2012 (11.1%), followed by Spain (5.3%) and the US (4.5%). The largest increase over the same period was in China, where revenue increased by 10.5%. The UK also had an increase of 2.9% over the same period.
- **The UK is still one of the cheapest countries in which to send a standard sized domestic letter.** It costs 62p to send a First Class standard sized letter in the UK. Among our European comparators, only in Poland (48p) is it cheaper to send a letter with the same dimensions.
- **Almost two-thirds (64%) of the online population in the UK had sent an item of post in the past month.** This compares to 76% in France and Germany. People online in Spain and Japan were the least likely to have sent an item in the past month, with over half (55%) of people in Spain claiming not to have sent anything.
- **People in the UK were more likely to have sent personal invitations, greetings cards or postcards in the past month than those in any of the other countries surveyed.** A third (33%) of respondents in the UK had sent this type of mail in the past month. People in France (50%) and the US (59%) are more likely to have paid a bill by post in the past month.
- **People in the US receive the most items in a week.** On average, a person in the US will receive 9.3 items of post in a week, compared to 8.0 in France and 6.3 in the UK. People in Spain receive the fewest number of items in a week, at just 3.4.

Key summary metrics: 2013 data

		UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
TV and audio-visual	TV industry revenue (£bn)	13.4	8.8	18.9	6.7	110.2	20.6	4.6	3.0	2.6	1.9	2.2	0.6	5.2	12.1	4.3	5.0	20.6	0.5
	Revs change (% YOY)	+3.4	+0.4	+2.5	-4.5	+2.0	+2.3	+3.4	-6.2	+1.5	+2.0	-1.3	+3.5	+5.8	+15.8	+13.6	+15.0	+16.6	+19.5
	TV industry revenue per capita (£)	210	134	230	109	348	162	199	63	158	202	57	110	106	61	30	4	15	3
	Largest TV platform	Dsat	IPTV	Dsat	DTT	Dcab	Dcab	DTT	DTT	Dcab	Acab	Dsat	DTT	Acab	Asat	Dsat	Acab	Dcab	Dsat
	Largest TV platform (% of homes)	42	40	43	73	40	51	70	76	48	27	58	37	29	34	34	43	39	71
	TV viewing (mins/day)	232	226	221	261	293	265	201	244	195	159	247	n/a	217	217	239	n/a	159	n/a
	DTV take-up (%)	100	95	68	100	95	100	100	99	86	73	85	100	71	36	61	56	75	84
	Pay TV take-up (%)	52.8	76.3	57.1	33.0	84.1	69.8	29.1	22.0	98.5	83.8	84.2	62.9	93.9	30.6	68.4	98.8	61.0	17.8
Radio and audio	Radio industry revenue (£bn)	1.2	1.1	2.9	0.4	12.8	0.8	0.7	0.4	0.3	0.1	0.1	0.1	0.1	0.4	0.3	0.2	1.3	0.1
	Change in revenue (% YOY)	-2.1	+1.7	0.0	-1.6	+2.8	-4.5	+3.5	-6.7	-5.4	+5.4	-0.7	+4.7	+0.7	+3.1	+15.2	+12.9	+8.6	+4.0
	Radio industry revenue per capita (£)	18.2	16.8	35.7	6.7	40.4	6.5	29.6	7.6	15.5	12.5	2.8	16.8	3.0	1.8	2.4	0.2	0.9	0.3
	% income from public licence fee	61.1	38.8	79.0	21.5	n/a	5.0	n/a	n/a	33.4	40.7	7.2	n/a	22.2	n/a	n/a	n/a	n/a	n/a
Internet	Online universe (m)	39.2	37.0	52.0	30.9	197.4	73.7	15.9	23.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Fixed broadband connections per 100 HH	85	88	71	55	75	85	72	70	91	70	57	108	101	32	45	6	42	0
	Internet access via a mobile phone(%)	55	47	53	75	46	56	60	74	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	79	n/a
Telecoms and networks	Telecoms services revenue (£bn)	29	21	27	19	179	85	16	16	8	5	6	3	19	31	22	15	106	7
	Monthly telecoms revenues per capita (£)	37	26	27	26	47	56	58	28	37	39	14	51	33	13	13	1	7	3
	Fixed voice connections per 100 population (inc. managed VoIP)	59	60	45	37	42	45	44	41	43	41	18	36	55	22	29	2	20	0
	Monthly outbound fixed minutes per capita	137	131	172	92	124	87	144	94	100	111	25	85	108	70	84	5	9	0
	Mobile data connections per 100 population	77	64	51	74	100	113	136	79	60	133	110	153	110	76	61	18	38	40
	Monthly outbound mobile minutes per capita	175	175	117	205	339	132	149	126	115	222	165	279	203	181	269	127	178	67
	Fixed broadband connections per 100 population	36	38	34	23	29	35	28	26	41	34	21	30	37	10	18	1	15	0
	4G as % of all mobile connections	4	4	5	3	23	22	20	3	4	11	2	24	51	0	1	0	0	0
	Post	Domestic addressed mail revenue (£bn)	7.5	7.1	7.2	3.1	30.0	11.7	1.4	1.5	2.2	1.1	0.8	0.1	16.0	2.3	0.6	0.4	1.5
Mail revenue per capita (£)		117.3	108.7	88.0	51.0	94.5	91.5	58.4	32.5	132.4	116.2	19.6	23.9	32.4	11.6	4.3	0.3	1.1	n/a
Domestic mail volumes (bn items)		14.8	15.4	16.1	3.6	153.2	18.5	4.5	4.1	3.8	2.6	1.8	0.7	4.4	8.4	3.5	5.4	26.9	n/a
Standard (C5) domestic stamp price (£)		0.62	1.40	1.23	1.78	1.03	0.92	0.86	0.78	1.63	1.18	0.48	0.26	n/a	0.5	0.78	0.27	0.62	n/a



The International Communications Market 2014

1 The UK in Context

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1.1 The UK communications industry in context

1.1.1 Introduction

This chapter of the report provides a broad overview that places the UK communications sector in a global context.

- **The UK communications industry in context** (Section 1.1.2): We compare the size of the UK communications sector to that of other countries, and look at relevant top-line revenues across our comparator countries.
- **The UK consumer in context** (Section 1.2): We compare take-up and use of different services and devices at a broad level across our comparator countries.
- **Pricing of communications services** (Section 1.3): In this section we compare communications service prices in six of our comparator countries and look at how consumers in different countries choose to purchase communications services. We also examine consumer research on bundling of communications services among our comparator countries.
- **4G services** (Section 1.4): We compare 4G connections, in terms of coverage, take-up and consumer satisfaction, in our comparator countries.
- **News consumption – the international context** (Section 1.5): We examine the consumption of digital news, and present findings from Ofcom's consumer research, looking at which platform people say they use as their main source for different types of news.
- **Mobile payments** (Section 1.6): We draw on consumer research and selected third-party sources to highlight recent developments in the availability and use of mobile payments.
- **Online interaction with public services** (Section 1.7): National and local governments are making online services available to provide citizens with information, services and advice and to enable citizens to communicate their views to government. In this section we examine internet users' interaction with government services online, and how this varies between our comparator countries.
- **International regulatory context and models** (Section 1.8): We highlight recent international developments in communications regulation to provide regulatory context to some of the topics in the report.

1.1.2 Putting the UK communications industry into context

In this section we discuss the revenue and expenditure associated with the communications sectors in the UK and globally. Given the complexity and scale of the 'communications industries', there are many potential definitions of the 'communications sector'. It could, for example, include consumer electronics, network equipment, music, the film industry, online, software, games, newspapers, magazine and books, in addition to telecoms and broadcasting.

We focus primarily on the telecoms, television, radio and postal industries, to reflect Ofcom's regulatory remit.

The key findings include:

- **The communications sector's total global revenues in 2013 were £1,205bn, growing by 2.1% year on year (incorporating the telecoms, television, postal and radio sectors).** Telecoms industries had the largest absolute increase in revenue in 2013, up by £18bn to £842bn. Television revenues continued to grow at the fastest rate among the communications industries, up by 3.1% in 2013 to £254bn.
- **US telecoms revenues were £179bn in 2013, larger than the revenue of the entire communications sector in any other comparator country.** China was the second-largest communications market by revenue, generating £129bn in 2013, while Japan was third largest at £118bn. UK communications revenues stood at £51bn in 2013.
- **Global advertising expenditure continued to grow, rising by 5% in 2013 to £302bn, driven largely by the increasing popularity of internet advertising.** While expenditure on internet advertising grew at a compound annual rate of 18.9% between 2009 and 2013, to £75bn, the comparable figure for newspaper advertising was -1.4% p.a., falling to £54bn.
- **In the television and radio sectors, television subscriptions generated the largest and fastest-growing proportion of total revenues in 2013.** Television subscription revenues grew by 4.4% in 2013 to £127bn, and at a compound annual rate of 5.1% p.a. between 2009 and 2013. Satellite radio subscription revenues grew by 9.9% in 2013, and at a compound annual rate of 9.3% between 2009 and 2013, to reach £2bn.

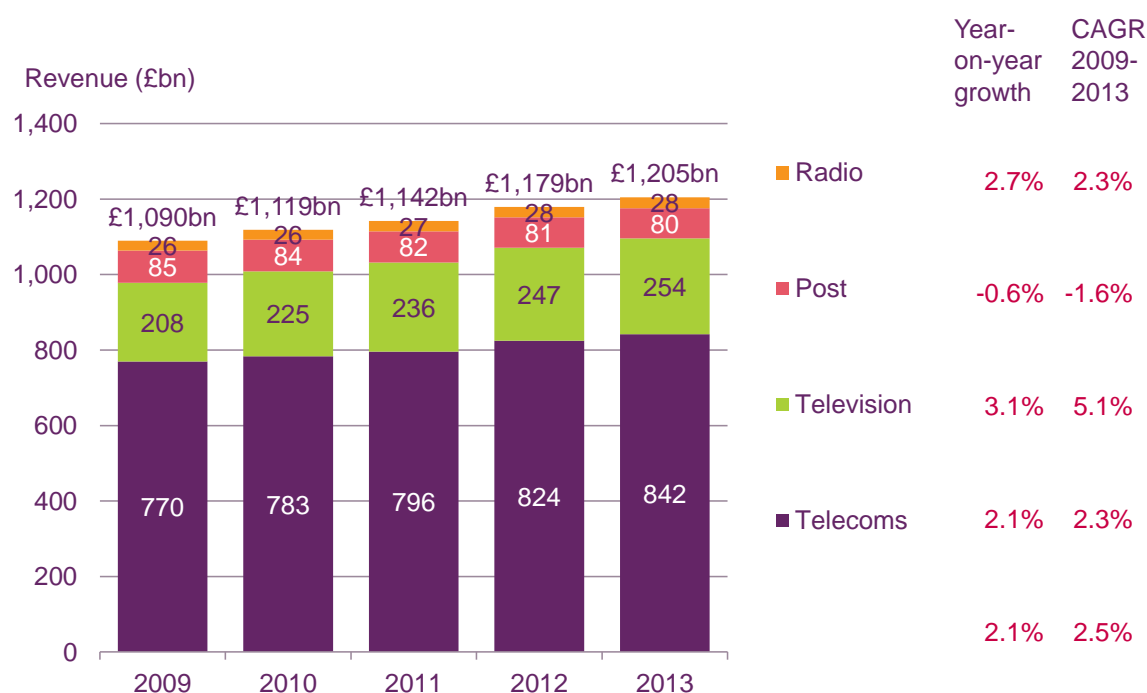
1.1.3 Communications sector revenues

The communications sector (as defined by Ofcom) generated £1,205bn in revenues in 2013, an increase of 2.1% on 2012

Between 2009 and 2013, global communications industries' revenues grew at a compound annual rate of 2.5% p.a. Television and telecoms revenues drove this growth. Between 2009 and 2013, telecoms revenue grew by 2.3% p.a., and in 2013 generated £842bn worldwide, £18bn more than the previous year. Television revenues grew fastest during this period, by 5.1% p.a.; all told, the industry generated £46bn more revenue in 2013 than in 2009. In 2013, television revenues were up by 3.1% and telecoms revenues by 2.1% on the previous year.

Postal revenues continued to decline, albeit at a slower rate than in previous years, with a year-on-year contraction of 0.6% in the countries measured.

Figure 1.1 Global communications revenue



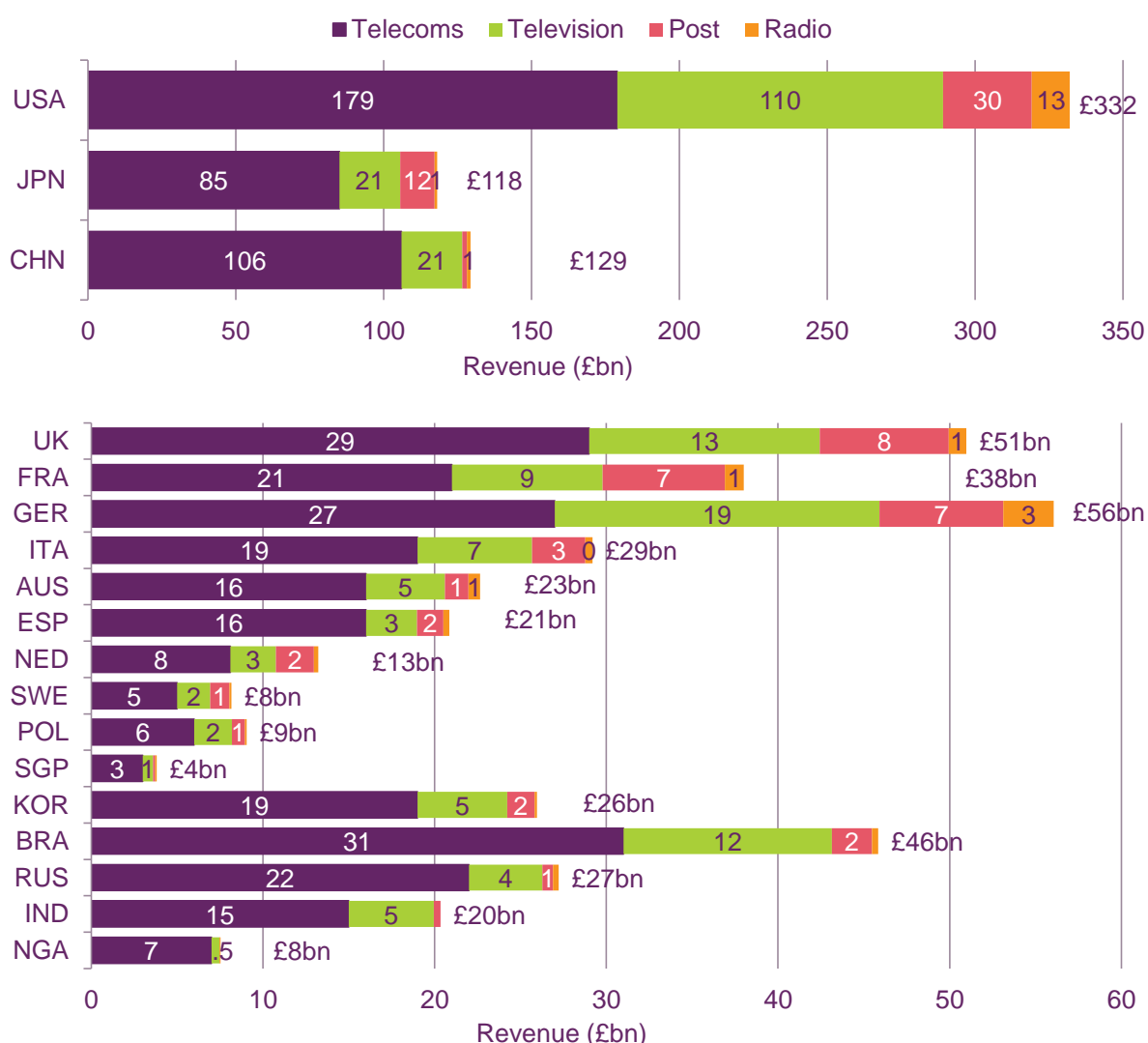
Source: Data derived from various sources: PwC Global Entertainment and Media Outlook 2014-2018 @ www.pwc.com/outlook for television and radio revenues (both include advertising, licence fees and subscription services only), Wik Consult / Ofcom estimates for postal revenues. IHS / industry data / Ofcom for telecoms revenues, which refer to retail revenues for fixed voice, broadband and mobile services. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2013 average exchange rates in converting from local currency to GBP.
Note: Postal revenues are for our 17 comparator countries only.

The UK communications industries' revenues were the second highest in Europe and the fifth among all our comparator countries

In 2013, as in recent years, the three largest communications markets by revenue were in the US (£332bn), China (£129bn) and Japan (£118bn). At £179bn, the revenues of the US telecoms industry alone were greater than the combined industries' revenues in any other country. The US also commanded the largest revenue among our comparator countries in the other sectors we consider in this report - television (£110bn), post (£30bn) and radio (£13bn). China overtook Japan to become the second largest communications market of our study.

Outside the top three, total UK revenue of £51bn was second only to Germany (£56bn) and just ahead of Brazil (£46bn). UK postal revenues were the largest of our European comparator countries, at £8bn; and television revenues, at £13bn, were second only to Germany (£19bn). Both countries have a television licensing system that supports public broadcasting. The Brazilian telecoms sector overtook the German telecoms sector to become the largest national sector outside the US, Japan and China, generating £31bn in 2013.

Figure 1.2 Communications sector revenues: 2013



Source: Data derived from various sources: PwC Global Entertainment and Media Outlook 2014-2018 @ www.pwc.com/outlook for radio revenues (include advertising, licence fees and satellite subscription services only), Wik Consult / Ofcom estimates for postal revenues, IHS / industry data / Ofcom for television and telecoms revenues (telecoms revenues refer to retail revenues).

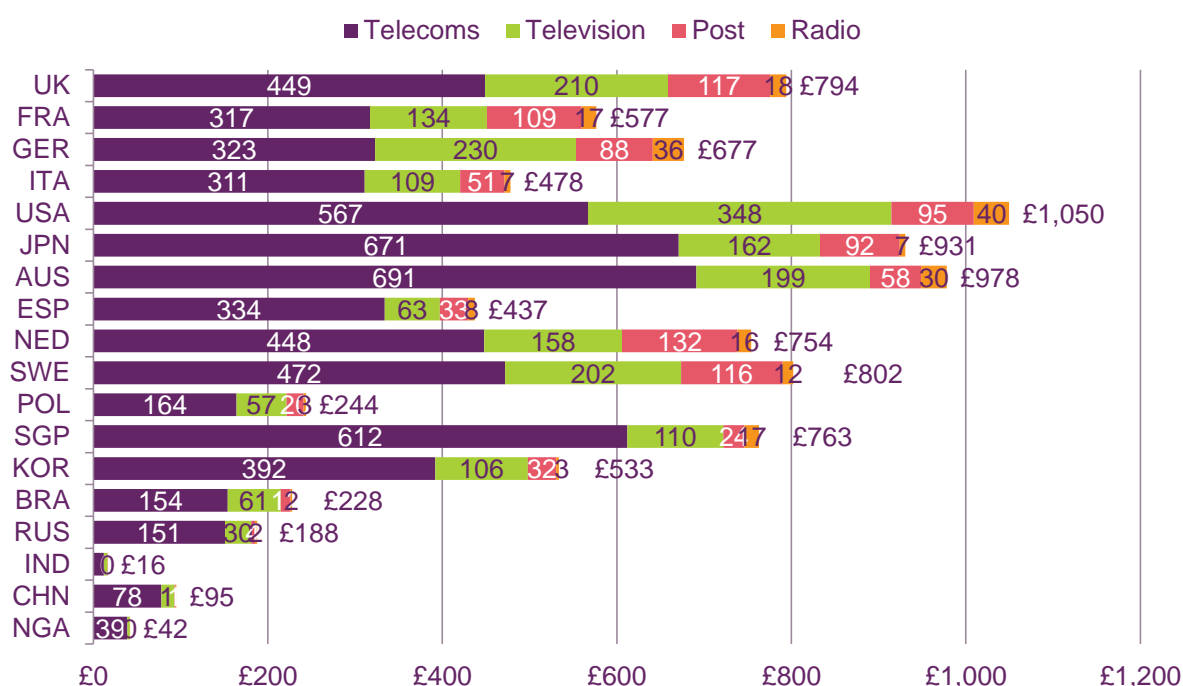
Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2013 average exchange rates in converting from local currency to GBP.

Note: Postal revenue data is not available for Nigeria

UK communications revenue per head was the second highest in Europe in 2013

The UK generated £794 per head across our communications industries in 2013, second only to Sweden (£802) in Europe. These figures were considerably lower than the highest revenues per head in our comparator countries: the US (£1,050), Australia (£978) and Japan (£931). UK revenues per head for postal services were the second highest of any of our comparator countries, at £117 per person in 2013, behind the Netherlands at £132.

Figure 1.3 Communications sector revenue per head: 2013

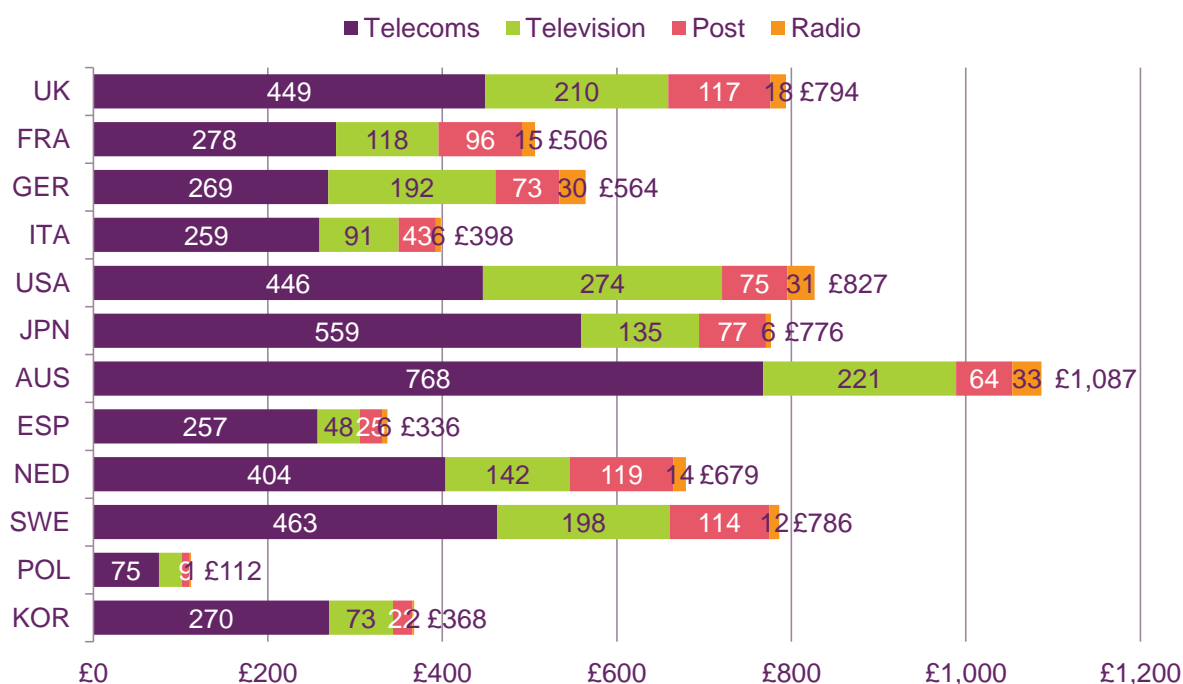


Source: Data derived from various sources: Ofcom analysis based on data from PwC's Global Entertainment and Media Outlook 2014-2018 @ www.pwc.com/outlook for radio revenues (include advertising, licence fees and satellite subscription services only), Wik Consult / Ofcom estimates for postal revenues (no postal data available for Nigeria). IHS / industry data / Ofcom for television and telecoms revenues (telecoms revenues refer to retail revenues). Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2013 average exchange rates in converting from local currency to GBP.

Figure 1.4 adjusts absolute revenues per capita to take account of comparative price levels, in order to provide a view of revenue in relation to consumer spending power in each of the OECD member countries.¹¹ After adjustment, the UK had the highest revenue per head in Europe at £794. The US and Japan revenues are more in line with some parts of Western Europe after adjustment, but Australia remains high, at £1,087.

¹¹ The Organisation for Economic Co-operation and Development (OECD) gathers a range of data in order to establish a table of purchasing power parity among its member countries. Not all of our comparator countries are members, so comparison for all countries is not possible. See <http://www.oecd.org/about> for further information on the OECD.

Figure 1.4 Communications revenues per head adjusted for comparative price levels: 2013



Source: Data derived from various sources: Ofcom analysis based on data from PwC's Global Entertainment and Media Outlook 2014-2018 @ www.pwc.com/outlook for radio revenues (include advertising, licence fees and satellite subscription services only), Wik Consult / Ofcom estimates for postal revenues. IHS / industry data / Ofcom for television and telecoms revenues (telecoms revenues refer to retail revenues). Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2013 average exchange rates in converting from local currency to GBP. Figures adjusted using data from <http://stats.oecd.org>. comparative price levels (CPL) to adjust for purchasing power parity (PPP). CPLs are ratios of PPP for consumption expenditure to exchange rates. They measure differences in price levels between countries by indicating the number of units of a common currency required to buy the same volume of products in each country.

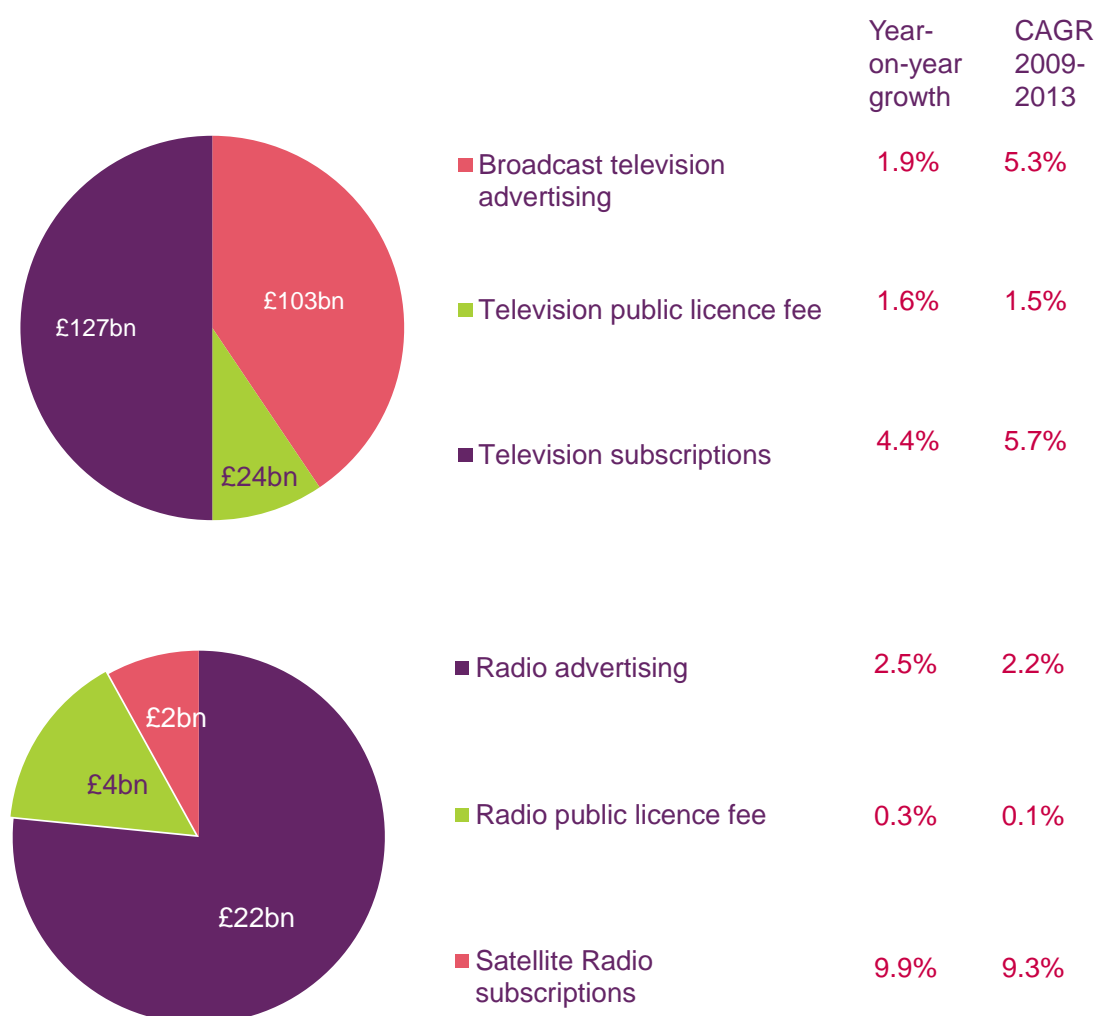
Note: Postal revenue data is not available for Nigeria

Subscription revenues continue to drive growth in the global television and radio industries

Figure 1.5 shows the proportions of television and radio revenues that came from subscription, advertising and public licence fees in 2013. Of the £254bn that the television industry generated in 2013, subscription revenues contributed the largest, and fastest-growing, proportion of total revenue, at £127bn. Year-on-year growth was 4.4%, demonstrating a slowing of the rate of growth when compared to the compound annual growth rate (CAGR) of 5.1% p.a. across the five year period. Broadcast television advertising revenues grew at a rate of 1.9% year on year, below the five-year CAGR of 5.3%. Public funding remained relatively flat, at £24bn.

In the radio industry, satellite subscription has seen the fastest growth, both year-on-year and across the period 2009 to 2013, albeit from the smallest base. Subscription services are currently available in the US and Canada only from satellite radio broadcaster Sirius XM Radio. Subscription remains the smallest of our measured revenue streams for the radio industry, at £2bn, half as much as public funding (£4bn) and only a tenth of the size of advertising revenue, which stood at £22bn in 2013.

Figure 1.5 Sources of global revenue for radio and television industries: 2013

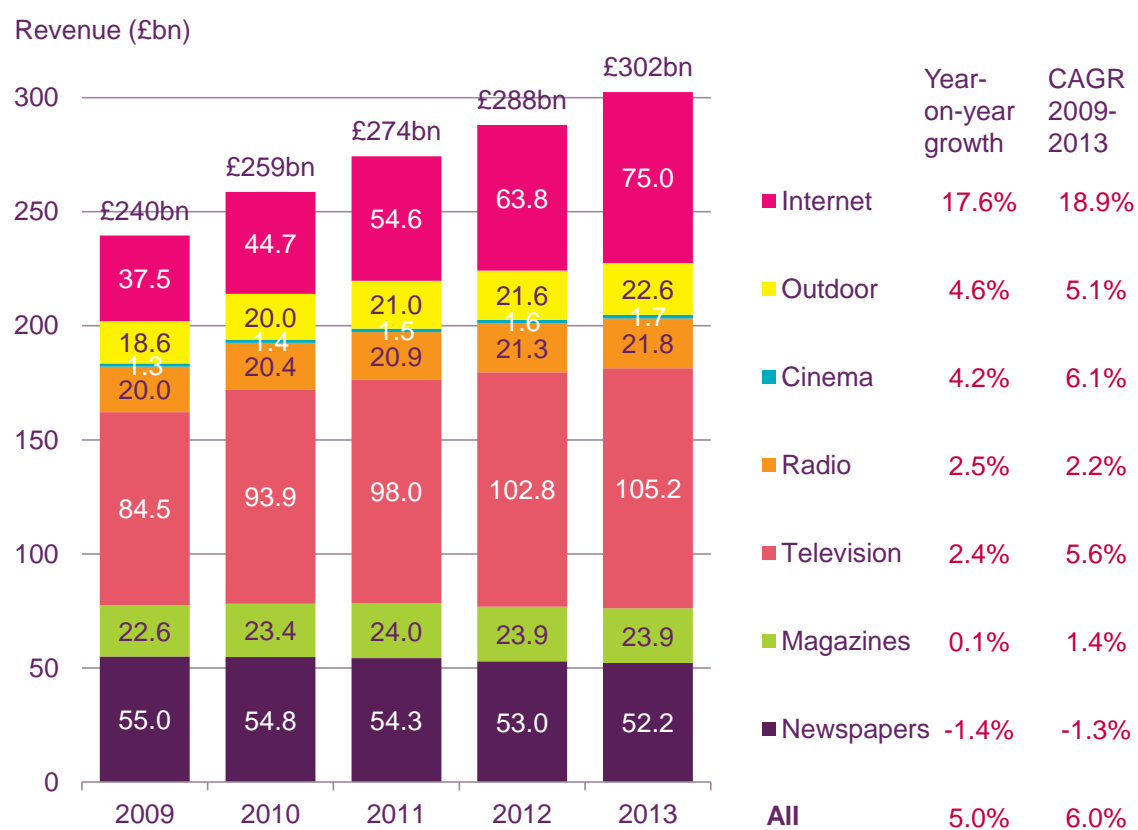


Source: All data derived from PwC Global Entertainment and Media Outlook: 2014-2018 at www.pwc.com/outlook. Notes: Ofcom is responsible for all growth calculations displayed. Ofcom uses an exchange rate of \$1.563 to the GBP in line with the IMF average for 2013.

Global advertising expenditure grew to £302bn in 2013

In 2013 global advertising expenditure grew by 5% (£14bn) to reach £302bn. Expenditure on internet advertising grew fastest among the media depicted in Figure 1.6, at a compound annual rate of 18.9% between 2009 and 2013, to stand at £75bn in 2013. Over the same period, newspaper advertising fell at an annualised average of -1.3%. Television, cinema and outdoor advertising all grew at over 5% per annum over the five year period. There was a slowdown in growth in television advertising revenue in 2013 but it remained the largest advertising medium by revenue, with a total of £105bn for the year.

Figure 1.6 Global advertising expenditure, by medium: 2013



Source: Data derived from PwC Global Entertainment and Media Outlook: 2014-2018 @ www.pwc.com/outlook. Notes: Ofcom is responsible for all growth calculations displayed. Ofcom uses an exchange rate of \$1.563 to the GBP in line with the IMF average for 2013.

1.2 The UK consumer in context

1.2.1 Introduction

In this section we examine take-up and use of communication devices and services. We focus primarily on the UK, but also on the other countries where we carried out consumer research in October 2014 (France, Germany, Italy, the US, Japan, Australia, Spain and China). The key findings are:

- **Among the countries compared in this section, fixed voice connections per 100 people continue to fall across our comparator countries but remain most resilient the UK, where the figure remained unchanged from five years previously, at 59.** The number of fixed-line connections per 100 people was highest in France at 60, representing a fall of four connections per 100 since 2008.
- **Among the countries compared in this section, France had the highest fixed broadband take-up in 2013, at 38 connections per 100 people.** In the UK there were 36 connections per 100 people, the second highest among the countries included in the analysis.
- **The UK has the second highest proportion of fixed broadband lines with a headline speed of 30Mbit/s or higher, among the EU5 countries.** At the end of 2013, a quarter of UK fixed broadband connections (25%) fell into this category, a higher proportion than in France (9%), Germany (16%) and Italy (18%), but lower than in Spain (33%).
- **At least half of internet users had a smartphone in all of the countries for which data were available in October 2014.** In the UK, 63% of internet users said that they had a smartphone, the third-highest proportion among the EU5 countries after Spain and Italy. Among internet users in our European comparator countries, personal use of tablets was highest in Spain and Italy. The UK followed with the third-highest claimed personal use of tablets among the European countries for which we have data (at over one in three).
- **Only Germany and China have less than 90% take-up of digital in TV homes.** Analogue cable is still popular in Germany, and China's digital switchover programme is taking place on a region-by-region basis, due to complete by 2018.
- **Watching television remains the most popular communications activity,** however, this year we see more people claiming to engage with their phone than with their TV on a weekly basis in Italy and China, and only a 1pp difference in Spain.
- **The UK continues to have the highest take-up of digital radio sets among our comparator countries.** Among the reasons for high digital radio take-up in the UK may be the support that broadcasters have shown for DAB technology, launching 'digital only' stations. DAB coverage is also highest in the UK, reaching 95% of households.

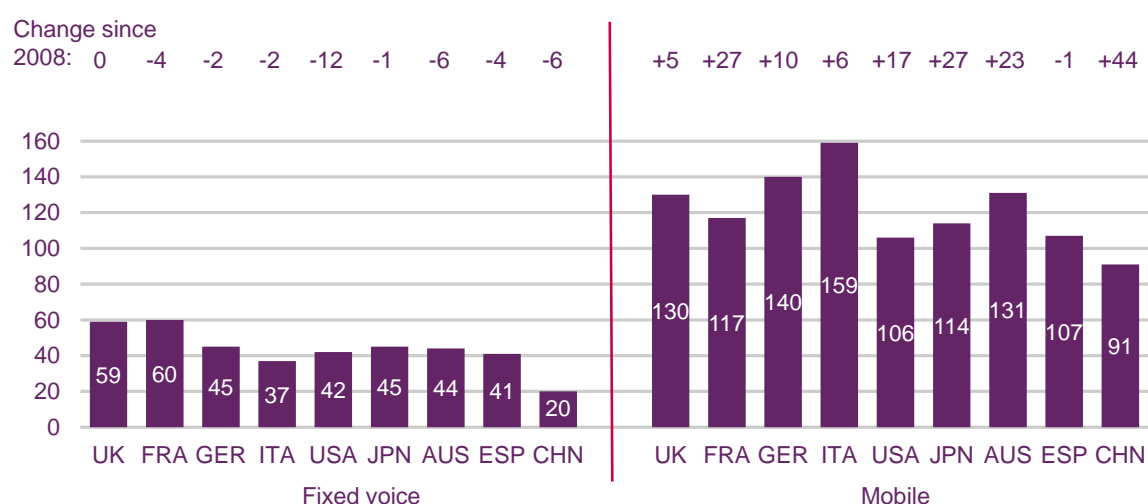
1.2.2 Take-up and use of services and media activities

Fixed voice connections per 100 people continue to fall across our comparator countries but remain most resilient in the UK, where the figure remained unchanged since 2008

France and the UK had the largest number of fixed voice connections per 100 people (including PSTN lines and managed VoIP connections) at the end of 2013, at 60 and 59 respectively. In the UK, this figure was unchanged from five years previously, while in France it represented a fall of four connections per 100 (Figure 1.7). China had the lowest take-up of fixed voice services at the end of 2013, at less than twenty connections per 100 people.

All of the comparator countries in Figure 1.7, except the UK which remained unchanged, saw a fall in the number of fixed voice connections per 100 people in the five years to 2013. These falls are related to growing mobile voice use in most countries, along with increasing use of other forms of communication, such as email, mobile messaging, instant messaging, VoIP and social networking, as well as increased take-up and use of mobile phones (including smartphones).

Figure 1.7 Fixed voice and mobile connections per 100 population: 2013



Source: IHS / Industry data / Ofcom

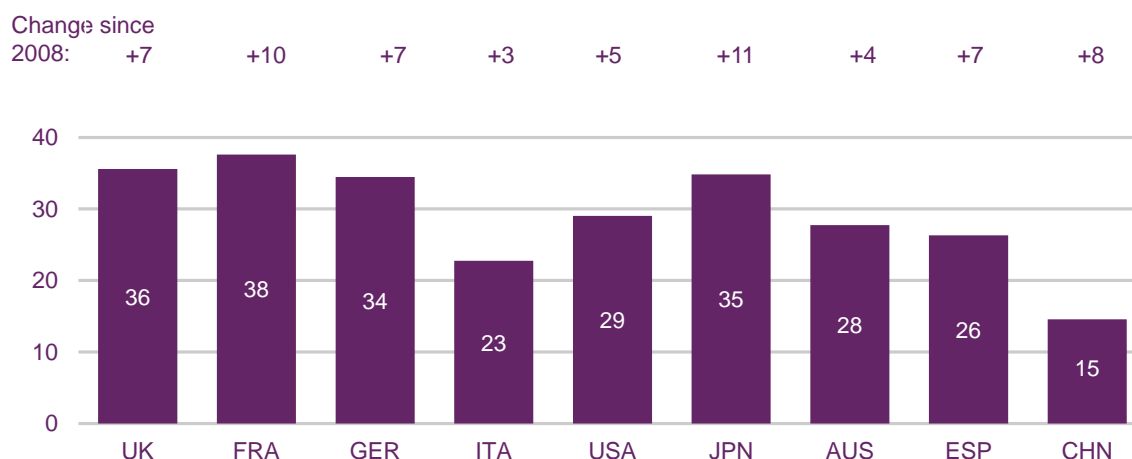
France had the highest number of fixed broadband connections per 100 population at the end of 2013

Across the nine comparator countries shown in Figure 1.8 below, fixed broadband take-up was highest in France at the end of 2013, at 38 connections per 100 people. In the UK there were 36 connections per 100 people at the end of the year, the second highest figure among the countries included in the analysis. Italy had the lowest fixed broadband take-up of the five European countries included in the analysis, at 23 connections per 100 population, followed by Spain with 26 connections per 100 people.

China, where fixed broadband availability is focused on relatively small geographical areas in the highly-populated cities, had the lowest fixed broadband take-up across all nine countries included in the analysis in 2013, at 15 connections per 100 people. But although China had the lowest take-up at the end of 2013, it had the fastest rate of growth in the

number of connections between 2008 and 2013, which more than doubled over this period, and take-up increased by eight connections per 100 people.

Figure 1.8 Fixed broadband connections per 100 population: 2013



Source: IHS / industry data / Ofcom. Note: Broadband connections include business connections

The UK has the second highest proportion, after Spain, of fixed broadband connections with headline speeds of 30Mbit/s or higher, among the EU5 countries

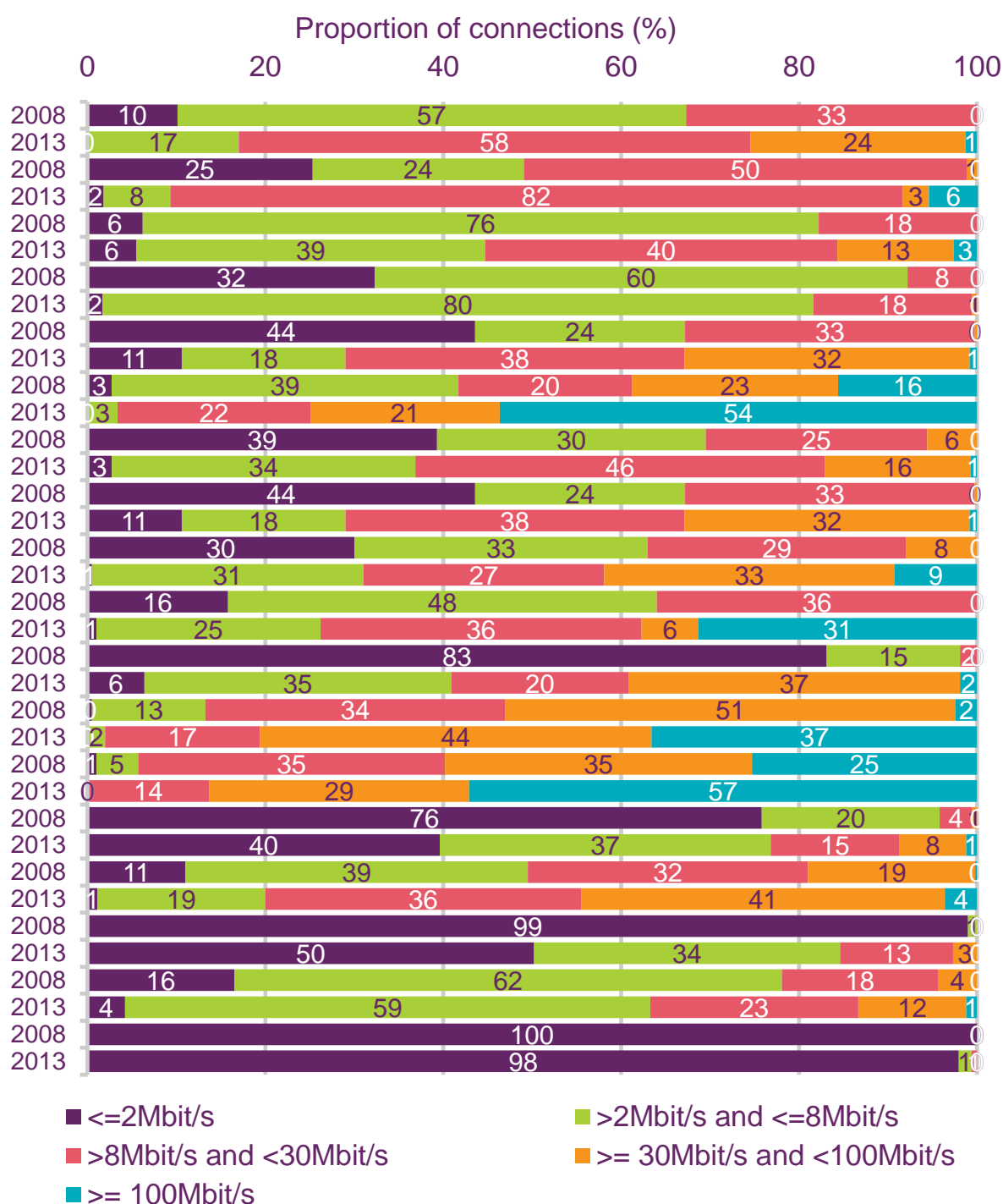
In every comparator country, the proportion of fixed broadband connections with a headline speed 'less than or equal to' 2Mbit/s dropped in the five years to 2013 (excluding those that already held a proportion of less than 1% in 2008).

The UK's proportion of headline speeds of 'more than' 30Mbit/s increased in the five years to 2013, with connections 'more than or equal to' 30Mbit/s and 'less than' 100Mbit/s increasing in proportion by 24 percentage points, and connections 'greater than or equal to' 100Mbit/s increasing by one percentage point, from 0% to 1%. These changes in UK fixed-line broadband take-up by headline speed are indicative of the year-on-year average actual speed increases that the UK has been experiencing.¹² When compared to the other EU5 countries, the UK (at 25%) came second in terms of its proportion of connections 'greater than or equal to' 30Mbit/s, after Spain (33%).

South Korea had the highest proportion of connections with a headline speed of 'more than or equal to' 100Mbit/s. This is probably due to the high levels of government and ISP investment in fixed-line broadband infrastructure (mainly FTTH/B), as well as high population concentration and the large amount of high-rise residential buildings.

¹² <http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/broadband-speeds-may2014/>

Figure 1.9 Fixed broadband connections, by headline speeds: 2008 and 2013



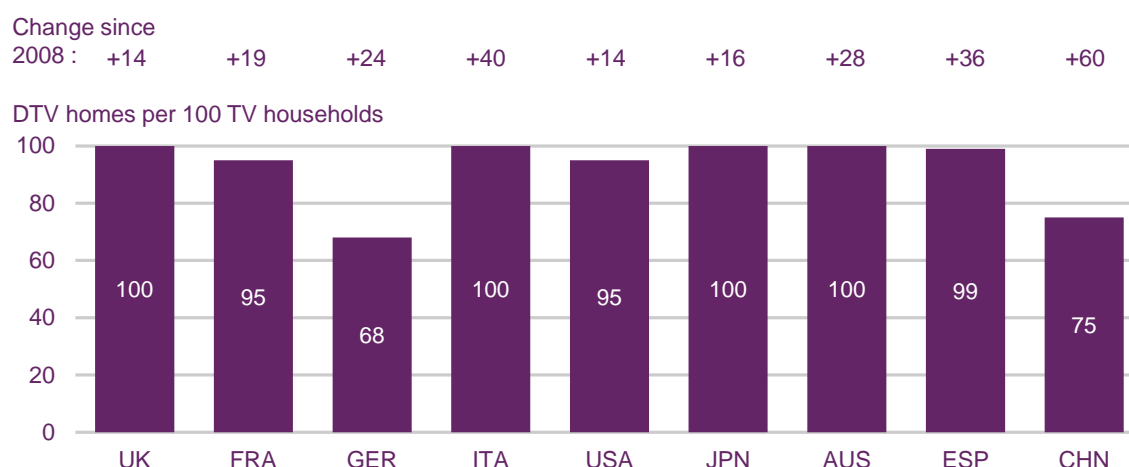
Source: IHS/ Ofcom/ operator data

By 2013 the proportion of homes with televisions that were receiving a digital signal was 95% or higher in almost all our comparator countries

The last analogue terrestrial television signal in the UK was switched off in October 2012 and marked the completion of terrestrial switchover to a digital signal, enabling 100% of all television households in the UK to receive a digital terrestrial signal. Digital take-up remains relatively low in Germany, compared to other European comparator countries, as a result of

the continuing availability of analogue cable services. The rapid growth in take-up in China over the last five years reflects the country's ambition to complete digital switchover by 2018.

Figure 1.10 DTV homes per 100 TV households: 2013



Source: IHS / industry data / Ofcom

1.2.3 Ownership and use of communications devices and media services

Ownership of desktop computers in the home is declining faster in the UK than in other comparator countries

As part of our consumer research we asked respondents about their ownership and personal use of a range of communication and media devices. This research was carried out online, which means that results are derived from a different sample to other Ofcom consumer research, and therefore direct comparisons cannot be made between them.

China reported the highest figure for smartphone take-up, at 80%,¹³ followed by Spain and Japan¹⁴ (77%) and Italy (76%). Take-up in the UK (63%) was in line with Germany (62%), while it was lowest in the US (50%).

Reported ownership of tablets continues to increase in all the comparator countries. According to our survey results, 46% of the UK online population claim to have a tablet computer in their home. Take-up of tablets was highest in China (60%) and Spain (59%) and lowest in Japan, where 28% of the online population claimed to own the device. Laptops remain the most popular device in the home in all countries but the gap between these and smartphones is narrowing. In all the countries we surveyed, at least 70% of respondents claimed to have a laptop in their home; as with tablets, the highest take-up was reported in

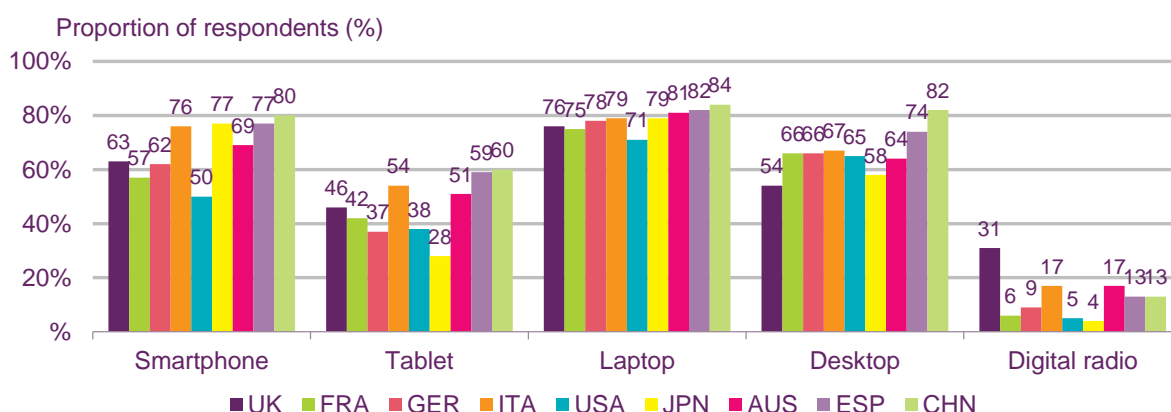
¹³ As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey in China are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

¹⁴ Last year our survey reported smartphone take-up of 34% in Japan. This was the lowest of all of the comparator countries and we believe it was due to the differentiation between a smartphone and a feature phone in Japan; this has been rectified for 2014 by asking to any Japanese respondent who said they have a mobile phone, which features their phone had. All those who selected any 'smartphone' features such as video calling, receiving emails, streaming of online video, etc were then auto-coded into being a smartphone owner.

China (84%) and Spain (82%). The US had the lowest take-up of both laptop (71%) and smartphone (50%) devices among the countries surveyed.

People in the UK reported the largest take-up of digital radio sets; just over three in ten (31%) respondents claimed to have a digital radio in their home.¹⁵ Take-up in Italy and Australia was the next highest (17%). Among the reasons for high take-up in the UK may be the support that UK broadcasters have shown for the technology; for example, launching 'digital-only' stations. DAB coverage is also highest in the UK, reaching 95% of households.¹⁶

Figure 1.11 Ownership and personal use of devices (smartphone, tablet, laptop, desktop, digital radio)



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3a. Which of the following devices do you have in your home? Q.4a Which of the following devices do you personally use?

Among our comparator countries in Europe, penetration of high-definition TV sets is highest in the UK

People in the UK reported the fourth highest take-up of digital video recorders (DVRs), at 30% of those surveyed.¹⁷ The US, at 38%, reported the highest take up. France (14%) reported the lowest take-up of any of the European countries.

Penetration of high-definition TV sets (HDTV) in UK households is 63%; the highest among the European comparator countries. UK take-up is second only to Australia and the US, where it is reported that 67% and 66% of homes respectively now have an HDTV set.

¹⁵ Our results show lower take-up of DAB radio sets than reported by the UK's radio listening measurement body, RAJAR, which reported that 48.7% of the UK population listened to radio in Q3 2014. This is due to methodological differences; our research was designed to compare communications use and attitudes between different countries and not provide a definitive measure of take-up in any one country.

¹⁶ <http://stakeholders.ofcom.org.uk/market-data-research/other/radio-research/digital-radio-reports/digital-radio-2014/>

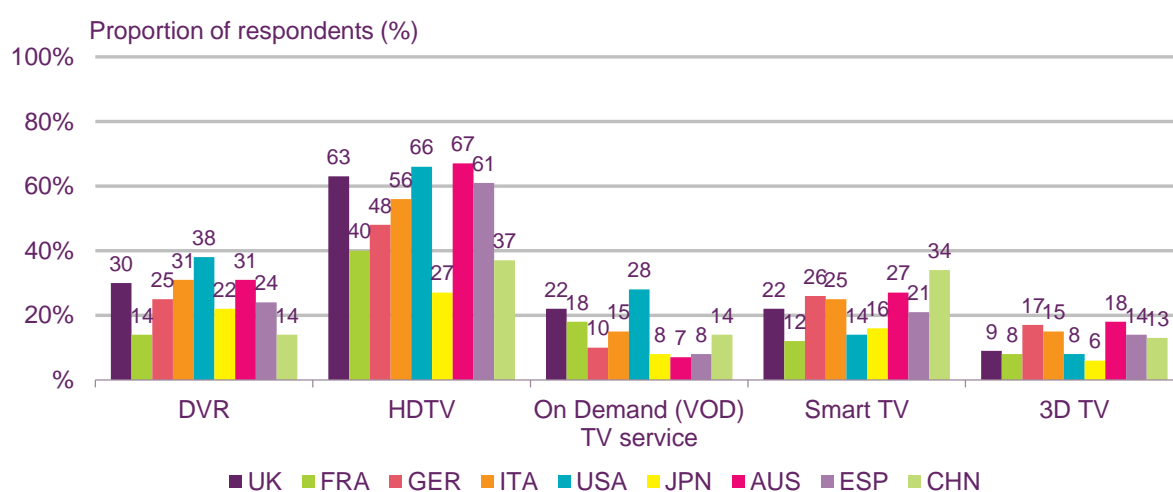
¹⁷ This figure is lower than published data from Ofcom's Technology Tracker. This measures DVR take-up using a series of questions relating to ownership of specific branded set-top boxes. A shorter, non-branded, question is used in the ICMR research for the purposes of international comparison.

Claimed use of video on demand (VoD) services was highest in the US (28%), followed by the UK (22%).

Reported ownership of smart TVs (those with built-in internet functionality) is greatest in China and Australia, with 34% and 27% of homes respectively having such devices. Smart TV ownership in the UK (22%) is comparable with that of Germany (26%) and Italy (25%); the lowest take-up in Europe is in French households, at 12%.

Households in the UK and France are the least likely among the European comparator countries to have 3D-ready TVs, with a reported 9% and 8% take-up in these countries, representing no significant change on the previous year. Take-up was also low in Japan (6%) and the US (8%). The highest European take-up of 3D TVs is reported in Germany (17%) and Italy (15%).

Figure 1.12 Ownership and personal use of devices (DVR, HDTV, VoD, smart TV and 3DTV)



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

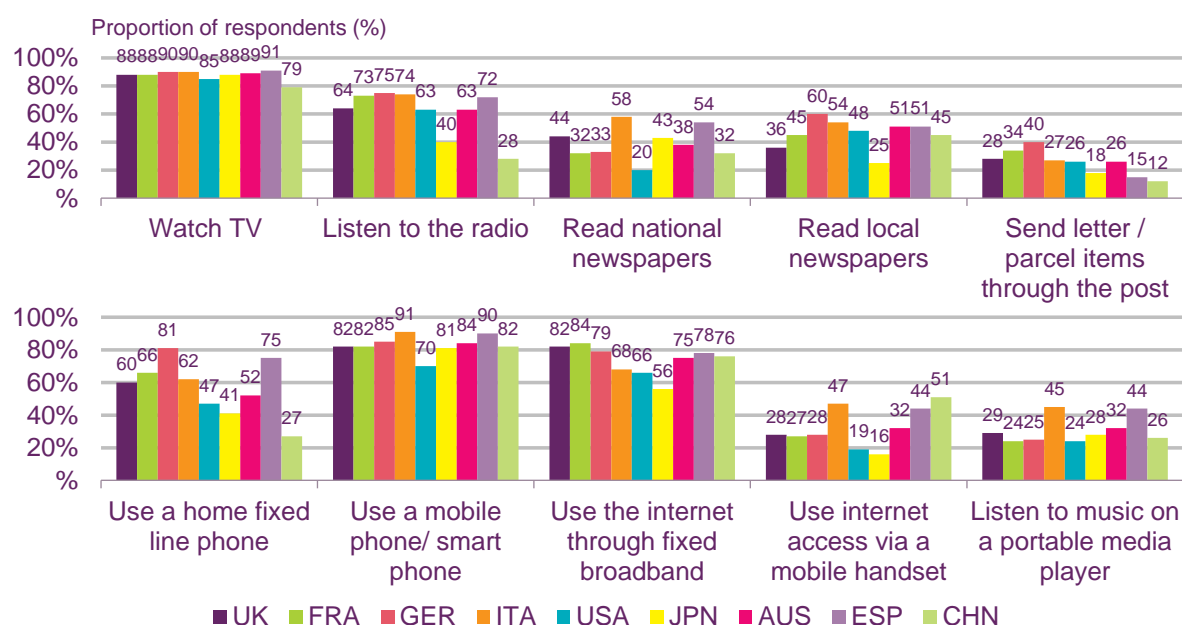
Q3a. Which of the following devices do you have in your home? Q.4a Which of the following devices do you personally use?

Watching television remains the most popular, regularly-undertaken communications activity, but fixed internet and mobile phones are catching up in some countries

Figure 1.13 sets out the proportion of the population regularly engaging (i.e. weekly) in a selection of media and communications activities. In all countries, with the exception of China, watching television was the most popular activity. Last year China was the only country where people were more likely to regularly engage with their mobile phone than with their television. This year we see more people claiming to engage with their phone than their TV on a weekly basis in Italy (91% vs. 90%) and China (82% vs. 79%), and only a 1pp difference in Spain.

The UK (60%) and Italy (62%) had the lowest proportion of respondents who reported regularly using a fixed phone line at home, compared to the other European comparator countries (Germany 81%, Spain, 75%, and France 66%). China is the country with the fewest respondents claiming regularly to use a fixed-line telephone (27%).

Figure 1.13 Regular use of selected communications services / media



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.6 Which of the following do you regularly do (at least once a week)?

1.3 Pricing of communications services

1.3.1 Introduction

In this section we compare communications service prices in the UK with five other comparator countries and look at how consumers in different countries purchase communications services. To do this, we draw on the analysis used to benchmark service prices in the UK against those in France, Germany, Italy, Spain and the US in Section 2 of this report, along with the results of consumer research on bundling. A detailed description of the methodology used for the pricing analysis can be found in Appendix B: Comparative international pricing methodology. The key findings include:

- **In general, UK communications service prices compare favourably to those in the other countries included in the analysis in 2014.** Our analysis shows that, excluding the TV licence fee, the UK had the lowest ‘weighted average’¹⁸ stand-alone prices for four of the five household usage profiles used in the analysis.
- **The UK had the cheapest ‘lowest available’¹⁹ stand-alone fixed broadband prices, and the second-cheapest ‘lowest available’ mobile phone prices, among the six countries included in our analysis in 2014.** The lowest available UK fixed broadband prices were 28% cheaper than those found in the next cheapest country, while mobile prices in the UK were 5% more expensive than in France, where prices were lowest.
- **Excluding the TV licence fee, the UK had the third highest stand-alone pay-TV prices in 2014, after Spain and the US.** While the price of basic pay-TV services in the UK compared favourably with those in the other countries included in the analysis, HD premium pay-TV prices were comparatively expensive.
- **Bundling of communications services is prevalent in most countries.** In six of the nine countries surveyed, over 80% of respondents buy more than two communications services from the same provider. These proportions were highest in Spain, at 90%, and in France (88%) while in the UK it was 83%.
- **Overall, the UK ranked joint top (along with France) in terms of the ‘weighted average’ stand-alone and ‘lowest available’ prices (including bundles).** The UK was one of the two cheapest countries in terms of these metrics for all of the five household usage profiles apart from for the ‘lowest available’ prices of the ‘basic needs’ and ‘sophisticated couple’ households.
- **UK had the second cheapest ‘lowest available’ price for a high use connected family’ household usage profile.** Excluding the TV licence, the ‘lowest available’ price for this household (which has high use of fixed voice, fixed broadband and mobile phone services and a basic HD pay-TV service) was £96 per month in the UK. Among our six countries, only France was cheaper (£80 per month).

¹⁸ ‘Weighted average’ price refers to the sum of the weighted average single-service price of each service included in the household usage profile, these averages being calculated as the average of the lowest priced tariffs offered by the three largest operators which provide the service in each country, weighted by the market share of each service provider.

¹⁹ ‘Lowest available’ refers to the lowest price a consumer could pay for a service, or basket of services, using the tariffs offered by those providers who are included in the Teligon pricing database used for the analysis. ‘Lowest available’ prices can either include or exclude bundled services.

1.3.2 Stand-alone service pricing

The UK has the cheapest 'lowest available' fixed broadband prices but the second highest 'lowest available' fixed voice prices

Figure 1.14 compares 'lowest available' stand-alone residential communications service prices in the UK against those in the other EU5 countries (France, Germany, Italy and Spain) and the US.²⁰ To do this, we use a summary of the analysis presented in Section 2 of this report, which compares stand-alone and bundled service prices for fixed and mobile telecoms and pay-TV services using five baskets of services designed to reflect the use in five 'typical' households. Using a pricing model provided by pricing consultancy Teligen, which contains the residential tariffs offered by the largest providers in each country in July 2014, we calculated the 'lowest possible' price available to fulfil each household's service requirements.

The analysis below shows the total 'lowest available' stand-alone price required to fulfil all five households' usage profile requirements for each service in the six countries included in the Teligen model. For ease of comparison, we have created an index for each service whereby the UK price is 100. As such, a value of less than 100 means that the 'lowest available' price is lower than in the UK, while a value over 100 means that 'lowest available' prices are more expensive than in the UK. However, it is important to note that there are a number of limitations to our analysis of stand-alone communications service prices:

- as is shown in Figure 1.15 below, take-up of bundled services is high in most countries, so stand-alone prices are not directly relevant to all consumers; and
- providers increasingly offer only bundled services (and have withdrawn stand-alone services), so in many countries the analysis is based on only a few available stand-alone prices.

In addition, as our analysis is based on prices offered by the largest providers, it may exclude smaller operators that are seeking to gain market share by offering low prices.

The analysis shows that the UK had the cheapest 'lowest available' stand-alone fixed broadband prices among the six countries included in the analysis in 2014. UK 'lowest available' stand-alone prices were 28% cheaper than in the next cheapest country, Germany (prices were highest in Spain).

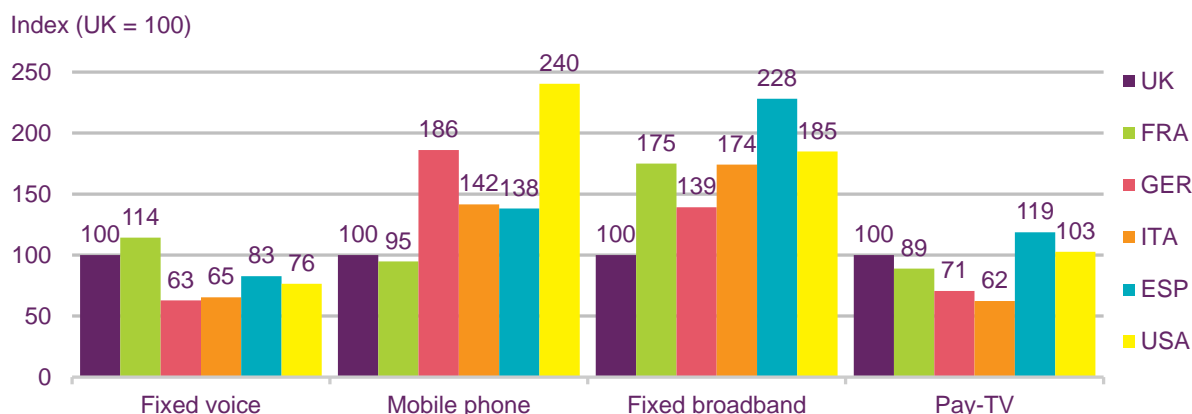
'Lowest available' mobile phone tariffs in the UK were the second cheapest among our comparator countries in 2014, after France; UK prices, on average, were 5% higher than in France (mobile prices in France fell below those in the UK during the year). Mobile phone prices in the US were significantly higher than in any of the other countries included in the research, partly because mobile users in the US have to pay for incoming, as well as outgoing, calls.

The UK had the second-highest 'lowest available' stand-alone fixed voice prices among the six countries included in our analysis in July 2014; only France was more expensive. It is relevant to note that BT was the only UK provider included in the Teligen database that offered stand-alone fixed voice services on the tariff lists published on its website in 2014, so the UK figure below refers only to BT's services. The cheapest 'lowest available' fixed voice prices were found in Germany in 2014, where Vodafone offers a low-cost fixed voice service delivered over its cellular network.

²⁰ We have used the state of Illinois as being a large state which is broadly representative of the country as a whole in terms of wealth and rural/urban split.

It is difficult to compare pay-TV service prices due to differences in the volume and quality of content included in subscriptions, and our analysis found that, excluding the TV licence, the UK had the third highest 'lowest available' price, after Spain and the US. UK basic pay-TV prices compared favourably with those in other countries included in the analysis, although UK premium HD pay-TV prices were comparatively expensive.

Figure 1.14 Comparison of 'lowest available' stand-alone pricing



Source: Ofcom, using data supplied by Teligen.
 Note: Excludes the TV licence fee (where applicable).

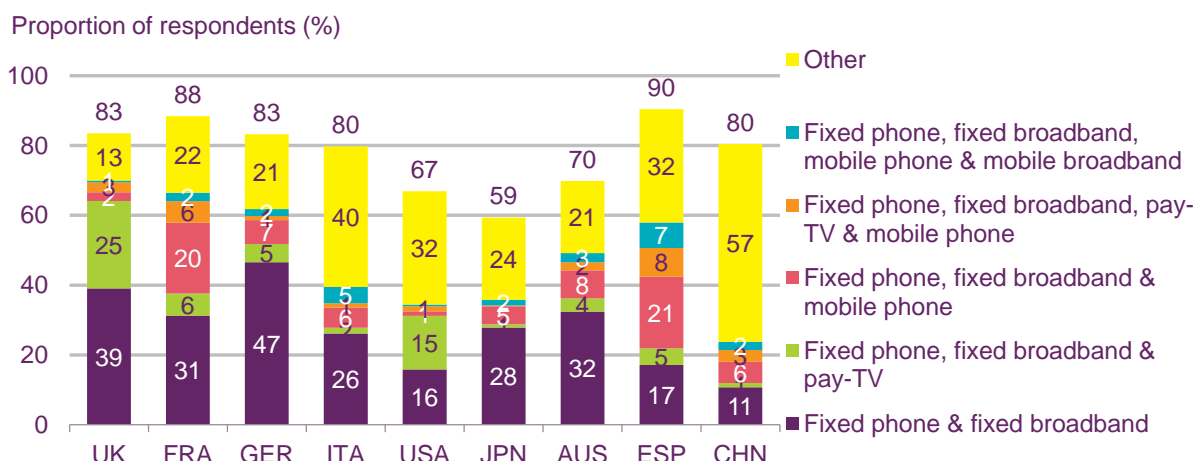
1.3.3 Bundling

In six of the nine countries surveyed, at least 80% of respondents buy more than one communications service from the same provider

Ofcom research asked consumers in nine countries whether they bundled any communications services together (Figure 1.15). This research was undertaken online, so it is likely that the results will not reflect purchasing habits among the wider population of each country. A benefit to consumers of bundling communications services is that bundle prices are typically lower than those available when purchasing the same services on a stand-alone basis. There is also the convenience of receiving a single bill for multiple services.

Among the nine comparator countries, six (UK, France, Germany, Italy, Spain and China) had at least eight in ten respondents who said they purchased two or more communications services as part of a bundle. The proportion was highest in Spain, (90%) and France (88%). In the UK, 83% of respondents bought two or more communications services from the same supplier. The high levels of take-up of bundled services in the UK, France, Germany, Italy, Spain and China indicate that a large proportion of consumers in these countries are likely to be able to take advantage of the benefits of bundling. Japan (59%) had the lowest proportion of respondents who bought bundled communications services, followed by the US (67%) and Australia (70%).

Figure 1.15 Proportion of consumers buying more than one communications service from the same provider



Source: Ofcom consumer research October 2014

Base: All respondents with more than one service, UK=956, FRA=945, GER=941, ITA=931, USA=845, JPN=798, AUS=914, ESP=947, CHN=854

Q.5 Do you receive a package or bundle of two or more of these services from the same supplier?

1.3.4 Bundled services pricing

We now take a closer look at 'lowest available' prices (including bundles) for two of the five household types that are included in the analysis in the international price benchmarking section of this report (Section 2). We have chosen to include these two households as they allow us to compare pricing for households with comparatively high and low use of communications services:

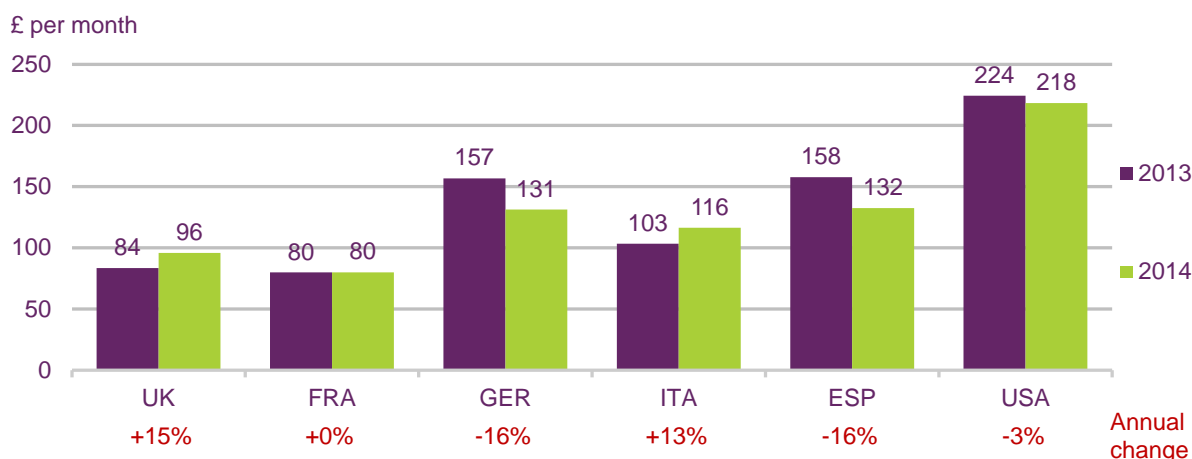
- **The 'connected family' household**, comprising two parents and two teenage children, each with their own mobile handset but with different mobile usage profiles, (the adults using more voice and the children more SMS messages and data). The household is a heavy user of the fixed-line phone and the internet, and subscribes to an entry-level HD pay-TV service with a DVR.
- **The 'basic needs' household**, consisting of a retired low-income couple who have a fixed line and each of whom have a mobile phone which they use to make 50 minutes of calls per month but do not send any SMS messages or use mobile data services. They watch free-to-air multichannel digital television, which is available in all of our comparator countries.

The UK has the second-cheapest 'lowest available' pricing available for the 'connected family' household

The UK had the second cheapest 'lowest available' price for the 'connected family' household in July 2014 at £96 per month; a £12 per month (15%) increase compared to 2013, which was mainly due to increasing 'lowest available' mobile prices.

France, where prices were unchanged during the year, had the cheapest 'lowest available' price for the household (at £80 per month) due to the availability of a low-cost quad-play bundle of fixed voice, fixed broadband, pay-TV and mobile phone services. The US had the most expensive 'lowest available' price for the 'connected family' household in both 2013 and 2014. The largest percentage falls in the 'lowest available' price for the household in the year to July 2014 were in Germany and Spain (both down 16%).

Figure 1.16 'Lowest available' (including bundles) pricing for the 'connected family' household



Source: Ofcom, using data supplied by Teligen
 Note: Excludes the TV licence fee

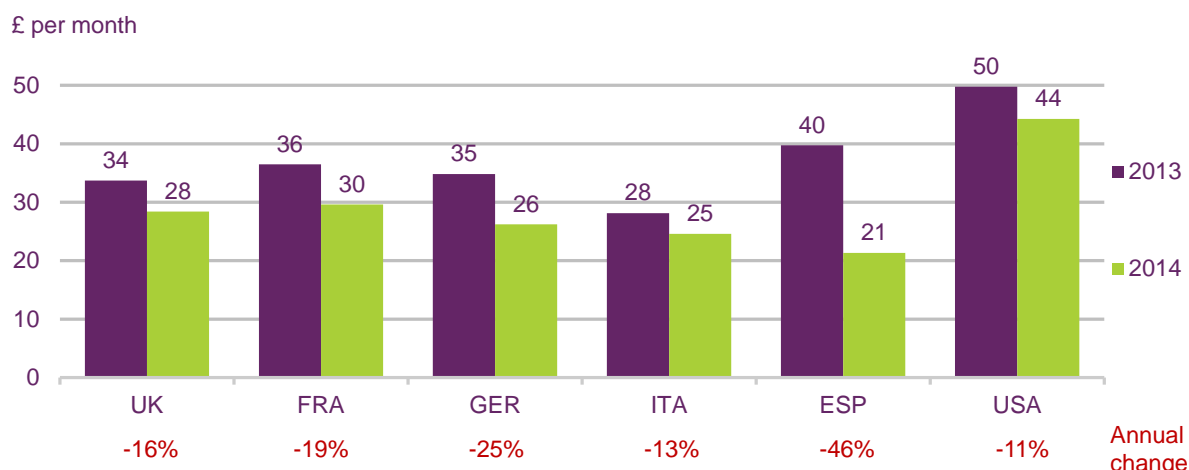
The UK 'lowest available' price for the 'basic needs' household fell by 16% in 2014

There was less variation in the 'lowest available' prices for the 'basic needs' household than for the 'connected family' household, largely because it requires fewer services and has lower fixed and mobile voice use than the 'connected family' household. The UK had the third-highest 'lowest available' price for the basic needs household in July 2014, at £28 per month; a £5 per month (16%) fall since 2013, largely due to a drop in the 'lowest available' price for the mobile component of the household's use.

'Lowest available' prices for the 'basic needs' household fell in all the countries included in the research in the year to July 2014. The largest decline was a 46% fall in Spain, which had the cheapest 'lowest available' price in 2014, at £21 per month. Again, this fall was largely due to a decline in the 'lowest available' price for the household's mobile requirements, although there was also a fall in the lowest available' price of its fixed voice services. The 'lowest available' price in the US (£44 per month) was significantly higher than in the other countries included in the analysis in 2014; it was 49% higher than in the next most expensive country (France).

Low levels of service use (such as those required by the 'basic needs' household usage profile) are likely to be more prevalent among lower-income households. These households may qualify to receive social tariffs, which are excluded from the analysis above.

Figure 1.17 ‘Lowest available’ (including bundles) pricing for the ‘basic needs’ household



Source: Ofcom, using data supplied by Teligen

Note: Excludes the TV licence fee

1.3.5 Summary of international pricing

The UK had the lowest ‘weighted average’ stand-alone prices for four of the five households in 2014

As well as looking at ‘lowest available’ pricing (both including and excluding bundled services) in our six countries, the international price benchmarking section of this report (Section 2) looks at ‘weighted average’ stand-alone prices (that is, the weighted average of the ‘lowest available’ stand-alone prices offered by the three largest providers of each service, weighted by their market shares).

As shown in Figure 1.18 below, the UK had the lowest ‘weighted average’ stand-alone prices for four households in 2014, while France had the ‘lowest available’ prices (including bundles) for three households and the lowest ‘weighted average’ stand-alone price for one household. The UK was one of the two cheapest countries in terms of both ‘weighted average’ stand-alone prices and ‘lowest available’ prices (including bundles) for all of the household usage profiles included in the analysis, apart from the ‘lowest available’ prices for the ‘basic needs’ and ‘sophisticated couple’ households (the lowest- and highest-use household profiles respectively).²¹

²¹ Further details of the ‘sophisticated couple’ households and the other household used in our international price benchmarking work can be found in Section 2 of this report.

Figure 1.18 Comparison of international pricing: 2014

	‘Basic needs’ household		‘Late adopters’ household		‘Mobile power user’ household		‘Connected family’ household		‘Sophisticated couple’ household	
Price (£ per month)	‘Weighted average’	‘Lowest available’	‘Weighted average’	‘Lowest available’	‘Weighted average’	‘Lowest available’	‘Weighted average’	‘Lowest available’	‘Weighted average’	‘Lowest available’
UK	40	28	61	40	81	69	150	96	172	121
FRA	42	30	69	33	81	60	174	80	168	108
GER	44	26	94	47	130	101	261	131	216	126
ITA	46	25	79	41	91	75	207	116	178	103
ESP	49	21	87	50	128	106	223	132	187	143
US	75	44	112	87	153	118	286	218	275	214

Source: Ofcom, using data supplied by Teligen

Note: Green circle indicates the lowest pricing across all six countries included in this analysis

The UK ranked joint first in price across these five households

In Figure 1.19 below we have created an overall price ranking for each of the six countries included in the analysis by averaging each country’s rank for the ‘weighted average’ stand-alone prices and the ‘lowest available’ prices (including bundles) for the five household usage profiles shown in Figure 1.18. The UK was ranked joint first with France in 2014, with the US coming out bottom in both 2013 and 2014. The UK’s average rank was unchanged during the year, at 1.9.

Figure 1.19 Average overall rank based on ‘weighted average’ stand-alone and lowest available prices, available across all five households: 2013 and 2014
(Lower is better)

2014 rank	Country	Average rank 2013	Average rank 2014
1=	UK	1.9	1.9
1=	FRA	2.4	1.9
3	ITA	2.0	2.8
4=	GER	4.0	4.2
4=	ESP	4.8	4.2
6	USA	5.9	6.0

Source: Ofcom, using data supplied by Teligen

1.4 4G services

1.4.1 Introduction

In this section of the report we compare mobile 4G connections, in terms of coverage, take-up and consumer satisfaction, in our comparator countries, drawing on industry data as well as consumer research carried out in October 2014. The key findings include:

- **4G mobile coverage increased in most comparator countries in 2013**, with the Netherlands seeing the largest year-on-year increase.
- **Among the EU5 countries, Germany had the highest proportion of mobile connections that were 4G at the end of 2013 followed jointly by the UK and France.** Among all our comparator countries South Korea had the highest proportion of mobile connections that were 4G with 51% of connections. More generally the US and the Asia Pacific countries had the highest proportion of 4G connections, with more than 20% of mobile connections being 4G.
- **The most likely reason for respondents choosing a 4G service was speed, namely download and streaming speeds.** In the UK 39% of people either with, or likely to purchase, a 4G service chose it because of download speeds.
- **Across our comparator countries, satisfaction with mobile phone service among 4G users was higher than among non-4G users** for all aspects of mobile phone service asked about, except 'price paid'.

4G mobile coverage increased in most comparator countries in 2013

4G²² availability tended to be higher in more developed countries with high population concentrations such as South Korea, Singapore and Sweden, at the end of 2013. The higher the population concentration of a country, the easier it is to deploy mobile services, as less infrastructure and investment is needed.

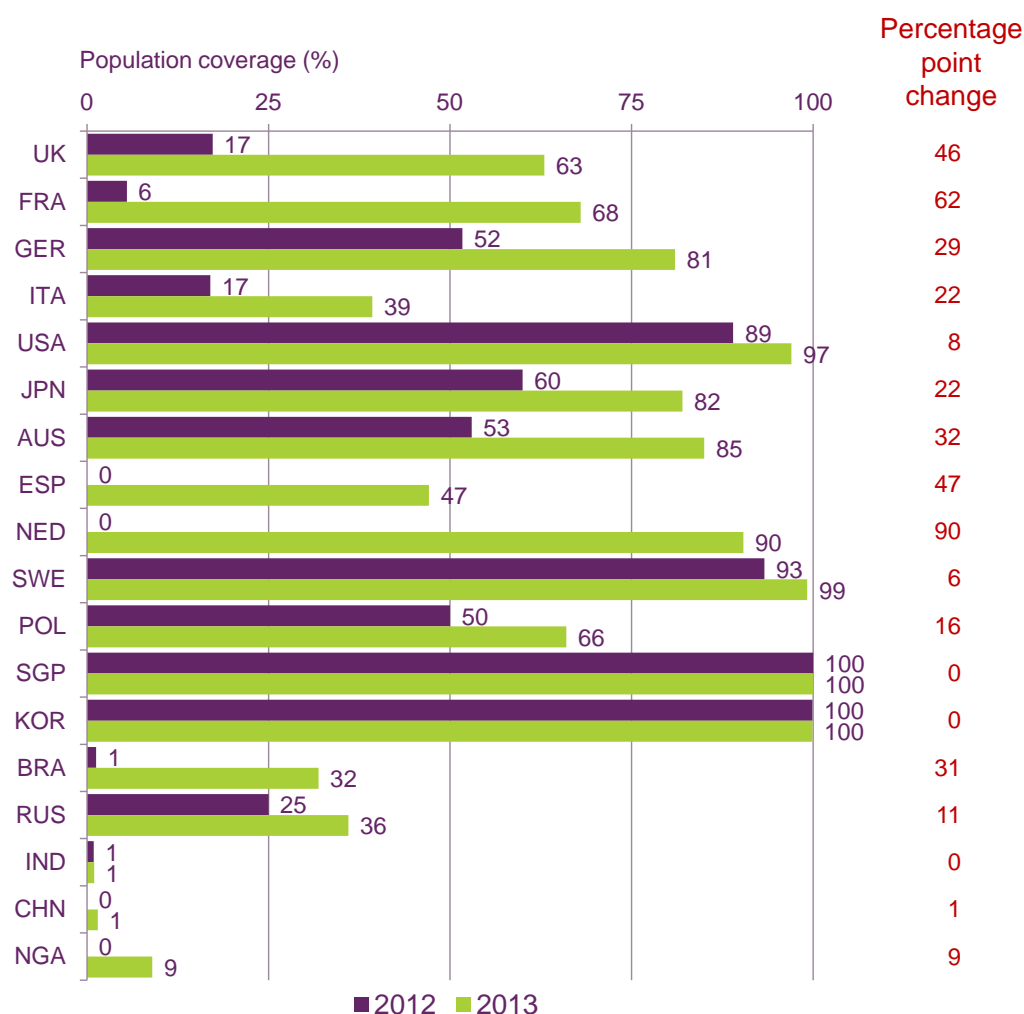
Despite their later roll-out of 4G networks, population coverage growth in Europe and Australia has exceeded that in the majority of other comparator countries, with the UK experiencing a 46pp gain between 2012 and 2013, to 63%. According to IHS, UK 4G population coverage increased from 17% to 63% in 2013, the UK being ranked 11th of our 18 countries at the end of the year (Figure 1.20). UK 4G roll-out continues to progress rapidly, and Ofcom data show that by June 2014 73% of premises were in areas with 4G coverage.²³ Singapore and South Korea had 100% 4G coverage on the basis of population by the end of 2012, as a result of early 4G roll-out and high population concentration.

The lowest 4G coverage at the end of 2013 was in India, China and Nigeria. This is to be expected, due to late commercial deployment of 4G and lower population densities. As shown in Figure 1.20, 4G coverage increased significantly in the majority of our comparator countries in 2013, with the largest change being in the Netherlands (a 90 pp increase). This is likely to be due to the relatively small size of the Netherlands, facilitating rapid roll-out of 4G services.

²² The fourth generation of mobile communication standards, providing higher speeds than the preceding standards (1G, 2G and 3G). In this report when we refer to 4G we are talking about mobile 4G, excluding technologies such as WiMAX and Relish.

²³ Ofcom, *Communications Market Report 2014*, Telecoms section
http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr14/UK_5.pdf

Figure 1.20 4G population coverage (%) by country: 2012-2013



Source: IHS

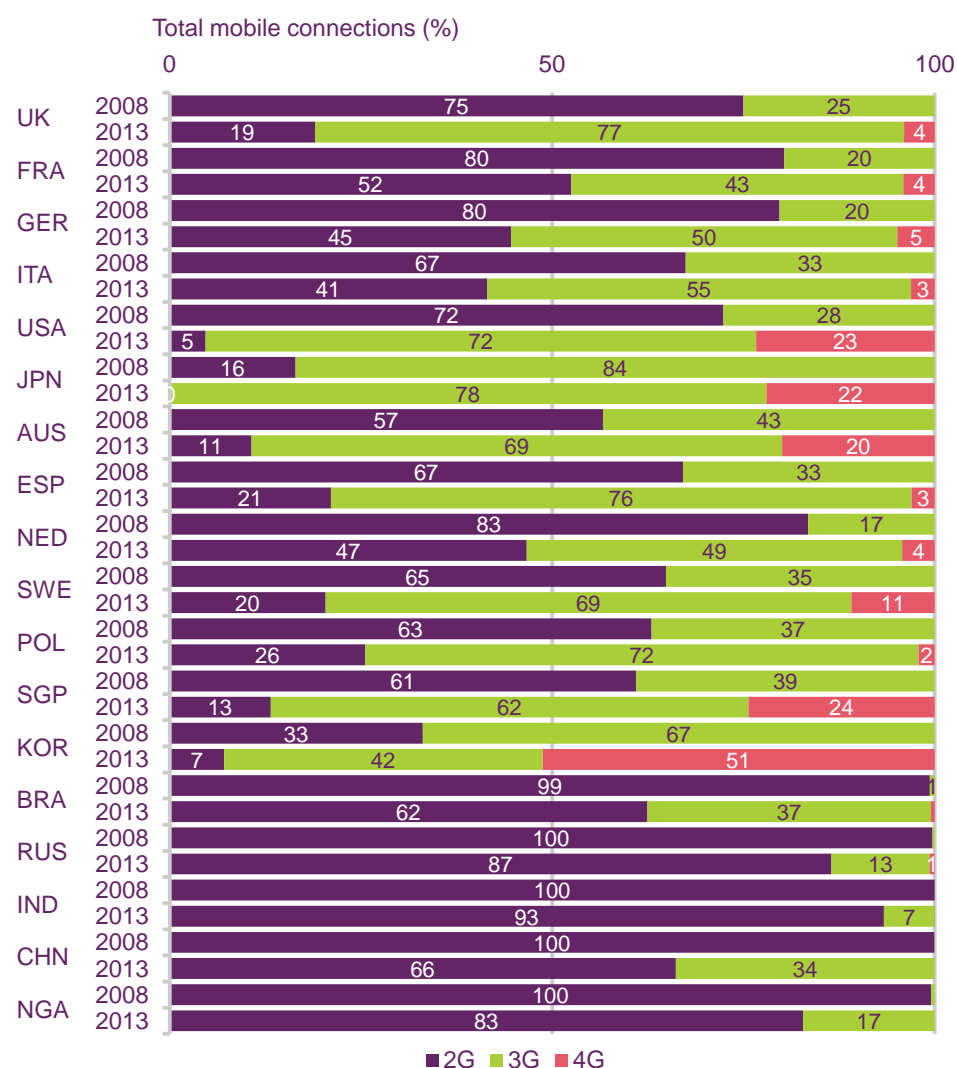
Among the EU5 countries, Germany had the highest proportion of mobile connections that were 4G at the end of 2013, followed jointly by the UK and France

All our comparator countries experienced an increase in the proportion of mobile connections that were 3G in the five years to 2013, while there was also an increase in 4G take-up in those countries where services had launched (Figure 1.21). Over half of the mobile connections in Brazil, Russia, India and China (the 'BRIC' countries) and Nigeria were 2G at the end of 2013, while 4G take-up was low among these countries (highest in Russia, at just 1% of mobile connections).

The proportion of mobile connections that were 4G was low in most of our comparator countries at the end of 2013 and take-up tended to be higher in countries such as South Korea and the US, where services are more established (having launched in 2010/11). Among all our comparator countries South Korea had the highest proportion of mobile connections that were 4G with 51% of connections, mainly due to heavy government and operator investment in 4G infrastructure, and the early commercial launch of services (in 2011). More generally the US and the Asia Pacific countries had the highest proportion of 4G connections, with more than 20% of mobile connections being 4G. Among the EU5 countries, Germany had the highest proportion of mobile connections that were 4G at the

end of 2013, followed jointly by the UK and France (4%) - the low figure possibly due to the relatively recent full commercial launch of 4G.

Figure 1.21 Mobile connections, by technology: 2008 and 2013



Source: IHS/Ofcom/operator data

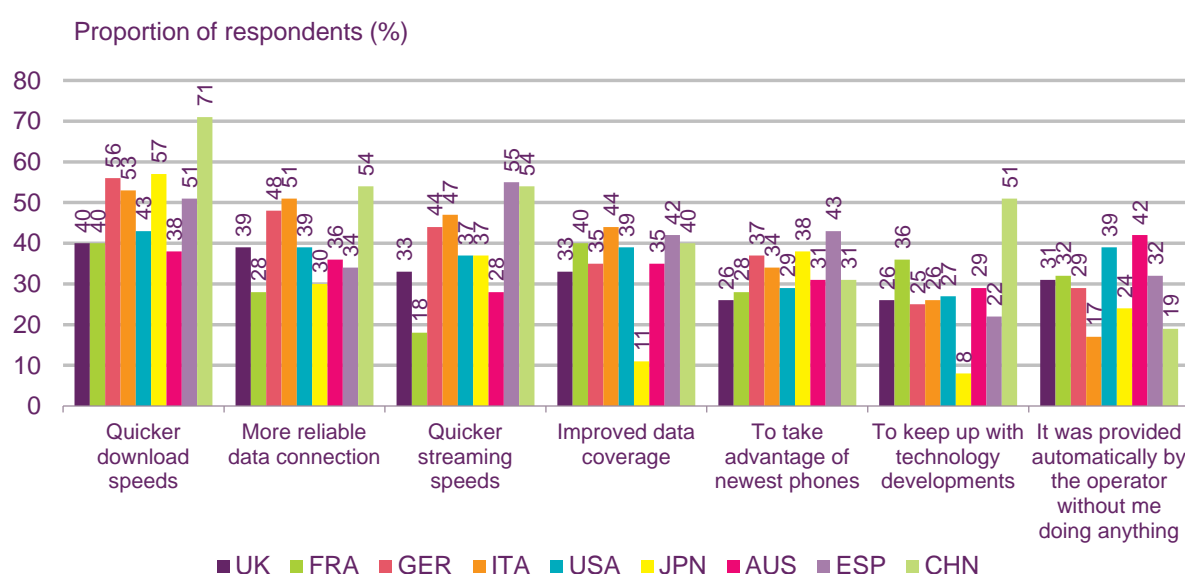
Notes: Notes: 1) 2G - Second generation digital cellular networks which superseded initial analogue services. Most use the Global Standard for Mobile (GSM) standard, but second generation cellular networks also include TDMA, early CDMA networks that do not meet the standard required to be considered 3G, and PCS in Japan. 2G networks focus on the delivery of voice, but later versions offer packet data through for example GPRS. We consider the evolution of GSM to Edge capability to be a second generation network technology. 2) 3G - A wireless mobile technology which must allow for data transfer speeds up to 2Mbps. W-CDMA, CDMA 2000 1xEV-DO and any of the HSPA family (including HSPA, HSDPA and HSUPA) are considered 3G. IHS does not consider CDMA 2000 1x networks as 3G since the maximum data transfer speed is 144Kbps. Later revisions of the EDGE technology do fulfil this specification, but most EDGE networks are not considered 3G since most EDGE deployments are earlier revisions. 3) 4G - The fourth generation network technology deployed by cellular operators. We limit our definition to those networks using one of the LTE (Long Term Evolution) standards such as FDD-LTE (frequency division duplexing LTE) or TD-LTE (time division LTE) , We do not include HSPA+ networks -- which we consider to be a 3G technology.

Quicker download speeds are the most likely reason for choosing 4G, for respondents who either have, or are likely to get, a 4G service

In the majority of comparator countries, quicker speeds (download/streaming) were the most likely reason why respondents would choose 4G (Figure 1.22). This was not the case in Australia, where the most-mentioned reason for choosing 4G (for 42% of respondents) was that the operator provided it automatically. France was the only other exception; quicker download speeds and improved data coverage were the equally most-mentioned reasons for respondents choosing a 4G service (40% for each).

The proportion of respondents for whom the operator provided 4G automatically varied significantly between comparator countries. Australia and the US had the highest proportion of respondents citing this reason for choosing 4G (at 42% and 39% respectively), while Italy and China had the lowest proportion (at 17% and 19% respectively).

Figure 1.22 Reasons for choosing 4G



Source: Ofcom consumer research October 2014

Base: All respondents who have or are likely to get 4G, UK=285, FRA=293, GER=192, ITA=362, USA=409, JPN=259, AUS=440, ESP=406, CHN=539

Q.23 You said that you have/ are likely to get a 4G service [in the next 12 months]. Which of the following are reasons why you got/ are likely to get a 4G contract?

Respondents with 4G services were more likely to stream or download video on their mobile phone²⁴

Japan and France were the only comparator countries where there was no significant difference between the level of respondents streaming or downloading video (either daily or weekly) on 4G than on non-4G services (Figure 1.23). The respondents in the remainder of the comparator countries were more likely to use online video services on 4G.

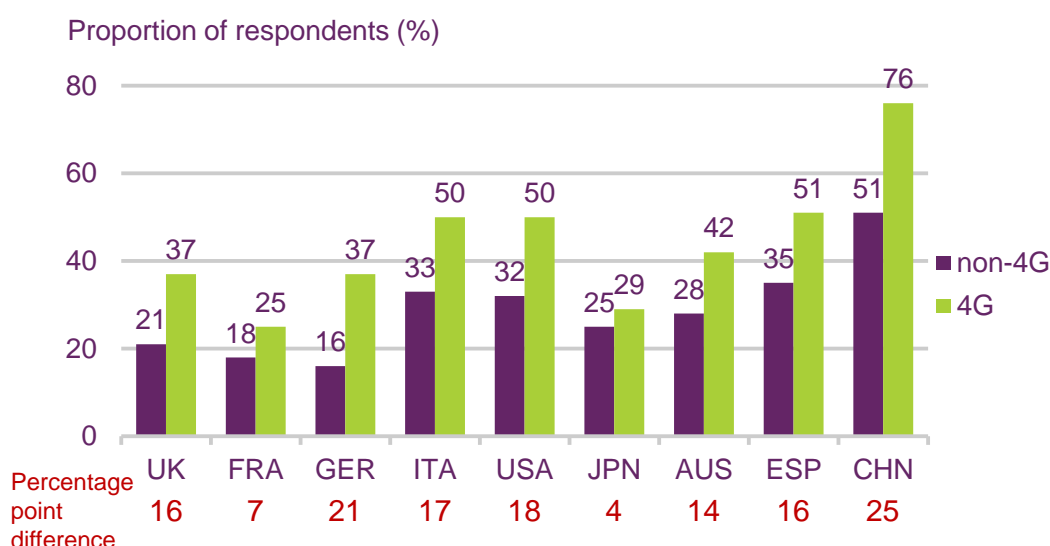
Just over one in five (21%) of UK non-4G respondents were likely to use online video services often, compared to 37% of 4G respondents. It is likely that online video use is more

²⁴ It should be noted, however, that early adopters of 4G are more likely to be heavy users of mobile data services.

prevalent among 4G users due to the higher streaming and download speeds that are available with 4G technology.

In China a large proportion of respondents accessed online video content or downloads across both 4G and non-4G. However, as internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants.²⁵

Figure 1.23 Proportion of respondents video streaming/downloading on a mobile phone at least weekly, among 4G and non-4G users



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3b. Which of the following services do you have in your home? Q9a. Which, if any, of the following internet activities do you use each of your devices for?

Across our comparator countries, satisfaction among 4G users was higher than among non-4G users for all aspects of mobile phone service asked about, except 'price paid'

The comparator countries where overall 4G satisfaction was significantly higher than overall non-4G satisfaction were the UK, France and Spain. The percentage point differences between overall 4G and non-4G satisfaction in these countries were ten for the UK and France, and 12 for Spain.

Of the five measures of satisfaction included in Figure 1.24, 'price paid' was the only one for which 4G satisfaction levels were lower than non-4G levels, with significant differences in the UK (66% compared to 80%) and Australia (64% compared to 73%).

Respondent satisfaction levels with 4G speeds were significantly higher than for non-4G speeds in every comparator country. Satisfaction levels surrounding the reliability of the internet connection were similar, with only France and the US having no significant differences in satisfaction levels when comparing 4G and non-4G.

²⁵ Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

Satisfaction in terms of ability to access the network was significantly higher for 4G respondents in the majority of countries, excluding France, Germany and the US. There are many factors that affect reception, and therefore ability to access the network.

Figure 1.24 Satisfaction with mobile phone services



Source: Ofcom consumer research October 2014

Base (4G): All respondents with mobile broadband internet access or those who access the internet access via a mobile handset on a 4G network, UK=81, FRA=99, GER=54, ITA=83, USA=136, JPN=93, AUS=164, ESP=113, CHN=132.

Base (non-4G): All respondents with mobile broadband internet access or those who access the internet access via a mobile handset not on a 4G network, UK=252, FRA=261, GER=315, ITA=562, USA=138, JPN=140, AUS=282, ESP=491, CHN=431

Q.25 To what extent are you satisfied or dissatisfied with the following aspects of your mobile phone service?

1.5 News consumption – the international context

1.5.1 Introduction

This section looks at the consumption of news. The first part of the section focuses on digital news consumption, and presents a summary of the key findings from the Reuters Institute *Digital News Report*, published in June 2014. The second part presents the findings from Ofcom's new research across a number of countries, which focus on the platform people say they use as their main source for different types of news. The key findings include:

- **One quarter of UK online news users now say their main device for online news is their mobile** - 24%, up 11pp since 2013. And one in six (16%) nominate a tablet as their main device for online news, also up 11pp since 2013, and the highest across all the reported countries.
- **In the UK and Spain, people are more likely to start their digital 'news journey' with a news brand**, whereas online news users in other countries are more likely to begin with a search engine. In France and Germany, people are twice as likely to use search as they are a news brand.
- **TV remains the main source of news about the world** for audiences in most countries, although in Italy, Japan and China the internet is the main source. However, the internet is the main source for celebrity and entertainment news in all countries except Germany and Spain.
- **Newspapers and magazines are more popular for local/regional news than for other types of news**. The popularity of newspapers and magazines for local/regional news is broadly comparable to that of TV and the internet, in contrast to the results for international and national news: in Germany, newspapers and magazines are the main source, and in France, the US and Australia they are the second most important source.

1.5.2 Digital news consumption – a comparative study

This section provides a summary of key findings from the Reuters Institute *Digital News Report*, published in June 2014.²⁶ Ofcom, alongside other partners, provides support for this project. The research provides comparisons between the UK, the US, France, Germany, Japan, Italy, Spain, Denmark, Finland and urban Brazil. To maintain consistency with Ofcom's data, this summary does not include the data in the study that relate to Denmark or Finland.

The report shows that news is perceived quite differently in different countries, and consumption habits also differ considerably in a number of areas, particularly related to social media.

The survey was completed by an online panel of 2082 UK news users for YouGov in January/February 2014. Online surveys were also conducted in the other countries, with samples ranging from 1015 (urban Brazil) to 2197 (the US). In this section, we refer to these people as 'online users of news', which means they have online access and said they had

²⁶ Available at: <http://www.digitalnewsreport.org/>

used any form of (offline or online) news in the previous month. For further methodological details please see <http://www.digitalnewsreport.org/survey/2014/survey-methodology-2014/>.

Online users of news in the UK and urban Brazil are least likely to say they are interested in news about politics

Figure 1.25 sets out the relative levels of interest that online users of news have in various types of news, in the countries under comparison. In the UK and urban Brazil, people are least likely to say they are interested in news about politics (37%), compared to around half of respondents in Germany (51%), Italy (54%), the US (46%) and Japan (52%).

Online news users in the UK are the most likely of the countries in the sample to say that they are interested in news about their own country (71%); those in the US (57%) and Japan (52%) are the least likely. However, online news users in the US are most likely to be interested in local news (57%), while 46% of those in the UK are interested. Regional news is of interest to four in ten (38%) UK news users, a similar proportion as in Italy, compared to half (51%) in Germany.

Respondents in Japan are most likely to say they are interested in entertainment/celebrity, and fun/weird news, compared to other nations – 24% and 28% respectively.

Figure 1.25 Levels of interest in types of news

	UK	FRA	GER	ITA	US	JPN	ESP	Urban BRA
News about the country	71%	64%	67%	59%	57%	52%	63%	66%
International news	49%	52%	64%	49%	39%	43%	45%	41%
Local news about my town or city	46%	37%	47%	45%	57%	31%	42%	47%
News about my region	38%	41%	51%	38%	31%	33%	42%	12%
Business and financial news	21%	15%	17%	15%	20%	26%	13%	29%
News about the economy	39%	27%	29%	33%	46%	44%	38%	34%
Entertainment and celebrity news	17%	13%	15%	13%	15%	24%	14%	22%
Fun/weird news	15%	22%	14%	21%	16%	28%	18%	15%
Health and education news	28%	31%	30%	38%	28%	30%	37%	57%
Arts and culture news	12%	15%	9%	24%	10%	15%	19%	27%
Sports news	29%	25%	28%	29%	20%	28%	35%	30%
News about the country's politics	37%	45%	51%	54%	46%	52%	40%	37%
Science and technology news	25%	28%	27%	35%	28%	26%	33%	43%

Source: Reuters Institute / YouGov research Jan/Feb 2014

Q: Which of the following types of news is most important to you? Choose up to five.

Base: UK (n=2082) France (n=1946) Germany (n=2063) Italy (n=2010) US (n=2197) Japan (n=1973) Spain (n=2017) urban Brazil(n=1015)

Smartphones are the main source of online news for one in four users

Which platforms do people prefer to use for their online news consumption? Over the past year there has been considerable growth in the proportion of online news users nominating devices other than the PC/laptop for their main means of online news consumption. In the UK; 57% now say that the PC/laptop is their main source for online news, down 23pp since 2013.

Conversely, the use of smartphones and tablets have both increased by 11pp, with 24% of UK online news users saying their main way of accessing news is via a smartphone, and 16% via a tablet. While respondents in Germany, France and Spain show a similar affinity for the mobile, the use of the tablet is less prevalent among other countries; people in the UK are the most likely to nominate this as their main way of accessing online news.

Figure 1.26 Main online source of news, by country

	UK	FRA	GER	ITA	USA	JPN	ESP	Urban BRA
Computer	57%	61%	60%	69%	69%	79%	63%	62%
Smartphone	24%	22%	24%	19%	17%	15%	22%	18%
Tablet	16%	8%	9%	8%	10%	3%	9%	8%

Source: Reuters Institute / YouGov research Jan/Feb 2014

Q8b.5 You say you use the following devices to access news in the last week, which is your MAIN way of accessing online news?

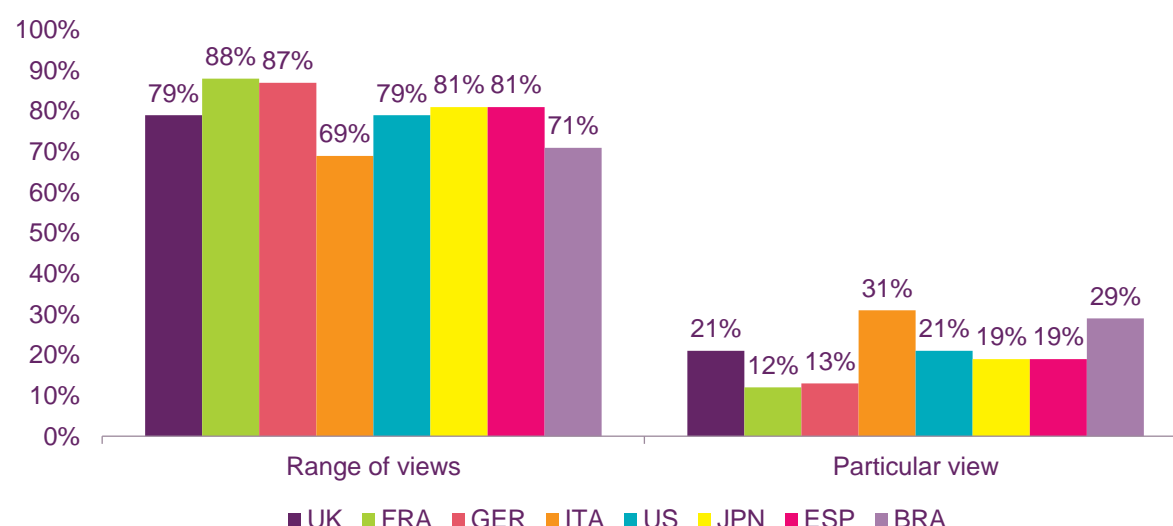
Base: UK (n=2082) France (n=1946) Germany (n=2063) Italy (n=2010) US (n=2197) Japan (n=1973) Spain (n=2017) urban Brazil(n=1015)

Most respondents say they have a preference for 'a range of views'

Respondents were asked whether they preferred news where the reporter tried to reflect 'a range of views' or gave 'a particular view'.

Figure 1.27 shows that online news users say they prefer a range of views, ranging from 88% in France to 69% in Italy. Those in Italy and urban Brazil were more likely than the other countries to say that they preferred news to have a particular view (31% in Italy and 29% in Brazil). People in the UK and US (21%) were more likely to prefer the particular view, compared to those in Germany and France, who were the least likely to prefer this option (France 12% and Germany 13%).

Figure 1.27 Preference for diverse news, by country



Source: Reuters Institute / YouGov research Jan/Feb 2014

Q5c: Thinking about different kinds of news available to you, do you prefer where the reporter tries to reflect...

Base: UK (n=2082) France (n=1946) Germany (n=2063) Italy (n=2010) US (n=2197) Japan (n=1973) Spain (n=2017) urban Brazil(n=1015)

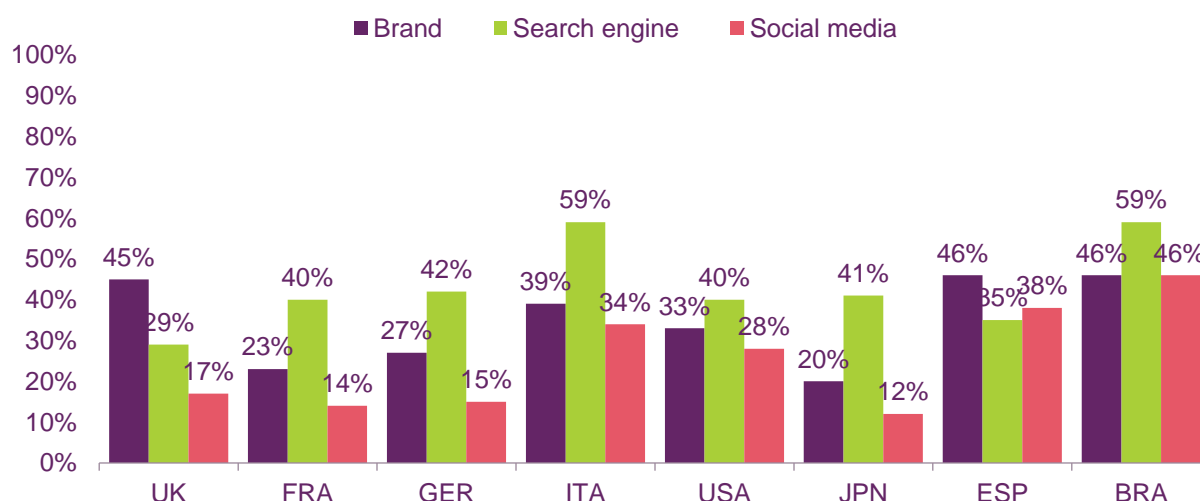
Respondents in the UK are more likely to use traditional news brands online than search engines or social media to access news

When asked which online news providers they had used in the past week, respondents in the UK were less likely than those in other countries to have used search engines (Figure 1.28). Search engines are most popular in Italy and urban Brazil (59% each).

Instead, respondents in the UK are more likely to directly use news brands such as the BBC, Sky News, or Mail Online, with nearly half (48%) accessing news this way. People in Spain are also more likely to access news brands directly (46%), with other countries much less likely – only one in five in Japan, and one in four in France, access news from news brands.

Social media is used by 46% of respondents in urban Brazil, and 38% in Spain, compared with 14% in France, 15% in Germany and 17% in the UK.

Figure 1.28 Comparison of online use of traditional brands, search engines and social media



Source: Reuters Institute / YouGov research Jan/Feb 2014

Q10: Which were the ways in which you came across news stories last week?

Base: UK (n=2082) France (n=1946) Germany (n=2063) Italy (n=2010) US (n=2197) Japan (n=1973) Spain (n=2017) urban Brazil (n=1015)

Note: respondents were asked about ways of accessing news additional to the subset discussed here

Talking with friends and colleagues remains the most popular way in which respondents share news

There are various ways of engaging with news online. Figure 1.29 shows how respondents in each country say they use online news stories. Offline discussion is still the most popular way; with between one third and half of respondents in each country saying they talk face to face with friends and colleagues about the news - although in Japan this drops to 14%.

Urban Brazil, Spain, Italy and the US are the most likely to say they share news via social networks, while 12% of those in the UK say they do this.

Again, 'rating' or 'liking' a story is more common in Italy, Spain and urban Brazil, while commenting on a news website is more likely to take place in urban Brazil, the US and Italy, with 7% of users in the UK saying they do this.

Figure 1.29 Sharing, commenting and creating news, by country

	UK	FRA	GER	ITA	US	JPN	ESP	Urban BRA
Share a news via a social network	12%	11%	13%	35%	22%	8%	30%	42%
Rate or like a story	8%	10%	17%	31%	15%	6%	25%	22%
Comment on news website	7%	7%	8%	13%	14%	3%	7%	19%
Online vote	11%	11%	16%	24%	25%	4%	16%	22%
Talk to friends online	16%	15%	13%	19%	29%	7%	24%	33%
Talk with friends and colleagues	39%	30%	41%	40%	44%	14%	48%	44%

Source: Reuters Institute / YouGov research Jan/Feb 2014

Q13: During an average week in which, if any, of the following ways do you share or participate in news coverage? Multiple answers allowed, only some responses included here.

Base: UK (n=2082) France (n=1946) Germany (n=2063) Italy (n=2010) US (n=2197) Japan (n=1973) Spain (n=2017) urban Brazil(n=1015)

1.5.3 Main platforms for news

The following analysis uses data from Ofcom's research. Participants were asked what they used as their main source for different types of news: national, international, regional and local, sports, and celebrity news. The news sources comprised TV, the internet, the radio, newspapers and magazines and "getting news from other people".

The survey was undertaken online, with around 1,000 respondents in each country. Countries covered were the UK, France, Germany, Italy, the US, Japan, Australia, Spain and China. As the research was carried out online, the sample differs from other Ofcom research and direct comparisons cannot be made with our 2014 *News Report*. The research methodology is discussed in detail in Appendix A.

The main sources for international news are TV and internet

In the UK, TV is the main source for international news for 40% of respondents, followed by the internet (34%). Newspapers are nominated as a main source by one in ten, and 6% source international news from the radio.

Other countries show varying patterns in terms of whether TV or the internet is most important for people for this type of news.

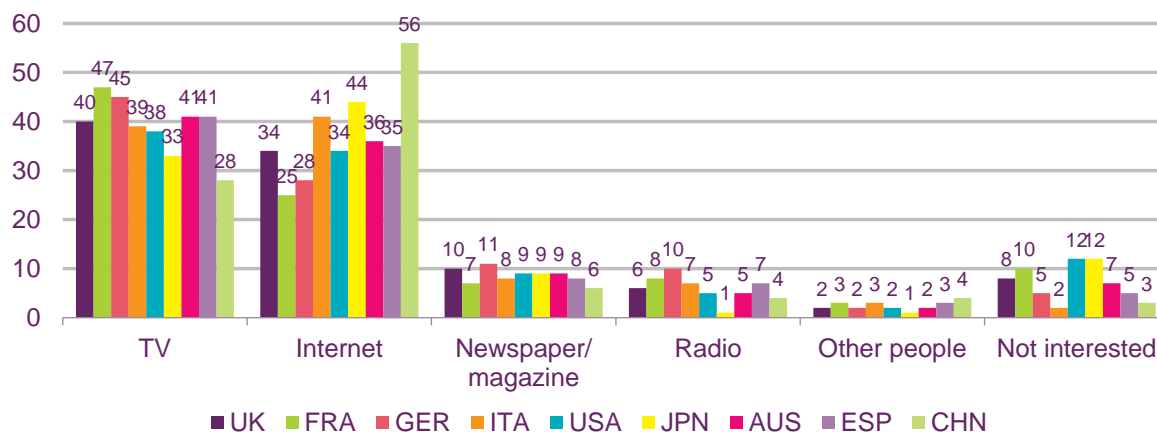
In France, people are most likely to nominate TV (47%), with about half this amount citing the internet (25%), whereas in China²⁷, over half (56%) nominate the internet as their main source, and just over a quarter (28%) the TV. In the US, almost equal proportions nominate

²⁷ As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey in China are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

TV (38%) or the internet (34%) as their main source of international news, and 12% say they aren't interested, the same proportion as respondents in Japan. In Germany, newspapers (11%) and radio (10%) are more likely than in a number of other countries to be nominated as the main source for international news, and TV (at 45%) is more popular than the internet (28%).

Figure 1.30 Main sources of international news

All respondents %



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

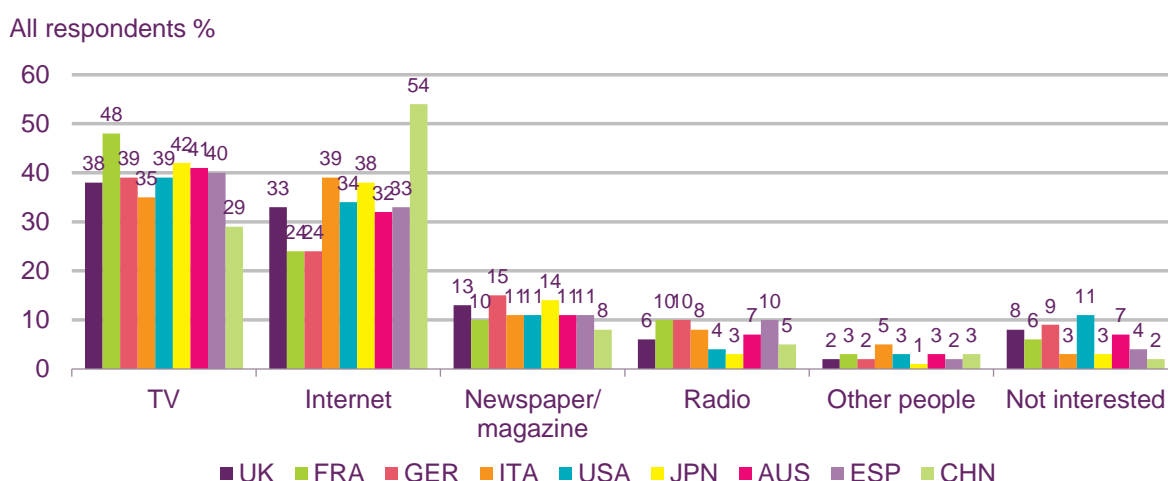
Q.11 Which, if any, is your main source for the following information? International news

One in three UK respondents say the internet is their main source of national news

As with international news, in terms of the main source for 'news about your country', people in the UK say they use TV as their main source (38%) with one in three (33%) nominating the internet. Thirteen per cent nominate newspapers, and 6% the radio.

People in France, as with international news, are most likely to nominate TV as their main source (48%), with one in four (24%) nominating the internet as their main source of national news. Respondents in China are more likely to say the internet (54%) rather than the TV (29%) is their main source of national news.

Figure 1.31 Main sources of national news



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.11 Which, if any, is your main source for the following information? National news

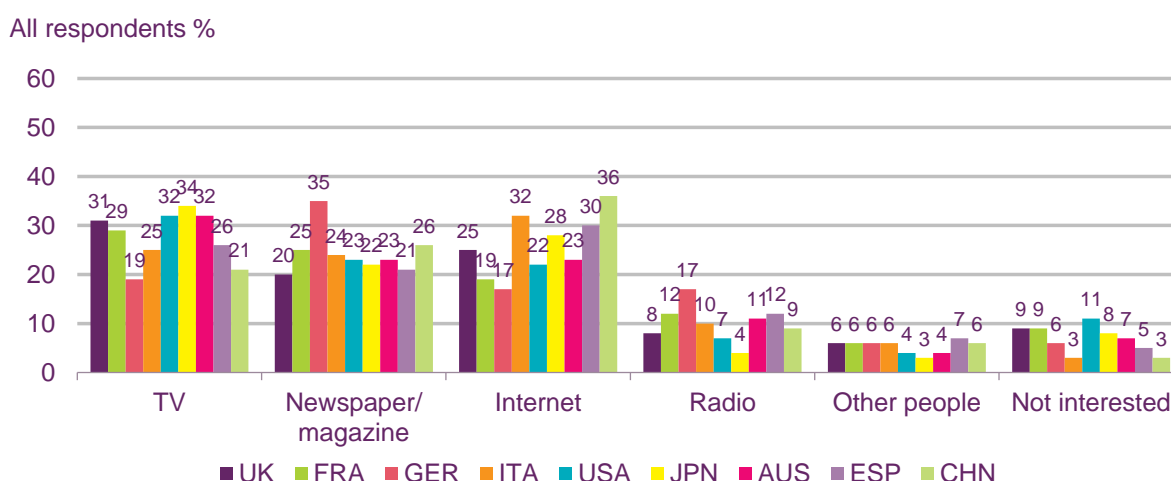
Newspapers and magazines are more popular for local/regional news than for other types of news

The overall picture changes when online users are asked about their main sources of information about their locality or region. Here, the use of newspapers and magazines is broadly equal to the use of TV and internet, in contrast to the results for international and national news.

In the UK, France, the US, Japan, and Australia, around three in ten claim TV is their main source of local news. In Germany, over one in three (35%) say their main source of local news is newspapers and magazines, while in Italy, Spain and China the main source of local news is the internet. In France, the US and Australia newspapers are nominated as the second most important source.

Radio is nominated as the main source by more people for local/regional news than for international or national news; 17% of those in Germany say it is their main source, and 12% of those in France and Spain, compared to 8% in the UK.

Figure 1.32 Main sources of regional / local news



Source: Ofcom consumer research October 2014

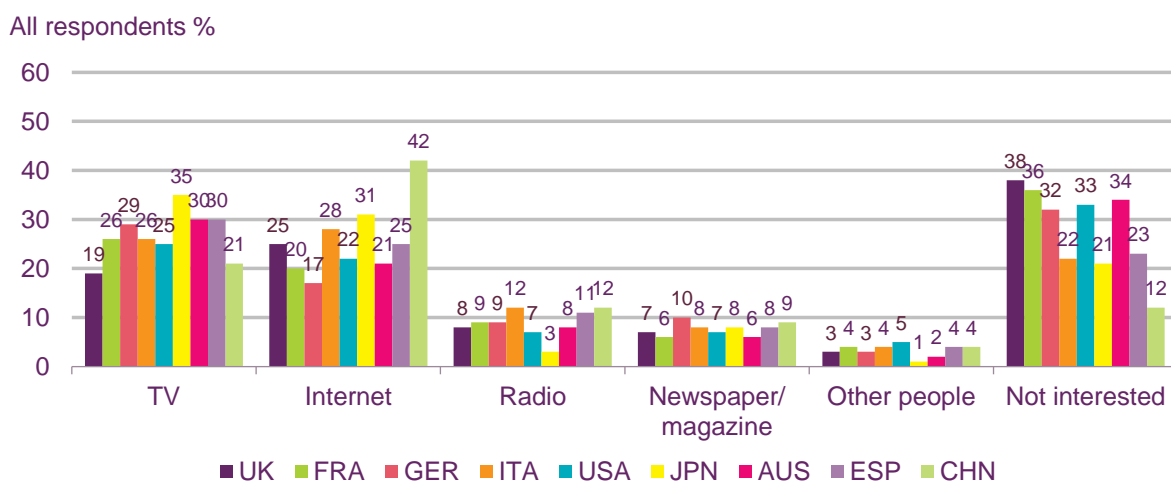
Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.11 Which, if any, is your main source for the following information? Regional / local news

One in four UK respondents say their main source for sports news is the internet

Respondents were asked about their main source of sports news. The TV and the internet are the main sources; in the UK, people are more likely to say the internet is their main source (25%) than the TV (19%). Around one-third of people in the UK, France, Germany, the US and Australia say they are not interested in sports news, although in China (12%), Italy (22%) and Japan (21%) they are much less likely to say this.

Figure 1.33 Main sources of sports news



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.11 Which, if any, is your main source for the following information? Sports news

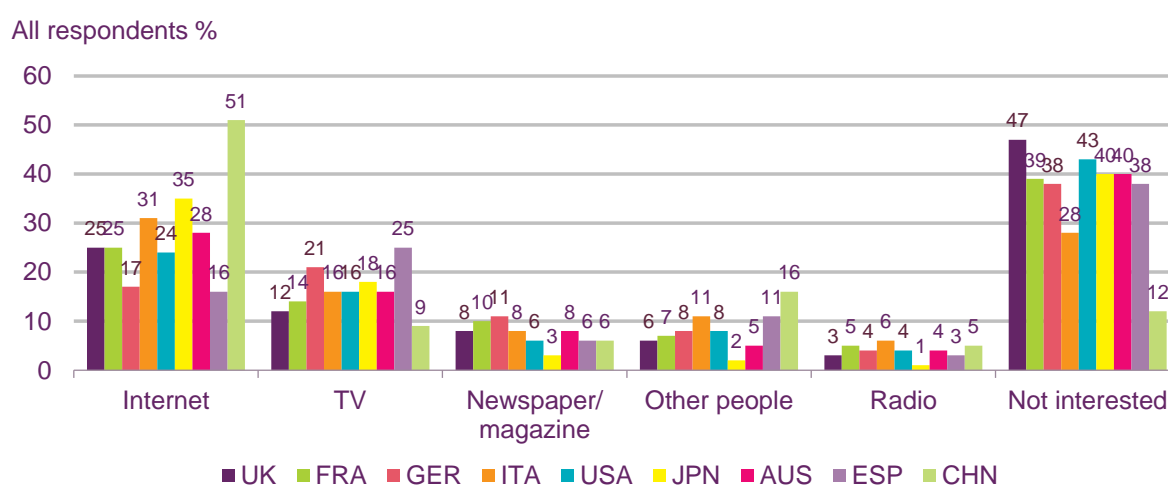
The internet is the most-cited main source for celebrity news and gossip

Nearly half (47%) of UK respondents say they are not interested in celebrity news and gossip, as do around four in ten of respondents in France, Germany, the US, Japan, Australia and Spain. This drops to 28% in Italy and 12% in China.

The internet is more popular than TV as a main source for celebrity news, with around one-quarter to one-third of respondents in most countries nominating it. China, again, is most likely to nominate the internet, with 51% saying they use it as their main source for celebrity news.²⁸ TV is more popular for celebrity news in Germany (with 21% nominating it as their main source, compared to 17% for the internet) and in Spain (25% vs. 16% for the internet).

'Other people' was nominated as a main source by 16% of respondents in China, and by 11% in Italy and Spain.

Figure 1.34 Main sources of celebrity news/gossip



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.11 Which, if any, is your main source for the following information? Celebrity news/ gossip

²⁸ As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey in China are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

1.6 Mobile payments

1.6.1 Introduction and summary

This section looks at mobile payments, which we define broadly as any payment that is enabled in some way by mobile devices and connectivity. We draw on recent work Ofcom has carried out in this area,²⁹ Ofcom consumer research, and selected third-party sources, to report recent developments in the availability and use of mobile payments. The key findings include:

- **Advancements in communications technology are driving new financial payments business models, involving mobile operators, financial services firms, retailers, device manufacturers and start-ups.** The UK and London in particular, is a leading centre for investment in the financial technology 'fintech' sector – which includes electronic and mobile payment businesses.
- **Despite a range of recent payment service launches, and interest in the use of near-field communications technology (NFC) to allow contactless payments, take-up of mobile payments – in particular at the retail point of sale – remains relatively low** in comparison to the use of mobile banking across key comparator countries. Among the comparator countries, people in Italy, Japan, the US and China were more likely to have used a mobile payment to purchase a physical good.
- **Concerns about security and privacy were among the most commonly cited reasons why people with phones had never made a mobile payment.** In addition, significant numbers of people in the comparator countries said that they had not used mobile payments due to the convenience of cash, and credit and debit cards.

Mobile networks and devices are increasingly being used to make payments

Mobile payments include a range of innovative ways in which payment can be made using mobile devices and mobile connectivity. These include new ways in which retailers accept payments, and new ways for consumers to make payments. Despite the differences in definition, and the challenges in data gathering, there is evidence that the volume and use of mobile payments is increasing.³⁰

There are a number of ways in which a payment can be made using a mobile device (in person or remotely); in the way a payment is authenticated (for example, via an app, by tapping on a reader or using a QR code); and the source of funds used (bank account, debit/credit card account, dedicated pre-pay balance). Mobile payments services may include multiple funding sources and user interfaces. This means that it is difficult to categorise mobile payments. However, Figure 1.35 presents some examples of consumer-facing mobile payment innovations seen across our comparator countries.

²⁹ Please see the joint Ofcom – Payment Systems Regulator study *Innovation in UK consumer electronic payments* report published in November 2014 available at <http://stakeholders.ofcom.org.uk/binaries/research/technology-research/2014/e-payments.pdf>

³⁰ For example, Juniper Research estimates that the value of payments via mobile devices will increase nearly 40% YoY to around \$507b in 2014. In 2013 CapGemini forecast that m-Payments (defined as payments made in real time where the phone is the payment method rather than a way to send the payment instruction) would grow from 4.6 billion transactions in 2010 to 28.9 billion transactions by 2014 (a compound annual growth rate of 58.5% over the period) See: <http://www.juniperresearch.com/viewpressrelease.php?pr=437> and http://www.capgemini.com/resource-file-access/resource/pdf/wpr_2013.pdf%20

Figure 1.35 Examples of consumer-facing innovation in mobile payments

Type of mobile payment	Description	Selected examples
Banking apps	Apps to access bank accounts and perform banking functions	BBVA Espana (Spain), CommBank App (Australia)
Digital wallets	Service provides store of funds which can be used to make payments	mPesa (India), Zuum (Brazil), Vodafone Smartpass (UK, Germany, Netherlands, Spain), MTN Mobile Wallet (Nigeria), Google Wallet, PayPal
Integrated payments	Payments integrated into digital platforms	iTunes, Amazon (available in multiple comparator countries)
Mobile payment services	Access to interbank payment system via mobile handset	Paym (UK), Zapp (UK-2015), PSP (Poland), FAST (Singapore)
Operator billing	Goods and services charged to mobile bill	DCMX Mini (Japan), public transport ticketing (France, Sweden)
Payments-enabled handsets	Mobile handsets able to make contactless payments via NFC or authenticate payments via Bluetooth Low Energy	NFC handsets available in multiple countries. Some MNOs offer retrofit to non-NFC handsets e.g. SingTel NFC SIM Card (Singapore)

Source: Ofcom.

The scope and type of mobile payments varies across our comparator countries. For example, the charging of goods and services to consumers' phone bills is well-established in Japan; the DCMX Mini service enables customers to use mobile bills as a form of credit for small purchases (products from vending machines are commonly bought in this way). In the UK, such purchases are generally limited to digital goods purchased via premium-rate services, while in some European countries (in Sweden, and in the French city of Nice), transport tickets can be charged to consumers' phone bills.

The roll-out of near-field communications (NFC)-enabled contactless point-of-sale terminals varies by country. High availability in the UK has enabled services such as EE's Cash on Tap and Vodafone's SmartPass (also available in Germany, Spain, the Netherlands and Italy), which enables consumers with an NFC-enabled handset to make contactless payments that draw funds from a digital wallet. High take-up of mobile banking in the UK has helped drive take-up of the Paym service, whereby mobile users can send money to each other using their bank's mobile banking application simply by using phone numbers (rather than sharing bank account details).

Other innovations enabled by mobile devices and wireless networks include merchant point-of-sale innovations that use smartphones and tablets rather than dedicated terminals. These may offer a low-cost option for small retailers and sole traders to accept debit and credit cards. Examples include Square (in the US), iZettle (in Sweden) and PayLeven (in Germany).

Communications technology is driving new financial payment business models

The past few years have seen renewed interest in new ways of providing financial services. Major suppliers, new-entrant businesses and not-for profit organisations have all taken advantage of the widespread availability of connected devices and open software tools to develop new payments services. This is in addition to new financial services products,

including crypto-currencies such as Bitcoin that provide both a store of value, and a decentralised peer-to-peer payment system.

The high levels of interest in mobile payments are reflected in investment patterns. According to Accenture, the flow of venture capital financing into the financial technology (fintech) sector, which includes mobile payments, more than tripled to almost \$3bn between 2008 and 2013. The US (in particular Silicon Valley) is the largest global centre for fintech investment, while most fintech investment in Europe is in the UK and Ireland (in particular London), accounting for 53% of European fintech deals in 2013 and 69% of investment in Europe (\$265m).³¹ EY estimates that the payments industry accounts for around half of the £20bn revenue generated from the UK's fintech sector. Of this, around £1.9bn is generated by the online payments subsector, an area identified by EY as a further growth opportunity for the UK.³²

Examining mobile payments across our comparator markets indicates a wide scope of innovation by a variety of players.

Apple has moved into mobile payments with ApplePay. Launched in September 2014, and initially available only in the US, this is a mobile wallet service that enables consumers to make in-store contactless payments using NFC technology with compatible iPhones, iPads and Apple watches linked to their Visa, MasterCard or American Express cards. Apple's move is seen by some as being potentially disruptive to established payments methods, given that there are currently 800 million iTunes accounts – most of which have payment account information attached to them.

PayPal announced PayPal Beacon in September 2013 with its initial roll-out targeting the UK, the US, Australia and Japan, as well as Hong Kong and Canada. Using Bluetooth Low Energy beacons to communicate with mobile devices, the system allows registered consumers to make in-store purchases without needing to use a physically present credit or debit card. The system enables the store to verify the customer through a picture and authentication via the user's handset.

Card networks are also developing mobile payment systems, in partnership with a range of firms including banks and mobile operators. For example, Visa Europe is rolling out V.Me (a mobile and online wallet) and Pay Pass. MasterCard is promoting its MasterPass mobile payments platform across its global markets and has partnered with mobile network operators (MNOs) in Europe, including EE in the UK and Telefonica in Latin America.

Mobile network operators have also developed a range of mobile payments services independently. Vodafone's mPesa mobile wallet/e-money service offers an alternative payments system for consumers in countries where there is low availability of banking services and low reach of bank accounts. Originally deployed in Asia and Africa, mPesa launched in Europe in 2014, offering a service in Romania. In other European markets Vodafone has launched its SmartPass service. In the UK EE has launched Cash on Tap which allows subscribers with selected handsets to make payments for goods and services (including public transport in London) of up to £20 by touching their phone against a contactless reader. In the US, AT&T, T-Mobile and Verizon have formed a mobile payments joint venture, ISIS, and partnered with American Express to form the SoftCard mobile wallet.

³¹ Source: Accenture (2014), The Boom in Global Fintech Investment: A new growth opportunity for London available from <http://www.accenture.com/Microsites/fsinsights/capital-markets-uk/Documents/Accenture-Global-Boom-in-Fintech-Investment.pdf>

³² Source: E&Y (2014) Landscaping UK Fintech available from [http://www.ey.com/Publication/vwLUAssets/Landscaping_UK_Fintech/\\$FILE/EY-Landscaping-UK-Fintech.pdf](http://www.ey.com/Publication/vwLUAssets/Landscaping_UK_Fintech/$FILE/EY-Landscaping-UK-Fintech.pdf)

In the US a group of merchants including WalMart and CVS have created Merchants Customer Exchange (MCX) to develop their own mobile payments system; Current C.

Retail banks are looking to build mobile payments services into their mobile banking applications. For example, Paym in the UK allows customers of most banks to send payments to each other, using their mobile phone number as a proxy for bank account details. Another system backed by UK banks is Zapp, a mobile payments service scheduled to launch in 2015 which will allow consumers to make payments direct to retailers from their bank accounts, bypassing the card networks. Bank-to-bank payment systems such as these require a suitable interbank payment system, like Faster Payments developed for UK banks and Singapore's FAST. In Poland a consortium of six banks are working with the clearing system to launch the PSP mobile payments system by the end of 2014.³³

Different market characteristics determine varying approaches to mobile payments

The varying pace and type of developments in mobile payments across different countries reflect differences in the characteristics of communications and financial services markets in each country, as well as differing approaches to regulation.

Take-up of smartphones and NFC handsets and the availability of networks varies between our comparator countries. The availability of 3G and 4G networks, and smartphone penetration, may impact the business case for, and take-up of, some forms of mobile payments service, such as those which use mobile applications. However, some mobile wallet/mobile money services, notably those deployed in emerging markets such as mPesa and Zuum, are SIM-based and require only a basic handset. Users access the service via on-phone menus and confirm transactions using a passcode. This type of mobile payment solution may require support from the MNOs (as they issue the SIM cards), but are examples of payment services that use SIM technology independently of a mobile network.³⁴

The existing financial services market in each country also affects the varying development of mobile payments. In established and mature markets with high take-up of current accounts and debit and credit cards, mobile payments innovations frequently focus on enabling consumers to make payments using their existing bank cards and bank accounts via a mobile phone. Banks and card networks may play a role in promoting mobile payments and other mobile banking services, as a way to reduce costs and build deeper relationships with customers. In other markets, with less established financial services sectors and lower penetration of financial services (such as sub-Saharan Africa), other players such as MNOs may seek to play more of a role; they can use their network of pre-pay credit vendors as outlets where users can convert cash to credit for mobile wallets.

The range of services offered, and their take-up, may also be affected by telecoms and financial services regulation, which differs between jurisdictions. However, in the EU (UK, France, Germany, Italy, Spain, the Netherlands, Sweden and Poland among our comparator countries), mobile payments are subject to the EU's harmonised financial services service regulation. Subject to meeting certain criteria, this allows a regulated entity based in one country to offer services throughout the EU. Some types of mobile payment involving operator billing may also be subject to countries' premium-rate services regulation. To avoid being subject to financial services regulation, MNOs and other suppliers may choose to

³³ <http://vulcanpost.com/6316/rejoice-instant-interbank-transfer-available-from-today-onwards-in-singapore/> and http://www.uokik.gov.pl/news.php?news_id=11105

³⁴ These are 'overlay SIMs' which may offer handset functionality independently from MNOs. Users include banks in China which allows them to offer SMS-based mobile banking to rural customers independently of the MNOs <http://www.cgap.org/blog/china-%E2%80%93-future-leader-branchless-banking-poor>

partner with regulated financial services entities (EE, O2 and Vodafone have recently partnered with Boku to allow physical goods and services to be added to subscribers' phone bills). In some cases MNOs are offering financial services themselves, making them subject to both telecoms and financial services regulation.

Consumers in China, Italy and the US among our comparator countries are the most likely to have made a mobile payment

Mobile phone users in several countries including Italy (27%), the US (22%) and Japan (23%) were more likely than those in the UK (14%) to have made a mobile payment for physical goods, while those in Italy (26%) were more likely than those in the UK (14%) to have used a mobile payment to pay for real-life services such as parking. Take-up of mobile payments for digital goods and services is lower in the UK (16%) than in most of the other countries surveyed. Take-up of mobile payments across all categories was lowest in Germany (12% for digital goods, 12% for real-life services and 11% for physical goods).

Our research found that in China over half of the phone users we surveyed said they had used mobile payments for digital content and services (58%), for real-life services (57%) and for real-life goods (65%). However, direct comparisons with China should be used with caution as only 46% of the Chinese population are reported to have internet access and so the respondents used in our online survey are likely to be affluent early adopters of new technology and do not represent the total population.³⁵

China's mobile payments market has grown to become one of the largest mobile payments markets in the world, with 200 million mobile payment users.³⁶ China's largest mobile payments service, AliPay (which is owned by Alibaba Group), reported 100 million mobile payment users in early 2014, who had accounted for \$150bn in mobile transactions.³⁷ Another mobile payments provider in China is Tenpay, owned by the Tencent internet portal. In contrast to the established mobile payments services in Africa³⁸ (such as mPesa), these non-bank payment services in China have traditionally been linked to bank accounts.³⁹

The scale of the Chinese payments market is reflected in the fact that China's card network, UnionPay, has issued over 3.5 billion payment cards⁴⁰ and operates around 3 million in-store NFC payment terminals. UnionPay has partnered with China's largest MNO, China Mobile, and with local banks and transportation authorities to offer NFC mobile payments and ticketing, and announced a partnership with Samsung for NFC payments in October 2014.

³⁵ Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

³⁶ Source: <http://english.sina.com/business/2014/1102/751121.html>

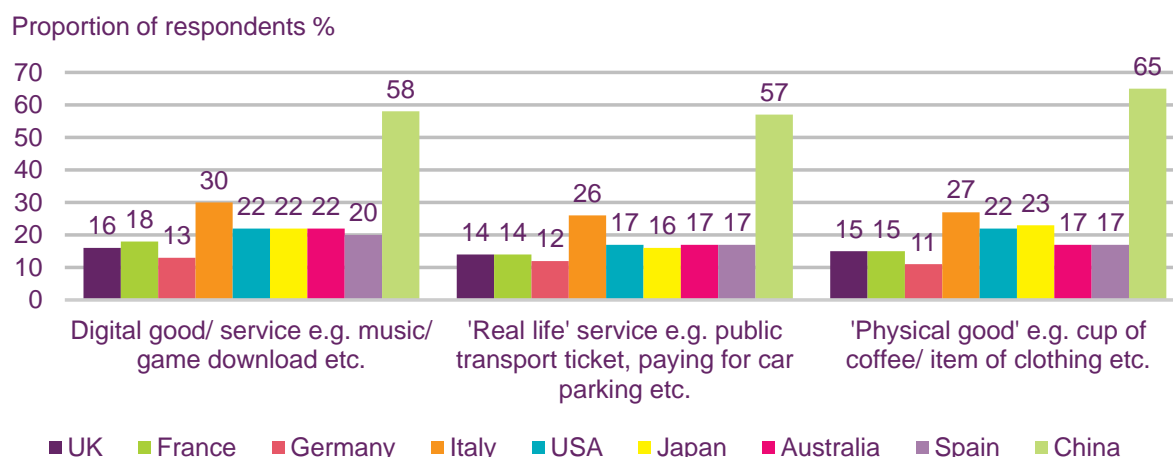
³⁷ See <http://blogs.marketwatch.com/thetell/2014/02/10/sorry-paypal-chinas-alipay-is-worlds-no-1/>

³⁸ According to Gartner, Africa was the largest mobile payments market in 2013 in terms of transaction values, though strong growth in emerging Asia Pacific markets is likely to mean that Asia Pacific overtakes Africa by 2015. See: <http://www.gartner.com/newsroom/id/2504915>

³⁹ See: http://www.cgap.org/sites/default/files/Working-Paper-China-A-New-Paradigm-in-Branchless-Banking-March-2014_0.pdf

⁴⁰ See: <http://www.reuters.com/article/2014/03/12/us-china-unionpay-expansion-idUSBREA2B00Q20140312>

Figure 1.36 Proportion of respondents who have ever made a mobile payment, by type of goods purchased



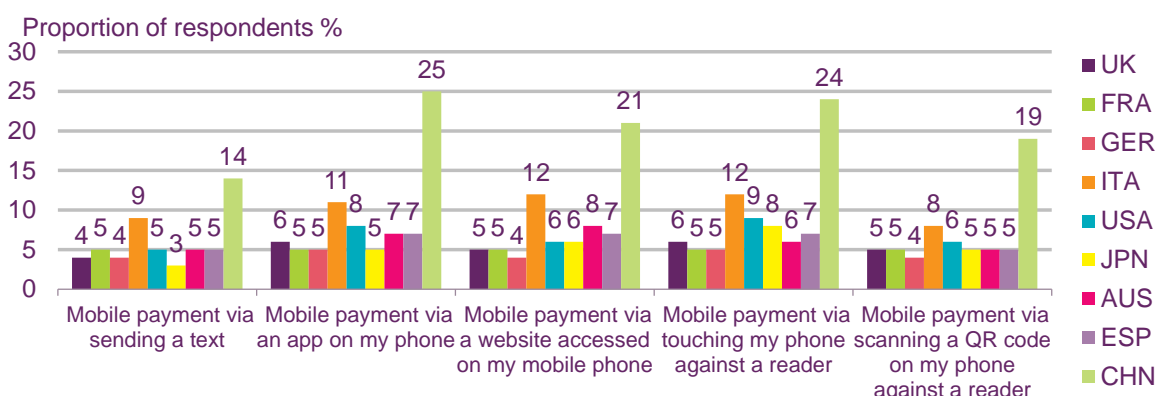
Source: Ofcom consumer research. Q: 'Mobile payments' are purchases, bill payments, charitable donations, payments to another person, or any other payment. Which, if any, of the below methods of mobile payment have you ever personally used to buy each of these types of goods? Base: All respondents with a mobile phone/ smartphone, UK=827, FRA=797, GER=861, ITA=890, USA=748, JPN=801, AUS=869, ESP=866, CHN=853

Making mobile payments by tapping a handset against a reader remains relatively uncommon

Despite much discussion in the industry press about the use of NFC, and investment in NFC mobile devices and point-of-sale terminals, making a payment by placing a mobile phone on a reader is as yet relatively uncommon in all of the countries surveyed.

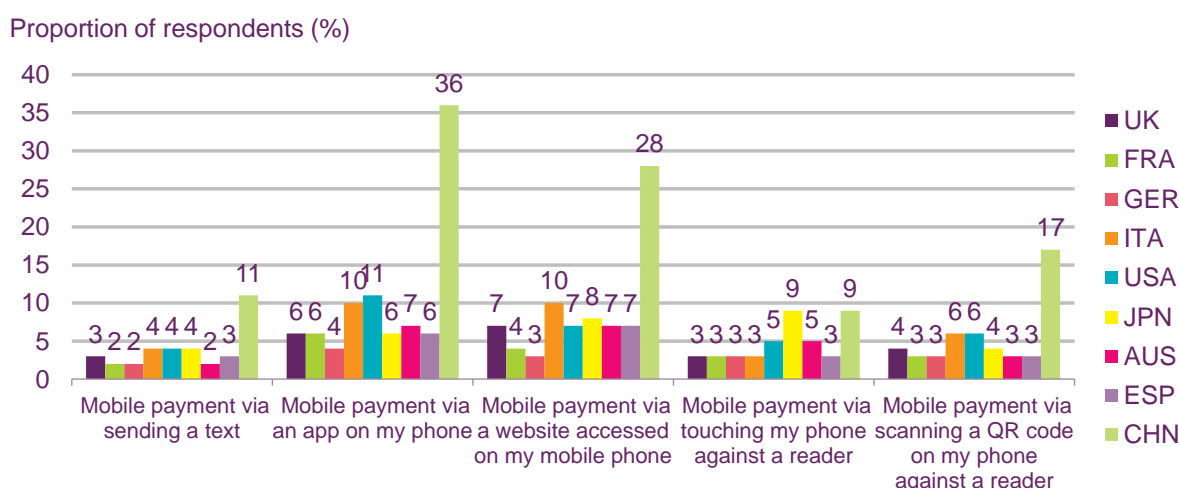
In addition to China (where 24% of mobile users said they had made a mobile payment by touching their phone against a reader), mobile users in Italy (12%) were more likely than those in the UK (6%) to have made a payment for a real-life service this way. Users in Japan (9%) and the US (5%) were more likely than those in the UK (3%) to have made a payment for a physical good by touching their phone on a reader.

Figure 1.37 Type of mobile payment used for non-digital services



Source: Ofcom consumer research. Q: 'Mobile payments' are purchases, bill payments, charitable donations, payments to another person, or any other payment. Which, if any, of the below methods of mobile payment have you ever personally used to buy each of these types of goods? Base: All respondents with a mobile phone/ smartphone, UK=827, FRA=797, GER=861, ITA=890, USA=748, JPN=801, AUS=869, ESP=866, CHN=853

Figure 1.38 Type of mobile payment used for non-digital goods



Source: Ofcom consumer research. Q: Mobile payments' are purchases, bill payments, charitable donations, payments to another person, or any other payment. Which, if any, of the below methods of mobile payment have you ever personally used to buy each of these types of goods? Base: All respondents with a mobile phone/smartphone, UK=827, FRA=797, GER=861, ITA=890, USA=748, JPN=801, AUS=869, ESP=866, CHN=853

Security and privacy concerns, along with ease of card and cash payments, are key reasons why people in our comparator countries have never made mobile payments

Security concerns are a barrier to take-up of mobile payments in all comparator countries. Our consumer research suggests that the convenience of other payment methods, and concerns about security and privacy, are among the main reasons why those with mobile phones have never made a mobile payment. With the exception of Italy (28%) and Japan (22%), between 36% (in France) and 51% (in China) of non-users across the comparator countries cited security concerns as reason for not making mobile payments.

One in three non-users in the UK stated they were concerned about privacy and control of their personal data (33%), in line with Spain (31%) and comparable with France (26%), Italy (20%) and Japan (18%). Across comparator countries, non-users in the US and China were most likely to be concerned about privacy and control of their personal data (41% and 51% respectively).

In all comparator countries with the exception of China (28%), over three in ten of non-users of mobile payments said that one of the reasons they never made mobile payments was that it was easier to pay with cash or a credit card.

Non-users in the UK were more likely to cite ease of paying with cash or a debit card (44%) compared to those in France (31%) and Italy (32%) as a reason for never having made a mobile payment.

In the UK (in line with France and Germany), 28% of respondents with a mobile phone who had never made a mobile payment cited a lack of necessary features on their phone as a reason for never having done this. This compares to 13% in Japan and 13% in China. Just over a third (34%) of those in the US who had never used mobile payments said a lack of functionality on their handset was at least one reason for this.

Figure 1.39 Main (prompted) reasons for never using mobile payments

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	CHN
It's easier to pay with cash or a credit/ debit card	44%	31%	42%	32%	38%	44%	42%	30%	28%
I'm concerned about the security of mobile payments	38%	36%	38%	28%	39%	22%	38%	39%	51%
I am concerned about privacy and control of my personal data	33%	26%	35%	20%	41%	18%	35%	31%	48%
I don't see any benefit from using mobile payments	35%	31%	37%	21%	36%	28%	34%	24%	6%
I don't trust the technology	29%	34%	32%	21%	30%	9%	27%	16%	21%
I don't have the necessary feature on my phone	28%	28%	25%	20%	34%	13%	27%	24%	13%

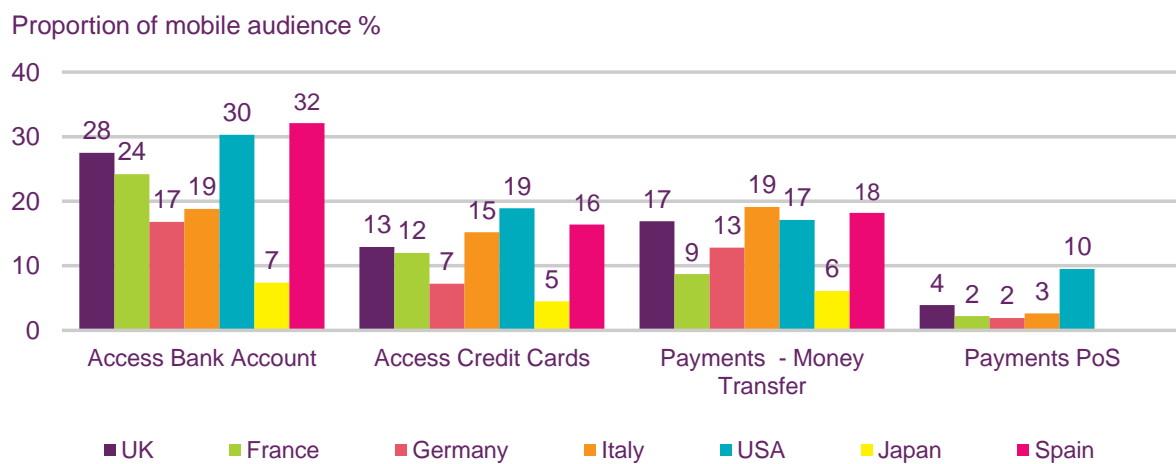
Source: Ofcom consumer research. Q: Which, if any, of the below reasons explain why you have never used mobile payments? Base: All respondents with a mobile phone/ smartphone who have never used mobile payments, UK=667, FRA=729, GER=729, ITA=560, USA=560, JPN=550, AUS=649, ESP=638, CHN=231

Using mobiles to make payments is less common than activities such as accessing bank accounts and credit cards via mobile devices

Consumer research by ComScore indicates that there is generally higher take-up of mobile banking services than use of mobile phones to make payments. Use of mobile banking on at least a monthly basis by mobile internet users is highest in Spain (32%) followed by the US (30%) and the UK (28%), Italy (19%), Germany (17%) and Japan (7%).

The ComScore research finds that 10% of US mobile internet users claim to have made a mobile point-of-sale payment, compared to 4% in the UK. Monthly use of mobile payments for money transfer (for example, by making a bank transfer using a mobile banking application) is higher across those countries for which we have data, with 17% of UK mobile internet users making mobile payments for money transfer in the month – a similar proportion as in Italy, the US and Spain. Money transfer functionality may be embedded within broader mobile banking apps and so might be seen by consumers as an extension of mobile banking, rather than as a new way to make payments.

Figure 1.40 Use of mobile financial services in the past three months



Source: comScore Mobilens, August 2014 (three-month average). Filter: Respondents aged 13+
 Note: point of sales (PoS) data are not available for Japan or Spain

1.7 Online interaction with public services

1.7.1 Introduction

National and local governments are making online services available to provide citizens with information, services and advice and to encourage citizens to interact in the policy and scrutiny process.

This section of the report examines internet users' interaction with government services online, and how this varies between our comparator countries. It draws mainly on the results of Ofcom's online consumer research, which was conducted specifically for this report, but also makes reference to:

- Ofcom's 2014 *Adults' Media Use and Attitudes Report*⁴¹
- The United Nations 2014 *E-Government Survey*⁴²
- The European Commission's 2014 *eGovernment Benchmark report*⁴³
- The OECD's 2013 *Government at a Glance* report⁴⁴

The key findings include:

- **Computers⁴⁵ are the most-used devices to access government services in all of the comparator countries.** This could be due to the relative ease of performing tasks such as online forms on computers compared to other devices. OECD figures suggest that a significant proportion of online adults who interact with public services submit forms, and Ofcom's *Adults' Media Use and Attitudes* report found that 83% of UK internet users who have ever completed government processes online prefer to use a computer.
- **The relative use of online government services varies significantly between the comparator countries.** Users in Italy (66%) and Australia (61%) were the most likely to use a computer for this activity. The figure was 49% in the UK, and lowest in Japan (at 30%).
- **Use of online government services by device owners does not seem to reflect the availability of online government services in each country.** UN and European Commission studies in this area suggest that one of the main reasons why internet users don't engage with these services is because they are unwilling to, often because they prefer other means of interacting with government. Other contributory factors might include awareness, digital skills, satisfaction with the services and concerns about privacy and security.

⁴¹ http://stakeholders.ofcom.org.uk/binaries/research/media-literacy/adults-2014/2014_Adults_report.pdf

⁴² <http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/0ExecutiveSummary.pdf>

⁴³ <http://ec.europa.eu/digital-agenda/en/news/eu-egovement-report-2014-shows-usability-online-public-services-improving-not-fast>

⁴⁴ http://www.keepeek.com/Digital-Asset-Management/oecd/governance/government-at-a-glance-2013_gov_glance-2013-en

⁴⁵ This includes desktops, laptops and netbooks - referred to throughout as 'computers'.

1.7.2 Use of online government services, by device

Consumers are more likely to access government services using a computer than a tablet, mobile phone or games console

As seen in Figure 1.40, the proportion of computer owners who access government websites via this type of device is far higher than those who claim to use their tablet, mobile phone or games console; in most of our comparator countries it was more than double any other type of device.

This might be a result of the extent to which each device is used to complete government processes. The OECD's 2013 *Government at a Glance Report* suggests that 50% of people in OECD member states used the internet to interact with public authorities in 2012, and suggests that a significant proportion (30% of all internet users) had submitted online forms. Online forms, e.g. for applying for a driving licence, may be difficult to fill in on devices with small screens, or games consoles, which is likely to make computers the preferred device for this kind of interaction with online government services. In the UK, according to Ofcom's 2014 *Adults' Media Use and Attitudes Report*, the majority (83%) of UK internet users who had ever completed government processes online preferred to use a computer.

The relative use of online government services varies significantly between the comparator countries.

Respondents in Italy (66%) and Australia (61%) were the most likely to use a computer to access online government websites, followed by Spain, (57%), China (55%) and France (53%). The figure was 49% in the UK. Respondents in Germany (40%), the US (35%) and Japan (30%) were less likely to access government services using a computer.

The stated levels of use of online government services do not appear to be linked to their availability in each country. Despite Japan and the US having the lowest proportion, among our comparator countries, of computer users who claimed to access government services using their device, the 2014 United Nations annual *E-Government Survey* ranks Japan and the US among the top ten countries in its e-government development index. The index is determined on the basis of (i) the availability of online services, (ii) telecommunications infrastructure and (iii) human capacity.

The variations in usage levels could be explained by the degree to which users prefer to use other means to interact with the government. User research⁴⁶ conducted for the European Commission's 2014 *eGovernment Benchmark Report* found that the major overall reason why some users chose not to use online services to deal with government was a lack of willingness. This was cited by 80% of the respondents who stated that they did not use e-government services. Among the various explanations given, a preference for face-to-face contact was notably prominent.

Other factors which may influence use of online government services include awareness of, and user satisfaction with, e-government services, and levels of media literacy. Privacy and security concerns, particularly if the interaction involves sensitive information, may also be a factor.

⁴⁶ The survey was conducted in 2012 using a sample of 28,000 EU citizens.

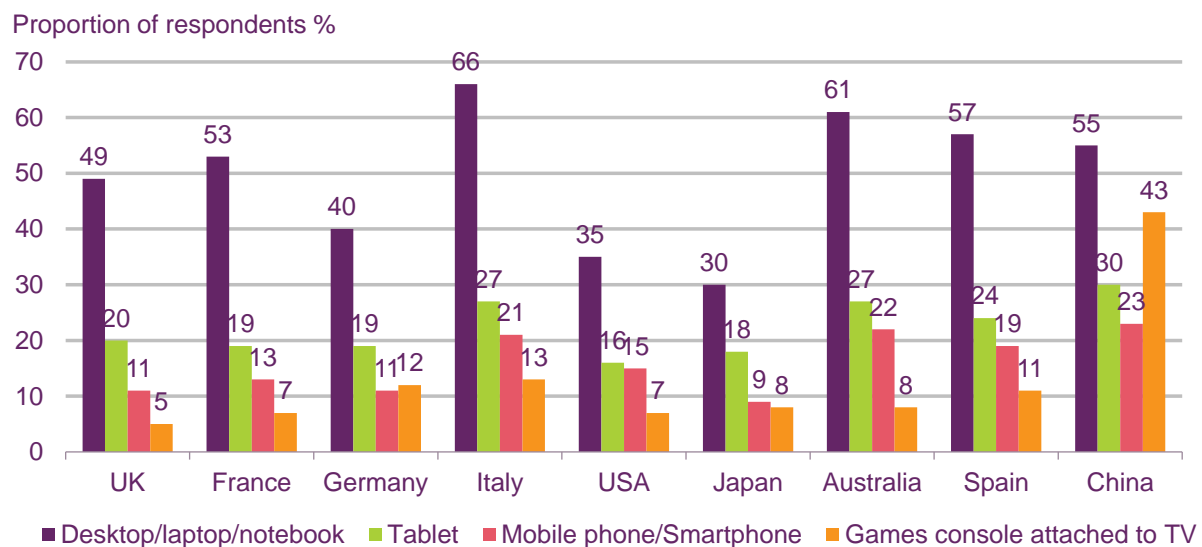
Excluding China,⁴⁷ Australia and Italy have the highest proportion of users who access government websites via portable devices

Excluding China⁴⁸, Australia and Italy (both 27%) were the countries with the highest claimed use of government websites on tablets, followed by Spain (24%) and the UK (20%). Using a tablet for this activity was least popular in the US (16%).

China, Australia, Spain and Italy all showed similar claimed levels (between 19% and 23%) of accessing government websites via a mobile phone. Around one in ten mobile phone users in the UK (11%), Germany (11%) and Japan (9%) claimed to access government websites on this type of device.

With the exception of China⁴⁹ (43%), respondents in Italy (13%), Germany (12%) and Spain (11%) were the most likely to say they used a games console to visit government websites. This compares to 5% in the UK, in line with the other comparator countries.

Figure 1.41 Devices used to access local/national government websites



Source: Ofcom consumer research October 2014

Base: All respondents with each device, UK = 905, 540, 318, 99, France = 953, 469, 270, 63, Germany = 949, 469, 270, 63, Italy = 902, 762, 384, 97, USA = 907, 443, 274, 131, Japan = 934, 566, 209, 103, Australia = 944, 579, 325, 87, Spain = 903, 742, 394, 116, China = 947, 808, 446, 67
Q.9a Which, if any, of the following internet activities do you use each of your devices for?

⁴⁷ As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

⁴⁸ Please see above footnote.

⁴⁹ Please see above footnote.

1.8 International regulatory context and models

1.8.1 Introduction

This section provides regulatory context to the analysis of the international communications market elsewhere in the report. In particular it covers:

- the background of the EU communications framework and the Digital Agenda;
- the European Commission's Connected Continent proposals;
- developments in relation to international mobile roaming;
- recent national and EU initiatives on net neutrality;
- the recent work of the European Regulators' Group for Post;
- next generation access and broadband roll-out;
- assurances to audiences on audio-visual standards and the online protection of minors; and
- EU and international radio spectrum policy developments.

It does not aim to be a comprehensive examination of regulatory frameworks across the comparator countries, but presents an overview of the main recent regulatory and policy developments internationally.

1.8.2 Key developments in the European regulatory and legislative framework

The electronic communications framework

The EU [electronic communications framework](#) applies to all electronic communications networks and services, retail and wholesale, as well as associated facilities and services. It aims to ensure effective competition and consumer protection, and to constitute the basis for a consistent regulatory environment across the communications markets of all 28 member states.

The framework was revised in 2009 to ensure that it continues to serve the best interests of consumers and industry, and to reflect some of the major developments of the sector, such as growth in VoIP and take-up of television services via broadband.

The Commission continues to monitor the timely and correct implementation of EU rules and is monitoring member states' progress towards achieving the targets set out in the [Digital Agenda](#).

The Digital Agenda sets out the main policies for the information and communication technologies (ICT) sector between 2010 and 2015, and seeks in particular to promote investments in high-speed broadband networks, to create an online single market, to ensure online trust, security and net neutrality, as well as to stimulate the development of innovative services and applications. It consists of 101 action points, including more than thirty legal proposals.

In September 2013 the European Commission presented its [Connected Continent legislative proposals](#). The Commission described the [draft Regulation](#) as building upon the 2009 regulatory framework for electronic communications rather than constituting a full review of the framework.

The proposals include:

- greater harmonisation of the timing and form of spectrum auctions and assignments, through a transfer of power from member states to the Commission;
- a single notification / authorisation point for pan-EU operators;
- revisions to the Roaming III Regulation to provide exemptions from certain obligations for those MNOs who offer 'roam like at home' rates;
- harmonised wholesale access products for pan-EU operators in the business services sector, and a new power for the Commission to veto the regulatory remedies proposed by NRAs in [relevant markets](#);
- net neutrality measures to prohibit blocking and throttling; and
- new fully-harmonised consumer protection measures in the areas of transparency, contract information, switching, and bill shock.

The European Parliament adopted its First Reading Position on the draft Regulation in April 2014, but progress in the Council has been slow and it is unlikely that anything will be adopted in 2014. The start of a new European Commission in November 2014 has increased uncertainty about the fate of the Connected Continent package, with the new Commission President, Jean-Claude Juncker, emphasising the need for an ambitious reform of telecoms rules, a harmonised approach to spectrum and a digital single market.

Reportedly, this has created expectations that a framework review will be launched in 2015, and has led some member states to conclude that the Connected Continent Regulation should be withdrawn rather than rushed through, since many of the same policy areas would have to be re-opened under a framework review.

The EU content regulatory framework

In Europe, the [Audiovisual Media Services \(AVMS\) Directive](#) is the common framework for the regulation of television and video on demand (VoD) content (but not for radio). The Directive sets out common minimum rules for television content, with a focus on the protection of minors, incitement to hatred, advertising, and the promotion of European works. It also ensures that pan-European broadcasters comply only with a single set of rules; those of the country in which they are established (the country of origin).

Regulators in Europe continue to work on implementation at national level, and to co-operate in a number of for a; for example, at the European Regulators Group for Audiovisual Media Services (ERGA). ERGA was established by a formal Commission Decision in February 2014. Its members are the heads (or other senior representatives) of the national audiovisual regulators of all 28 member states. Its role is to advise the Commission on the application of the AVMS Directive and on matters relating to audiovisual media services more generally. In 2015 it will conduct work on regulatory independence, material jurisdiction (i.e. the scope of the AVMS Directive), territorial jurisdiction and the protection of minors.

Regulators in Europe also cooperate on a regional basis through the European Platform of Regulatory Authorities (EPRA). EPRA is an independent group which meets twice a year to exchange best practice and discuss key issues for content regulators; for example, tools to protect minors from harmful content, and issues that arise from convergence.

In Europe and elsewhere in the world, the two key challenges for public authorities in terms of content regulation are the online protection of children and the convergence between traditional broadcast content and content delivered over the internet (including through connected TV).

From April to September 2013, the European Commission consulted on a Green Paper entitled [Preparing for a Fully converged Audiovisual World: Growth, Creation and Values](#). The Green Paper asked a number of questions covering areas such as: viewer expectations and audience protection, European works, competition between players, scope and jurisdiction, and network capacity.

Having reviewed the responses and published a [Feedback Paper](#), the Commission has announced that in 2015 it will review the AVMS Directive under its Regulatory Fitness and Performance (REFIT) programme. The REFIT exercise will examine whether the Directive remains fit for purpose in the light of recent developments in the sector. The outcome of the exercise will influence any future decisions about whether there will be legislative reform.

1.8.3 Helping communications markets work for consumers

International mobile roaming

In the European Union, regulatory developments remain heavily influenced by the 2012 EU [Roaming Regulation](#) that took effect on 1 July 2012 but whose provisions did not all take effect on that date.

The new Regulation extended the anti-bill shock and transparency mechanisms to EU roamers travelling beyond EU borders, and introduced retail caps for data for the first time. It also established a downward trajectory for retail and wholesale caps until 2014, a requirement for the future decoupling of roaming from domestic services, from 1 July 2014, and provisions to allow for local data breakout (LBO), so as to enable data alone to be the subject of a separate contract with an alternative provider while roaming. At the time of writing (November 2014), there have been limited new LBO offers, and no offers of decoupling, possibly influenced by the legislative proposals subsequently tabled that are designed to eliminate roaming retail surcharges by a set date.

Several of the steps required by the new Regulation were progressive in nature or were designed to be introduced at a specific date in the future.

In particular:

- the new retail caps established a downward glide-path with headline reductions in caps from 35 euro cents (in 2012) to 19 euro cents (from 1 July 2014) for voice (calls made), from 11 euro cents (in 2012) to 6 euro cents (from 1 July 2014) for SMS, and from 70 euro cents (in 2012) to 20 euro cents per MB of data, also from 1 July 2014; this glide path is resulting, even at the maximum level permitted under the caps, in substantial reductions in roaming tariffs for consumers - until recently, BEREC roaming data collection reports showed prices as staying close to the caps but the most recent [report](#) (which covers the period October 2013 – March 2014) shows that prices for data are on average significantly below the data cap of 45 cents per MB, which applied at the time;

- the Regulation was applied through an Implementing Act introduced by the Commission in December 2012, which, as required by Articles 4 and 5 of the Regulation providing for appropriate technical solution(s) to separate roaming from domestic services, was complemented by subsequent BEREC guidelines on the structural solutions, which were published on 5 July 2013;
- as envisaged in the Regulation, the chosen technical solutions included one that required the separate sale of all roaming services (voice, SMS and data) by 1 July 2014, which BEREC, after consultation, determined to be the 'single IMSI' technical solution, as well as a data-only solution which was termed 'local data breakout'; and
- the timescale for review of the Regulation concludes in 2016, which allows sufficient time to make an initial assessment of the success of the technical solution(s), to facilitate competition through decoupling roaming from domestic services, and to bring down mobile roaming prices to levels that are close to domestic tariffs.

Notwithstanding the timetable for review of the existing roaming regulation, in August 2013 the Commission's revised proposals on mobile roaming were included in its Connected Continent legislative proposals (mentioned in section 1.1.2) which were designed to complement the current roaming regulation.

These proposals would aim to incentivise operators to offer 'roam like at home' (RLAH) pricing by potentially exempting them from the structural solutions under the roaming regulation. The exemptions would apply if they introduced such pricing by 1 July 2014, or gradually, under two other scenarios which involved either:

- a) a glide-path relating to the number of tariffs and the percentage of customers using such tariffs; or
- b) applying RLAH pricing to an increasing number of EU countries covering an increasing percentage of the EU population.

Following the Commission's proposals, the European Parliament tabled its own counter-proposals in April 2014, which would require MNOs to provide international roaming (within the EU) on a RLAH basis from December 2015.

'Roam like at home' (RLAH) is understood by the Parliament to mean that consumers should be able to replicate the average domestic consumption patterns associated with their respective tariffs when travelling abroad. Under these proposals mobile customers would not face retail surcharges simply because they were in another (EU) country.

At the time of writing (November 2014), the potential impact of these proposals was being evaluated, and the Council had yet to reach a view on them. BEREC held a stakeholder forum on the topic in October 2014 as part of a process of consulting on the different aspects of RLAH, such as possible revisions to the wholesale caps and how any retail 'fair use' policy for RLAH might be designed, and operate.

Traffic management and net neutrality

The net neutrality debate (broadly speaking, the debate about the extent to which a principle of non-discrimination should apply to internet traffic across networks) has continued to occupy regulators and governments across the world, but particularly in Europe and the US, where new proposals have been the subject of extensive discussion in 2014.

There are a number of existing laws and guidelines in place around the world. In four countries, the principle of net neutrality has been enshrined in law: the 2010 Chilean net neutrality law was followed in 2012 by a provision in a Peruvian law on broadband promotion which requires ISPs to respect network neutrality. In 2013, legislation was adopted in the Netherlands and Slovenia which prohibited the differentiation of data traffic and sought to prevent operators from charging consumers separately for the use of certain services and applications while using an internet access service. Guidelines and rules have been adopted by regulators in [Canada](#) and [Norway](#) in 2009, and [Singapore](#) and South Korea in 2011.

The US Federal Communications Commission adopted [open internet rules](#) in December 2010, including rules on transparency and prohibitions on blocking. In January 2014, the U.S. Court of Appeals found, in response to an appeal by Verizon, that the FCC was not entitled to impose many of these rules, as the scope of its powers does not extend to the imposition of non-discrimination obligations on ISPs. However, it did not strike down the FCC's traffic management transparency obligations, and ruled that the FCC has "general authority" over how broadband providers deal with traffic under the Telecommunications Act 1996.

In May 2014, the FCC opened a public consultation on a proposed new approach: [Protecting and Promoting the Open Internet](#), which would enhance the earlier transparency rules, re-introduce the no-blocking rule, and prohibit "unreasonable commercial practices", but would permit "reasonable traffic management". The consultation also sought views on which legal authority the rules should be based on. The FCC is expected to announce its intended approach in 2015.

While the current EU regulatory framework simply empowers (but does not require) national regulatory authorities (NRAs) to act to prevent degradation of service, the European Commission's Connected Continent proposals (mentioned in 1.1.2 above) include new directly applicable rules on net neutrality. Under these, NRAs would be required to enforce new rules prohibiting ISPs from most forms of traffic management, including the blocking or throttling of content, applications or services (subject to a limited number of exceptions). The Commission's proposals would also enshrine in EU law users' right to be "free to access and distribute information and content, run applications and use services of their choice."

Following the adoption of the European Parliament's First Reading position on the package, BEREC [published its views](#) on the progress of negotiations. Recognising that guaranteeing an open internet is a challenging objective, not least given its complex and dynamic ecosystem, BEREC noted that the Commission's original proposal would turn a flexible and progressive regulatory regime (under the 2009 Framework) into a rigid regulatory system. BEREC stated its preference for an approach based on principles rather than detailed rules, and one which provides NRAs with the necessary powers to ensure that those principles are respected. Under such an approach, national regulators would be pursuing the same objective and enforcing the same principles, but the specific triggers and thresholds for regulatory intervention in a given market could be adapted to address national circumstances.

At the time of writing, the Council has yet to agree a position on the legislative package, but it is possible that a Connected Continent Regulation, including net neutrality provisions, could be adopted in early 2015.

International postal activities

The Commission Decision of 10 August 2010 established the [European Regulators' Group for Post \(ERGP\)](#), enabling the creation of a body of regulatory knowledge and advice for use by NRAs or by the Commission. This Decision established four tasks for the ERGP:

- to advise and assist the Commission in consolidating the internal market for postal services;
- to advise and assist the Commission on any matter related to postal services within its competence;
- to advise and assist the Commission in the development of the internal market for postal services and on the consistent application in all Member States;
- rates of the regulatory framework for postal services; and
- to consult, in agreement with the Commission, extensively and at an early stage, on its expert work with market participants, consumers and end users in an open and transparent manner.

Over the past three years, subgroups of the ERGP have worked on the following topics:

- the allocation of postal operator costs;
- the Universal Service net cost calculation and evaluation of a reference scenario;
- end-user satisfaction and monitoring of postal markets;
- cross-border services; and
- end-to-end competition and access regulation including access to elements of postal infrastructure

So far, the group has produced reports on quality of service and end-user satisfaction, complaints handling, market indicators and their methodology, and common cost allocation. It has separately examined specific cost allocation issues for post, the VAT exemption as it applies to the postal sector and to the net cost of USO calculation, and the evaluation of a reference scenario. It has also produced a report on questions relating to market analysis of European cross-border parcel delivery services. Normally these reports are subject to consultation in draft form before being published on the ERGP's website.

The ERGP held plenary meetings of the NRA heads in June and November 2014. At the mid-year plenary meeting, the NRA heads decided to begin a public consultation on the ERGP report on best practice in the fields of consumer protection, quality of service and complaint handling. The ERGP also agreed to publish the following agreed documents prepared by the subgroups: a report on end-to-end competition and access in European postal markets, a report on the experiences of the challenges of implementing a methodology for the net cost calculation based on a reference scenario, and the first ERGP activities report for 2011-2013.

On 18 September 2014, the ERGP launched a public consultation on the postal Universal Service obligation (USO). It set the scene for a period of reflection and consultation on the scope of the USO through publishing a Discussion Paper on its implementation in the postal sector and the effects of its scope in some countries. The report noted that at the beginning of the 1990s, before the current EU framework was discussed and established, the average annual mail volume trend for the then EU-12 was +6.1%, whereas today mail volumes are declining at a fairly similar pace. It also noted that limited changes have already taken place in certain EU countries and that other, more substantial, changes have been introduced in countries outside the EU, such as New Zealand and Canada.

At the same time, the ERGP invited a wide range of postal stakeholders to its first public workshop, on 19 November 2014 in Bucharest, to express their views on the implementation of the USO in the postal sector and the effects of market and other developments on the USO's scope and long-term sustainability.

As well as the ERGP, a number of international bodies are active in the postal sector. The [Universal Postal Union \(UPU\)](#), a UN body, is the primary forum for cooperation between UN member states concerning postal services, with a particular focus on operational standards and the remuneration of delivery costs for international mail through the terminal dues system. The UPU has 189 member countries and aims to ensure a network of up-to-date products and services, fulfilling an advisory and liaison role and giving technical assistance where needed.

In 2012, the UPU held its 24th Congress in Doha, at which the Doha four-year Postal Strategy was adopted, elections were held and decisions were taken on the terminal dues arrangements for the remuneration of the delivery of cross-border mail in developed and developing countries. The decisions of the Congress are now being taken forward by the Council of Administration and other relevant committees of the UPU. The UPU plans to hold a strategy conference in April 2015.

The [Committee of European Postal Regulators \(CERP\)](#) brings together representatives from the regulatory authorities from 64 states, including EU Member States, candidate countries, the EEA and other Eastern European countries. It has two working groups, one dealing with postal policy and the other working on UPU issues.

In January 2013 the European Commission launched a Green Paper: *An Integrated parcel delivery market for the growth of e-commerce in the EU*. This paper examines the evolution of e-commerce and delivery markets in Europe and considers ways of stimulating online cross-border transactions by ensuring that cross-border parcels delivery arrangements meet the needs of consumers and e-retailers. The Green Paper posed a number of questions and sought views from interested parties on consumer information needs, the transparency of delivery options, how to create more effective partnerships within the delivery chain, and in particular, whether the existing regulatory and legal frameworks are adequate to support an integrated parcels delivery market within the EU.

In December 2013 the Commission published a follow-up e-commerce [roadmap](#) in response to the high number of responses it received to its Green Paper. The roadmap sets out three main objectives which the Commission aims to accomplish in this area covering: Increased transparency and information; Improved availability, quality and affordability of delivery solutions; and Enhanced complaint handling and redress mechanisms for consumers. The Commission published a further study in this area by WIK Consult in August 2014, on the *Design and development of initiatives to support the growth of e-commerce via better functioning parcel delivery systems in Europe*. The Commission will take stock of progress after 18 months i.e. (in Summer 2015) to assess whether any additional measures are needed.

In September 2013 the European Commission published the results of two postal studies:

- a) A report: *Main developments in the postal sector (2010-2013)* carried out by WIK Consult and Jim Campbell. This study contains a detailed analysis of sectoral and regulatory developments and associated recommendations relating to postal regulation. It is designed to inform the 5th Application report on the Postal Directive 2008/6/EC, which the Commission is aiming to publish by summer 2015. This is a report required by the Directive itself, which is designed to give an indication of the

Commission's future regulatory priorities for the sector in the light of the experience of the third Postal Directive.

- b) A study: *E-commerce and delivery – Study on the state of play of the EU parcels market with particular emphasis on e-commerce* by Copenhagen Economics. This study has delivery as its particular focus and examines user needs in respect of e-commerce, gaps in meeting those needs in the areas of information, service and performance, and possible ways to bridge these gaps.

1.8.4 Promoting effective and sustainable competition

Next-generation access networks and broadband roll-out

Telecoms operators in Europe, Asia and the US continue to face a common challenge of upgrading networks to make use of more efficient technologies, including fibre, and migrating from traditional transmission standards designed in the world of the public switched telephony network (PSTN) to standards used to route data via internet protocol (IP). Many operators have now migrated their backbone to next generation networks (NGNs) by overlaying and upgrading their legacy backbone PSTN networks with a single IP-based network. Developments in regions such as Latin America, Africa and the Arab States have been slower but are following a similar trend. The introduction of next generation access (NGA)⁵⁰, typically although not universally based on fibre-optic technology, has been more uneven.

In Europe, Asia and the US, there is a broad consensus that the accelerated roll-out of NGA networks is a desirable goal, but there are a variety of approaches to reaching that goal.

In the EU, NGA policy is continuing to be underpinned by the European Commission's ambitious Digital Agenda targets - by 2020, every EU citizen should have access to 30 Mbit/s, and 50% should have access to 100 Mbit/s. The new Commission President, Jean-Claude Juncker, has called for a more ambitious reform of telecoms rules as part of legislative steps towards realising a digital single market. The proposals are expected to be delivered in the first half of 2015.

In 2014, the Commission has continued to look at how to encourage increased NGA investment, focusing on ways to reduce the cost of rolling out such networks, and setting out its thoughts on increasing regulatory consistency and certainty for the sector. The Commission is seeking to achieve these objectives using the variety of (regulatory) tools at its disposal:

- the Commission's *Connected Continent* legislative proposals contain provisions concerning the (Europe-wide) availability of harmonised wholesale access inputs to facilitate the provision of pan-European broadband services by pan-European operators. However, the fate of these proposals, which are currently being discussed in the European Council, remains uncertain, with expectations that a new reform project will be launched by the Commission next year;
- [a Directive on reducing the costs of deploying high-speed broadband](#) was adopted in May. Reaching the Digital Agenda targets will require rolling out new broadband infrastructure and/or upgrading existing connections. The Commission recognises

⁵⁰ NGA can be understood as new physical infrastructure relying on new access network technologies enabling a significant improvement in the broadband experience for end-users, through combinations of: higher bandwidths; more equal upstream and downstream bandwidths; and more reliable, higher quality services

the fact that civil engineering costs account for up to 80% of the cost of installing broadband networks, and the Directive includes provisions which would help decrease this significant upfront expense faced by all network operators. The Directive is addressed not only to telecommunication network providers but to “any owner of physical infrastructures, such as electricity, gas, water and sewage, heating and transport services suitable to host electronic communication network elements”; and

- in October, the Commission formally adopted a revised [Recommendation on Relevant Markets](#). The recommendation reduces the number of telecoms markets subject to *ex ante* regulation from seven to four. *Ex ante* regulation on markets that have been removed or redefined will stay in place until or unless a national regulator decides to lift it after a market review. If a member state implements a measure which departs from the recommendation, the regulator must notify the commission and give a “reasoned explanation” as to why this is appropriate under national circumstances.

BEREC agrees that regulatory certainty and consistency are crucial in order to foster a competitive environment for long-term investment in NGA. In this vein, in 2013 BEREC adopted its revised broadband common positions, which capture the best practice regulatory approaches that NRAs are encouraged to use if (and when) they are required to regulate wholesale NGA services. Consistent with its duties, in 2014 BEREC provided a [formal Opinion](#) on the Recommendation on Relevant Markets. BEREC was supportive of the Commission’s draft Recommendation, and the comments it made were aimed at ensuring that national regulators have flexibility in defining broadband markets given differences across member States.

Currently, BEREC is providing its technical experience and expertise to the various European Institutions as the draft Regulation on the Connected Continent is being considered.

With regard to approaches being taken in other parts of the world, many governments have published national broadband plans, as detailed in the 2011 [OECD report on National Broadband Plans](#)⁵¹. Most of these include targets relate to levels of geographic coverage, adoption, and minimum or average transmission speeds.

In Australia, Brazil, Luxembourg, New Zealand, Singapore and South Africa, the government has created a new state-owned operator in order to participate directly in the construction of broadband networks.

Singapore aimed to be one of the first to deliver a metropolitan fibre network to the home, with speeds of up to 1GB by the end of 2012, and it met its initial coverage target of 95% in June 2012 and achieved nationwide fibre coverage by mid-2013. The NGNBN (Next-Generation National Broadband Network) is accessible to retail service providers on an open access basis at prices regulated by IDA, the national regulator.

Some countries, such as Chile and Norway, have used public-private partnerships (PPPs) as an appropriate vehicle for interventions. Most OECD countries, however, have chosen not to become involved in the direct supply of telecommunications, preferring to set the regulatory framework and to provide targeted economic support through a variety of forms of public investment.

⁵¹ OECD, *Working Party on Communication Infrastructures and Services Policy: National Broadband Plans*, 15 June 2011

Australia and New Zealand have both reconsidered their legal and regulatory frameworks in order to meet their NGA goals. The Australian Parliament passed the Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Act in November 2010, to facilitate the achievement of its national broadband network (NBN) project. Construction of the FTTP NBN began in 2010. However, the Coalition government has taken a series of steps to review the NBN project. In December 2013, NBN Co, the state-owned operator responsible for building the network, submitted a strategic review to the government. It recommended an alternative multi-technology approach whereby the NBN would be delivered using a range of technologies including fibre to the node (FTTN) and high frequency cable (HFC) alongside FTTP. The report estimated that this could deliver wholesale speeds of up to 50Mbit/s to 90% of Australia's fixed broadband networks, and speeds of up to 100Mbit/s to 65-75%, by 2019. In September 2014 the government released a consultation seeking feedback on the best way to reform the migration of services to the NBN. This followed an independent cost benefit analysis of broadband roll-out, delivered in August 2014.

In New Zealand, a number of measures have been introduced by the government and by the Commerce Commission to support the deployment of fibre to the premises, including the continued use of operational separation.

The Japanese and South Korean governments have developed national strategies for the provision of high speed broadband, involving nationwide NGA roll-out. These involve a mixture of incentives for operators, including some public support such as seed funding and soft loans. They have also encouraged infrastructure-based competition, which has been particularly successful in South Korea, where there are now three competing providers of broadband internet with nationwide NGN / NGA networks. However, other circumstances and characteristics of the Japanese and South Korean markets have proved very favourable to NGA roll-out, including population density and favourable planning rules.

There are a number of NGA initiatives in China – the main one is Broadband China, Fibre Cities project, a five-year plan to extend FTTH infrastructure across the country to over 40 million users. New regulations intended to accelerate FTTH roll-out, and to enable a level playing field for China's broadband operators, came into effect in April 2013, and the government hopes this will boost the overall development of the country's fibre broadband industry as well as attract investment of up to 1tn yuan (US\$160bn).

Promoting rural broadband through mobile coverage obligations

In Denmark and Slovenia, obligations have been placed on the mobile operators that won licences in recent spectrum auctions to provide broadband connectivity in specific rural areas with lower levels of access to fixed broadband.

In Denmark, as commercial LTE services were already being provided in the 1800MHz and 2.6GHz bands in cities, one of the objectives of the 2012 auction of 800MHz spectrum was to improve high speed broadband provision in areas with lower availability. The regulator, the Danish Business Authority (DBA), identified a list of 207 postcodes with low availability of broadband up to 10Mbps. These postcodes were then grouped into three regions.

In the auction, an obligation to provide download speeds of up to 10Mbit/s outdoors to these areas was initially attached to all blocks of available spectrum. Operators were able to bid to be exempt from the obligation in one or more regions, provided that an overall national coverage obligation would still be met. In order to ensure that the coverage obligations would be met, operators bidding for blocks of spectrum with exemptions were required also to place a bid for the same package without any exemptions. This meant that a company making a bid would have to be prepared to meet the coverage obligation if it were awarded

spectrum. Eventually, two operators won spectrum in the 800MHz band, with one of them securing an exemption from the coverage obligation.

In Slovenia, ahead of the award of spectrum for 4G LTE services, which was completed in April 2014, the regulator, the Agency for Communications Networks and Services (AKOS) prepared a list of 300 selected locations. These were either settlements or connected groups of settlements which had low levels of fixed broadband coverage and between 70 and 700 inhabitants. AKOS may periodically review and update this list, but cannot remove locations where the operator has already begun or completed deployment of its network, and will not change the overall number.

Special coverage obligations were written into one of the licences that were awarded in the 800MHz band. The operator awarded the licence must provide coverage to 225 of the selected locations within three years of the award, with 75 settlements covered each year. The operator must also provide 75% population coverage in each of the settlements. This reflects a general coverage obligation whereby incumbent operators awarded 800MHz licences must provide coverage to 75% of the population within three years, and new entrants awarded 800MHz spectrum must provide equivalent coverage within five years.

1.8.5 Providing appropriate assurances to audiences on standards

Convergence and the future of content regulation

Audio-visual media convergence raises many questions for regulators because, in this environment, different types of content are subject to different regulatory regimes, but the consumer may no longer distinguish between them. In this context, discussions arise about the best way to protect consumers, both from potentially harmful content, and in terms of their data security, and how to regulate material originating from outside national jurisdictions. Broadcasters, meanwhile, focus on issues such as ensuring non-discriminatory access to infrastructure, technical standards, and new forms of advertising and content funding.

Audio-visual convergence has been high on the policy agenda in Europe for the last few years. From April to September 2013, the European Commission consulted on a Green Paper entitled '[Preparing for a Fully Converged Audiovisual World: Growth, Creation and Values](#)'. The Green Paper asked a number of questions covering areas such as: viewer expectations and audience protection, European works, competition between players, scope and jurisdiction, and network capacity.

The European Commission received over 200 responses to its consultation and published a [Feedback Paper](#) summarising the responses in September 2014. The Commission notes in the summary of this report that the broad range of stakeholders who responded expressed a range of divergent views on most of the issues that were dealt with in the consultation.

Ofcom's [response to the European Commission](#) outlined what it considers to be the priorities for any review of the current regulatory framework, to take account of convergence. These include modernising the audience protection and assurance regime for television content, more effective approaches to protecting people online, supporting viewing and investment in public service content, and promoting effective competition in content markets.

In France, there have been proposals to extend regulation to cover internet content beyond that falling into the scope of the AVMS Directive as 'on demand'. Following a process initially launched at the government's behest in 2011, the French audiovisual regulator, CSA, published proposals in January 2013 to adapt the French audio-visual law to fit the current media landscape. Key proposals include: co-regulation of online video content (including user-generated content) with providers being responsible for day-to-day enforcement, and

the CSA acting as a backstop and reviewing whether certain actors in the connected TV value chain (in particular online video providers) should still be subject to exemptions from secondary liability for illegal content under the EU e-Commerce Directive. The French authorities built on these ideas in their response to the Commission's Green Paper.

The German authorities' response focused on the need to ensure equal, non-discriminatory access to content and whether there is a need to adapt the scope of the regulatory framework. The Italian regulator, AGCOM, discussed how it feels the current distinction that the regulations make between linear and on-demand services is being challenged by convergence, and the possibility of looking to technical solutions to protect minors in future.

The Commission will now review the AVMS Directive under its Regulatory Fitness and Performance (REFIT) programme. The REFIT exercise will examine whether the Directive remains fit for purpose in the light of recent developments in the sector. The outcome of the exercise will influence any future decisions about whether there will be a legislative reform.

ERGA's work programme for 2015 envisages that the group will carry out work on "the evolution of the European regulatory framework in a converged media age". The discussions under this theme will focus in particular on the scope of the AVMS Directive (i.e. the types of services and service providers it covers), territorial jurisdiction and the protection of minors. National regulators will work to develop common conclusions in relation to these issues, in order to advise the Commission as it considers future policy options.

Outside Europe, there are signs that several other countries are also turning their attention towards convergence and its impact on regulation, such as the US, Singapore, the Russian Federation, South Korea and Canada. Discussions seem increasingly to focus on how far the scope of content regulation can, or should, be extended to the internet, and how such regulation can be practically enforced; any attempts to extend regulation tend to be couched around the protection of minors.

However, the Australian government appears to have shelved the plans it outlined in a Convergence Review published in 2012, which was one of the first moves towards proposing a wholesale review of content regulation to reflect the realities of convergence. Nevertheless, there are ongoing active discussions on the subject, illustrated by [regular reports](#) by the Australian Communications and Media Authority (ACMA) on 'broken concepts' in the regulatory framework.

Content protection and controls in an online environment

In recent years, child online protection⁵² and the wider protection of audiences online has moved higher up the international policy-making and regulatory agenda. As a result of the fact that the EU AVMS Directive only applies content regulation to a limited number of online services, new models of cooperation and participation are emerging, featuring combinations of co- and self-regulatory initiatives and media literacy⁵³. Various participants in the internet value chain – together with regulators and experts – are considering the best way to combine their efforts to prevent access to harmful activities and create a safer and better online offering, especially for children.

⁵² The term 'child online protection' in this case relates to the protection of minors (traditionally meaning, in regulatory terms, broadcast content-related rules for the protection of young viewers) in the online space. In many countries, the broadcast related rules for minors are only applicable to broadcast-like services online and not all video and content services online.

⁵³ Ofcom defines media literacy as: "the ability to access, understand and create communications in a variety of contexts".

The European Commission continues to pursue approaches to protecting children online through a number of measures, including initiatives such as the [Safer Internet Programme](#). This ongoing initiative has focused on promoting self-regulation, particularly through the establishment of the 'Coalition to make the Internet a better place for kids', made up of industry stakeholders. The programme has resulted in some positive action, including the development of [recommendations and commitments](#) from major ISPs and technology companies, improved reporting tools on social networks, and the introduction of educational measures in a number of European schools. The programme was the progenitor of the NICAM/BBFC classification tool (see below). But there has been criticism that most of these activities were not widely publicised and have generally only applied in certain national circumstances. The programme's funding was reduced in June 2014.

In parallel, in May 2012, the Commission published a Communication setting out a [European Strategy for a Better Internet for Children](#), containing eight key policies and outlining the steps that the Commission, industry and member states should take to help achieve them.⁵⁴

Meanwhile, the ITU continues to implement its Child Online Protection (COP) initiative, which was launched in 2008. The ITU set up a group (SG17) to investigate the possibility of developing international telecommunications standards to protect children from online threats. In the meantime, the COP initiative has developed four sets of best practice guidelines for children, parents and guardians, industry, and policy makers, to offer protection and encourage safe and productive use of the internet. In summer 2014, the ITU published a set of revised [guidelines for industry](#).

Against this background, international monitoring organisations have expressed concerns about measures that have been taken in Europe and further afield to restrict internet access.

Legislative initiatives beyond the EU have seen a number of countries introduce tighter regulation of internet content. In April, the Russian Federation adopted amendments to its law 'On information, information technologies and on protection of information' requiring owners of open access websites to register with the country's media authorities,⁵⁵ and Turkey has introduced amendments to its Internet Act 2007 which, for example, allows authorities to block web pages without a court order⁵⁶.

The OSCE regularly [reports](#) on internet freedom in Europe, and at the end of 2013 the Council of Europe adopted a [Resolution on Internet Freedom](#).

Focus in the US has moved towards privacy, with the FTC proposing amendments in 2012 to the Children's Online Privacy Protection Rules, to tighten the regulations on what data can be collected on children. The amended regulations came into force on 1 July 2013.

Classifications, protection tools and media literacy

Throughout 2014, a number of practical voluntary and self-regulatory initiatives have emerged, or been further developed, alongside ongoing debates about the limits of statutory regulation, particularly in response to concerns about the protection of minors.

A White Paper proposing a new Act on Protection of minors was presented to the Norwegian Parliament, envisaging mechanisms such as age classification and mandatory labelling.

⁵⁴ European Commission, *European Strategy for a Better Internet for Children*, 2 May 2012

⁵⁵ <http://merlin.obs.coe.int/article.php?id=14685>

⁵⁶ <http://www.reuters.com/article/2014/02/18/us-turkey-government-idUSBREA1H1XL20140218>

In January 2014, the Luxembourg government's Department for Media and Communications finalised the first draft of a regulation whose aim is to introduce a classification system seeking to better protect minors ('signalétique').

In 2014 there was further development of the collaboration between the British Board of Film Classification (BBFC), and Dutch regulator NICAM and others, on You Rate It, a tool to enable members of the public to age-rate user-generated video content online across different territories and platforms. It covers areas such as violence, language and discrimination, and applies different national ratings according to the location of the user. It is intended for non-professional and non-commercial content, and can be used by the content creators (when uploading the content) and by users (when viewing it). It will help parents make decisions about what they and their children watch online, and is currently undergoing the latest stage of its development in the form of national pilots.

In the UK, following the publication in 2013 of the government's long-awaited communications strategy document: *Communication, Content and Consumers*, the country's four largest fixed-line internet service providers have put in place measures to introduce a family-friendly network level filtering service. Ofcom published two reports in July 2014 on internet safety measures: [*Strategies of parental protection online*](#), and [*Internet service providers: network level filtering measures*](#). In October 2014 [*Ofcom published new research on children and parents' media use and attitudes online*](#), as part of its media literacy research programme.⁵⁷

In Germany, providers of content that is potentially harmful to minors are subject to protection obligations under the German regulations, which they can meet by providing parental controls. KJM, the co-regulator for the protection of minors, has approved two such filters: systems provided by Jusprog and Deutsche Telekom, covering content deemed unsuitable for viewers aged under 18.

In May 2014 the broadcasting commission of the German Länder considered amendments to the Inter-State Agreement on Youth Protection in the Media to deal specifically with the protection of minors on private blogs with user-generated content, including standardising the age classification procedure for games and films on the internet.

In Italy in 2012 the Italian regulator, AGCOM, adopted [*interpretative guidelines*](#) on the application of a co-regulatory code on parental controls, clarifying the application of the film rating system and the access control mechanisms for linear and non-linear services offered by pay-TV channels. Providers of on-demand services subject to the AVMS Directive must now ensure that technical measures are in place to ensure that access to content is provided only to adults (via the use of a code). A self-regulatory body, the Committee for Media and Minors, oversees compliance in this area, with AGCOM as a statutory back-stop. AGCOM adopted a [*White Paper*](#) in January 2014 on media and minors, to assess the effectiveness of measures to protect minors in the digital environment.

In France, having adopted an age classification system for VoD content in December 2010, with associated scheduling restrictions and signing, the CSA strengthened these rules in 2012, outlining additional locking requirements for access to programmes prohibited to under-18s.

In May 2014, participants of the the first European Media and Information Literacy Forum, held at the UNESCO headquarters in Paris, adopted the [*Paris Declaration on Media and Information Literacy in the Digital Era*](#). The Declaration reaffirms the importance of media

⁵⁷ Ofcom, *Children and parents: media use and attitudes report*, 23 October 2014

and information literacy, and calls for a renewed emphasis on it in today's digital environment, as well as cooperation among key actors and multi-stakeholder groups.

Preventing access to child abuse images

The European Parliament adopted, in late 2011, the [Directive on Sexual Exploitation of Children](#), which contains a provision whereby member states can take measures to block access to websites with child abuse content, subject to safeguards. The deadline for the implementation of the Directive was 18 December 2013.

Child abuse images can be reported across the world to INHOPE, a network of hotlines in 45 countries, whose aim is to provide a reporting tool and response mechanism to reports of criminal content of this kind. It also provides a forum for the exchange of information and experience for such hotlines, which includes the Internet Watch Foundation.

Media pluralism

2014 saw the continuation of a lively debate within Europe about media pluralism and the role of national regulatory authorities, sparked by a [report by a High Level Group \(HLG\)](#) of Experts for the European Commission. The Commission conducted consultations on the HLG's recommendations, and separately, on proposals to introduce a requirement for independence of audio-visual regulatory bodies (see Creation of ERGA, above).

The debate has focused on whether there is a greater need for harmonisation of rules on media pluralism at the European level, or whether such matters are more properly handled at national level. On the basis of one of the recommendations, and as an attempt to gather further data, nine EU countries conducted pilot studies in 2014 using the Media Pluralism Monitor developed in 2009 at the request of the European Commission. The Monitor comprises a set of indicators to measure 'threats' to pluralism in member states.

Results from the pilots will be presented to the European Commission, which may choose to extend the study to all member states.

In the UK the government has asked Ofcom to consider further the development of indicators to measure plurality.

1.8.6 Promoting the efficient use of public assets

The use of spectrum, in delivering critical services to a diverse range of users and consumers, continues to increase. The pressures on this finite resource are ever more apparent in today's information-hungry society. As radio frequencies do not recognise international borders, there exists a formal framework of co-operation between countries. This minimises cross-border interference between an increasing range of wireless applications, including mobile telephony, broadcasting, maritime and civil aviation. This helps countries achieve seamless use of wireless services at a European, or even global, level. In addition, the appropriate harmonisation of spectrum can help to create economies of scale which translate to lower prices for citizens and consumers.

Three key international structures co-ordinate spectrum at the European and international levels:

- the European Union, supported by the [Radio Spectrum Committee](#)⁵⁸ and the [Radio Spectrum Policy Group](#)⁵⁹;
- the [CEPT/ECC](#),⁶⁰ which has a broader membership than the EU with 48 member states; and
- the [International Telecommunications Union \(ITU\)](#)⁶¹, which defines the global framework for spectrum use in the Radio Regulations. This is a UN treaty, revised approximately every four years at the [World Radiocommunications Conference](#)⁶² (WRC).

Radio Spectrum Committee (RSC)

The RSC is responsible for the development of technical implementing decisions to ensure harmonised conditions across Europe for the availability and efficient use of radio spectrum. It is composed of member states' representatives and chaired by the European Commission (EC). Its measures are binding on member states.

As part of its remit, the EC may issue mandates to the European Conference of Postal and Telecommunications Administrations (CEPT) for the development of minimum technical requirements that can ensure harmonised conditions for the viable and efficient use of radio spectrum. These mandates specify the task to be undertaken and the timeframe in which it should be achieved.

The Committee exercises its function through the 'comitology process' which allows the EC to discuss its proposals with national administrations before implementation to ensure that any measure is optimised to the various national situations. The RSC meets four times a year to discuss technical implementing measures.

Radio Spectrum Policy Group (RSPG)

The RSPG is a high-level advisory group assisting the EC in the development of radio spectrum policy. As part of its advisory function, the RSPG consults extensively and in a forward-looking manner on a variety of technological, market and regulatory developments relating to the use of radio spectrum, in the context of relevant EU policies such as electronic communications and the information society, as well as other sectors and activities such as transport, research and development, or health. Such consultations are conducted with the objective of involving all relevant stakeholders, radio spectrum users, both commercial and non-commercial, as well as any other interested party. In addition, most of the deliverables of the RSPG are subject to formal public consultations.

Its members are representatives of Member States and the EC. Representatives of the EEA countries, the candidate countries, the European Parliament, the European Conference of Postal and Telecommunications Administrations (CEPT) and the European Telecommunications Standardisation Institute (ETSI) attend as observers. It is chaired by a senior member of MS administrations.

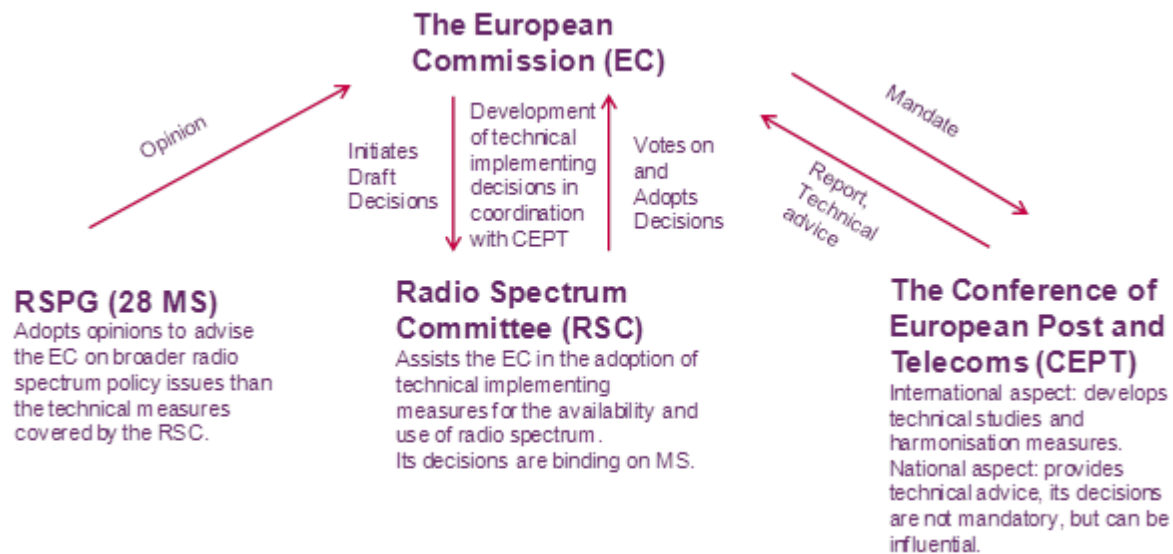
⁵⁸ http://ec.europa.eu/information_society/policy/ecomms/radio_spectrum/eu_policy/rsc/index_en.htm

⁵⁹ <http://rspg.groups.eu.int/>

⁶⁰ <http://www.cept.org/ecc>

⁶¹ <http://www.itu.int/ITU-R/>

⁶² <http://www.itu.int/ITU-R/index.asp?category=conferences&mlink=wrc&lang=en>



Radio Spectrum Policy Programme

The Radio Spectrum Policy Programme (RSPP) is a key piece of EU spectrum legislation. It was formally adopted in March 2012. This was the result of at least two years of negotiation between EU member states, the European Commission, the European Council of Ministers and the European Parliament, and it sets out some fundamental spectrum policy objectives across all 28 EU member states. It calls for concrete actions to meet the objectives of EU policies; for example, contributing to the functioning of the internal market for wireless technologies and services. A number of these RSPP actions will contribute to the goal set out in the European Commission's Digital Agenda programme of high speed broadband for all by 2020. Delivery of wireless broadband will also form an important part of that programme.

Specific actions in the RSPP to be completed by 2015, by the Commission and the member states, include:

- ensuring that at least 1200 MHz of harmonised spectrum be identified for wireless data traffic by mid-2013 at the latest, defining the details for the EU's radio spectrum inventory to allow for an analysis of the efficiency of spectrum use, particularly in the 400MHz to 6GHz range;
- the wider adoption of spectrum trading throughout the EU;
- spectrum access opportunities for wireless innovation, through the use of spectrum sharing;
- the use of wireless innovations so that Europe can contribute to a low-carbon society; and
- finding appropriate spectrum for wireless microphones and cameras (PMSE).

World Radiocommunication Conference (WRC)

The next World Radiocommunication Conference (WRC) will be held in November 2015. Work is well under way in the UK, within Europe and the wider world, to address a range of spectrum harmonisation decisions, including:

- future spectrum requirements for mobile broadband;
- finalising the potential for mobile services to make use of the 700MHz band;
- to review the regulatory conditions for public protection and disaster relief (PPDR) ;
- additional spectrum for satellite services to align use in some bands across the globe;
- spectrum allocations for new aviation services and short range radar; and
- to consider the use of non-aeronautical spectrum for remotely piloted aircraft systems (RPAS).

In addition to these issues, at the ITU Plenipotentiary Conference 2014, WRC-15 was also tasked with addressing the issue of global flight tracking, in the wake of the Malaysian Airlines Flight 370 disappearance.

The UK, via representation by Ofcom, participates at both the European preparatory level and in the international process, where the proposals for these agenda items are discussed and agreed. Ofcom has recently undertaken a public [consultation](#) on our national positions, in which we have invited comments from UK stakeholders and citizens.



The Communications Market 2014

2 Comparative international pricing

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2.1 Comparative international pricing

2.1.1 Introduction

In this chapter we compare communications service retail prices in France, Germany, Italy, Spain and a representative state of the US (we use Illinois as it is broadly representative of the US as a whole in terms of wealth and rural-urban split) to those in the UK.

Our methodology, which has been developed with pricing consultancy Teligen, is based on the use of services by five 'typical' household profiles, and matches their differing usage requirements to tariffs. It was developed to address the difficulties in comparing prices caused by service bundling, tariff complexity and variations in average use across countries. In order to reflect the full cost of ownership of the relevant services, it also takes into account the cost of installation and hardware (including subsidies) and bundle discounts.

We include an overview of our methodology (which is required in order fully to understand our findings), a summary of those findings by service, followed by analysis on a household-by-household basis. The full methodology can be found in Annex B.

The key findings of this section include:

- Overall UK communications service prices compare favourably to those in the other countries included in the analysis. Excluding the TV licence fee, the UK had the lowest 'weighted average' stand-alone prices for four of the five household usage profiles used in the analysis.
- The UK compared less well in terms of the 'lowest available' prices for our five household usage profiles. In the year to July 2014, the UK's ranking for this metric fell from second to third among the six comparator countries included in the analysis (page 31).
- Overall, the UK ranked joint top with France among our comparator countries when combining both 'weighted average' stand-alone and lowest available' prices. The UK benefited from low fixed broadband and mobile phone services, while France had the cheapest mobile phone service prices
- The UK's average rank across all households, and both pricing metrics, was unchanged in the year to July 2014. France's overall ranking improved in the year to July 2014, largely due to falling 'lowest available' mobile phone prices.
- The service for which the UK compared least well was in HD premium pay-TV, where stand-alone prices were the second most expensive among our comparator countries, after the US.
- In all of the countries examined, it was cheaper to purchase bundled services where the household usage profile required a fixed broadband connection, although the savings available when buying the cheapest bundle, compared to the cheapest combination of stand-alone services, varied widely.

2.1.2 Methodology

The basic principles of the methodology used are as follows:

We constructed five household usage profiles, and for each of these defined an appropriate basket of fixed-line voice, fixed broadband, mobile voice, mobile messaging, mobile broadband and TV services (Figure 2.1). Taken together, the usage patterns of these households were designed to be representative of average use across all the countries analysed. This addressed the potential for biases associated with the household usage profiles being more closely aligned with the usage profiles of some countries than of others. Full details of the methodology can be found in Annex B.

We made some changes to the household usage profiles used in the analysis this year, compared with last year, in order to reflect changes in the use of communications services. This included increasing assumed levels of fixed and mobile data use and decreasing SMS use across the household profiles.

Figure 2.1 Summary of household usage profiles used in the analysis

'Typical household type'		Fixed voice	Mobile voice	Mobile messaging	Mobile handset data	Fixed line broadband	Mobile broadband	Television
1	A low use household with basic needs	Low use	Low use	None	None	None	None	Free-to-air
2	A broadband household with basic needs	Medium use	Low use	Low use	Low use	Low use	None	Free-to-air
3	A mobile 'power user'	None	High use	High use	High use	None	High use	Basic pay-TV with PVR
4	A family household with multiple needs	High use	Medium use	High use	Medium use	High use	None	Basic pay-TV with HD & PVR
5	An affluent two person household	Low use	High use	Medium use	Medium use	Medium use superfast	None	Premium pay-TV with HD & PVR

Source: Ofcom

We included a wide range of variables within the services in each household usage profile, so that they represent actual use by consumers. For example:

- Fixed voice minutes were distributed by whether they were to fixed or mobile lines, by call distance (local, regional, national and international, including a range of international destinations) and time of day (day, evening, weekend). Non-geographic calls were excluded from the analysis.
- Mobile calls (and messaging) were split between 'on-net' and 'off-net', and voicemail was included.
- Call set-up costs and per-minute charging were incorporated, and a range of call lengths were used (distributed around an average based on figures from 30 OECD countries).

- Incoming calls to mobile phones were included, in recognition of the different charging mechanism in the US.
- The broadband components were defined both by minimum headline speed and by minimum data requirements.
- The television element included the licence fee and hardware cost. Because of difficulties in comparing channels and their programmes, two tiers of pay-TV were considered: the most basic pay service available, over and above the channels available on free-to-air TV; and a premium service defined by high-definition channels and a top-price film/entertainment package, combined with the best package of top-tier football matches (NFL in the US).

The cost of mobile handsets, broadband modems and routers, digital set-top boxes and DVRs were included in household usage profiles (and amortised over an appropriate period in order to attribute a monthly cost). This was necessary because such equipment is often inseparable from the service price, as operators frequently include subsidised or 'free' equipment (for example, a mobile handset or a WiFi modem/router), but seek to recoup the cost of these devices from subscriptions and service payments across the life of a contract. For similar reasons, we included connection and/or installation costs.

In July 2014, details of every tariff and every tariff combination (including bundled services) from the three largest operators by retail market share in each country were collected (and from more than three operators, if this was required to ensure that a minimum of 80% of the overall market was represented). Multi-play tariffs (i.e. those which incorporate more than one service) were also collected. Only those tariffs that were published on operators' websites were included (i.e. the analysis excludes bespoke tariffs which are only offered to certain customers).

Our model identified the tariffs that offer the lowest price for meeting the requirements of each of the households, with all prices being converted to UK currency using purchasing power parity (PPP) adjustment based on OECD comparative price levels and exchange rates as at 1 July 2014.

Analysis

We undertook two types of analysis for each household usage profile:

'Average stand-alone' pricing: This was the lowest stand-alone price for each individual service offered by the three largest operators which provide the service in each country, weighted by the market share of the service provider.

For these purposes, we looked at stand-alone services only, and although this provides a useful comparison of the relative costs of communications services, a limitation of this analysis is that an increasing number of providers do not offer stand-alone services.

'Lowest available' pricing: This was the lowest price that a consumer could pay for this basket of services, including, where appropriate, 'bundled' services (i.e. buying more than one service in a package; for example, a 'triple-play' bundle consisting of fixed voice, broadband and pay TV). This analysis is important in order to provide a true picture of the position of consumers in each market, since they increasingly buy multiple services from single operators. There are, however, two limitations to this type of analysis:

First, 'bundled' service offerings are typically not available to all consumers as they are often limited to geographic areas where premises are connected either to a cable network or an

unbundled telephone exchange. Second, even in areas where these services are available, take-up may be low. Therefore, although the 'lowest available' price provides insight into the lowest prices available to some customers, it is not as good a reflection of the prices that consumers are actually paying as the weighted average analysis.

Limitations

We consider that a multi-platform, basket-based approach is the most useful way to compare international pricing of communications services. Nevertheless, in addition to the points raised above, there are some other limitations to our methodology, and the following notes and caveats are important in interpreting the analysis below.

- The analysis assumes a rational consumer with full understanding of his or her usage requirements, who is prepared to shop around and undertake some complex calculations to identify the best value tariff. In reality, many consumers do not act in this way, and few will be on the lowest-cost combination of services for their usage profile. However, the assumption is necessary in order to provide effective international comparison.
- In looking only at tariffs offered by the largest operators in each country, lower prices which might be available from smaller operators are not included. Nevertheless, we believe that using the prices of the largest operators is appropriate, both because they are the best reflection of the general consumer experience and because their pricing both defines, and is defined by, the competitive environment in which they operate.
- Although we have been as comprehensive as possible, tariffs are often highly complicated and there are some components that we have been unable to incorporate into our model. For example, some benefits are available only to certain types of consumers, such as BT Basic in the UK, which offers lower-price line rental to low-income consumers in receipt of certain benefits.
- In order to calculate the weighted average, we have used market share calculations based on operators' retail customers. Market share calculations are based on the overall subscriber base, not the subscriber base for the particular tariff (for which figures were not available).
- Pay-TV services are a component of three of the household usage profiles we examined. However, it has not been possible to compare like-for-like subscriptions, principally because of differences in the composition of basic and premium channels across the six countries. As a consequence, quantitative comparison of international TV pricing is arguably less meaningful than for telecoms services. This is also an issue in the pricing of 'triple-play' services, where there is wide variation in the types of TV content.
- For television services there are only two operators with nationwide coverage and/or significant market share in some countries (or only one, for some premium TV offerings). In these instances, we have identified the cheapest tariff from each of them and calculated a blended average based on their market shares.
- Some services are not available nationally and some providers operate only in certain areas. This is particularly true for services that are available only where local exchanges have been unbundled, and for IPTV, which requires a high-speed broadband connection. But it is also true for cable TV and all types of broadband.

- We have not defined whether the mobile phone component in a household usage profile is pre-pay or post-pay. We believe this enables better international comparison, given the very different pre-pay/post-pay splits in different countries (for example, 75% of mobile connections in Italy, but only 20% in France, are pre-pay). However, a consequence of this is that the analysis does not recognise the different characteristics of the services; for example, a pre-pay mobile may be the only option available to consumers with a poor credit rating and may also offer advantages to those whose use varies month by month.
- Representative pricing in the US as a whole is difficult, due to large regional variations as a result of local incumbent telecoms operators and cable operators offering localised prices for fixed-line services. We used tariffs available within the state of Illinois, which we chose because it is broadly representative of the US as a whole in terms of wealth and rural-urban split. Nevertheless, US pricing should not necessarily be viewed as representative of the whole country.
- In order to ensure that the changes we identify within countries have been driven by changes in the market (rather than simply by changes in the currency exchange rate), we have used the same PPP-adjusted exchange rate in 2014 and applied it to 2013 data. This means that there may be some distortions in the relative positions of countries compared to the findings we reported in 2013. The prices quoted are in nominal terms.

Report structure

We start the analysis by looking at the individual components of our five household usage profiles in order to compare the relative prices of services across these countries, both in terms of the lowest prices available when they are purchased on a stand-alone basis, and the 'weighted average' stand-alone cost across the largest operators in each market.

Then we look in more depth at the cost of fulfilling the requirements of each of our household usage profiles in terms of the 'weighted average' stand-alone cost across the three largest providers in each nation, and also the 'lowest available' price when 'multi-play' bundles are included.

2.1.3 Analysis by service

Fixed voice summary

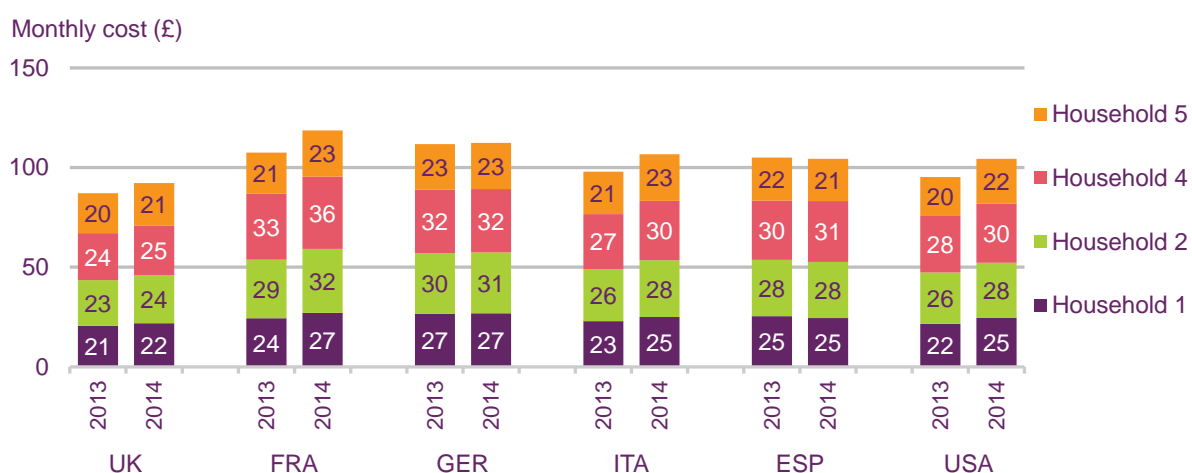
Figure 2.2 and Figure 2.3 show the price of the fixed-line voice components of those household usage profiles that include a fixed-line phone, based on the price of stand-alone services (i.e. when not purchased as part of a bundle with other services).

The UK had the lowest total weighted average stand-alone prices⁶³ for the fixed voice connections included in our analysis in 2014 (Figure 2.2). In fact, BT was the only UK provider included in the Teligen database that offered stand-alone fixed voice services on the tariff lists published on its website, in either 2013 and 2014, and was the only provider contributing to the UK weighted averages (which were therefore identical to the 'lowest available' prices). Three of the four lowest weighted average stand-alone prices for the landline connections included in our household usage profiles were found in the UK in 2014, with the remaining one (for Household 5) being found in Spain.

Spain was the only country where the total weighted average price of the four fixed voice connections included in our analysis fell in the year to July 2014, down by 1%. Among our other comparator countries, the increase in the total weighted average stand-alone price for the four fixed voice connections ranged from 1% in Germany to 10% in France and the US (in the UK, the increase was 6%).

One reason for fixed voice prices being comparatively low in the UK over recent years (despite increasing headline line rental fees) has been the availability of line rental pre-payment tariffs, which enable customers to make savings on the line rental element of their service by paying a year in advance, rather than a monthly fee (in 2013 this saving was equivalent to around £4 per month). However, in 2014 the 'lowest available' priced service for all four households, BT's *Home Phone Saver* (plus the *Friends & Family International* bolt-on for Households 2 and 4) did not require line rental pre-payment. The base *Home Phone Saver* tariff offers line rental, unlimited calls to UK landlines and discounted calls to UK mobiles for £19.99 per month.

Figure 2.2 Comparative stand-alone 'weighted average' fixed-line voice pricing



Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted.

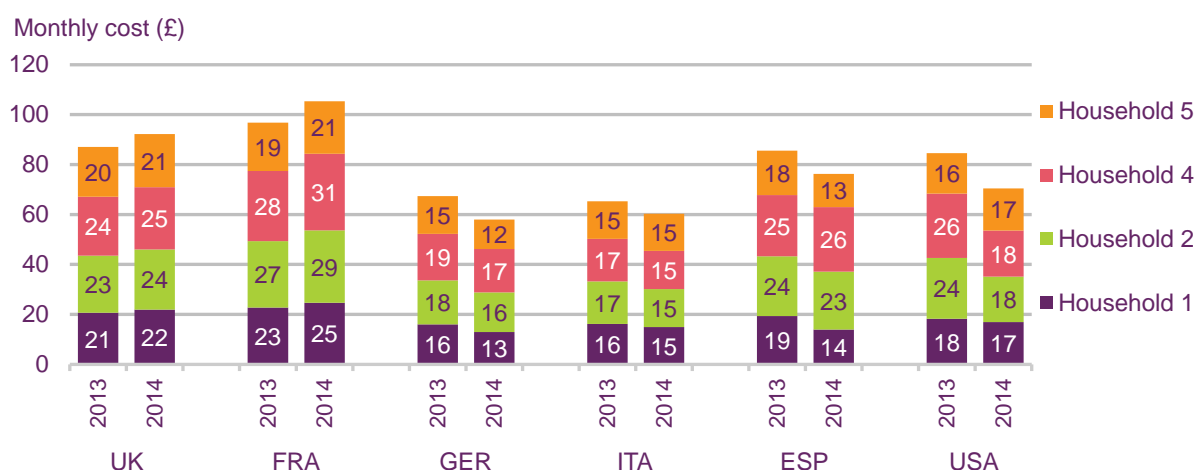
⁶³ Calculated using the tariffs offered by each country's three largest landline providers and weighted by their market share.

While weighted average analysis is usually a reflection of the pricing of the largest provider in each market (who is typically the incumbent provider), analysis of 'lowest available' prices (as shown in Figure 2.3 below) highlights the cheapest stand-alone tariff. Often, this is offered by a new entrant as it tries to gain market share from established providers (although as mentioned previously, in the UK it was BT for all four households, as no other UK provider in the Teligen pricing model offered stand-alone fixed voice services in either 2013 or 2014).

The UK had the second highest total 'lowest available' stand-alone prices for the four fixed voice connections included in our household usage profiles, after France. By way of comparison, the cheapest total 'lowest available' stand-alone price for these connections was found in Germany, where it was 37% lower than in the UK in 2014. In all the comparator countries, a single provider offered the 'lowest available' stand-alone prices for all of the fixed voice connections in our households. In the UK, this was BT (as the only provider of stand-alone voice services included in the model), while it was SFR in France, Vodafone in Germany, TeleTu in Italy, Orange in Spain and RCN in the US.

Our analysis indicates falling 'lowest available' stand-alone fixed voice prices in all of our comparator countries, except the UK and France (where the increases were 6% and 9% respectively). Among our other countries the total 'lowest available' prices fell by between 8% (in Italy) and 17% (in the US).

Figure 2.3 Comparative stand-alone 'lowest available' fixed-line voice pricing



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for the fixed-line voice component of each household usage profile from any of the three largest operators by market share in each country, July 2013 and July 2014; PPP adjusted.

Mobile summary

Eight mobile phone connections were included across the five households we use in our analysis, with usage profiles ranging from low use with a basic handset, to high use with an advanced handset. These eight connections (summarised in Figure 2.4 below) also vary in terms of the distribution of call and messaging volumes (e.g. the proportion of calls which are to national mobiles, to national geographic numbers or to international numbers). Full details are provided in the household usage profile analysis later in this section.

We have not specified the requirement for 4G in any of the mobile connections included in this analysis as we are unable to identify which tariffs allowed the use of 4G services in 2013 (and cannot therefore provide analysis of 4G prices over time).

Figure 2.4 Summary of mobile connection usage profiles

	Basket	Handset type	Outbound voice minutes per month	Outbound SMS per month	Data use per month
Connection 1	Household 1 handsets 1 and 2	Basic	50	None	None
Connection 2	Household 2 handsets 1 and 2	Basic	50	25	50MB
Connection 3	Household 4 handset 2	Intermediate	150	200	200MB
Connection 4	Household 5 handset 2	Intermediate	200	50	500MB
Connection 5	Household 4 handsets 3 and 4	Intermediate	100	250	1GB
Connection 6	Household 4 handset 1	Advanced	250	100	300MB
Connection 7	Household 5 handset 1	Advanced	300	150	1GB
Connection 8	Household 3 handset 1	Advanced	500	200	2GB

Source: Ofcom

Our analysis found that, as in 2013, the lowest total weighted average price of the eight connections included in our household usage profiles was found in France in 2014, with the UK having the second-lowest total weighted average price (Figure 2.5).

The weighted average stand-alone price of six of the eight connections fell in the UK in the year to July 2014, with the largest decline being a £4-a-month fall for Connection 7. Overall, the total ‘weighted average’ stand-alone price of all eight connections fell by 2% in the UK in the year to July 2014. France and Italy were the only two comparator countries in which the total increased during this period (up by 1% and 12% respectively). The largest fall in the total weighted average stand-alone price was a 9% drop in the US.

Falling prices in the US were partly due to the launch of mobile contracts offering fewer inclusive minutes. In previous years, most post-pay mobile services included 500 or more inclusive call minutes, partly because these are used for incoming as well as outgoing calls as a result of the ‘receiving party pays’ interconnect regime that exists in the US. The UK had the lowest weighted average prices for three of our eight connections in 2014 (up from two in 2013), while the remaining five were all found in France.

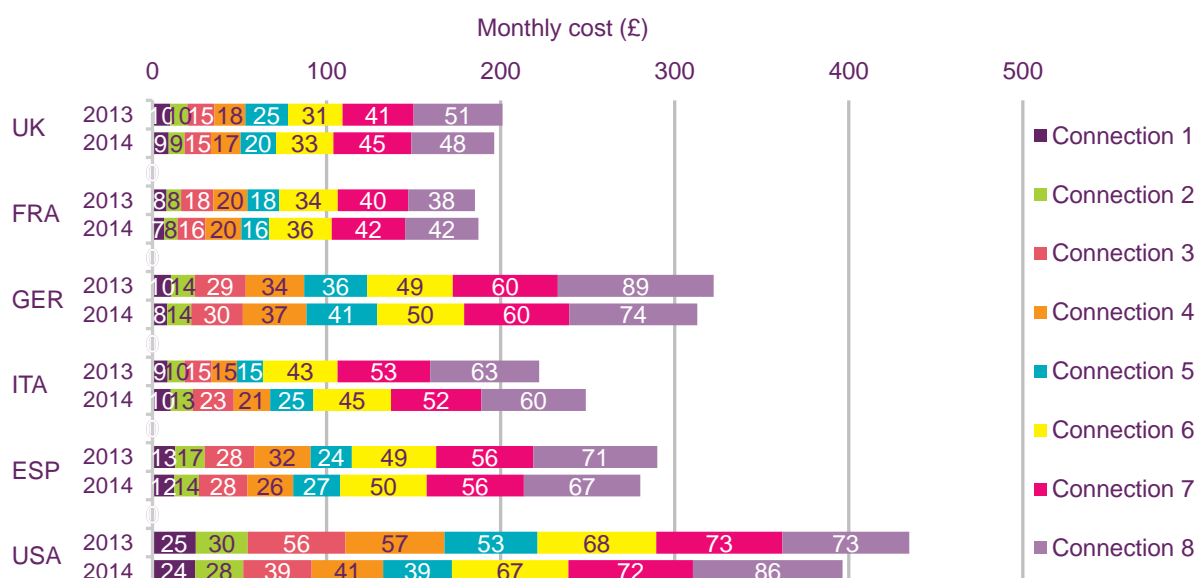
‘SIM-only’ tariffs enable consumers to make savings on the cost of their mobile service in return for not receiving a new handset when they sign up to a new mobile contract. Instead, they are supplied with a SIM card to use in a handset that they already own, and the mobile provider is able to pass on to the consumer the cost saving associated with not having to subsidise a new handset, in the form of lower service prices.

In the UK, 17 of the 24 tariffs feeding into the UK average best-pricing analysis of our eight connections in July 2014 (71%) were SIM-only contracts, down from 96% in July 2013 (where a tariff is SIM-only, our model factors in the cost of buying a mobile handset separately and amortises it over three years).⁶⁴ This proportion was much higher than in the other comparator countries, where the percentage of tariffs feeding into the weighted average calculation that were SIM-only ranged from 4% (one tariff) in Italy to 42% (ten

⁶⁴ We amortise the cost of mobile handsets over three years as mobile users frequently keep existing handsets for longer than their minimum contract term (for example, to take advantage of low-cost SIM-only tariffs) or give an old handset to a family member or friend who continues to use it.

tariffs) in France. This suggests that SIM-only tariffs may be more attractive to consumers in the UK than elsewhere. The proportion of pay-as-you-go tariffs feeding into the UK weighted averages increased from 4% to 13% in the year to July 2014, although this remained the lowest proportion across our comparator countries, among which it was highest in Italy (where pre-pay accounts for three-quarters of all mobile connections), at 79%.

Figure 2.5 Comparative stand-alone ‘weighted average’ mobile pricing



Source: Ofcom using data supplied by Teligen

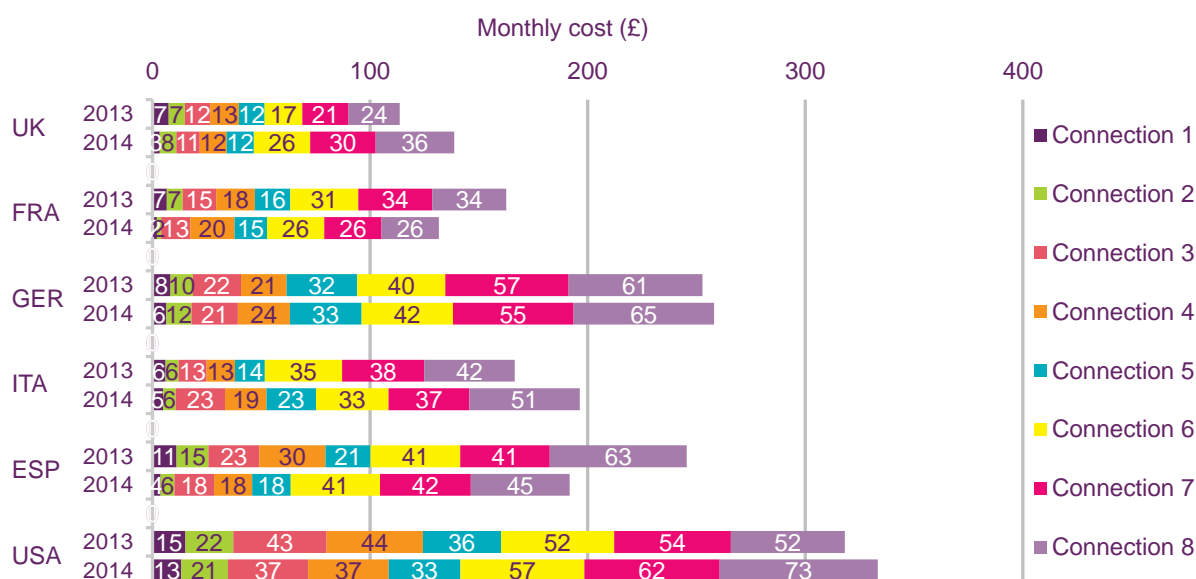
Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted.

As was the case with ‘weighted average’ stand-alone mobile prices, the UK had the second lowest total ‘lowest available’ prices for the eight connections included in our analysis, among our comparator countries in 2014, after France (Figure 2.6). Four of the cheapest ‘lowest available’ prices for our connections were found in the UK in 2014, down from five in 2013, with the other four all being found in France.

France was the only comparator country where one provider’s prices were notably lower than those of the other operators included in our analysis in 2014, with Free Mobile (which offers mobile services starting at €2 per month), providing five of the eight lowest available prices. EE and Three each had three of the eight ‘lowest available’ UK prices for our connections in 2014, with Virgin Mobile offering the ‘lowest available’ prices for the remaining two. Similarly, the lowest prices were found across multiple providers in Germany, Italy, Spain and the US.

In the UK, the total ‘lowest available’ price of the eight connections used in the analysis increased by 22% in the year to July 2014, with the majority of this increase being due to rising prices for the three highest-use connections (Connections 7, 8 and 9). These were due to changes in T-Mobile’s SIM-only tariffs (which provided the ‘lowest available’ prices for all three connections in 2013) and an increase in the price of the premium smartphone handset which they require.

Figure 2.6 Comparative stand-alone 'lowest available' mobile pricing



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for the mobile phone component of each household usage profile from any of the three largest operators by market share in each country, July 2013 and July 2014; PPP adjusted.

Fixed-line broadband summary

Comparing stand-alone fixed broadband prices raises a number of issues. First, fixed broadband is frequently bought as part of a bundle of services from one supplier. This means that analysis of stand-alone prices will not be representative of prices paid by many consumers. Second, most fixed broadband services also require a landline (although this may not be the case for cable broadband and 'naked DSL', which is offered by some operators in the UK, France, Italy, Germany and the US).⁶⁵ Finally, many ISPs no longer offer stand-alone fixed broadband services, meaning that the analysis is often based on only a few tariffs in each country. For this reason we only consider 'lowest available' fixed broadband prices in this report.

The stand-alone fixed broadband pricing analysis below excludes telephone line rental, even if this is required. Instead, this is included in the fixed voice element of the household usage profiles in question. The inclusion of line rental in this analysis would increase the cost of fixed broadband services in countries which do not have significant naked DSL/fibre availability, including the UK. In addition, we include the price of the incumbent providers' fixed broadband services in the analysis even if these are not available on a stand-alone basis.

The fixed broadband connections used in our analysis are defined by the headline 'up to' speed of the connection, and require headline speeds of at least 'up to' 4Mbit/s, 10Mbit/s and 30Mbit/s for Households 2, 4 and 5 respectively. However, in 2013 none of the ISPs included in our analysis in France offered a suitable stand-alone fixed broadband service with a headline speed of 30Mbit/s or higher, as is required for Household 5 (although bundled services were available), so figures for this household in France in this year include

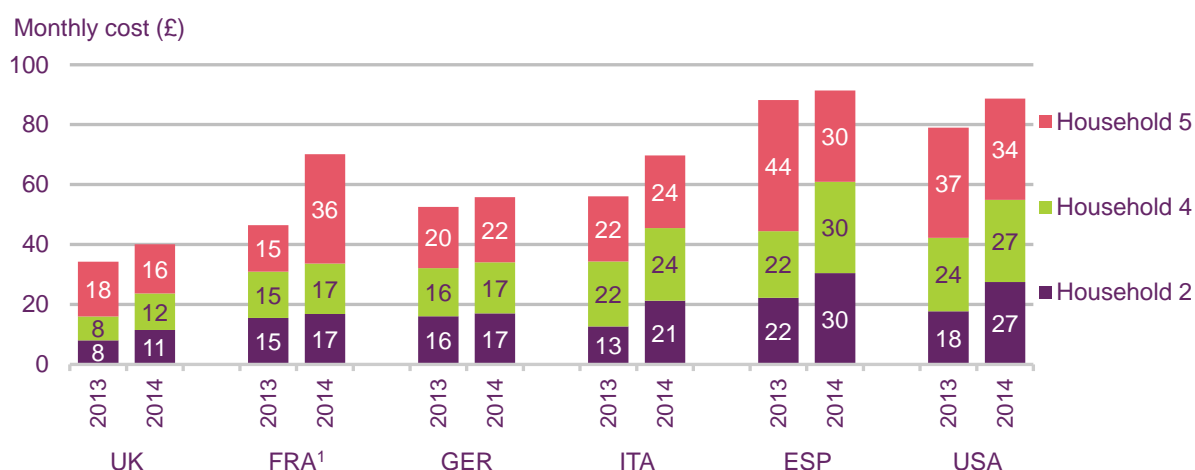
⁶⁵ A 'naked DSL' connection is a DSL broadband service that is provided without the requirement for a fixed voice line.

a connection of at least 'up to' 10Mbit/s, and are not comparable to those in our other countries.

The UK had the cheapest 'lowest available' stand-alone prices for all three of the fixed broadband connections included in our household usage profiles in 2014 (Figure 2.7). The 'lowest available' prices of the two lower-speed connections (required by Households 2 and 4) both increased in the year to July 2014 (mainly due to BT and Virgin Media offering less generous promotional discounts than were available in July 2013), while the 'lowest available' price of the 'up to' 30Mbit/s or higher connection required by Household 5 fell by £2 per month (10%) to £16 during the year.

The total of the 'lowest available' prices of the three connections included in our analysis increased in all five of the comparator countries for which like-for-like data were available in the year to July 2014, with these increases ranging from 4% in Spain to 24% in Italy (in the UK, the increase was 17%, the second largest proportion among these countries). Overall, while the UK had the cheapest 'lowest available' fixed broadband prices in 2014, the highest prices were found in Spain and the US, as had been the case in 2013.

Figure 2.7 Comparative stand-alone 'lowest available' fixed-line broadband pricing



Source: Ofcom, using data supplied by Teligen

Note: July 2013 and July 2014; PPP adjusted; ¹ In France in 2013 Household 5 includes a connection below 30Mbit/s because none of the ISPs included in our pricing model offered a suitable 'up to' 30Mbit/s or higher service.

Mobile broadband summary

For some consumers a cellular broadband connection can be used as an alternative to fixed broadband. One of our five households (Household 3) is mobile-only and uses a dedicated mobile broadband connection to connect their computer to the internet (using a datacard or 'dongle' or SIM)

In the analysis below, we do not include smartphone tariffs, only dedicated data-only mobile broadband connections, which are used to provide a mobile broadband connection to computers (using a 'dongle' or data SIM). We also do not take the speed of connection into account, or whether the service includes bundled use of public WiFi hotspots. In addition, we consider only the 'lowest available' service available, as the relatively small number of available tariffs in some countries makes it difficult to produce meaningful 'weighted average' mobile broadband pricing analysis. Where a service is SIM-only, we factor in the price of a

mobile broadband dongle modem separately (even if a service is intended to be used in another device, such as a tablet computer) and amortise it over three years.⁶⁶

While connection speeds are not regularly used in the marketing of mobile data services, the launch of 4G means that connection speed is increasingly being used to differentiate services. We have not specified the requirement for 4G in any of the mobile connections included in our household usage profiles as we are unable to identify which tariffs allowed the use of 4G services in 2013 (and therefore we are unable to monitor 4G prices over time).

Household 3 includes a connection which uses 5GB of data over 30 days a month. In order to be able to compare a wider range of mobile broadband use, we also include two lower-use connections in the analysis below: a medium-use connection requiring 3GB of data over 25 days per month and a low-use connection requiring 1GB of use over ten days.

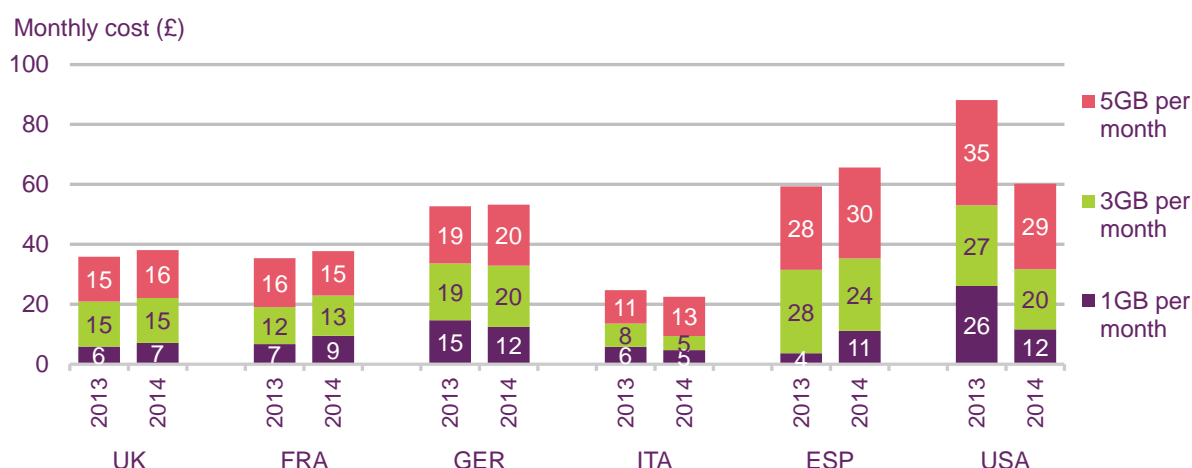
The lowest available stand-alone prices for dedicated data-only mobile broadband services were found in Italy in 2014, as had been the case in 2013 (Figure 2.8). The UK had the third cheapest 'lowest available' mobile broadband prices among our comparator countries in 2014, after Italy and France.

The price of the lowest-use connection, requiring 1GB of use, increased by £1 to £7 per month in the UK, as a result of Three increasing the price of its *Pay as you Go + 12GB (Broadband Lite)* service, while the price of the connection requiring 3GB of data was unchanged at £15 per month. In 2013 the 'lowest available' priced service for this connection was T-Mobile's *Mobile Broadband Pay Monthly 10GB* service, while in 2014 it was EE's *4GEE 3GB* service, which cost the same as the T-Mobile service but offered 3GB of 4G data per month rather than 10GB of 3G data. The price of the highest-use connection (requiring 5GB of data) increased by £1 per month to £16 in 2014.

The total 'lowest available' price of all three connections increased in all comparator countries except Italy and the US (where it fell by 9% and 32% respectively) in 2014. The increases in our other comparator countries ranged from 1% in Germany to 11% in Spain (in the UK, the increase was 6%). Falling mobile broadband prices in the US in 2014 were due to T-Mobile (which provided the 'lowest available' tariff for all three connections) launching new, lower-priced services. The increase in Spain may not reflect a change in actual pricing as it is mainly the result of a £7 per month increase in the price of the lowest-use connection due to R-Cable not featuring in the 2014 model as a result of shifting market shares (we only include tariffs from the three largest providers in our analysis).

⁶⁶ We have used the same (July 2014) mobile broadband dongle prices in both 2013 and 2014.

Figure 2.8 Comparative stand-alone 'lowest available' mobile broadband pricing



Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country, July 2013 and July 2014; PPP adjusted.

Pay-TV summary

It is challenging to produce like-for-like comparisons of TV packages as a result of differences in the number and types of channels provided by different services. However, we consider that it is important to include TV services in our analysis because of the popularity of bundles of communications services including TV.

In our analysis we have used the following definitions:

- 'Basic pay-TV' is the lowest subscription required to receive channels in addition to those that are available on free-to-view television.
- 'Premium pay-TV' is the subscription required to receive the best package of both top-flight football (NFL in the US) and a top-price film/entertainment package.

Where applicable, our analysis includes TV licence fees, which were highest in the UK and Germany at £12 and £17 per month respectively in 2014. There was no TV licence fee in the US and Spain. As with data-only mobile broadband services, we consider only stand-alone 'lowest available' TV service pricing in this section; it is difficult to produce meaningful weighted average stand-alone pricing analysis because of the relatively low number of services available in most countries.

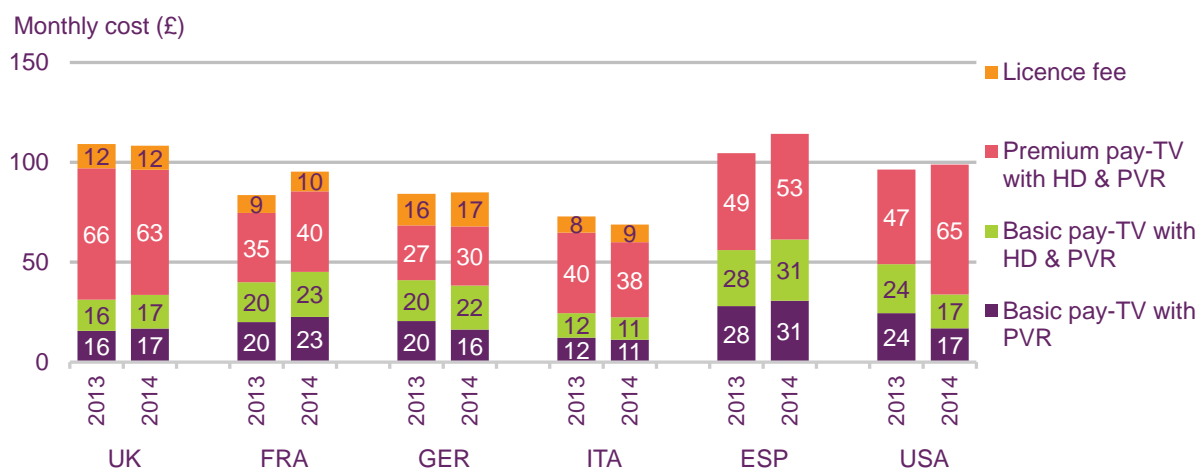
Among our comparator countries, the 'lowest available' retail stand-alone prices for both of the basic pay-TV services that are included in our analysis, each of which has a DVR, and the second of which requires high-definition (HD) content, were found in Italy in 2014. This was also the case in 2013. For both basic pay-TV connections, the 'lowest available' tariff in Italy was Telecom Italia's *TIM Vision (with decoder)* IPTV service, which offered 14 basic channels for €15 per month (reduced to €10 per month for the two-year minimum term of the contract).

The UK had the third-cheapest 'lowest available' stand-alone prices, for both basic pay-TV services, among our comparator countries in 2014. In both cases, this was Virgin Media's *More TV with TiVo 500GB* service (which offered 81 basic channels) at £17 a month, a £1 a month increase compared to 2013.

The 'lowest available' prices for the premium HD pay-TV service required by Household 5 ranged from £30 per month in Germany to £65 per month in the US (the UK had the second-highest price for these services in 2014, at £63 per month). It is difficult to compare premium pay-TV packages as a result of the variations in content in these packages. The UK's 'lowest available' premium pay-TV service in 2014 (Sky's *Family Bundle with Sky Sports & Movies + HD Pack with Sky+ HD Box*) included 378 basic channels and 18 premium channels, more than twice as many as the cheapest service in Germany (Kabel Deutschland's *Kabelanschluss Premium HD*).

The relatively high TV licence fee in the UK, along with it having a comparatively expensive 'lowest available' HD premium pay-TV price meant that, when the TV licence fee was included in the analysis, the UK had the second highest total 'lowest available' price for the TV services included in our household profiles, after Spain. The total 'lowest available' price for the three pay-TV services included in our household usage profiles, plus the TV licence fee, fell by 1% in the UK in the year to July 2014, with Italy the only other country where this total fell (down by 6% during the period). The increases in the other comparator countries ranged from 1% in Germany to 14% in France. The increase in France was due to Canalsat (which had the 'lowest available' price for all three pay-TV services included in our households in both 2013 and 2014) increasing the price of its cheapest HD premium pay-TV package, and offering a smaller promotional discount on its 'lowest available' basic pay-TV service.

Figure 2.9 Comparative stand-alone TV pricing



Source: Ofcom using data supplied by Teligen

Note: Basic pay-TV is defined as the minimum price required to purchase a pay-TV package which includes channels not available over free-to-air TV; premium TV is defined as the best package of top-league football (NFL in the US) and a top price film/entertainment package; lowest tariff available for the pay-TV component of each household usage profile from any of the three largest operators by market share in each country, July 2013 and July 2014; PPP adjusted.

Having provided an overview of findings on a stand-alone basis, we now look at the prices of baskets of communications services, which are designed to be representative of five household types.

2.1.4 Household analysis

Household 1: a low-use household with basic needs

Our first household usage profile contains a usage pattern typical of a retired low-income couple who have a fixed line from which they make five hours of calls a month (the majority of which are local, although they occasionally make calls to mobiles, and do not make any international calls). They each have a mobile phone which they use to make 50 minutes of calls per month, but they do not send any SMS messages or use any mobile data services. They watch free-to-air multichannel digital television, which is available in all of our comparator countries.

Figure 2.10 Composition of household usage profile 1

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
300 call minutes	None	Connection 1 50 call minutes Connection 2 50 call minutes	None	Free-to-air

Source: Ofcom

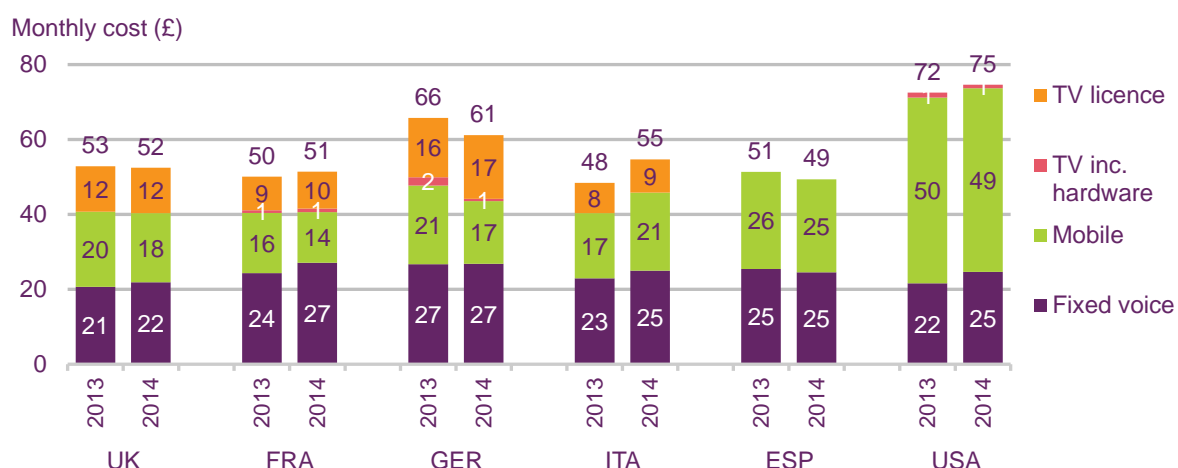
Spain had the lowest weighted average stand-alone price for Household 1 in 2014 at £49 a month, a £2 per month (4%) decrease during the year. The UK had the third-lowest weighted average stand-alone price for this household usage profile in 2014, at £52 per month, a 1% fall compared to 2013.

As our weighted average stand-alone analysis weights the three largest providers' 'lowest available' stand-alone prices by their market shares, it is to a large extent a reflection of the largest provider's market share where one operator is much larger than its competitors. In fixed voice markets this tends to be the incumbent operator as, in all of our comparator countries except the US and the UK, the incumbent operator has a fixed-line market share of over 50%. Among our comparator countries, the weighted average price of the fixed voice element of the household usage profile ranged from £22 per month in the UK to £27 per month in France in 2014, with the annual change ranging from a 4% fall in Spain to a 14% increase in the US (in the UK it increased by 6%).

The weighted average cost of fulfilling the mobile requirements of the household usage profile fell in all of our comparator countries except Italy (where it increased by 20%) in the year to July 2014, with these decreases ranging from a 1% fall in the US to a 20% decline in Germany. In the UK, which had the third-lowest weighted average stand-alone price for Household 1's mobile requirements, the weighted average price fell by £2 per month (8%) to £18.

As Household 1 includes only free-to-air TV services, the main driver of the cost of the TV component of the household usage profile is the TV licence fee (although not in Spain and the US, where there is no licence fee). As the household usage profile does not include pay-TV services, the only other TV cost is that related to equipment purchase and installation (we include the cost of a set-top box/decoder, but not the cost of the television).

Figure 2.11 Household usage profile 1: 'weighted average' stand-alone pricing



Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted.

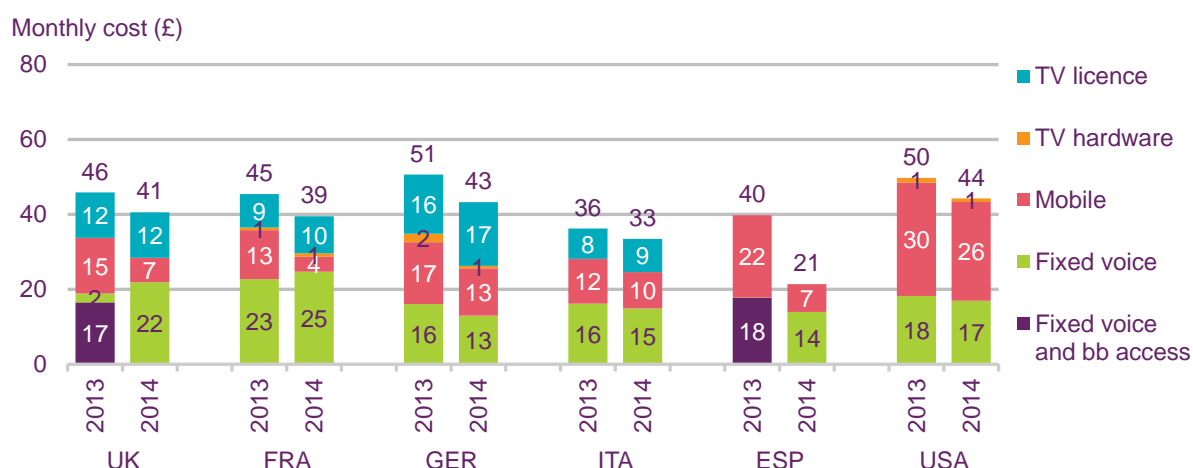
'Lowest available' pricing analysis shows the lowest price for which it is possible to fulfil the household's usage requirements using the tariffs of the providers in each country whose tariffs are included in our pricing model, including bundled services (Figure 2.12).

The cheapest 'lowest available' price of fulfilling the requirements of Household 1 was in Spain in 2014, at £21 a month. This was £18 a month less than in 2013, with the majority of this fall being the result of Jazztel introducing a new pre-paid SIM-only service, *Tarjeta Jazzcard Movil*, which offered 3,000 free call minutes per month for no monthly fee. The UK had the third most expensive 'lowest available' price for Household 1 in 2014, at £41 per month (a £5 per month decrease compared to 2013, when the 'lowest available option had included a fixed broadband connection, even though this is not required by the household).

The cost of the television component of the household usage profile remains the same as in the 'lowest available' analysis, as it includes free-to-air television, where the only costs are the licence fee, hardware and installation.

The largest difference between the 'lowest available' price and the stand-alone weighted average price for the three largest operators was in Spain in 2013, where the lowest-cost combination of services needed to fulfil the requirements of Household 1 was 57% less than the weighted average price (in the UK it was 23% less, as was the case in France and Italy). By contrast, there was relatively little variation between the 'weighted average' and the 'lowest available' prices in Germany, where the 'lowest available' price was 11% cheaper than the weighted average.

Figure 2.12 Household usage profile 1: comparative 'lowest available' pricing



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, July 2013 and July 2014; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service.

Household 2: a broadband household with basic needs

The second household usage profile is representative of a couple of 'late adopters' who are fairly heavy users of the fixed-line phone, have a basic fixed broadband connection, and each has a mobile phone which they use occasionally for voice, SMS and data.

Figure 2.13 Composition of household usage profile 2

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
400 call minutes	Minimum 4Mbit/s headline speed 20GB data	Connection 1 50 call minutes 25 SMS 50MB data Connection 2 50 call minutes 25 SMS 50MB data	None	Free-to-air

Source: Ofcom

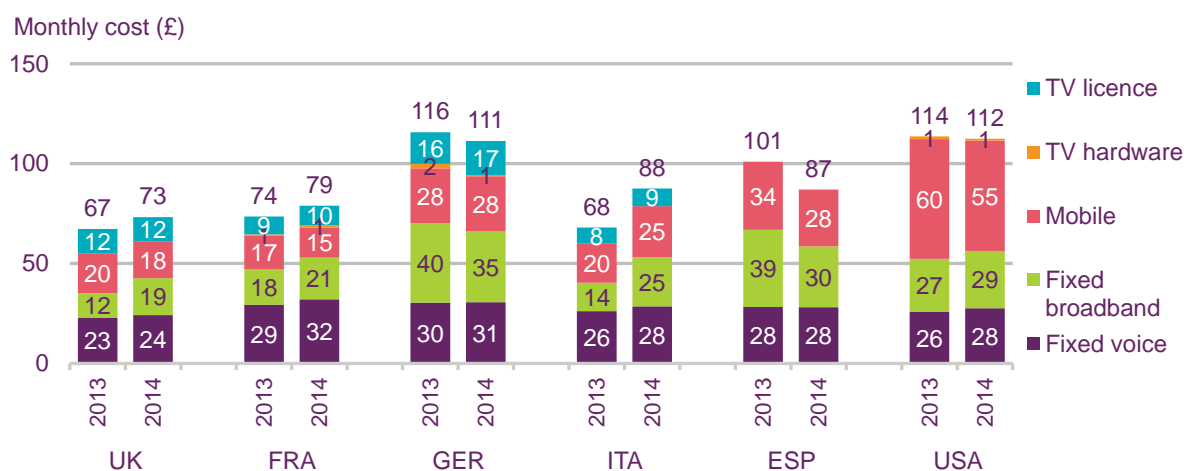
The lowest stand-alone weighted average price to fulfil Household 2's usage requirements was found in the UK in 2014, at £73 a month, a £6 a month (9%) increase compared to 2013. The UK was one of three countries (along with France and Italy), where the total weighted average price of the household's usage increased during the year.

The UK had the lowest 'weighted average' stand-alone prices for Household 2's fixed voice and fixed broadband requirements, at £24 and £19 per month respectively. All three of the stand-alone fixed broadband services included in the UK weighted average had a headline speed above 'up to' 30Mbit/s, despite Household 1's broadband bandwidth requirement only being 'up to' 4Mbit/s, although this was partly due to the availability of promotional offers. The increase in the weighted average fixed broadband price in the UK in 2014 (up from £12 per month) was largely due to BT and Virgin Media offering less generous promotional offers than were available in 2013, and Virgin Media increasing the price of its stand-alone fixed broadband services (which do not require a fixed line).

The lowest weighted average stand-alone price for the mobile elements of the household's use (two handsets with low voice and SMS use) was in France, at £15 a month. In the UK, the weighted average cost of the mobile requirement for the household fell by £2 a month (8%) to £18 a month in the year to July 2014, as a result of all of the providers whose services contributed to the average (O2, Orange and Vodafone) introducing services that were cheaper for the household's usage profiles. As was the case in 2013, the highest weighted average mobile cost was in the US in 2014, at £55 a month, although this was a £5 a month (8%) fall compared to 2013, mainly due to an £5 a month fall in the price of Sprint's 'lowest available' price for each of the household's mobile connections.

This household usage profile contains the same basic free-to-air television service as Household 1.

Figure 2.14 Household usage profile 2: 'weighted average' stand-alone pricing



Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted.

The cheapest 'lowest available' price to fulfil Household 2's usage requirements was in France in 2014, at £43 a month (Figure 2.15).

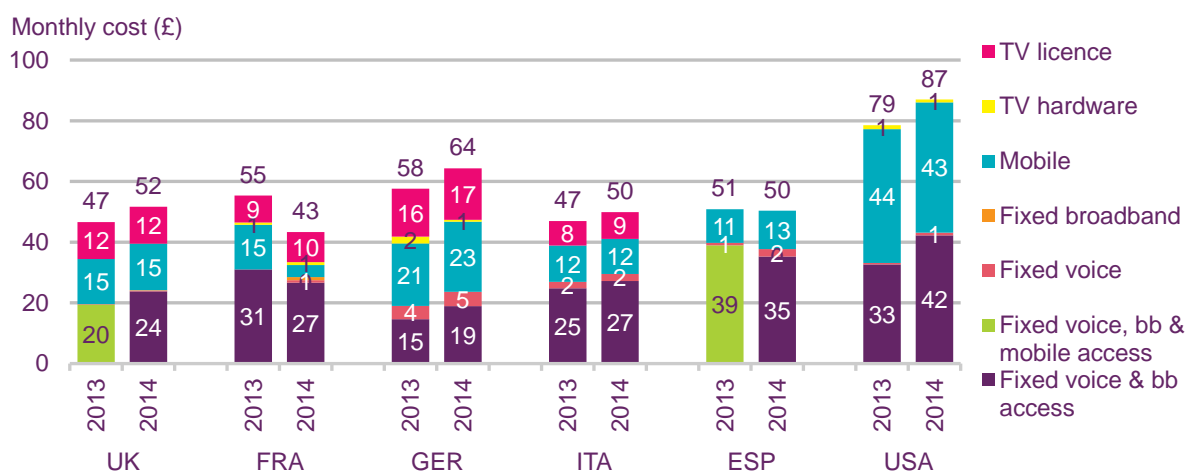
The UK had the third-highest 'lowest available' price across our countries in 2014 at £52 a month, a £5 a month (11%) increase compared to 2013. While the UK 'lowest available' priced option in 2013 had involved purchasing a bundle of fixed voice and fixed broadband services at a reduced monthly fee, which was only available to the providers' mobile customers, in 2014 it was a TalkTalk dual-play bundle with three additional call add-ons (*SimplyBroadband + 100 Mobile Minutes Boost + Anytime Calls Boost + International Calls Boost*) with line rental pre-payment. The 'lowest available' UK mobile tariff for each of Household 2's mobile connections (which have identical low use of voice call, text messages and data) was Virgin Mobile's *Mobile Tariff* SIM-only service, which had a monthly rental of £7 per month and a total price (including the cost of a basic handset) of £8 per month per connection. This represented a 3% increase compared to the 2013 'lowest available' tariff.

In France, the total cost of the 'lowest available' combination of services fell by £12 a month (22%) in 2014. This was largely due to Free launching a new triple-play fixed voice, fixed broadband and mobile service, *Forfait Free Box Crystal + Option appels vers les mobiles + Free Mobile EUR 0*, at €29.99. This was the largest percentage fall in the 'lowest available' price for Household 2 in 2013, with the change in the 'lowest available' price for the household, among our other comparator countries, ranging from a 1% fall in Spain to a 12%

increase in Germany. The main reason for the increase in Germany was Vodafone increasing the price of its *DSL Classic Paket + DSL 16000* service and withdrawing a six-months' free rental promotion that had been offered in 2013 (which meant that this was no longer in the 'lowest available' priced combination of services), although there was also an increase in the price of the household's mobile requirements.

The savings that were available by buying the 'lowest available' combination of services including bundles for Household 2, rather than the stand-alone 'lowest available' combination, ranged from 3% in the US to 29% in France in 2014 (in the UK it was 18%). Similarly, the difference between the 'lowest available' price including bundles and the weighted average stand-alone price ranged from 19% in Germany to 45% in France (in the UK it was 22%).

Figure 2.15 Household usage profile 2: comparative 'lowest available' pricing



Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, July 2013 and July 2014; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service.

Household 3: a mobile 'power user'

The third household usage profile represents a single-person household typical of a young professional person who lives alone. This person lives in a mobile-only household and is a heavy user of both a mobile phone and of mobile broadband (using a mobile 'dongle' or data SIM to connect to the internet).

The relatively narrow range of mobile broadband tariffs available from operators in many countries makes it difficult to produce a meaningful 'weighted average' figure, so the 'weighted average' analysis in this report includes the 'lowest available' stand-alone cost of the mobile broadband component of the household usage profile.

Figure 2.16 Composition of household usage profile 3

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
None	None	500 call minutes 200 SMS 2GB data	5GB over 30 days per month	Basic pay-TV DVR

Source: Ofcom

The lowest weighted average stand-alone price of fulfilling Household 3's usage requirements was in France in 2014, at £91 a month. The UK's weighted average price for

this household (£93 per month) was the second lowest among our comparator countries in 2014, and represented a £6 per month (6%) fall since 2013, which was mainly due to a decrease in the price of the mobile phone element of the household usage profile.

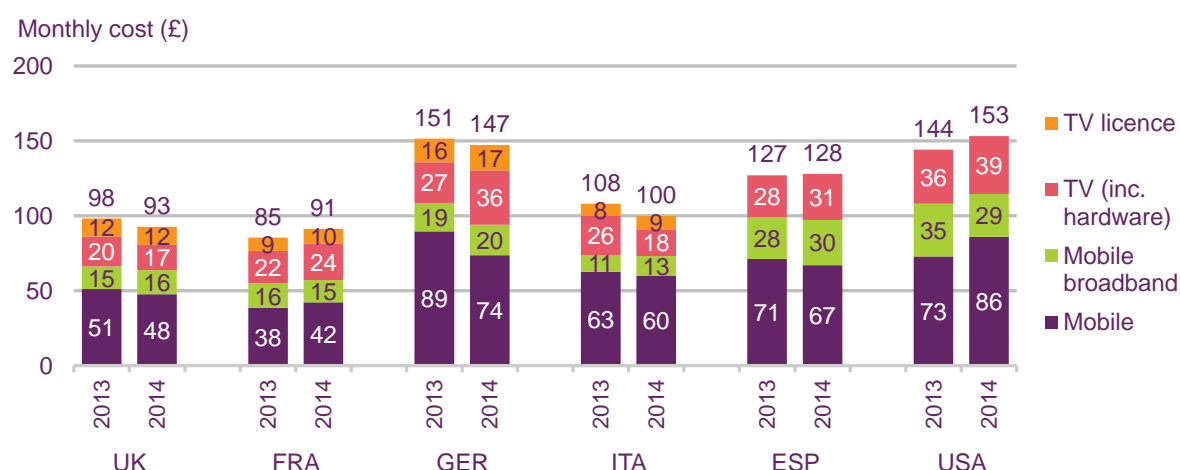
The total weighted average stand-alone price of this household's basket varied widely across our comparator countries in 2014, largely due to variations in the price of the high-use mobile phone connection required by the household. In all of our comparator countries, the household usage profile's mobile phone component was the largest single element of the total weighted average price, accounting from between 46% (in France) to 60% (in Italy) of the total household weighted average price (in the UK it was 51%).

The total weighted average stand-alone price of the household's use fell in three comparator countries in 2014; in the UK (down 6% as mentioned previously) and in Italy and Germany, where the totals fell by 7% and 3% respectively. The increases in our other countries ranged from 1% in Spain (where a fall in the cost of the mobile phone element of the household's basket only partially offset the increasing weighted average mobile broadband and pay-TV prices) to 7% in France (where the weighted average price of all of the services in the household's basket, other than mobile broadband, increased during the year).

Large variations were evident in the stand-alone price of the mobile broadband element of the household usage profile across our countries, with 'lowest available' prices ranging from £13 a month in Italy to £30 a month in Spain (in the UK it was £16 a month, the third-lowest figure among our comparator countries after Italy and France).

This household includes a basic 'entry-level' pay-TV service (defined as the lowest subscription required to receive channels that are not available on free-to-view platforms), plus a DVR. Because of the variation in the numbers and types of channels, along with the quality of the content, like-for-like comparisons are more problematic than for telecoms services, although our analysis shows that the UK and Italy had the lowest weighted average stand-alone pay-TV prices for this household in 2014.

Figure 2.17 Household usage profile 3: 'weighted average' stand-alone pricing



Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted; the figure for mobile broadband is the lowest available stand-alone cost.

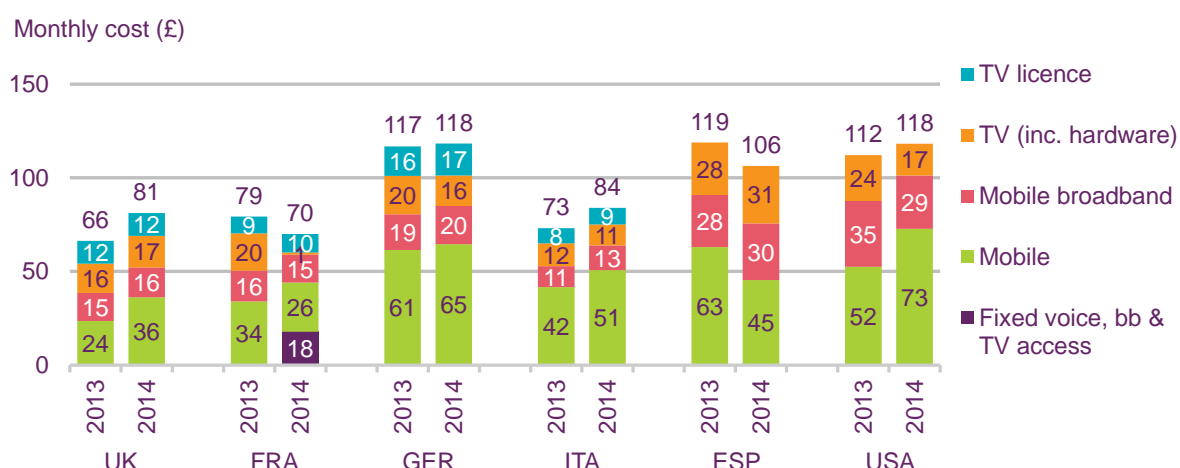
The 'lowest available' price for fulfilling Household 3's usage requirements was in France in 2014, at £70 per month. The UK had the second-cheapest 'lowest available' price for this household usage profile, at £81 per month, a £15 per month (22%) increase compared to 2013 (Figure 2.18).

In the UK, the increase in the 'lowest available' price was largely as a result of a £13 per month increase in the price of the 'lowest available' mobile service, which was mainly due to increasing premium smartphone handset prices (in both 2013 and 2014 the 'lowest available' price involved a SIM-only mobile service and a separately purchased mobile handset).

The 'lowest available' combination of tariffs in France included two services that were not required by Household 3: fixed voice and fixed broadband. The reason for this was that the best-offer stand-alone basic pay-TV with DVR price in France in 2014 (CanalSat's *Pack Panorama* service) was more expensive than the cheapest triple-play bundle, including basic pay-TV with a DVR (Bouygues Telecom's *Offre Bbox en zone dégroupée* service at €19.99 per month) once installation and hardware costs were taken into account.

France was the only country where the 'lowest available' priced combination of services for Household 3 involved purchasing a bundle of services, reflecting a lack of bundles of mobile phone, mobile broadband and/or pay-TV services that offer significant bundle discounts. For this reason, for all countries except France, the chart below compares the stand-alone lowest available tariffs discussed previously in this report. Because Household 3's usage profile does not include many services (and we have used 'lowest available' stand-alone broadband prices in the 'weighted average' calculation for the reasons outlined previously), there was less variation between the weighted average best price and the 'lowest available' combination price than for our other household usage profiles.

Figure 2.18 Household usage profile 3: comparative 'lowest available' pricing



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, July 2013 and July 2014; PPP adjusted.

Household 4: a family household with multiple needs

Household usage profile 4 represents usage levels typical of a family of two parents and two teenage children, each with their own mobile handset, but with different mobile usage profiles, with the adults using more voice and the children using more messaging and data. They are heavy users of the fixed-line phone and the internet, requiring a minimum headline connection speed of 'up to' 10Mbit/s, and they subscribe to an HD entry-level pay-TV service with a DVR.

Figure 2.19 Composition of household usage profile 4

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
500 call minutes	Minimum 10Mbit/s headline speed 60GB data	Connection 1 250 call minutes 100 SMS 300MB data Connection 2 150 call minutes 200 SMS 200MB data Connection 3 100 call minutes 250 SMS 1GB data Connection 4 100 call minutes 250 SMS 1GB data	None	HD basic pay-TV DVR

Source: Ofcom

The UK had the lowest weighted average stand-alone price for Household 4 in 2014, at £162 a month. This represented a £2 a month (1%) fall compared to 2013 (Figure 2.20).

The weighted average price of the household's four mobile connections was the main reason behind price variations between our countries: France was the only country in which the mobile phone element of the household usage profile accounted for less than half of the household's total weighted average stand-alone price (it was 46% of the total). Among the other comparator countries, the proportion of the total that was attributed to mobile services ranged from 54% in Italy to 65% in the US (in the UK it was 55%).

Household 4 has the highest fixed voice call use among our usage profiles, at 500 minutes of outgoing calls per month, and the UK had the lowest stand-alone weighted average price for this element of the household's use, at £25 per month. BT was the only UK provider in our pricing database that offered stand-alone fixed voice services in both 2013 and 2014, so the only service contributing to the fixed voice weighted average was its *Home Phone Saver + Friends & Family International* service. France had the highest weighted average price for the fixed voice element of the household usage profile in 2014, at £36 a month. This was a 9% increase compared to 2013, and this was the joint-largest increase among our comparator countries, along with Italy, and was due to both Orange and SFR increasing their prices during the year (in the UK the average increased by 6%, the third-highest such increase).

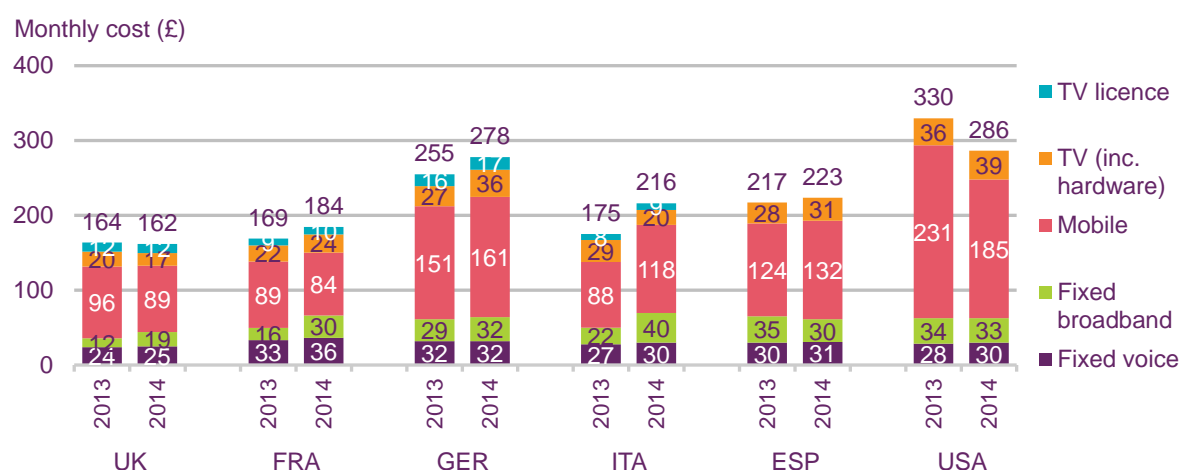
Household 4's usage profile requires four mobile phones with varying use of voice, SMS and data services, and the lowest total 'weighted average' prices for these connections were found in France and the UK in 2014, at £84 and £89 respectively. The weighted average price of Household 4's mobile requirements fell in three of our comparator countries in the year to July 2014 (the UK, France and the US); the largest drop was a 20% fall in the US. Despite this fall, the US continued to have the highest weighted average mobile price for the household, at £185 per month. In the UK, the weighted average mobile price fell by 7% in the year to July 2014.

The UK had the lowest weighted average fixed broadband price for this household usage profile in 2014, at £19 per month, despite a £7 per month increase during the year, which

was largely due to BT and Virgin Media having less generous promotional offers in 2014 than in 2013, and because Virgin Media increased the price of its basic cable broadband service during the year. Italy had the highest weighted average fixed broadband price in 2014, at £40 a month, an £18 per month increase compared to 2013, as a result of a comparatively expensive Telecom Italia service (*Tutto Fibra*) contributing to the weighted average in 2014 (in 2013 Telecom Italia did not offer a stand-alone service that fulfilled the household's requirements). The US and Spain were the only comparator countries where the weighted average fixed broadband price for Household 4 fell in 2014, down by 3% and 13% respectively.

The television requirement for this household is the same as for Household 3 (basic pay-TV with a DVR), but this household also requires HD channels. The only country where this resulted in a change to the weighted average price of the TV element of the household's basket was in Italy, where an additional €5 per month was required to receive HD channels with Sky's *Sky TV* service, resulting in a weighted average of £20 a month, £2 per month higher than for Household 3.

Figure 2.20 Household usage profile 4: 'weighted average' stand-alone pricing



Source: Ofcom using data supplied by Teligen

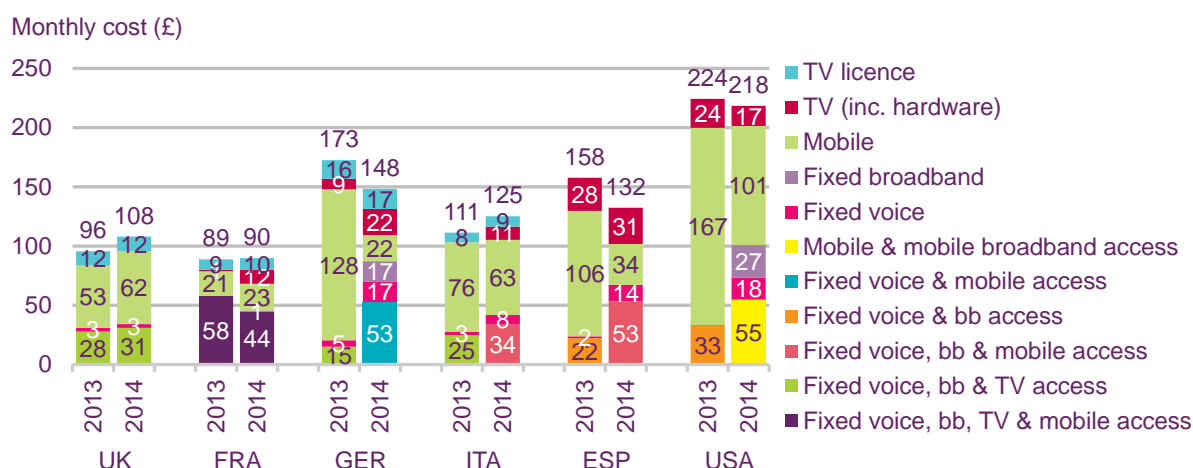
Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted.

The cheapest 'lowest available' cost of fulfilling the requirements of Household 4 was in France in 2014, at £90 a month. The UK had the second-cheapest lowest available price, at £108 per month, a £12 (13%) increase compared to 2013.

As had been the case in 2013, in France the 'lowest available' price (including bundles) for Household 4 included a quad-play bundle of fixed voice, fixed broadband, pay-TV and mobile services (Figure 2.21). However, in 2014 this was a Numericable service (*Start 4 10M with HD Box Memory rented*) rather than a Bouygues Telecom bundle as had been the case in 2013. In the UK, the lowest-cost option involved buying a triple-play bundle of fixed voice, fixed broadband and pay TV: TalkTalk's *Plus TV (LRS) + 100 Mobile Minutes Boost* service. In Italy and Spain, the cheapest option was a triple-play bundle of fixed voice, fixed broadband and mobile voice services, while in the US it was a bundle of mobile voice and mobile broadband services (in which the mobile broadband was provided at no extra charge), even though this household's usage profile does not require a mobile broadband connection.

The four mobile connections required by Household 4 meant that the overall comparable prices for the household closely resembled that of the mobile prices in each country, with the US having the most expensive 'lowest available' price (£218 per month). As was the case with Household 2 (which also includes a fixed broadband connection), the 'lowest available' price including bundles was substantially lower than than using stand-alone prices in most of our comparator countries, with the saving ranging from 2% in the US to 40% in France in 2014. In the UK the saving was £20 per month (15%).

Figure 2.21 Household usage profile 4: Comparative 'lowest available' pricing including multi-play tariffs



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, July 2013 and July 2014; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service.

Household 5: an affluent two-person household with high use of mobile, internet and HD premium TV

Household 5 represents an affluent young couple of high-end users. They both have mobiles and make fairly high use of mobile voice and data services and, to a lesser extent, SMS. They have a fixed line with relatively low use, are heavy internet users with an 'up to' 30Mbit/s or higher broadband connection (i.e. with a headline speed of 30Mbit/s or more), have a premium television package for watching HD sport and the latest movies, and a digital video recorder (DVR).

Figure 2.22 Composition of household usage profile 5

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
200 call minutes	Minimum 30Mbit/s headline speed 90GB data	Connection 1 300 call minutes 150 SMS 1GB data Connection 2 200 call minutes 50 SMS 500MB data	None	HD pay-TV with sports and movies PVR

Source: Ofcom

France offered the lowest 'weighted average' pricing for Household 5 in 2014, at £177 a month (Figure 2.23). The UK had the second-lowest weighted average stand-alone price for this household usage profile, at £185 a month, a £7 a month (4%) increase since 2013.

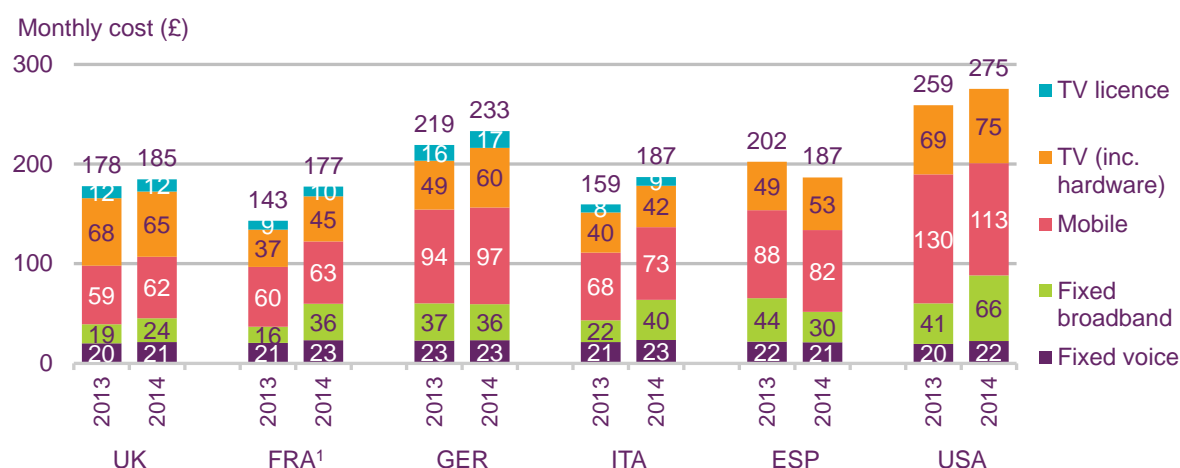
Household 5, with 200 minutes of outgoing calls per month, has the lowest fixed voice use of all our households that include a fixed voice service, and the UK had the second-cheapest weighted average price for this usage profile in 2014 (after Spain) at £21 a month. This was a £1 a month (6%) increase compared to 2013.

The lowest weighted average stand-alone cost of satisfying the mobile requirements of this household usage profile was in the UK in 2014, at £62 a month, marginally less expensive than in France. This profile included a high-end smartphone, accounting for a large proportion of the connection's overall cost, 300 minutes of outgoing calls, 150 SMS and 1GB of mobile data use, and the second connection with 200 outgoing call minutes, 50 SMS messages and lower mobile data use of 500MB. The UK had the cheapest weighted average price for this household's lower-use mobile connection (at £17 per month) and the second-lowest weighted average price for the higher-use connection (after France) at £45 per month. Conversely, the highest weighted average prices of both connections were in the US, at £72 per month for the higher-use connection and £41 for the lower-use one. The change in the total weighted average stand-alone price of the two connections in 2014 ranged from a 13% fall in the US to a 7% increase in Italy (in the UK there was an increase of 5%).

Household 5 has a fixed broadband connection with an advertised download speed of at least 'up to' 30Mbit/s, and 90GB of data use per month. There was a wide range of weighted average stand-alone prices for the 'up to' 30Mbit/s or higher broadband connection required by this household in 2014, with prices ranging from £24 a month in the UK (a £5 per month increase compared to 2013, due to both BT and Virgin Media offering less generous promotional discounts than those available in 2013, and Virgin Media increasing the price of its basic stand-alone service) to £66 a month in the US. None of the providers included in our pricing model in France offered a suitable stand-alone fixed broadband service in 2013, so we have included a lower-speed connection ('up to' 10Mbit/s or higher) in the analysis shown below. This means that the fixed broadband (and the total) prices for Household 3 in France in 2013 are not directly comparable to those in our other comparator countries.

The usage profile for Household 5 has a requirement for HD premium pay-TV, which includes a DVR, top-price entertainment channels, top league football (NFL in the US) and first-run Hollywood films. The highest weighted average stand-alone price for this package was in the US in 2014, at £75 per month. As was the case in 2013, the UK had the second-highest weighted average premium HD pay-TV price in 2014, at £65 per month, a £2 per month (3%) fall compared to 2013 as a result of Sky changing the way in which its HD channels are packaged. The pricing of the pay-TV element of this household usage profile is to a great extent the result of the way in which channels are bundled, and in the US and the UK in 2014 the football and film content needed to fulfil the household's requirements was bundled with substantial additional programming. The lowest weighted average stand-alone premium pay-TV price was in Italy in 2014, at £42 per month.

Figure 2.23 Household usage profile 5: 'weighted average' stand-alone pricing



Source: Ofcom using data supplied by Teligen

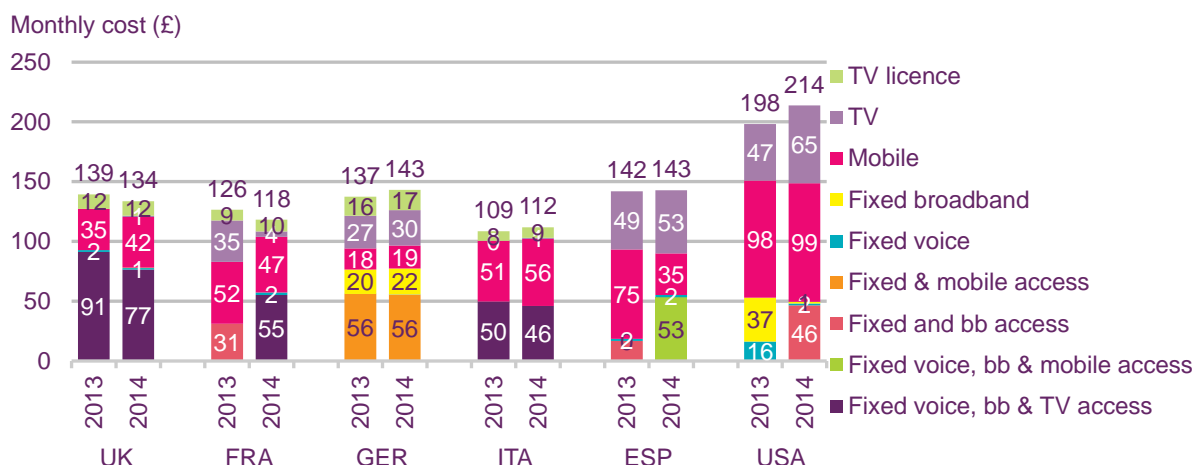
Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2013 and July 2014; PPP adjusted; the figure for mobile broadband is the lowest available stand-alone cost; ¹ In France in 2013 Household 5 includes a connection below 30Mbit/s because none of the ISPs included in our pricing model offered a suitable 'up to' 30Mbit/s or higher service.

The cheapest 'lowest available' pricing for Household 5 was in Italy at £112 a month, while in the UK the 'lowest available' price was £134 per month, £6 a month less than in 2013 and the third-cheapest 'lowest available' price among our comparator countries.

In all of the comparator countries, the 'lowest available' price for Household 5 included bundled services in 2014 (Figure 2.24). In the UK, France and Italy, the 'lowest available' combination of services included a triple-play fixed voice, fixed broadband and pay-TV bundle, while in Spain it was a fixed voice, fixed broadband and mobile bundle, in Germany a dual-play fixed voice and mobile bundle, and in the US a bundle of fixed voice and fixed broadband. In the UK the lowest available combination of services included BT's *TV Entertainment, Unlimited BT Infinity 2 + Anytime Calls (LRS) + Sky Sports 1+2 & Sky Movies* service, which had a base monthly rental fee of £80.50 (reduced to £72.50 for six months).

The largest bundle saving for Household 5, compared to purchasing the services on a stand-alone basis, was found in France, where the cost of the cheapest bundle of services was £36 a month, 23% less than the cheapest combination of stand-alone services. In the UK this saving was £21 a month (or 14%). The steepest fall in the 'lowest available' price for Household 5 in 2014 was in France, where it fell by 7% (£8 a month).

Figure 2.24 Household usage profile 5: comparative 'lowest available' pricing, including multi-play tariffs



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, July 2013 and July 2014; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service.

2.1.5 Conclusion

Figure 2.25 below shows the weighted average stand-alone and 'lowest available' prices of our five household usage profiles across our six comparator countries. We exclude the TV licence fee (where applicable) from this analysis.

As in previous years, our analysis shows that UK communications service prices compare favourably to those in the other countries included in the analysis. Excluding the TV licence fee, the UK had the lowest 'weighted average' stand-alone prices for Households 1, 2, 3 and 4, although it compared less well in terms of the 'lowest available' prices (including multi-play services) for our households, none of which were found in the UK. France also performed well, having the lowest 'weighted average' stand-alone price for Household 5 and the 'lowest available' prices for Households 2, 3 and 4.

The UK's low prices were mainly due to it having low prices for mobile and fixed broadband services. The 'lowest available' stand-alone prices for all three of the fixed broadband connections included in our household's usage requirements were found in the UK, while the UK also had the lowest 'weighted average' prices for three of the eight mobile voice connections required by our households, and the lowest available prices for four of them.

The service for which the UK prices were relatively high was in HD premium pay-TV services, where stand-alone retail prices were the second most expensive among our comparator countries, after the US. However, it is difficult to produce like-for-like comparisons of TV services, as the number of channels and the quality of the content varies widely between packages.

Figure 2.25 Summary of ‘weighted average’ and ‘lowest available’ household usage profile pricing

‘Weighted average’ stand-alone service pricing (£ per month)						‘Lowest available’ pricing, including bundles (£ per month)					
			Country	Price	Change				Country	Price	Change
Basket 1	1	↑	UK	40	0	Basket 1	1	↑	ESP	21	-18
	2	↑	FRA	42	0		2	↓	ITA	25	-4
	3	↑	GER	44	-6		3	-	GER	26	-9
	4	↓	ITA	46	6		4	↓	UK	28	-5
	5	-	ESP	49	-2		5	↓	FRA	30	-7
	6	-	USA	75	2		6	-	USA	44	-6
Basket 2	1	-	UK	61	6	Basket 2	1	↑	FRA	33	-13
	2	↑	FRA	69	4		2	↓	UK	40	5
	3	↑	ITA	79	19		3	↓	ITA	41	2
	4	↑	ESP	87	-14		4	↓	GER	47	6
	5	↓	GER	94	-6		5	-	ESP	50	0
	6	-	USA	112	-1		6	-	USA	87	8
Basket 3	1	↑	UK	81	-6	Basket 3	1	↑	FRA	60	-10
	2	↓	FRA	81	5		2	↓	UK	69	15
	3	-	ITA	91	-9		3	↓	ITA	75	10
	4	-	ESP	128	1		4	-	GER	101	0
	5	-	GER	130	-5		5	↑	ESP	106	-12
	6	-	USA	153	9		6	↓	USA	118	6
Basket 4	1	-	UK	150	-2	Basket 4	1	-	FRA	80	0
	2	-	FRA	174	15		2	-	UK	96	12
	3	-	ITA	207	40		3	-	ITA	116	13
	4	-	ESP	223	6		4	-	GER	131	-25
	5	-	GER	261	22		5	-	ESP	132	-25
	6	-	USA	286	-43		6	-	USA	218	-6
Basket 5	1	-	FRA	168	33	Basket 5	1	-	ITA	103	2
	2	↑	UK	172	7		2	-	FRA	108	-9
	3	↓	ITA	178	27		3	↑	UK	121	-6
	4	-	ESP	187	-16		4	↓	GER	126	5
	5	-	GER	216	13		5	-	ESP	143	1
	6	-	USA	275	16		6	-	USA	214	15

Source: Ofcom using data supplied by Teligen

Note: Excludes the TV licence fee

Figure 2.26 ranks our comparator countries in terms of ‘weighted average’ stand-alone pricing and ‘lowest available’ pricing (including bundles) across all five of the household usage profiles used in our analysis, and then across both of these metrics.

This shows that while the UK had the lowest prices among our countries in terms of ‘weighted average’ stand-alone pricing, both France and Italy had cheaper prices when looking at ‘lowest available’ pricing (including bundles), with France having overtaken the UK and Italy during the year (in 2013 the UK was ranked second after Italy). Combining both metrics, the UK ranked joint top with France among our comparator countries in terms of prices in 2014. The UK’s average rank across all household usage profiles and both pricing metrics was unchanged, at 1.9, during the year, while France’s improved from 2.4 to 1.9, partly as a result of falling ‘lowest available’ mobile phone prices.

Figure 2.26 Summary of ‘weighted average’ and ‘lowest available’ pricing

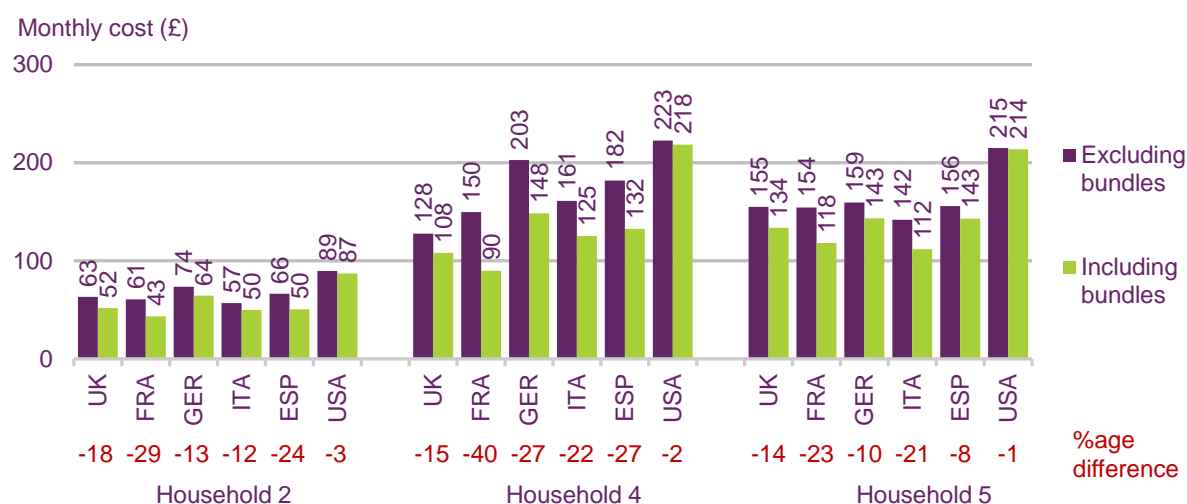
‘Weighted average’ stand-alone pricing			‘Lowest available’ pricing including bundles			‘Weighted average’ stand-alone & ‘lowest available’ including bundles pricing		
1	-	UK	1	↑	FRA	1=	-	UK
2	-	FRA	2	↓	ITA	1=	↑	FRA
3	-	ITA	3	↓	UK	3	↓	ITA
4	-	ESP	4	-	GER	4=	-	GER
5	-	GER	5	-	ESP	4=	↑	ESP
6	-	USA	6	-	USA	6	-	USA

Source: Ofcom using data supplied by Teligen

Note: Excludes the TV licence fee

In all of the six countries included in our research, it was cheaper for consumers to buy the services required by Households 2, 4 and 5 (which include a fixed broadband connection) as part of a bundle. However, the savings that were available vary widely between countries and household usage profiles, ranging from 1% (£1 per month) for Household 5 in the US to 40% (£60 per month) for Household 4 in France (Figure 2.27). In the UK, the largest proportional saving was 18% (£11 per month) for Household 2, although the largest saving in monetary terms was a £21 per month (14%) saving for Household 5.

Figure 2.27 Difference between ‘lowest available’ prices, including and excluding bundles



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service.



International Communications Market Report 2014

3 Television and audio-visual

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3.1 Key market developments in the TV and audio-visual markets

3.1.1 Industry metrics and summary

The TV and audio-visual chapter focuses on three topics – key market developments in the sector; industry revenue; and trends among TV and audio-visual consumers. It includes a global overview and country-level analyses of the 17 comparator countries.

- *Key market developments* details some of the major TV and audio-visual industry trends during the past year, with analysis of global revenue, take-up of digital TV and trends in online TV viewing.
- The *TV and audio-visual industries* section focuses on key revenue trends among comparator countries, including the financial results of major pay-TV and free-to-air broadcasters.
- The *TV and audio-visual consumer* section examines patterns of digital television take-up, including adoption of high-definition television services and digital video recorders. This section also examines how viewers in different countries consume broadcast television channels and TV online.

Figure 3.1 TV industry metrics: 2013

		UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
TV revenue (£bn)		13.4	8.8	18.9	6.7	110.2	20.6	4.6	3.0	2.6	1.9	2.2	0.6	5.2	12.1	4.3	5.0	20.6	0.5
Revs change (% YOY)		3.4%	0.4%	2.5%	-4.5%	2.0%	2.3%	3.4%	-6.2%	1.5%	2.0%	-1.3%	3.5%	5.8%	15.8%	13.6%	15.0%	16.6%	19.5%
Revenue per cap (£)		210	134	230	109	348	162	199	63	158	202	57	110	106	61	30	4	15	3
from advertising		92	57	66	41	193	56	60	28	82	97	38	44	67	33	8	2	7	2
from subscription		59	35	105	25	0	32	33	5	29	43	1	0	7	0	0	0	0	0
From public funds		58	41	59	44	155	74	106	30	47	62	18	67	32	28	22	1	8	1
TV licence fee¹		145.50	113.00	183.32	96.43	0.00	91.67	0.00	0.00	0.00	203.87	46.88	0.00	17.53	0.00	0.00	0.00	0.00	0.00
Largest TV platform	Platform	Dsat	IPTV	Dsat	DTT	Dcab	Dcab	DTT	DTT	Dcab	Acab	Dsat	DTT	Acab	Asat	Dsat	Acab	Dcab	Dsat
	% of homes	42%	40%	43%	73%	40%	51%	70%	76%	48%	27%	58%	37%	29%	34%	34%	43%	39%	71%
DTV take-up (%)		100%	95%	68%	100%	95%	100%	100%	99%	86%	73%	85%	100%	71%	36%	61%	56%	75%	84%
Pay TV take-up (%)		52.8%	76.3%	57.1%	33.0%	84.1%	69.8%	29.1%	22.0%	98.5%	83.8%	84.2%	62.9%	93.9%	30.6%	68.4%	98.8%	61.0%	17.8%
DSO date		2012	2011	2008	2012	2009	2012	2013	2010	2006	2007	2013	2020	2012	2018	2018	2017	2015	2016
TV viewing (min/day)		232	226	221	261	293	265	201	244	195	159	247	n/a	217	217	239	n/a	159	n/a

Source: IHS/ industry data/ Ofcom

The key market developments seen during the past year include:

- **Global TV revenues (including broadcast advertising, subscriptions and public licence fees only) increased by 3.1% in 2013 to reach £254bn.** Subscription revenues continue to be the key driver of this growth, rising by 4.4% to reach £127bn, exactly half of the total. Advertising and licence fee revenues grew by 1.9% and 1.6% respectively in 2013.
- **The UK is one of only five countries to have 100% of all main TV sets receiving digital TV (DTV) in 2013, along with Italy, Japan, Australia and Singapore.**

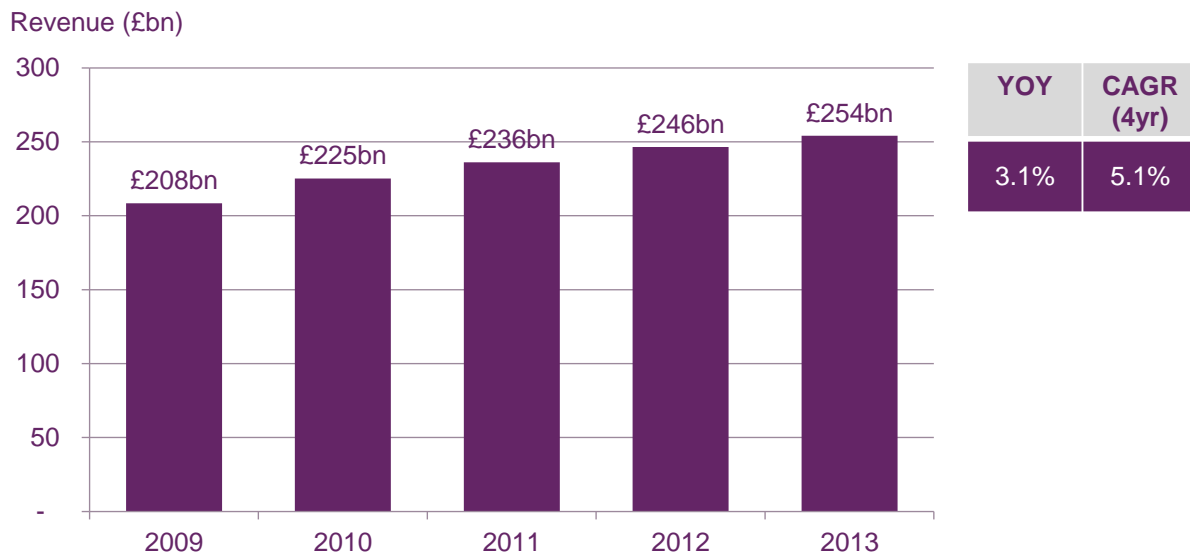
- **Consumers continue to embrace HDTV, although take-up of 3DTV services is slow.** The UK equals the US in HDTV take-up, with 70% of respondents claiming to own a high-definition set, while 45% and 53% of consumers in the UK and US respectively claim to have an HDTV service. However, only 5% (UK) and 4% (US) of consumers claim to have a 3DTV service.
- **Almost a quarter of UK consumers claim to have a smart TV,** with the vast majority (84%) having connected their TV and used the internet functionality.
- **A third of the online population in the UK use the internet to watch TV programmes or films at least once a week.** UK viewers are more likely to watch TV programmes than films online.
- **Viewing of TV programmes and films in the UK is primarily driven by free-to-access broadcaster services,** which have the highest levels of use across all countries researched. Subscription VoD services through a non-broadcaster are used more regularly in the UK than in other European comparator countries.

3.1.2 Global TV revenues up 3.1% in 2013, driven by continued growth in subscription revenues

Global TV revenues increased by 3.1% in 2013

Ofcom estimates that global TV revenues increased in 2013 by 3.1% year on year, to £254bn. Global TV revenues have increased by 5.1% over the four-year period since 2009. Our analysis of global television revenues incorporates the three main components: net broadcast advertising revenue, TV licence fees and subscriptions. It excludes revenues generated from pay-per-view (PPV), video on demand (VoD) and over the top/streaming (OTT) services.

Figure 3.2 Global TV revenues



Source: Data derived from PwC Global Entertainment and Media Outlook: 2014-2018 @ www.pwc.com/outlook. Notes: Ofcom is responsible for all growth calculations displayed. Ofcom uses an exchange rate of \$1.563 to the GBP in line with the IMF average for 2013.

Growth was driven primarily by continued growth in subscription revenues

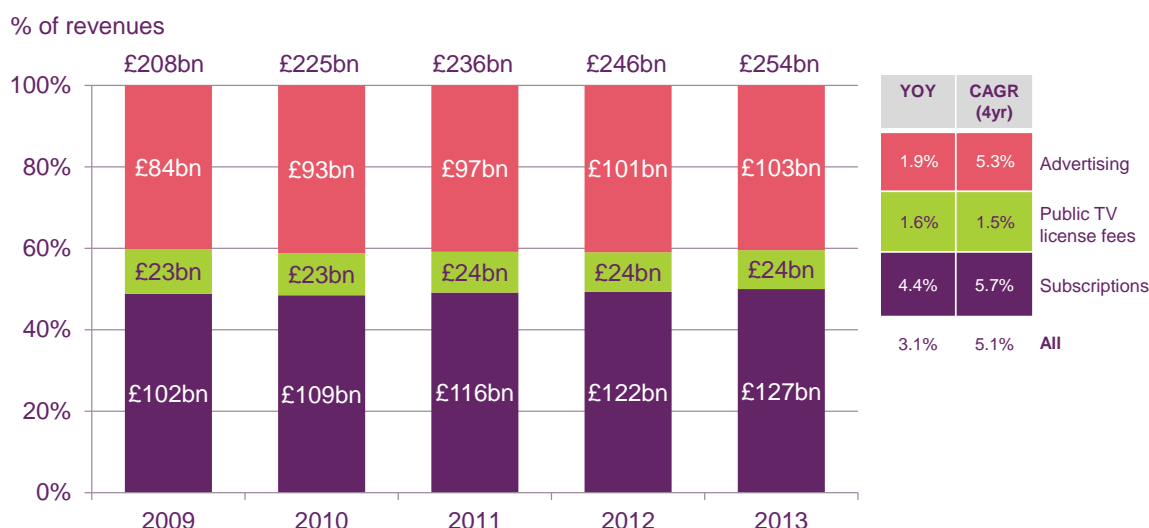
The 3.1% increase in global television revenues; to £254bn in 2013, was driven primarily by continued growth in subscription revenues, which made up exactly half of the total included revenue. Advertising and licence fee revenues grew at a more modest 1.9% and 1.6% respectively in 2013.

Global subscription revenues increased for the fourth year in a row, from £122bn in 2012 to £127bn in 2013; a year-on-year increase of 4.4%.

Global net advertising revenues (NAR) growth has been steady since 2011 following a rise in 2010 as economic conditions stabilised. The steady recovery in NAR has been sustained in 2013, with revenues increasing 1.9% (or £2bn) to £103bn.

As in the three previous years, public funding from TV licence fees saw little change in 2013 and remained around £24bn. Revenue from this source has changed little over the four-year period, increasing by just 1.5% per year on an average compound basis.

Figure 3.3 Global TV industry revenues, by source



Source: Data derived from PwC Global Entertainment and Media Outlook: 2014-2018 @ www.pwc.com/outlook. Notes: Ofcom is responsible for all growth calculations displayed. Ofcom uses an exchange rate of \$1.563 to the GBP in line with the IMF average for 2013

3.1.3 Digital take-up slows as more countries reach switchover

The UK was one of only five countries where 100% of all main TV sets received digital TV (DTV) in 2013.

In 2013, take-up of digital television (DTV)⁶⁷ continued to slow overall. In only five comparator countries - France, Poland, Singapore, India and China - did the proportion of primary TV sets receiving DTV increase more quickly in 2013 than in 2012. Of these countries, Singapore, India and China continue to move towards their projected switchover date, while Poland completed switchover in 2013. Levels of DTV conversion fell into four broad categories:

⁶⁷ DTV includes all digital platforms

- **Complete digital conversion.** In the UK, Italy, Japan, Australia and Singapore, 100% of all main TV sets received a digital television signal in 2013. And 100% of homes in Singapore had DTV, despite switchover not officially set to take place until 2020.
- **Almost-complete digital conversion.** In Spain (99%), France (95%) and the US (95%) full DTV conversion is almost complete. Digital switchover for terrestrial services has been completed in each of these countries although digital take-up is less than 100% due to the remaining analogue cable services.
- **DTV available in 65% to 90% of homes.** In the Netherlands (86%), Poland (85%), Nigeria (84%), China (75%), Sweden (73%), South Korea (71%) and Germany (68%), a significant majority now receive DTV. These levels of DTV take-up are due to the continuing competition from analogue cable, and in Nigeria and China, to ongoing digital switchover processes.
- **Analogue platforms remain in use in over a third of homes.** DTV take-up is at its lowest among comparator countries Russia (61%), India (56%) and Brazil (36%). With digital switchover still at least three years away for these countries, we expect to see higher rates of DTV penetration in the coming years.

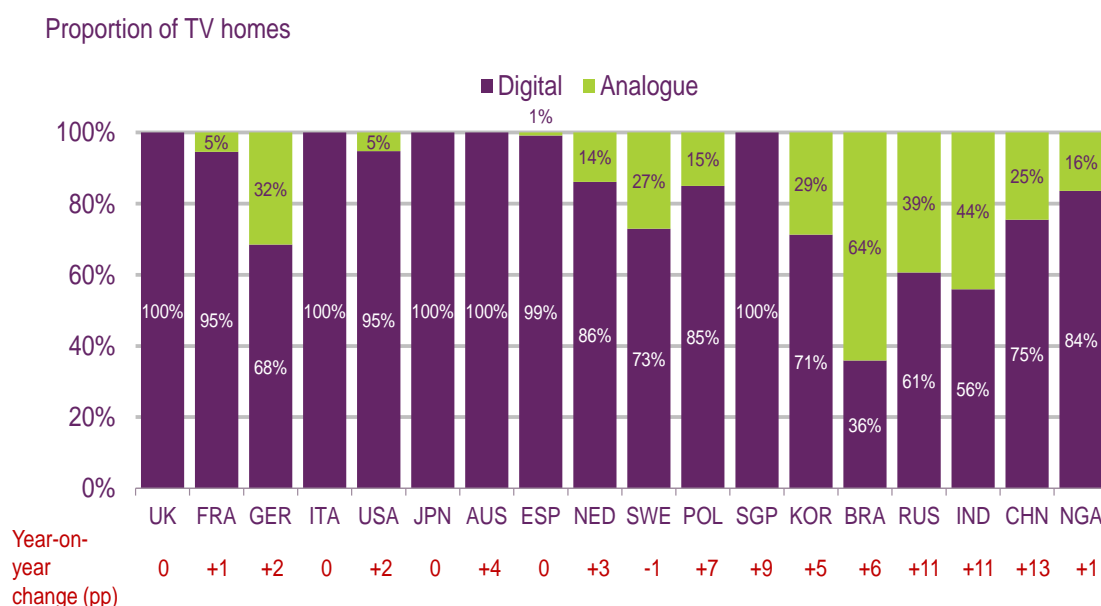
The UK was one of only five comparator countries to have 100% of all main TV sets receiving DTV in 2013. Italy and Australia completed terrestrial switchover and full digital conversion in 2012 and 2013 respectively, while Singapore has achieved full digital take-up well before its projected switchover date. This is because all the free-to-air channels in Singapore are owned by Mediacorp, and it completed its transition to digital at the end of 2013.

Of the 18 comparator countries, 12 experienced a slower rate of growth in DTV take-up in 2013 than in the previous year. Of the six countries to see increased growth in 2013, France and Singapore are the two with the highest level of DTV take-up, while Poland, India, China and Nigeria maintain a high analogue presence, suggesting that the strongest growth in digital conversion occurs just at the point when countries are about to go completely digital, and in countries where analogue continues to play a prominent role in TV homes.

Indeed, the largest year-on-year growth in digital conversion took place in India, where in 2013 there was an 11pp increase, in comparison to the 8pp seen in 2012. Such strong growth can be attributed to the Indian government's commitment to the digitisation of cable TV networks, which has led to households moving from analogue cable to digital cable.

Sweden actually saw a modest decline in digital take-up in 2013, with a year-on-year decrease of 1pp in the number of TV homes with DTV on their primary set. This can be attributed to two factors; first, a trend towards 'cord-cutting' where customers leave their digital cable service in favour of the cheaper, analogue cable platform, and second, a particularly strong OTT market that frees viewers from reliance on traditional TV platforms.

Figure 3.4 Take-up of digital and analogue television: 2013



Source: IHS/ industry data/ Ofcom

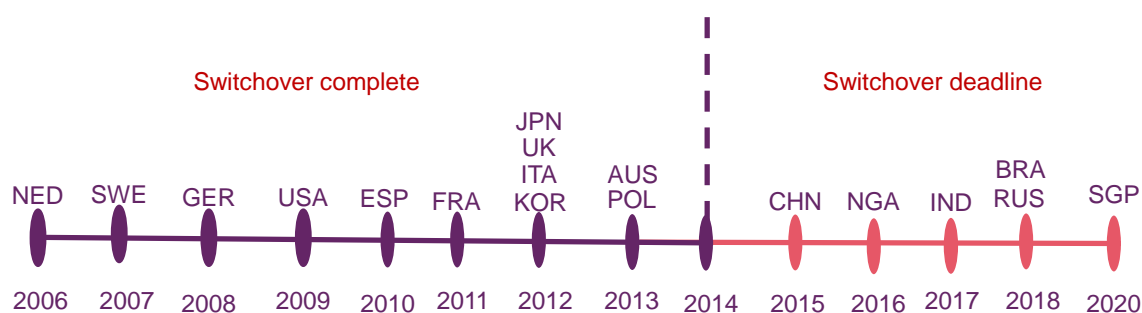
Twelve of our 18 comparator countries had completed their digital terrestrial switchover by the end of 2013

Since 2006, 12 of our 18 comparator countries have completed their digital terrestrial switchover. Australia did so most recently, in December 2013.

In many countries which have completed switchover, many TV households still do not receive DTV. This is due to the continuing popularity of analogue cable in countries such as Germany (32% analogue cable take-up), Sweden (27%) and South Korea (29%), where it remains an attractive platform due to its low price and the ease with which it can be viewed in multiple rooms around the home.

DTV take-up is already quite high in some of the comparator countries that are yet to complete their digital switchover; take-up has already reached 100% in Singapore, despite a switchover deadline of 2020. Brazil has the furthest to go in converting to DTV; analogue satellite and terrestrial platforms were the two most popular ways to watch TV in 2013.

Figure 3.5 Timeline for digital switchover, by country and date

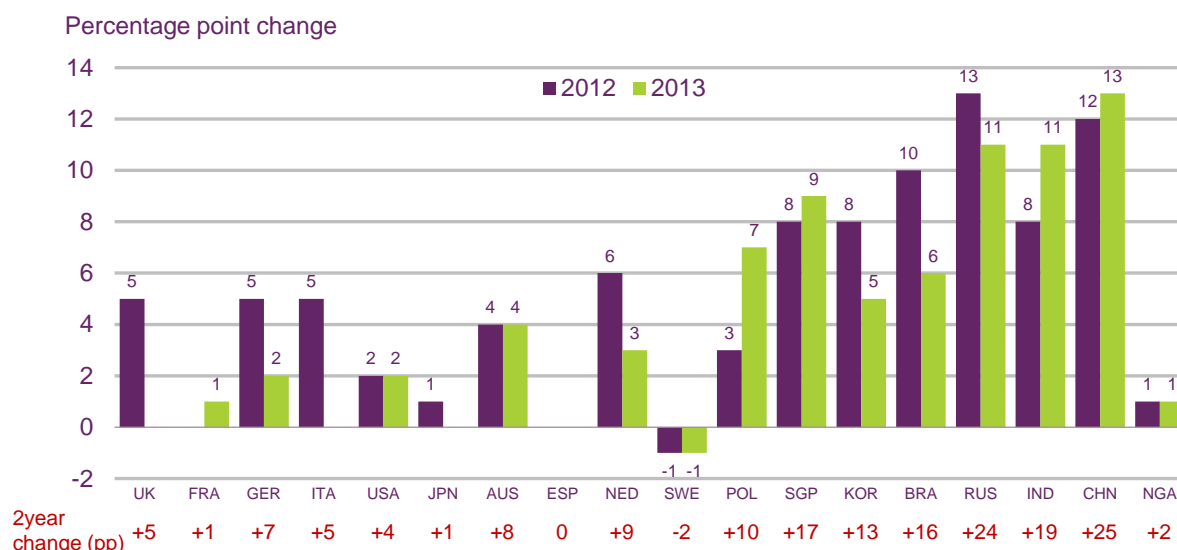


Source: IHS / industry data / Ofcom

In most comparator countries, growth in digital take-up was slower in 2013 than in 2012

Six of the comparator countries experienced accelerated growth in digital conversion in 2013. While Nigeria's growth was only marginally higher than in the previous year, France, Poland, Singapore, India and China all had percentage point increases in DTV take-up in 2013, as Figure 3.6 shows.

Figure 3.6 Percentage point change in DTV take-up: 2012 and 2013



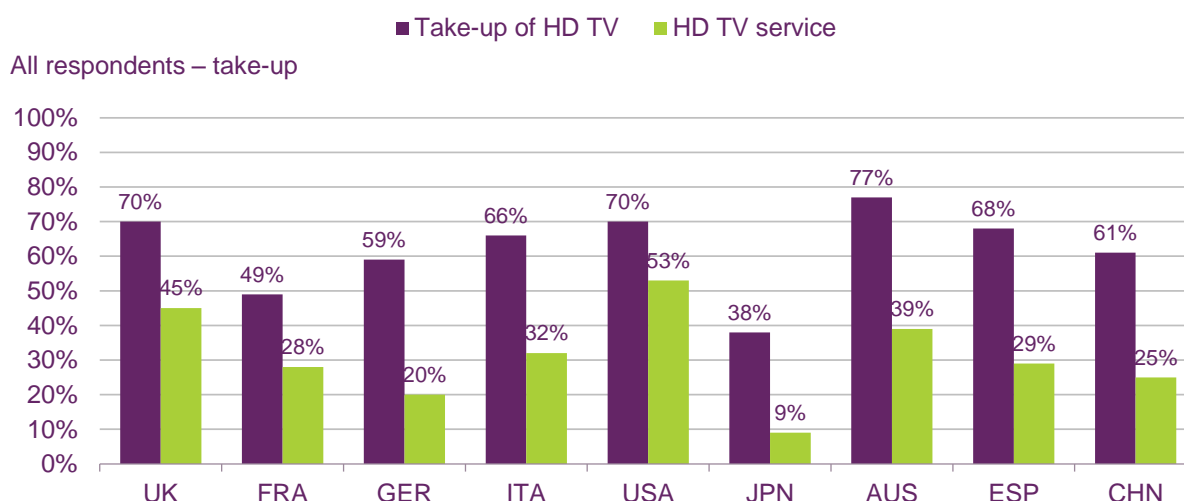
Source: IHS / industry data / Ofcom

3.1.4 Consumers continue to embrace value-added services

With switchover from analogue to digital television completed in the US, Japan and Australia as well as in all European comparator countries by 2014 (see Figure 3.5), consumers can take advantage of a number of value-added services. These include high-definition television (HDTV) services, which provide the viewer with enhanced picture quality and access to a wide variety of HD channels, and digital video recorders (DVRs) which enable the user to record, pause and rewind live TV.

The UK is joint second, with the US, in HDTV take-up, with 70% of respondents claiming to own a high-definition television. Across the comparator countries take-up was highest in Australia, where more than three-quarters of respondents (77%) said they had a HDTV set. However, households with a HDTV set do not necessarily have a HDTV service. For the majority of the comparator countries less than half of those who have an HDTV also use an HDTV service. Consumers in the UK and the US have the highest take-up of HDTV services.

Figure 3.7 Household ownership of high-definition TV sets and HDTV services



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011 FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3a. Which of the following devices do you have in your home? Q3b. Which of the following services do you have in your home?

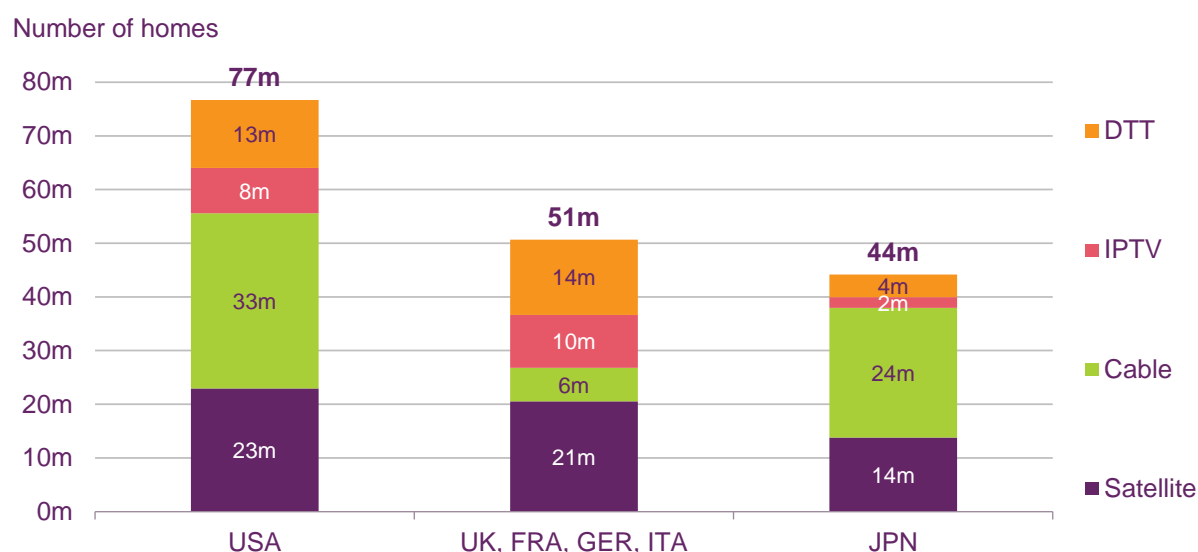
Satellite continues to be the main platform for accessing HD services in Europe although IPTV⁶⁸ is becoming more popular.

In the UK, France, Germany and Italy combined, satellite is the leading platform used by households to access HD services, with 20.6 million homes, while the second largest platform is digital terrestrial (DTT), with 14 million homes. This contrasts with the US, where the two major platforms are cable (32.6 million homes) and satellite (23.0 million homes).

In Japan, cable is the most popular platform for accessing HD services, with 24.2 million homes, followed by satellite with 13.8 million homes. In 2013, more homes across the four European countries used IPTV than cable to access HD services.

⁶⁸ Internet protocol television (IPTV) is the term used for television programmes that are delivered to viewers using internet protocol (IP) technology over a broadband connection. For the purposes of this report, hybrid systems such as BT Vision which provide television services through both an aerial and an IP connection are considered IPTV platforms.

Figure 3.8 Number of HD homes, by platform and country: 2013

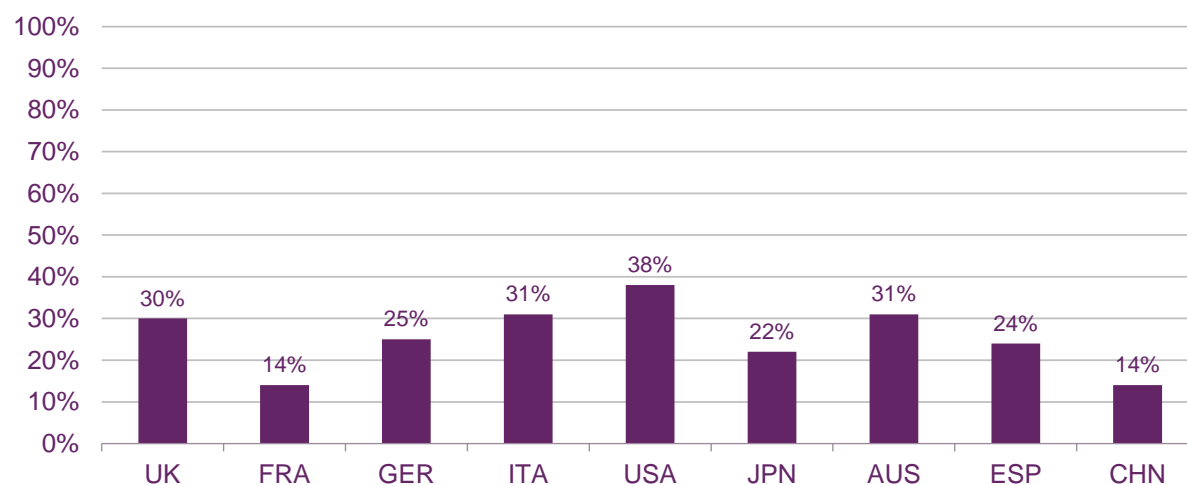


Source: IHS/ industry data/ Ofcom. Note: figures are for HD-enabled homes, (homes having the technical means to view and source HD content).

According to Ofcom research, DVR ownership is highest in the US at 38%, followed by Italy and Australia, both at 31%. In the UK 30%⁶⁹ of homes claim to have a DVR, while France and China have the lowest take-up, at 14%.

Figure 3.9 Household ownership of DVRs

All respondents – take-up



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011 FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3a. Which of the following devices do you have in your home?

Consumers are increasingly able to access TV and audio-visual content over the internet. One such method is through a smart TV, which is a television set with inbuilt internet

⁶⁹ This figure is lower than published data from Ofcom's Technology Tracker. Ofcom's Technology Tracker measures DVR take-up from a series of questions relating to ownership of specific branded set top boxes. A shorter, non-branded, question is used in the ICMR research for the purposes of international comparison.

functionality, giving the user access to on-demand services alongside scheduled broadcast TV. Another method is via an internet-enabled television; this differs from a smart TV as the internet connection requires an external device such as a games console, set-top box or a PC/laptop.

Almost a quarter of UK consumers claim to have a smart TV.

Smart TV: definition

'Smart TV' refers to a stand-alone television set with inbuilt internet functionality. Users connect a broadband router directly into the TV. Smart TVs are produced by consumer electronics manufacturers including Samsung, Sony, Panasonic and LG. The definition does not include television sets connected to the internet via an external device such as a set-top box, a games console or a laptop/PC.

Internet-enabled TV: definition

The term 'internet-enabled TV' covers any television set connected to the internet via another device, such as a set-top box, a games console or a laptop/PC. The set-top box might be provided with services such as Sky On Demand, Virgin TiVo, BT Vision or TalkTalk. Games consoles include Microsoft's Xbox Live, Sony's Playstation 3 and the Nintendo DSi. Laptops/PCs are connected through a cable from an output port to an input port on a compatible TV.

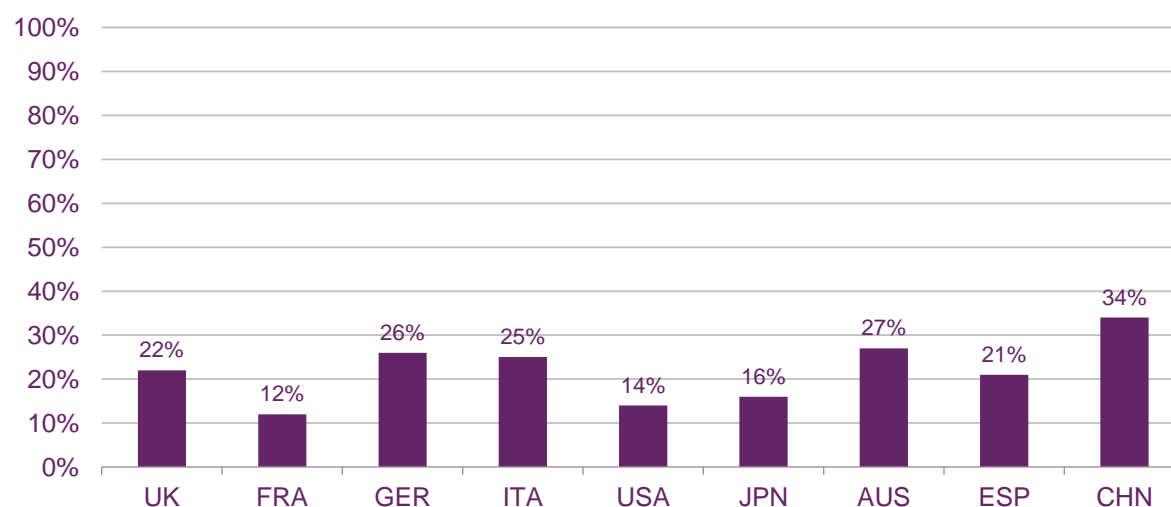
Twenty-two per cent of UK homes claim to have a smart TV; this is roughly on par with the other European countries surveyed in this report, with the exception of France. At 12%, smart TV take-up in France is around half that of its European counterparts, and is the lowest among the comparator countries. However, IPTV was the most popular TV platform in France in 2013, with 40% of TV homes using it on their main TV set (see Figure 3.40).

Just over a third of homes in China claim to own a smart TV (with inbuilt internet functionality). However, this statistic must be used with caution as only 46% of Chinese citizens are reported to have internet access⁷⁰, and as this was an online survey the respondents do not represent the total population.

⁷⁰ December 2013, International Telecommunication Union

Figure 3.10 Household ownership of smart TV sets

All respondents – take-up



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011 FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3a. Which of the following devices do you have in your home?

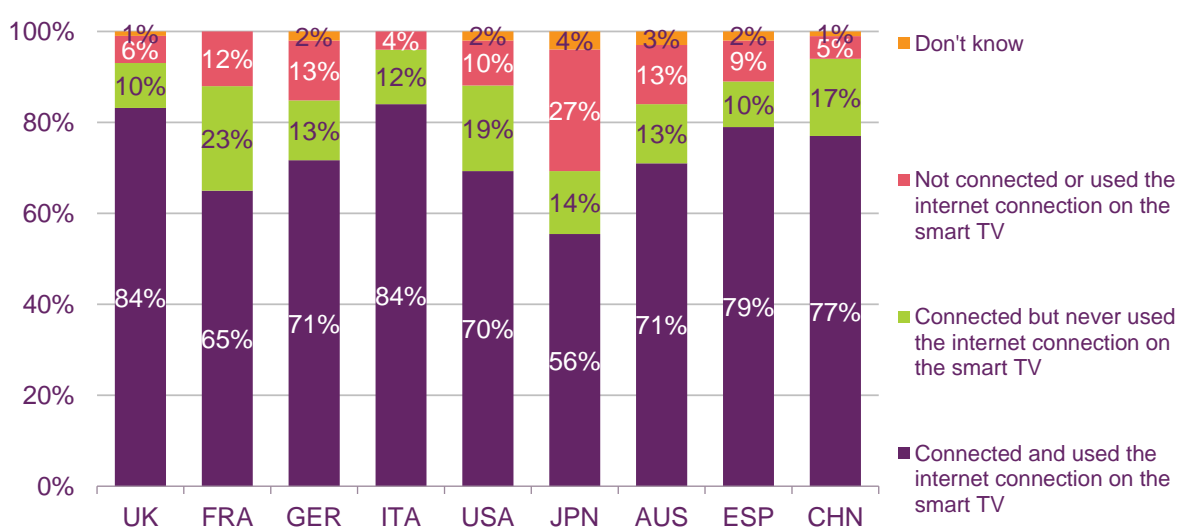
UK and Italian consumers lead the way in connecting their smart TVs to the internet.

Viewers in France and the US are the most likely to have connected, but never used, their smart TV's internet functionality, whereas only one in ten consumers in the UK and Spain claim to have connected their smart TV but never used its internet connection.

In the UK, 6% of respondents claim to have neither connected nor used the internet on their smart TV. Japan has the highest proportion of consumers who have not used the internet connection on their smart TV at all (41%), followed by France (35%).

Figure 3.11 Personal internet use on a smart TV

All respondents with a Smart TV



Source: Ofcom consumer research October 2014

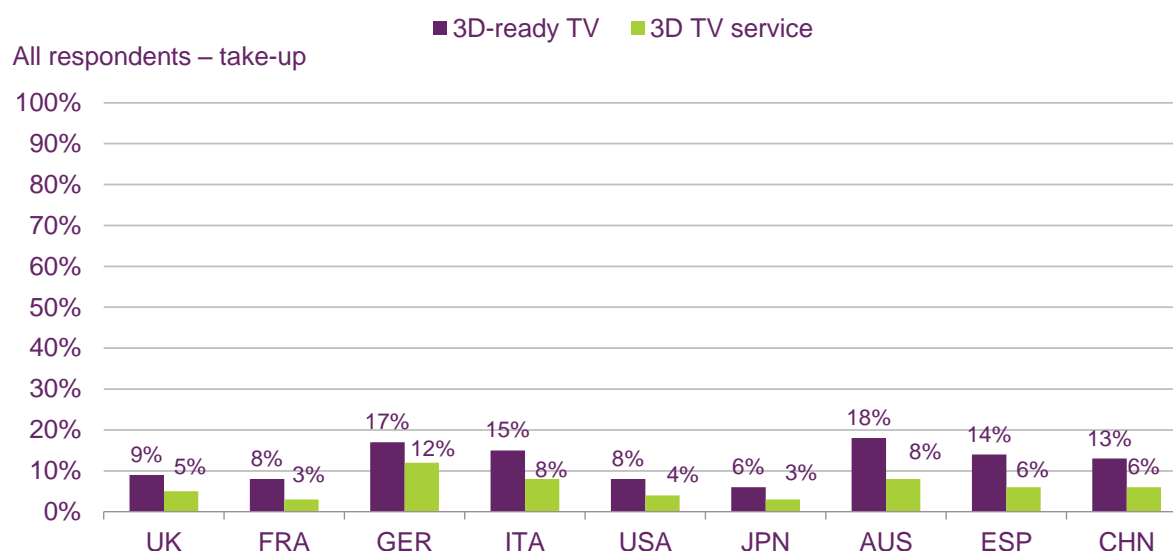
Base: All respondents with a smart TV, UK=214, FRA=121, GER=258, ITA=256, USA=142, JPN=164, AUS=270, ESP=210, CHN=357.

Q.4a(i) Which of the following comes closest to your use of the internet connection on your smart TV? I have...

Ofcom's research suggests that among the European comparator countries, households in the UK and France are the least likely to have a 3D-ready TV, at 9% and 8% respectively. While overall take-up of 3D TV in the UK is low, just over half of those with a 3D TV also subscribe to a 3D TV service. With a reported 17% of households, Germany is the European country with the highest take-up of 3D-ready TVs (Australia leads with 18%), and also leads the way in take-up of a 3D service (71% of households in Germany with a 3D-ready TV also have a 3D service).

Both the BBC and ESPN announced in 2013 that they would not continue with their 3D broadcast plans, citing poor consumer appetite, so the future of the UK 3DTV market is now in question. Sky has decided not to air 2014 Premier League football matches on its dedicated 3D channel, which also suggests the demise of 3D television viewing. But there is growing investment in ultra-HD (4K and 8K) technology, which offers at least four times the resolution of standard HDTV.

Figure 3.12 Household ownership of 3D-ready television sets and 3D TV television services



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011 FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3a. Which of the following devices do you have in your home?

3.1.5 Use of the internet to watch AV content

A third of the online population in the UK use the internet to watch TV programmes or films at least once a week; this is the highest penetration across all the European countries researched.

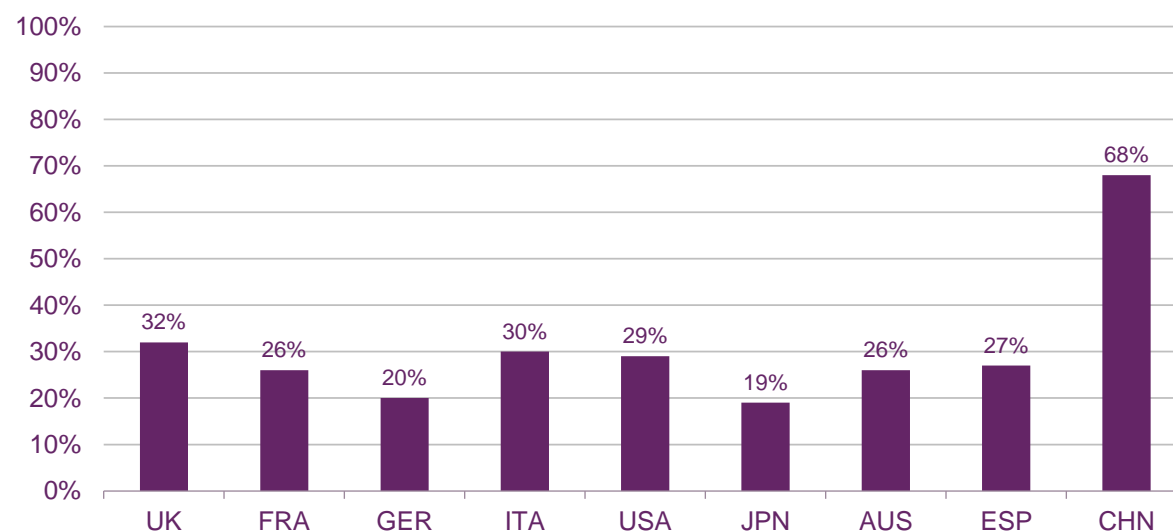
As shown in figure 3.13, seven in ten (68%) online adults in China said they used their internet connection to watch TV or films at least once a week⁷¹. This was more than double the UK figure (32%) and the highest across the countries studied. Italy and the US had

⁷¹ [1] As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

similar levels of use as the UK, with 30% and 29% respectively. Japan (19%) and Germany (20%) had the lowest.

Figure 3.13 Weekly access to TV content over the internet

All respondents



Source: Ofcom consumer research October 2014

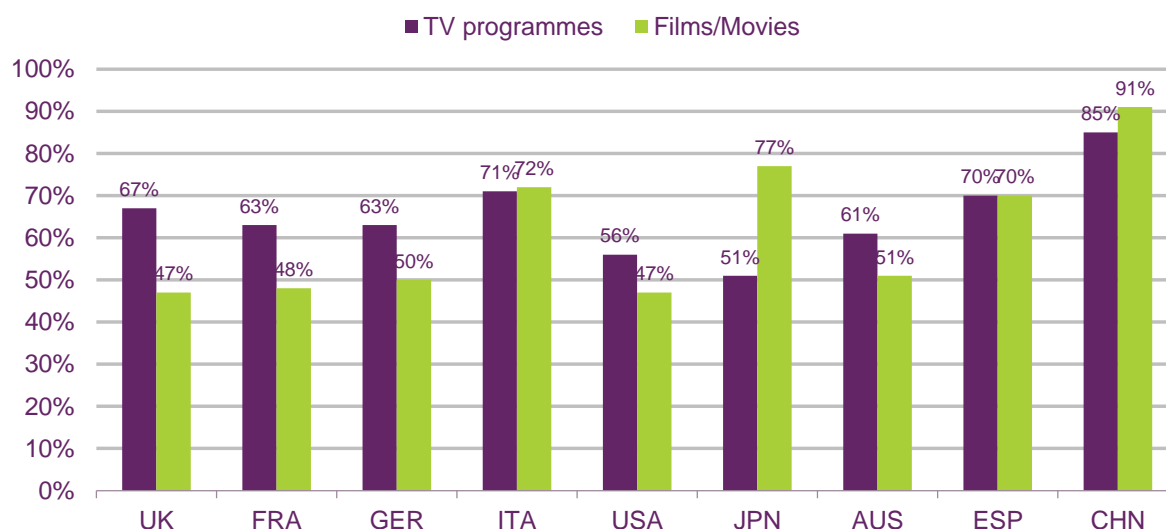
Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.8 Which, if any, of the following activities do you use your internet connection for at least once a week?

When asked about the types of content they ever watched online, more respondents in the UK cited TV programmes (67%) than films (47%); this was also the case in France, Germany, the US and Australia. Japan showed the opposite, with TV programmes (51%) at the lowest level across all the countries, and viewed less than films, at 77%. Online films were accessed by at least seven in ten respondents in Spain, Italy and China (see Figure 3.14).

Figure 3.14 TV programmes and films/movies ever accessed online

All respondents



Source: Ofcom consumer research October 2014. Base: all respondents - UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010. Q.20 Have you ever accessed the following content online?

Types of online services used for AV content

Online viewing in the UK is primarily driven by free-to-access broadcaster services, which have the highest levels of use across all the countries researched. Subscription VoD services through a non-broadcaster are also used more regularly in the UK than in other European comparator countries.

Those who had accessed TV programmes or films/movies online were asked how recently they had accessed specific types of services:

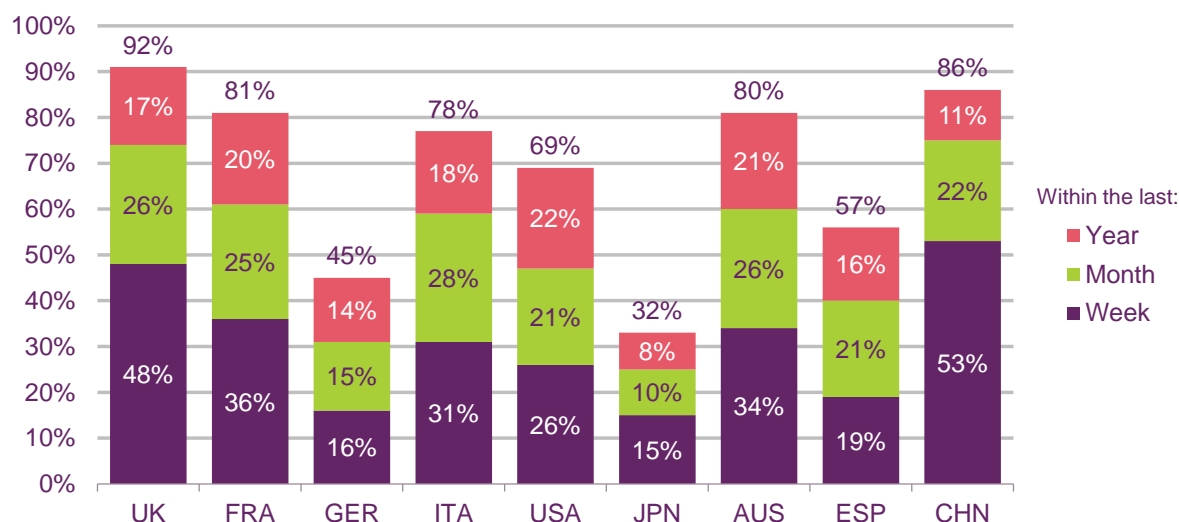
1. Free-to-access broadcaster catch-up TV services
2. Catch-up or on-demand services through a pay-TV provider
3. Subscription video-on demand (non-broadcaster) services
4. Download-to-rent or download-to -own services

Country-specific examples were given for each type, e.g. BBC iPlayer in the UK and NBC catch-up in the US for type 1 above.

Figure 3.15 shows recency of accessing TV or films online via a free-to-access broadcaster catch-up TV service (among those who had ever watched TV or films online). In the UK, nine in ten had done so in the past year. Just under half (48%) of these also claimed to have done so in the past week, a much higher proportion than in all other comparative countries except for China (53%). Japan showed the lowest level of use of this type of service (e.g. Fuji TV on demand) with 15% claiming to use this type of service in the past week, rising to just under a third (32%) in the past 12 months.

Figure 3.15 Recent use of free-to-access broadcaster catch-up TV services

All who had ever watched TV or films online



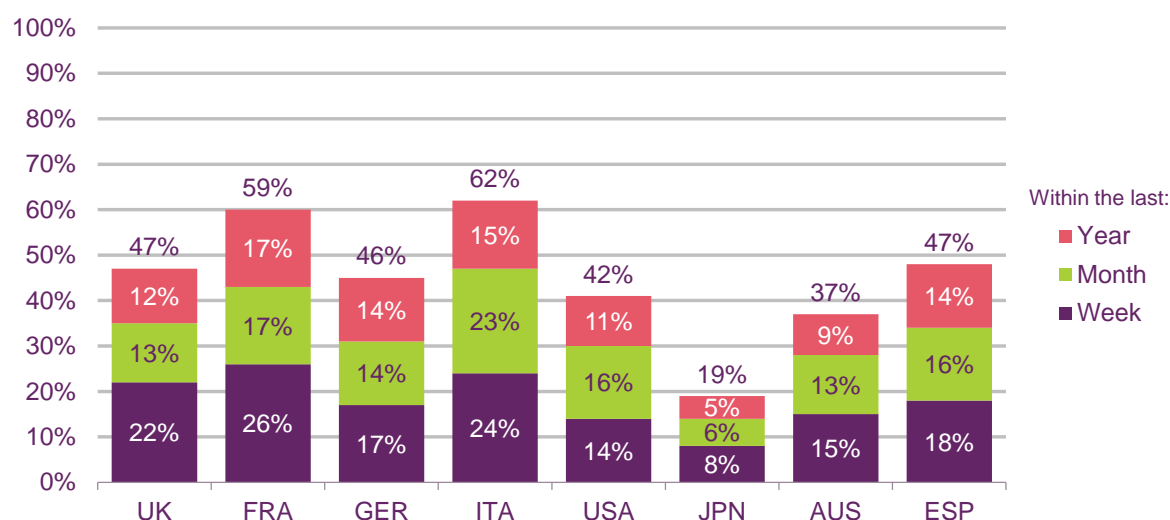
Source: Ofcom consumer research October 2014. Base: all who had ever watched TV or films online – UK=704, France=689, Spain=822, Germany=707, Italy=828, USA=591, Japan=813, Australia=648, China=948

Q.21. When did you last use the following online services to watch TV programmes or films?

Figure 3.16 shows the recency of viewing catch-up/on-demand content through a pay-TV provider. This is comparatively higher in Italy (e.g. Sky Go) and France (e.g. Canal Play) than in the other nations, with three-fifths having done it in the past 12 months; weekly use was around a quarter for both countries. The UK was in line with this, at just over one in five (22%), but across the year it was closer to the lower levels seen in Spain and Germany, at 47%. Again, Japan (e.g. Sky PerfectTV!) had significantly lower use than all other countries, at 8% in the past week (19% in the past 12 months).

Figure 3.16 Recent use of catch-up or on-demand services through a pay-TV provider

All who had ever watched TV or films online



Source: Ofcom consumer research October 2014.

Base: all who had ever watched TV or films online (UK=704, France=689, Spain=822, Germany=707, Italy=828, USA=591, Japan=813, Australia=648)

Q.21. When did you last use the following online services to watch TV programmes or films?

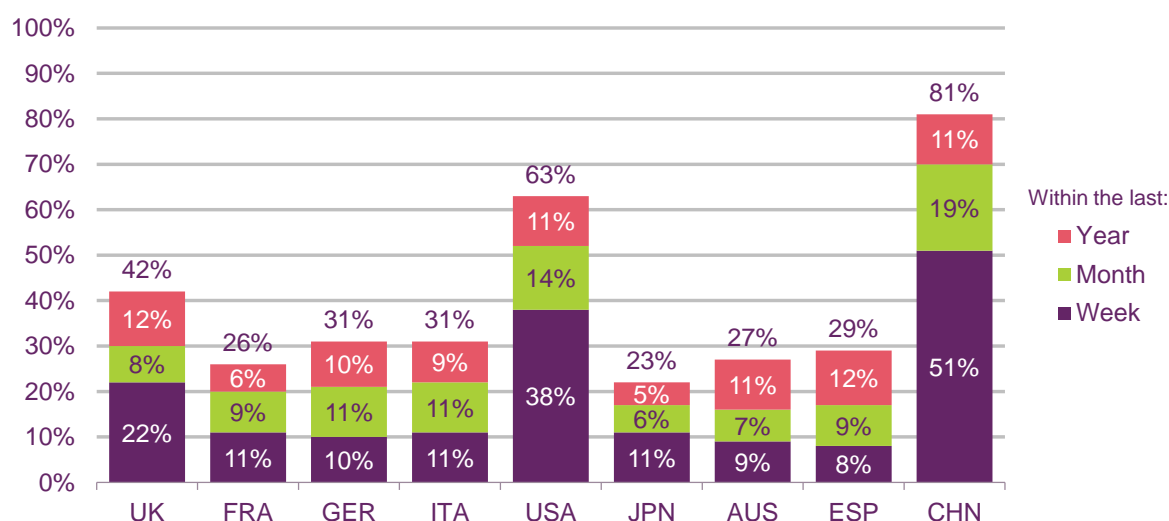
Note: China not asked this question.

Apart from China, non-broadcaster subscription VoD was more prevalent in the US than in other comparative countries - used by 38% in the past week, rising to three-fifths in the past 12 months. The UK showed the next highest levels, with weekly use twice as high (22%) as all other countries.

Netflix is available in three of the countries covered. It has clear prominence in the US, where 31% of weekly VoD consumers cited using the service in the past week, compared to 18% in the UK, and 5% in France.

Figure 3.17 Recent use of non-broadcaster subscription video-on-demand services

All who had ever watched TV or films online



Source: Ofcom consumer research October 2014.

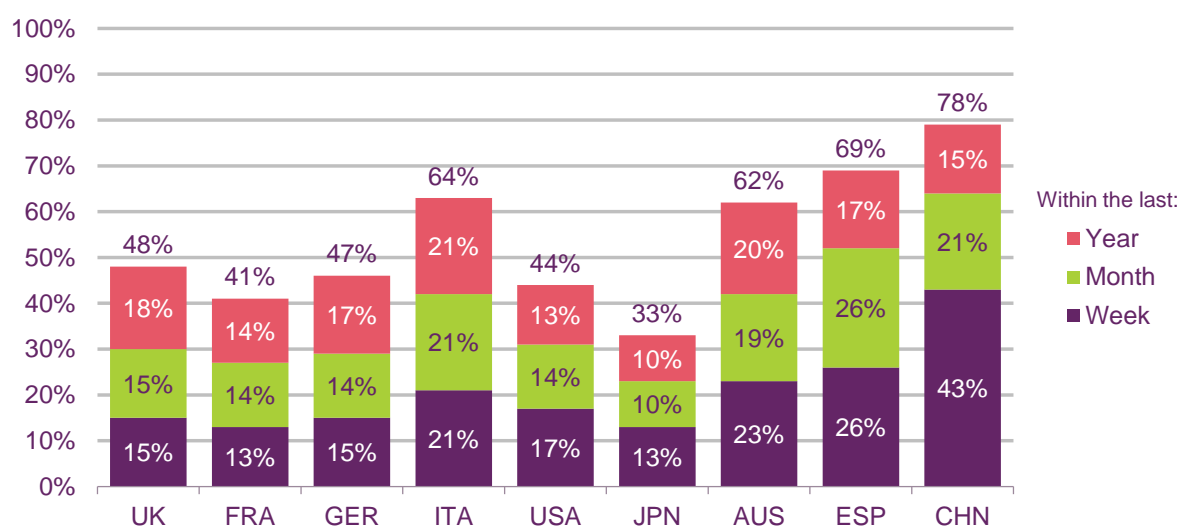
Base: all who had ever watched TV or films online (UK=704, France=689, Spain=822, Germany=707, Italy=828, USA=591, Japan=813, Australia=648, China=948)

Q.21. When did you last use the following online services to watch TV programmes or films?

As with subscription services, China had by far the highest incidence of watching content through any download-to-rent/own service; 43% of respondents had done so in the past week. Spain (26%), Australia and Italy (23% and 21% respectively) were all shown to be significantly higher than the UK in this respect (15% - see Figure 3.18).

Figure 3.18 Recent use of download-to-rent/own services for TV and films

All who had ever watched TV or films online



Source: Ofcom consumer research October 2014.

Base: all who had ever watched TV or films online (UK=704, France=689, Spain=822, Germany=707, Italy=828, USA=591, Japan=813, Australia=648, China=948)

Q.21. When did you last use the following online services to watch TV programmes or films?

Apple iTunes and Google Play are available in all seven countries researched, and were therefore possible to analyse separately. The main findings (not charted) were:

- The proportion who said they had downloaded content from iTunes in the past week was significantly higher in Australia (12%) than in all other countries, where use ranged from 6% to 9%.
- More people were watching TV programmes or films through Google Play in China (22%) and Spain (19%) than in other countries. The UK had the lowest figure, at 7%; Italy (14%) was the only other country that was significantly higher.

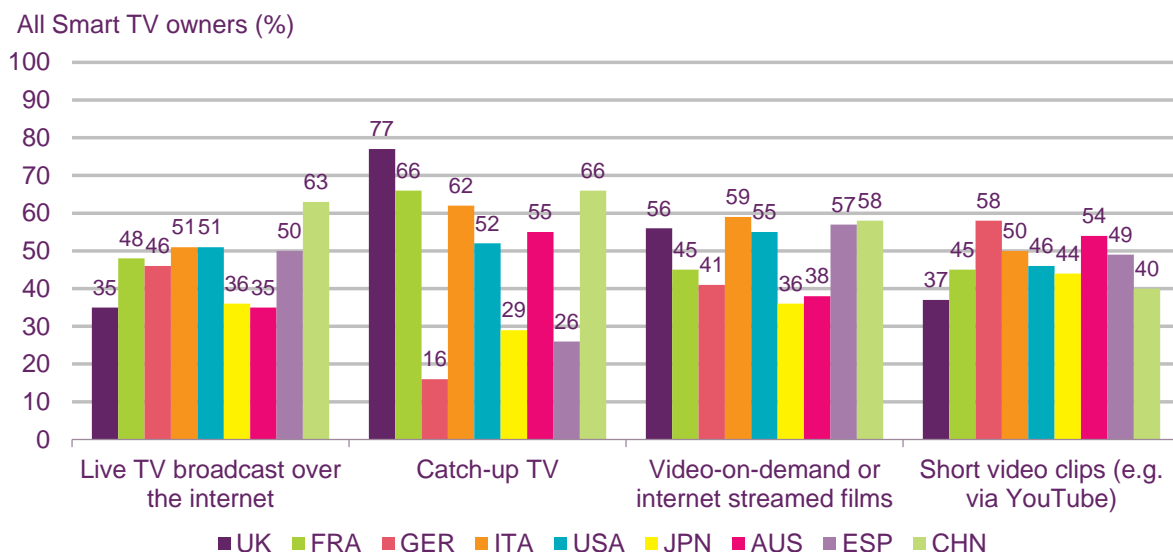
3.1.6 Types of content viewed through internet-enabled devices

Apart from China, the UK has the highest levels of viewing catch-up TV through internet-enabled tablets, smart TVs and games consoles.

As seen in Figure 1.12, reported ownership of smart TVs (those with in-built functionality) is greatest in China and Australia, with 34% and 26% of homes respectively having such devices. Smart TV ownership in the UK (22%) is comparable with that of Germany (26%) and Italy (25%); the lowest take-up in Europe is in French households, at 12%. Figure 3.19 shows the types of content watched by smart-TV owners on their device. In the UK, catch-up TV was the type of internet-delivered content most likely to be watched on a smart TV, with over three-quarters (77%) of smart-TV owners citing it. This is higher than all other countries; Germany is at the opposite end of the scale with 16%.

Catch-up TV via a smart TV was also the most popular type in China (66%)⁷², France (66%), Italy (62%) and Australia (55%). In Germany, short online video clips were the most popular type of content viewed (58%), while in the US it was video-on-demand/streaming film, driven by subscription services such as Netflix.

Figure 3.19 Types of AV content watched on a smart TV



Source: Ofcom consumer research October 2014.

Base: all smart-TV owners – UK=117, France=50*, Germany=114, Italy=136, USA=71*, Japan=59*, Australia=129, Spain=104, China=178. *Caution: bases under 100.

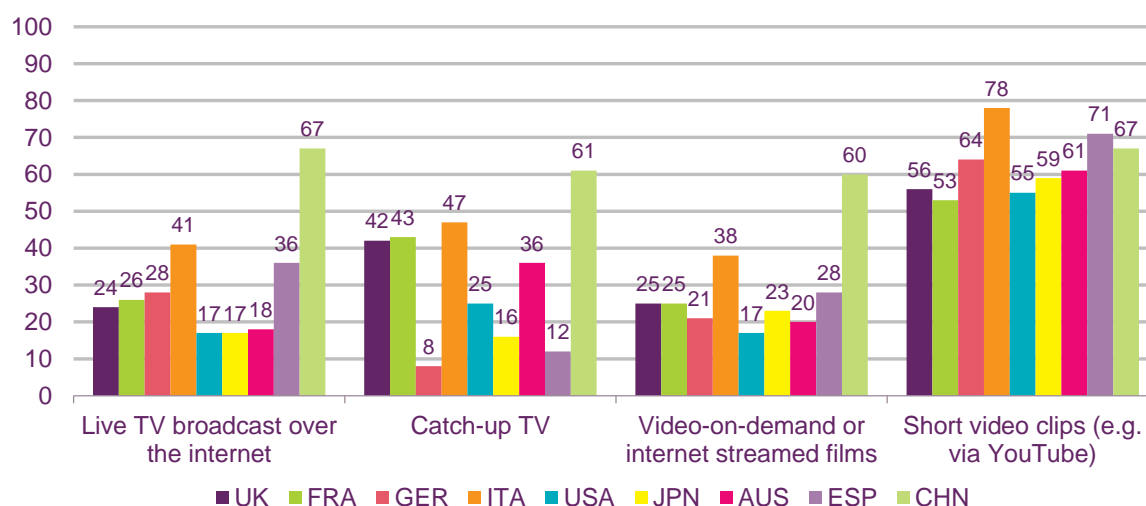
Q9c. What sorts of video content do you watch on each of your devices over the internet?

⁷² [1] As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

The levels of AV content watched on a computer (desktop/laptop/netbook) are shown in Figure 3.20. Short video clips were the most-viewed type in all nine countries, although in China the same proportion (around two-thirds) also claimed to watch live TV broadcast over the internet. For each of the other three types of content, China showed higher proportions than all other countries, all above three-fifths. Of the nations assessed, Italy had the most viewers watching online video clips on a computer, at 78%.

Figure 3.20 Types of AV content watched on a desktop/laptop/notebook

All computer (Desktop/Laptop/Netbook) owners (%)



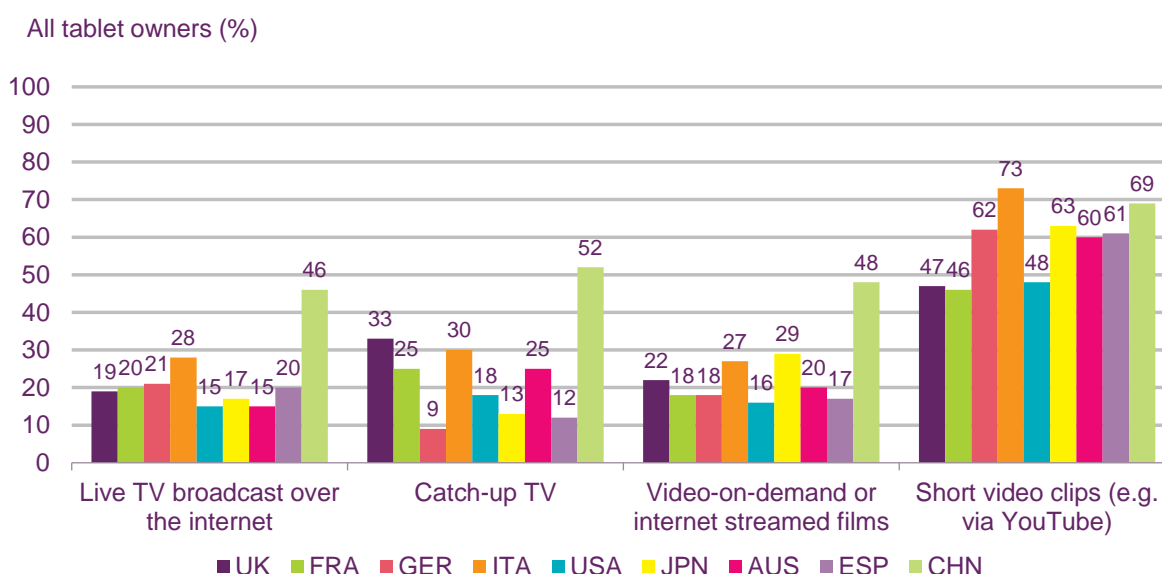
Source: Ofcom consumer research October 2014.

Base: All computer owners - UK=905, France=953, Germany=949, Italy=902, USA=907, Japan=934, Australia=944, Spain=903, China=947

Q9c. What sorts of video content do you watch on each of your devices over the internet?

The viewing of content on a tablet closely mirrored the trends seen on a computer, but at a lower level. For example, Italy again showed the highest consumption levels for short video clips, at nearly three-quarters (73%). A third of those with a tablet in the UK cited using it for catch-up TV, second only to China (52%).

Figure 3.21 Types of AV content watched on a tablet



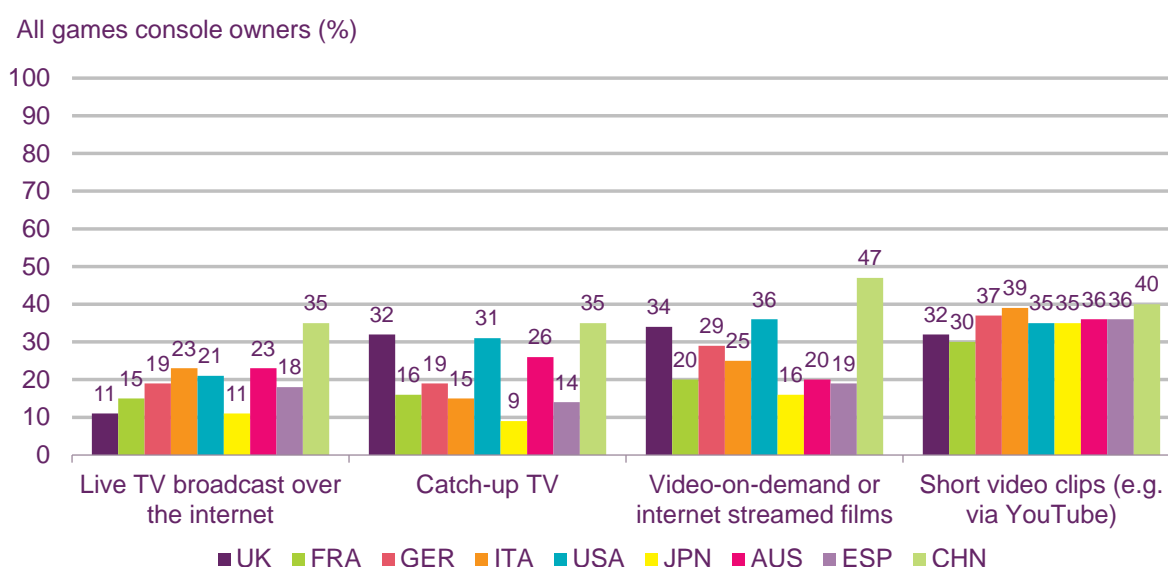
Source: Ofcom consumer research October 2014.

Base: All tablet owners - UK=318, France=270, Germany=263, Italy=384, USA=274, Japan=209, Australia=325, Spain=394, China=446.

Q9c. What sorts of video content do you watch on each of your devices over the internet?

In all countries, far fewer respondents owned games consoles than tablets. However, among owners of games consoles in both the UK and the US, video-on-demand viewing levels were significantly higher than on tablets, at 34% and 36% respectively. In the US, this was also the case for catch-up TV (31% on a games console versus 18% on a tablet), but not in the UK, where catch-up TV was watched by a third of owners on both types of device (see Figure 3.22).

Figure 3.22 Types of AV content watched on a games console attached to a TV



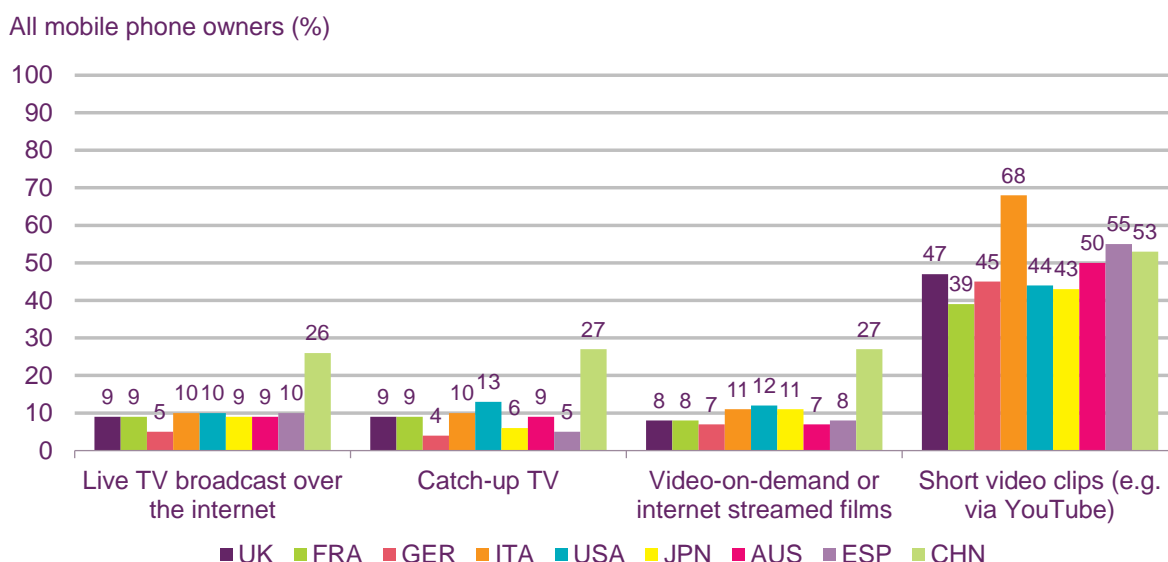
Source: Ofcom consumer research October 2014.

Base: All games console owners - UK=318, France=270, Germany=263, Italy=384, USA=274, Japan=209, Australia=325, Spain=394, China=446.

Q9c. What sorts of video content do you watch on each of your devices over the internet?

Across all countries, mobile phones were used for viewing short video clips more than for long-form content, as shown in Figure 3.23. About a tenth of mobile phone owners in all countries except for China (27%) said they used this type of device for live TV, catch-up TV or video-on-demand/streamed films. The picture is different for short online clips: the proportion of people watching these on mobile phones ranged from 39% in France to 68% in Italy. The UK lay between these two figures, at 47%.

Figure 3.23 Types of AV content watched on a mobile phone



Source: Ofcom consumer research October 2014. Base: All mobile phone owners - UK=540, France=469, Germany=531, Italy=762, USA=443, Japan=566, Australia=579, Spain=742, China=808. Q9c. What sorts of video content do you watch on each of your devices over the internet?

3.1.7 TV owners in the UK are the most aware of the watershed

In the UK 94% of TV owners are aware of the watershed, more than in any other comparator country

July 2014 was the 50th anniversary of the watershed in the UK; it continues to be an important tool in protecting children from potentially harmful and offensive content on TV in the evenings.⁷³ Similar restrictions are in place in other comparator countries, although the details vary from country to country.

Ofcom research shows that 94% of TV owners in the UK are aware of the watershed, the highest figure of the seven countries with comparable restrictions. This is closely followed by 93% of all respondents with a TV in Italy, where channels must broadcast general audience programming between 0700 and 2230.

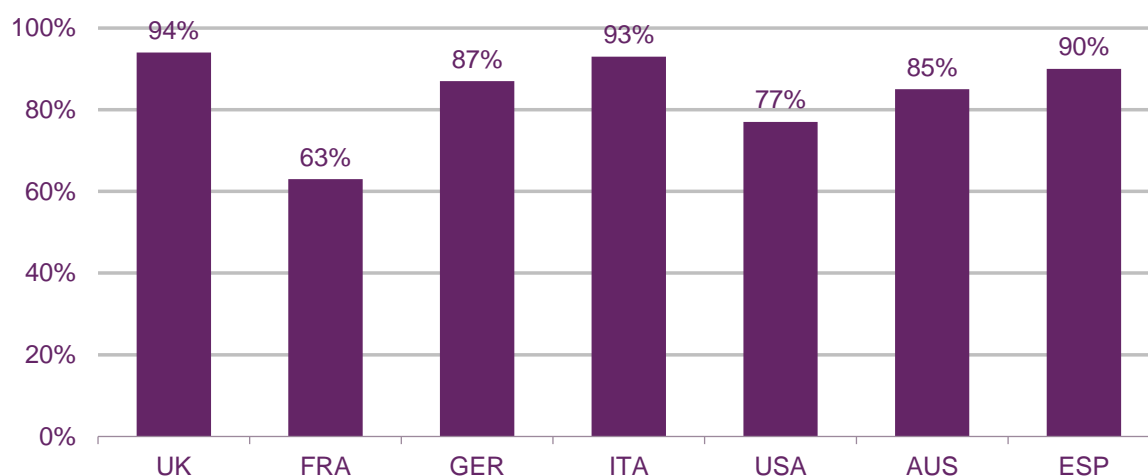
Just over three in five TV owners in France are aware of the watershed - the lowest figure among the surveyed countries with similar restrictions – despite some high-profile decisions regarding suitable content in 2014.⁷⁴

⁷³ <http://media.ofcom.org.uk/news/2014/50-years-watershed/>

⁷⁴ <http://www.digitalspy.co.uk/music/news/a543092/miley-cyrus-britney-spears-videos-banned-from-daytime-tv-in-france.html#~oUWQjc8PkKsAa7>

Figure 3.24 Awareness of the watershed

All respondents with a TV



Source: Ofcom consumer research October 2014

Base: All respondents with a TV, UK=941, FRA=978, GER=968, ITA=971, USA=932, AUS=958, ESP=961

Q.18 Broadcasters are required to show television programmes which are not suitable for children only after a certain time in the evening. Before now, were you aware of this?

Note: Japan and China have been excluded from this analysis as they don't have broadcasting requirements comparable with the UK watershed.

3.2 The TV and audio-visual industries

3.2.1 Summary

This section focuses on the TV and audio-visual industries, looking at six years of key revenue trends among our comparator countries, including the advertising revenue of free-to-air broadcasters and the subscription revenues of the major pay-TV broadcasters.

- **Revenues among the 18 countries analysed by Ofcom increased by 4.0% in 2013, to £241bn.** The BRIC countries and Nigeria combined saw the largest year-on-year growth in their comparator sets, with their joint revenue increasing by 15.9% in 2013 to total £42.4bn.
- **The combined revenue of Europe grew for the fourth consecutive year in 2013,** increasing by 0.8% year on year to £57.5bn.
- **The UK experienced the largest annual growth in television revenues among the European comparator countries,** increasing by 3.4% or £0.4bn in 2013. Revenues fell in Italy, Spain and Poland; Spain had the largest proportional year-on-year decline among the European comparator countries, falling 6.2%, or £0.2bn.
- **In Germany, the UK and France, income from pay-TV subscriptions was the fastest-growing revenue stream** between 2008 and 2013. Subscription revenue was the largest source of TV income in the UK and France in 2013 while in Germany licence fee revenue was the largest source.
- **While pay-TV companies mostly reported increased subscription revenue in 2013, half of their free-to-air counterparts in our analysis reported declining advertisement revenue.** Free-to-air operators in Italy, Germany, France, the UK and Spain had declining advertisement revenues in 2013, with the biggest decline coming from RAI in Italy, where it fell 10.8% on the previous year to £0.49bn in 2013.
- **Revenues from online TV and video in the UK continue to rise, totalling £648m in 2013; a £227m increase on the 2012 figure.** However, the US market is by far the largest online TV and video market among our comparator countries; between 2009 and 2013, online TV and video revenue grew from a base of £1.0bn to £5.1bn.

3.2.2 Television revenues among comparator countries

Increase in TV revenues was driven by strong growth in BRIC countries and Nigeria in 2013

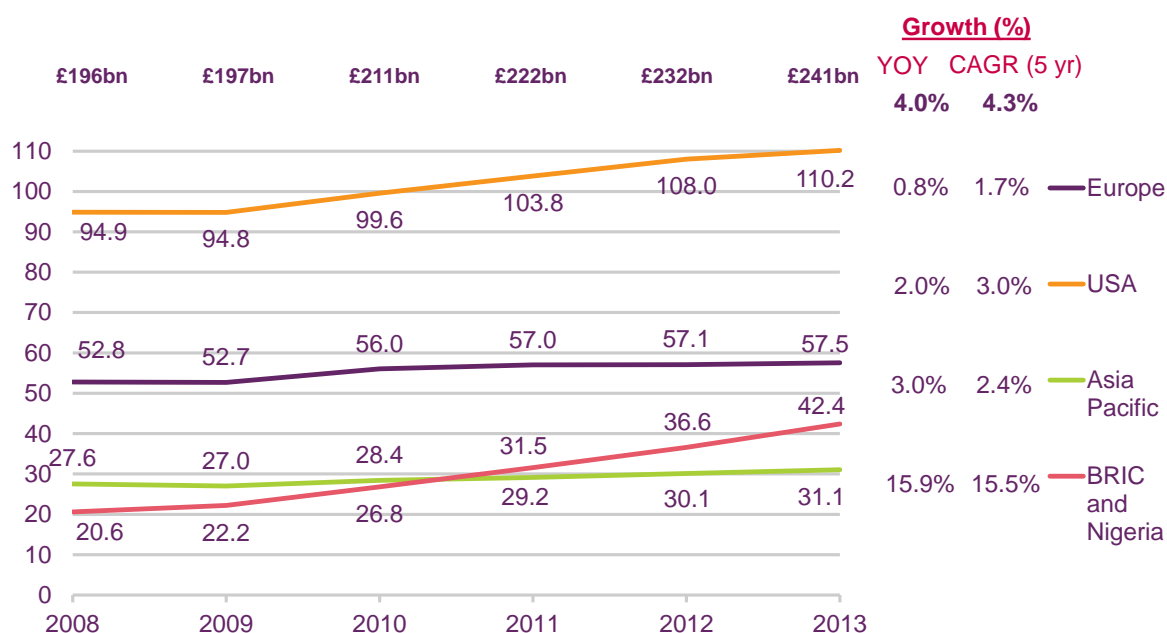
Revenues among the 18 countries analysed by Ofcom increased by 4.0% in 2013 to total £241bn. The BRIC countries, together with Nigeria, experienced the largest year-on-year growth in 2013, their joint revenues increasing by 15.9%, up £5.8bn to £42.4bn. This growth was predominantly driven by rising subscription income across these five countries.

Figure 3.25 shows that there is now a gap of over £10bn between the BRIC countries and Nigeria combined, and the Asia/Pacific countries, the two groups of countries in our analysis with the lowest TV revenues. From a broadly similar level in 2011, the Asia/Pacific countries' revenue increased by around £1bn a year in the subsequent two years, whereas the BRIC countries and Nigeria have seen an increase of around £5bn a year.

Combined European revenues grew for the fourth consecutive year in 2013, increasing by 0.8% to total £57.5bn. In contrast, the US, which is the largest television market globally,

increased by 2.0% in 2013, up £2.2bn to £110.2bn. Over the five-year period since 2008, US revenues have increased on average by 3.0% per annum, compared to 1.7% for the European comparator countries.

Figure 3.25 Total TV industry revenues among comparator countries



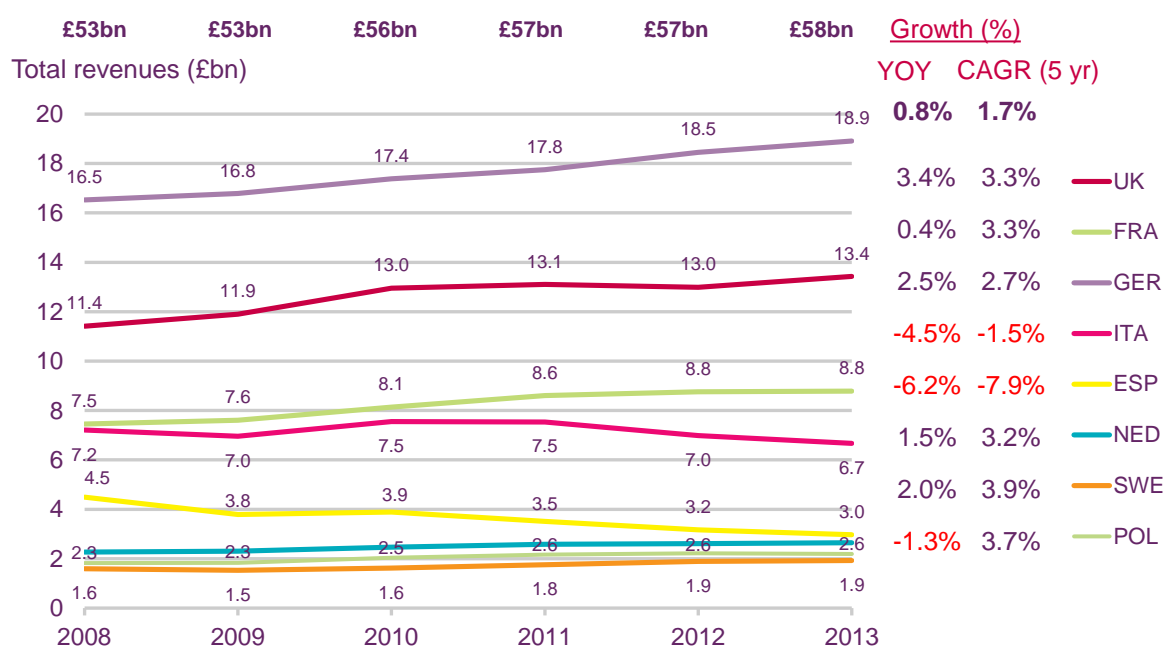
Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Revenues include advertising, subscriptions and sources of public funding only. BRIC is Brazil, Russia, India and China.

Compared to the other seven European countries in our analysis, the UK had the greatest proportional growth in TV revenue in 2013, increasing by 3.4% to £13.4bn. Germany recorded the largest absolute increase in TV revenue among the European comparator countries in 2013, with a £0.5bn increase to £18.9bn: this consolidates its position as Europe's largest TV market in terms of monetary value in 2013.

2013 saw declines in television revenue for Italy, Spain and Poland, and was the third consecutive year of declining TV revenue for both Italy and Spain. Spain had the steepest annual decline, falling by 6.2% in 2013 to £3.0bn, while Italy declined by 4.5% to £6.7bn. Poland saw a more modest decline in revenue, down by 1.3% to £1.9bn. Despite this, Poland still has a five-year compound annual growth rate of 3.7%, which is above the European group average of 1.7%.

The total year-on-year growth of TV revenues among the European countries was 0.8% in 2013, resulting in revenues of £58bn..

Figure 3.26 TV industry figures among European countries



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Revenues include advertising, subscriptions and sources of public funding only.

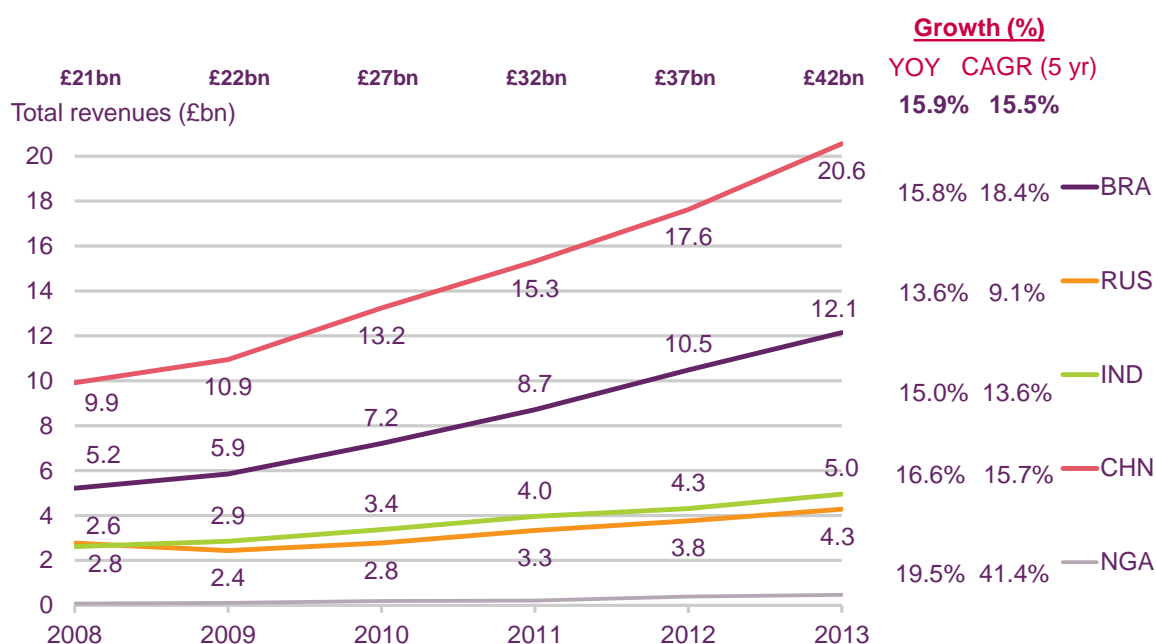
TV revenues increased for each of the BRIC countries and Nigeria in 2013, with combined revenues up 15.9% year on year and doubling since 2008 to reach £42bn. The annual growth in 2013 was greater than the average annual growth of 15.5% since 2008.

China and Brazil made up over 75% of the revenue among these five countries, and enjoyed 16.6% and 15.8% growth respectively in 2013. In China, which has the highest industry revenues among the BRIC countries and Nigeria combined, revenue rose from £17.6bn in 2012 to £20.6bn in 2013. Brazil saw its TV revenues increase from £10.5bn in 2012 to £12.1bn in 2013.

Over the five-year period to 2013, India experienced a compound annual growth rate of 13.6%. Its 2013 revenue of £5.0bn represented a year-on-year increase of £0.7bn (15.0%). Russia also experienced consistent growth over the period, with a compound annual growth rate of 9.1% and a year-on-year increase of 13.6%, resulting in 2013 TV revenue of £4.3bn.

Nigeria experienced a greater proportional growth in TV revenues than any of the BRIC countries in 2013, with a 19.5% increase to £0.5bn in 2013.

Figure 3.27 Total TV industry revenues among BRIC countries and Nigeria



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Revenues include advertising, subscriptions and sources of public funding only. BRIC is Brazil, Russia, India and China.

Figure 3.28 illustrates the changing composition of TV industry revenues, by country, between 2008 and 2013.

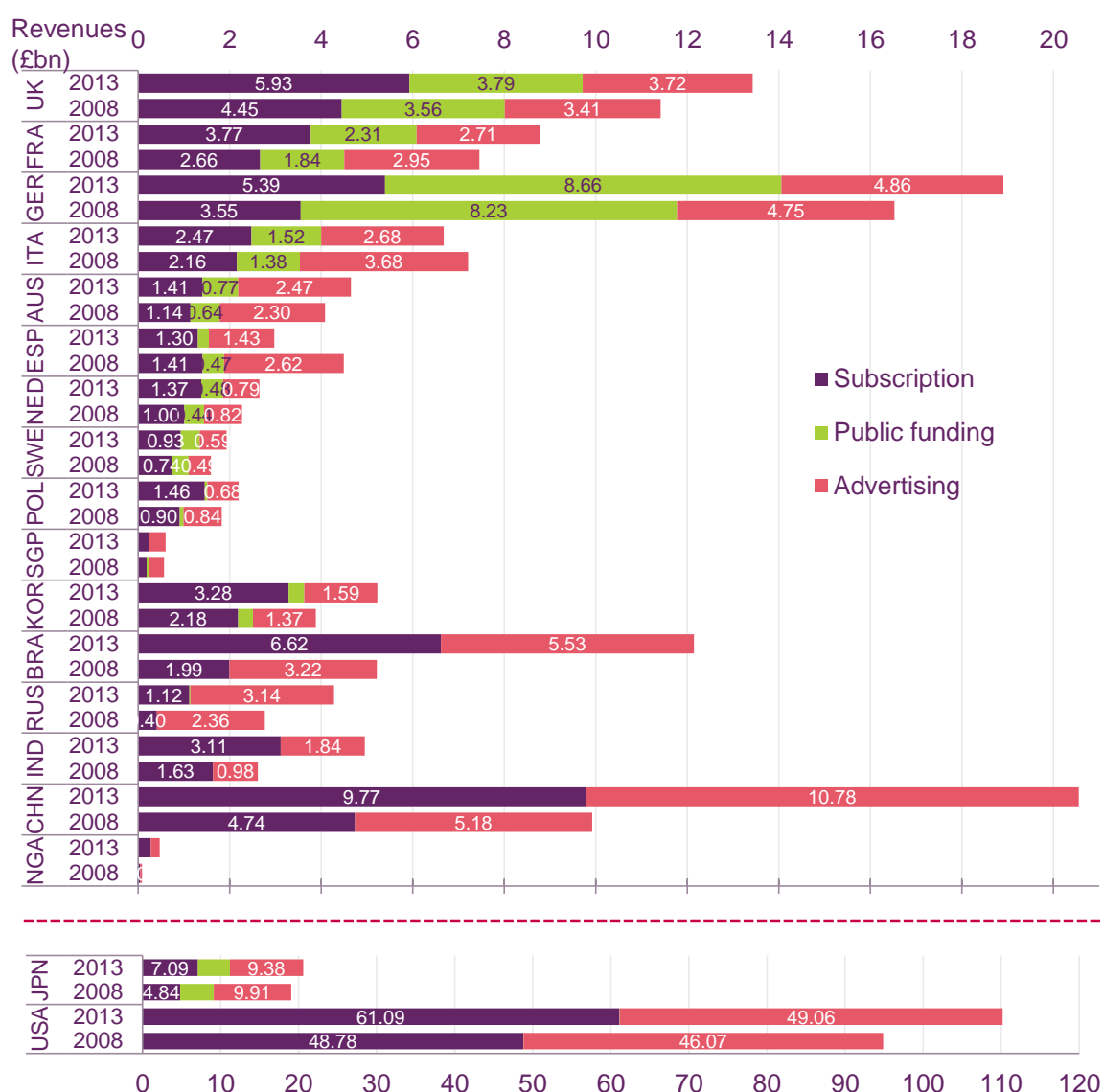
Among the major European television markets: Germany, the UK and France, income from pay-TV subscriptions was the fastest-growing source of revenue over the five-year period between 2008 and 2013 and, for the UK and France, represented their largest source of TV income.

Among our 18 comparator countries, Italy and Spain both experienced a decline in TV revenues between 2008 and 2013, predominantly driven by declines in advertising revenue over the five-year period. In Italy, advertising revenue declined from £3.68bn to £2.68bn, while in Spain it fell from £2.62bn to £1.43bn. But while in Italy the decline in advertising revenue was partially offset by rising revenue elsewhere, Spain saw a fall in both subscription revenue and public funding over this five-year period..

The US and Japan, the two largest countries by revenue (£110.2bn and £20.6bn respectively) are included at the bottom of Figure 3.28 to accommodate the higher scale. The US experienced robust growth from pay-TV subscriptions (up from £48.78bn in 2008 to £61.09bn in 2013), combined with a more modest increase in TV advertising revenues over the five-year period, resulting in a £15.3bn increase in revenue between 2008 and 2013. In contrast, advertising revenue for Japan decreased over the five-year period, from £9.91bn to £9.38bn, although this was offset by growth in the pay-TV market, where revenue from subscriptions grew from £4.84bn to £7.09bn.

The television markets of the BRIC countries all recorded increases in total revenue between 2008 and 2013, driven by an increase both in net advertising revenue and in subscriptions, which make up for the complete absence of public funding in these countries.

Figure 3.28 TV revenues by comparator countries, by source: 2008 and 2013



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Revenues include advertising, subscriptions and sources of public funding only. Different scale used for the US and Japan due to larger size of those markets.

3.2.3 TV revenue per head among comparator countries

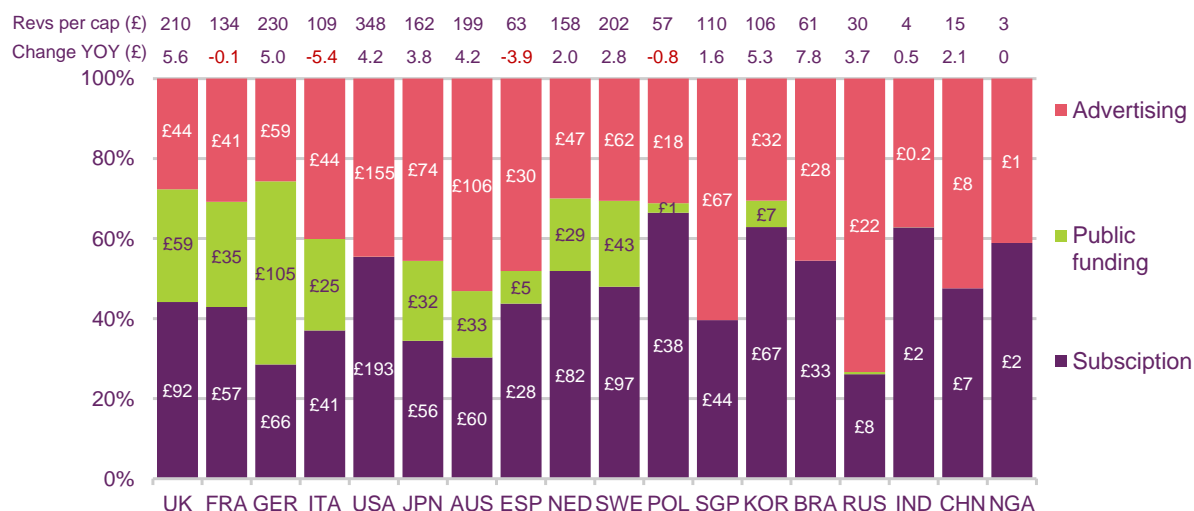
TV revenue per head in the UK increased by £5.60 to £210 in 2013

TV revenue per head in the US was the highest among the 18 comparator countries, generating £348 per head in 2013, an increase of £4.20. Germany had the second largest revenue per head in 2013, at £230, a £5 increase on 2012. Brazil saw the greatest year-on-year growth, with a £7.80 increase to £61 of TV revenue per head in 2013, a total significantly lower than most other comparator countries.

Among the European comparator countries, France, Italy, Spain and Poland recorded declines in per-head revenues in 2013, with Italy down £5.40 to £109 and Spain down £3.90 to £63. The declines were more modest in France and Poland, with decreases of £0.10 and £0.80 respectively since 2012. Sweden had the third largest per-capita return among European comparator countries in 2013, up £2.80 on the 2012 figure to £202.

TV revenues per head for the BRIC countries and Nigeria were well below most other comparator countries in 2013, with Nigeria having the lowest at just £3. However, strong growth in the Brazilian TV market meant that at £63 in 2013, it had a greater per-head return than Poland (£57) and only £2 less than Spain, at £63.

Figure 3.29 TV revenue per head, by revenue source: 2013



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Revenues include advertising, subscriptions and sources of public funding only; figures inside the bars represent industry revenue per head by source.

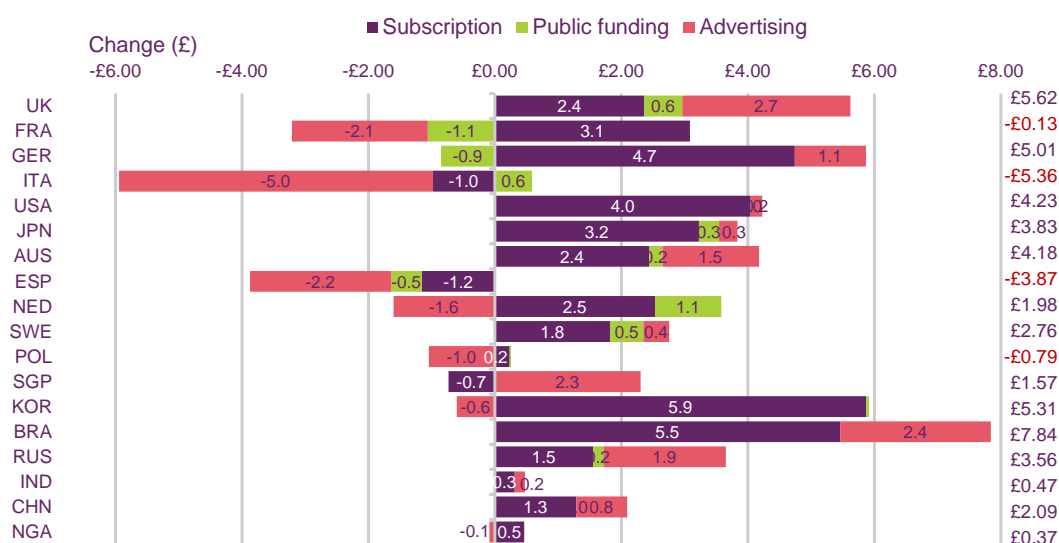
UK advertising revenue per head was greater than subscription revenue in 2013

Figure 3.30 details the changes, by country, in revenue per head, split by the three component parts. For the majority of countries, increases in revenue per head in 2013 were driven primarily by subscription fees. The exceptions were the UK and Singapore where increases in advertising revenue per head of £2.70 and £2.30 respectively were the main revenue drivers.

Advertising revenues per head declined in seven of our comparator countries in 2013. The greatest declines were seen in Italy and Spain, where advertising revenues per head declined year on year by £5.00 and £2.20 respectively. Brazil saw growth of £2.40 in its 2013 advertising revenue-per-head figure, second only to the UK in terms of year-on-year growth.

The Netherlands had the greatest increase in public funding per head in 2013, up by £1.10, while the biggest decrease in this figure was in France, with a decline of £1.10.

Figure 3.30 Changes in components of TV revenues per head: 2012 to 2013



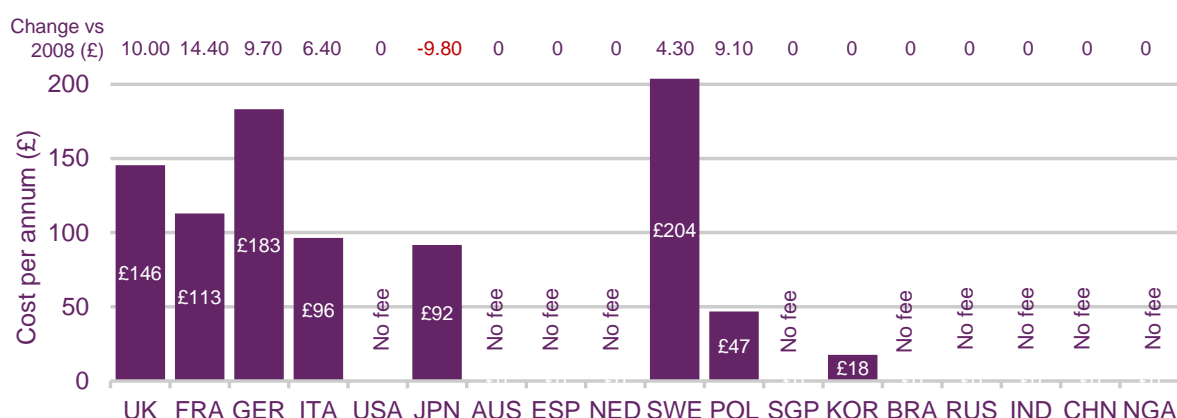
Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Revenues include advertising, subscriptions and sources of public funding only; the bars represent changes in industry revenue per head, by source.

3.2.4 TV licence fee in UK third-highest among ICMR countries

Public funding, in the form of TV licence fees paid for by viewers, is an important element of TV finance in most of the European markets included in this analysis. Figure 3.31 illustrates the 2013 cost of a TV licence fee in each of our comparator countries where a licence is available.

At £146, the cost of the UK licence fee was the third highest in 2013 among comparator countries, behind Sweden (£204) and Germany (£183). France saw the greatest increase in the cost of its licence fee between 2008 and 2013; it increased by £14.40, while the cost of the Japanese licence fee fell by £9.80, to £92.

Figure 3.31 Cost of a TV licence fee



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013.

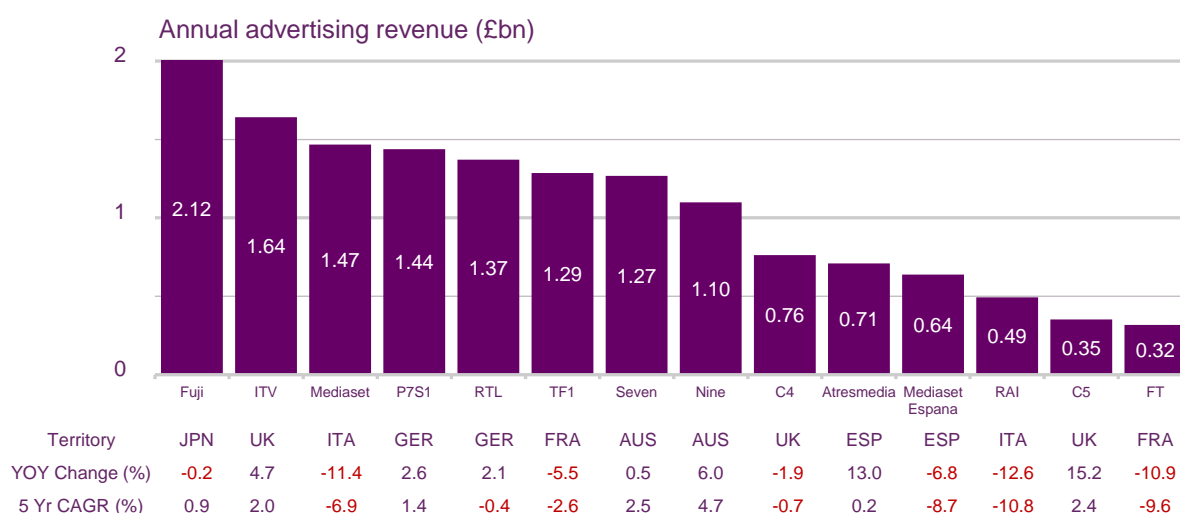
3.2.5 Mixed picture for advertising revenue among free-to-view broadcasters

Figure 3.32 shows the reported advertising revenues of selected free-to-view TV operators in 2013. Fuji in Japan had the largest advertising revenues in 2013 among our selected free-to-air broadcasters despite a 0.2% decline in revenues from 2012. ITV in the UK had the second largest revenues in 2013 with annual growth of 4.7%. The largest year-on-year increase in advertising revenue was for the UK's Channel 5, which experienced a 15.2% increase in 2013.

As shown in Figure 3.30 above, advertising revenues declined in France, Italy and Spain in 2013. This is reflected in the declining advertising revenues for broadcasters in these three countries, as shown in Figure 3.32, both year-on-year and since 2008. The exception is Atresmedia in Spain, with a 13% increase in advertising revenue since 2012, reaching £0.71bn in 2013.

Growth in advertising revenues over the last five years was greatest for the Australian broadcasters Nine and Seven, with five-year compound annual growth rates of 4.7% and 2.5% respectively.

Figure 3.32 Latest reported advertising revenues for selected free-to-view TV operators: 2013



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013; Comparisons should be regarded as indicative only due to the possibility of differences in financial reporting between broadcasters.

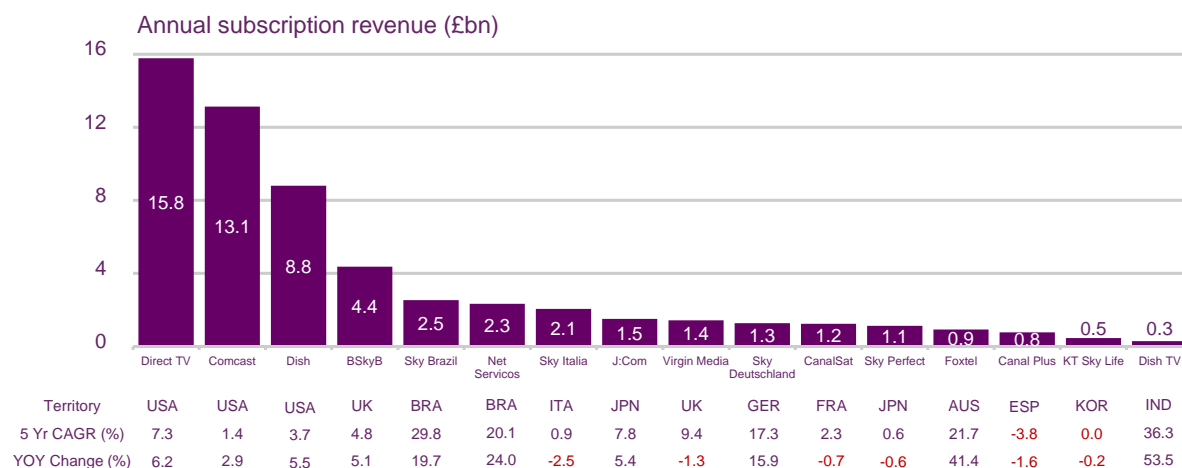
3.2.6 Subscription revenues continue to rise for most pay-TV operators

The three pay-TV operators which had the largest subscription revenues among our comparator countries in 2013 were all based in the US. Indeed, Direct TV (up 6.2% to £15.8bn), Comcast (up 2.9% to £13.1bn) and Dish (up 5.5% to £8.8bn) all experienced growth in year-on-year subscription revenue to consolidate their status among subscription pay-TV operators.

BSkyB recorded the next highest level of subscription revenue among operators in comparator countries, with a 5.1% increase to £4.4bn in 2013. This contrasts with Virgin Media, which reported a 1.3% decline in revenue to £1.4bn, despite an average annual growth of 9.4% from 2008 to 2013.

Subscription revenue in Brazil continued to show strong growth in 2013, with Sky Brazil experiencing 19.7% year-on-year growth for revenues of £2.5bn, and Net Servicos seeing revenues increase by 24.0% to £2.3bn.

Figure 3.33 Latest reported subscription revenues for selected pay-TV operators: 2013



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013; Comparisons should be regarded as indicative only due to the possibility of differences in financial reporting between broadcasters

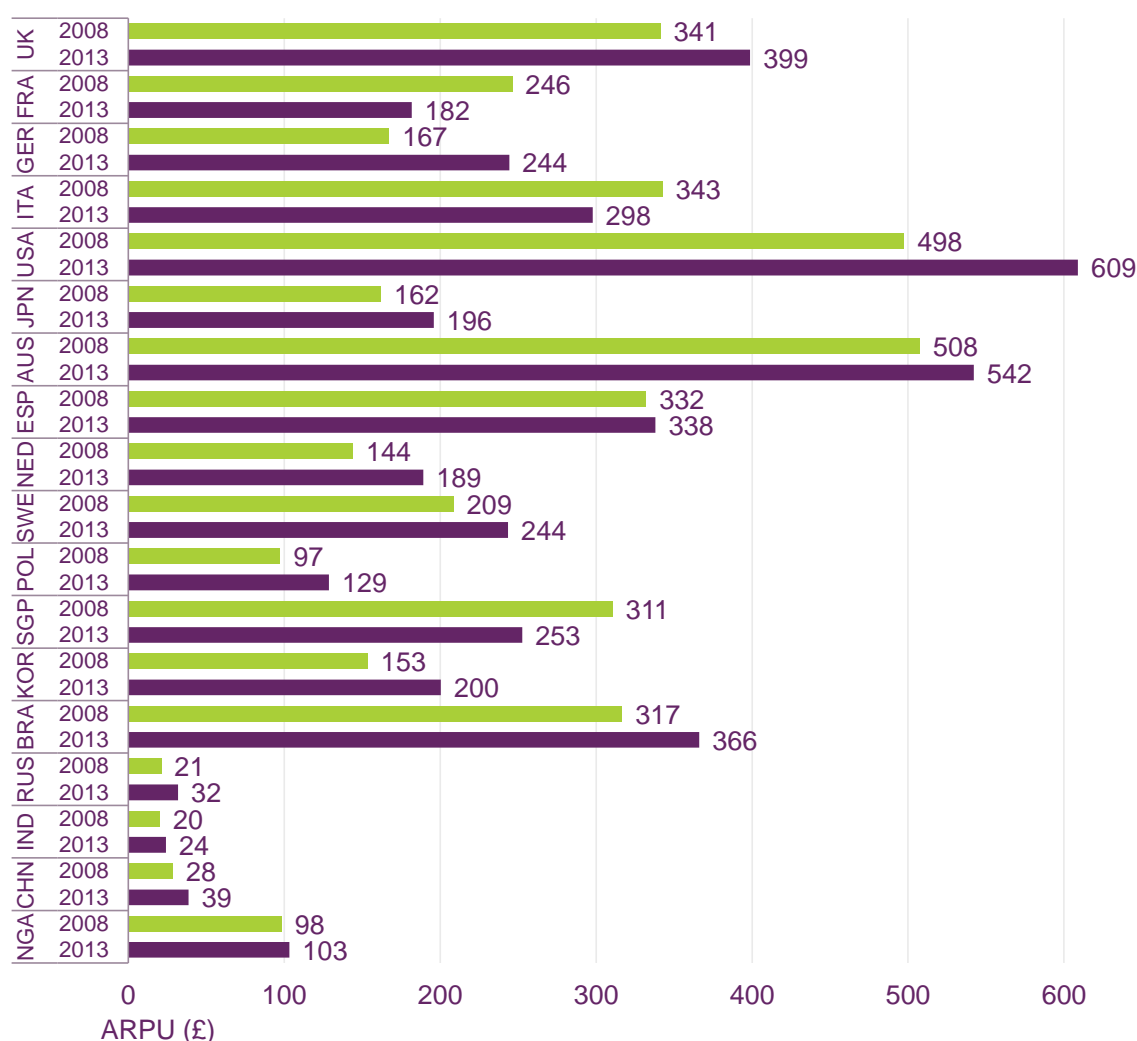
Pay-TV ARPU up in the UK as more consumers opt for bundled services

Average revenue per user (ARPU) can provide insights into the relative performance of pay-TV operators by country. Most of our comparator countries saw an increase in pay-TV ARPU from 2008 to 2013 despite a levelling-out of subscription numbers over this period. This can be explained by the increased 'bundling' offered by pay-TV companies as customers take up broadband and fixed-line services along with their TV subscriptions.

This can be seen in the UK, where ARPU increased from £341 in 2008 to £399 in 2013: this was the third-highest figure among our comparator countries in 2013, after the US with £609 and Australia with £542.

France, Italy and Singapore were the only three of our comparator countries where pay-TV ARPU declined between 2008 and 2013. France had the greatest decrease over this period, down by 26% to £182, while Italy saw a decrease of 19% to £298 and Singapore had a 13% drop to £253 over the five year period.

Figure 3.34 Pay-TV ARPU, by country: 2008-2013



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. ARPU is average revenue per user, representing the average revenue generated per pay TV subscriber.

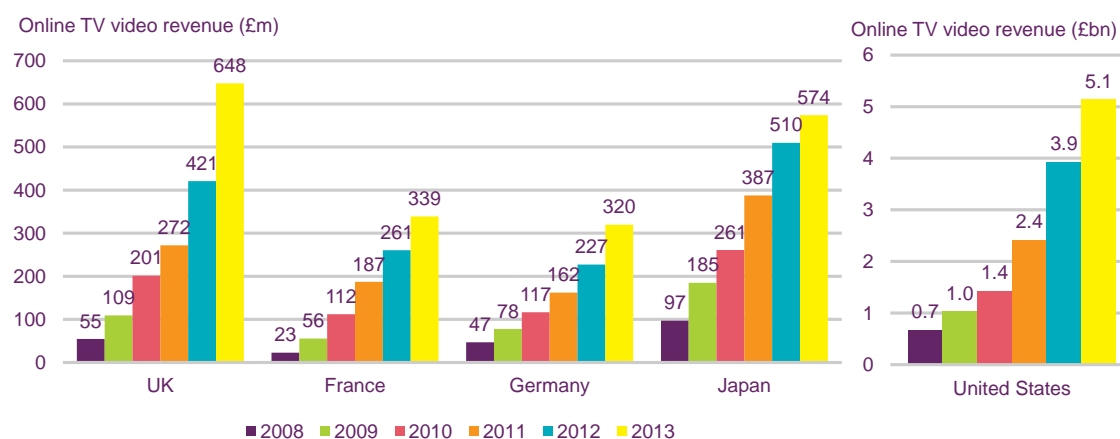
UK online TV and video revenue more than doubled from 2011 to 2013

Online TV and video revenue is made up of subscription fees and advertisement revenue, as well as electronic sell-through retail from services including YouTube, iTunes, Netflix and Hulu.

There has been significant growth in this sector since 2008, especially in the five countries featured in Figure 3.35. Online TV and video revenue in the UK was £648m in 2013, more than double the 2011 figure of £272m. The US had the largest revenue of this type among comparator countries in 2013, at £5.1bn, which, as in the UK, was more than double its 2011 revenue of £2.4bn.

UK revenues in 2013 were greater than those in France (£339m) and Germany (£320). 2013 was also the first year in our analysis period in which UK online TV and video revenues exceeded those of Japan, where revenues reached £574m in 2013.

Figure 3.35 Online TV and video revenue for selected ICMR countries



Source: IHS / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.563 to the GBP, representing the IMF average for 2013. Different scale used for USA due to larger size. "Online TV and video revenue" refers to either advertising revenue, subscription revenue as well as retail and rental on demand revenue derived from online services delivering TV and video content. Typically, it includes services such as catch-up TV services, Netflix, Xbox Video, Hulu and Hulu Plus, iTunes and YouTube amongst others.

3.2.7 The continued growth of UK TV exports

UK television industry export revenues rose by 5% year on year to £1.28bn in 2013.

The latest annual UK Television Exports Survey, commissioned by Pact, highlights the popularity of UK programming abroad by collecting and summarising the revenue figures of international television companies.

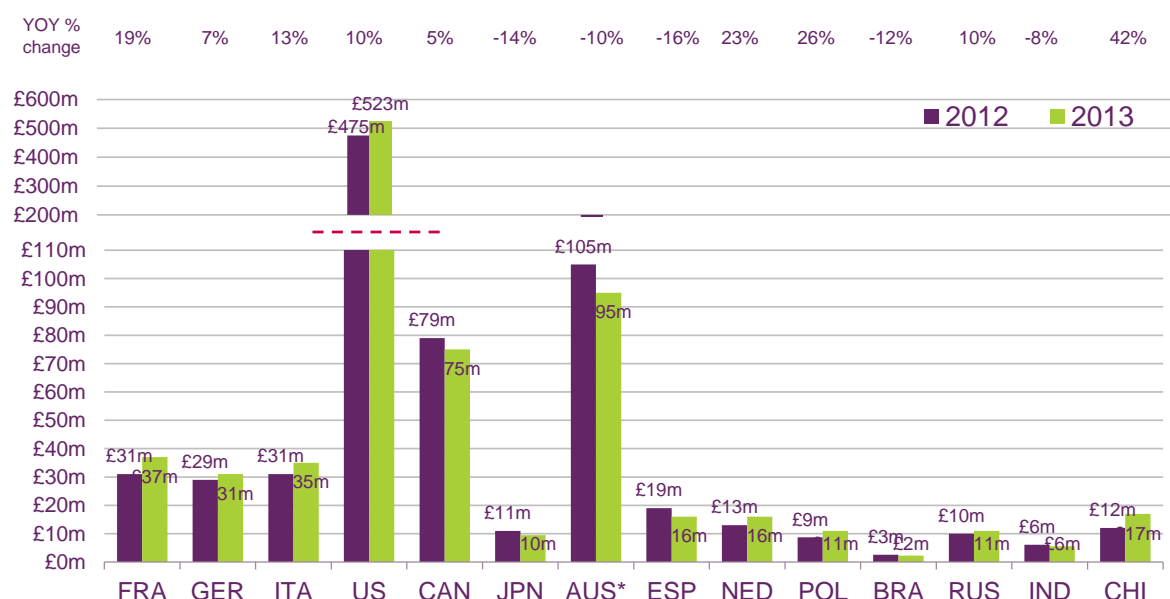
In 2013 the estimated total revenue for international sales of UK television programmes and associated activities was £1.28bn, a 5% increase on the 2012 figure of £1.22bn. The 2013 figure has more than doubled since 2005, when the survey reported an overall figure of £494m. This growth has largely been driven by the 'terms of trade' changes, which meant that independent producers were able to negotiate and sell secondary rights to their programmes, including the rights to distribution of finished programmes and formats outside the UK.

The US remains the UK's largest export market

When examining the total UK revenues generated from the sale of all programming and associated activities to international markets, it is evident that the US is by far the UK's largest export market. In 2013 total sales stood at £523m; this was a 10% increase on 2012, and more than five times the size of the second largest market, Australasia, which accounted for £95m of total export revenue in 2013.⁷⁵ Exports to China, although generating less revenue than European countries, showed the biggest relative year-on-year increase (42%) which may be indicative of a growing appetite for UK TV content.

⁷⁵ Australasia comprises of Australia, New Zealand, the island of New Guinea and neighbouring islands in the Pacific Ocean.

Figure 3.36 UK television industry export revenues in selected countries: 2012 and 2013



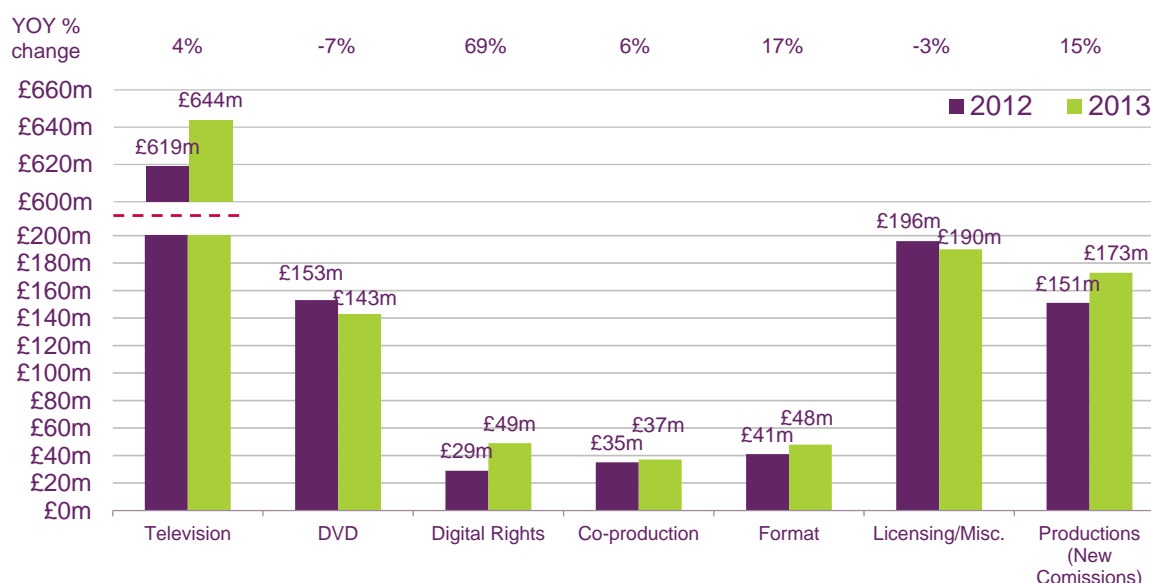
Source: PACT. UK Television Exports Survey 2013. *Note: AUS in this section is Australasia and includes Australia, New Zealand, the island of New Guinea and neighbouring islands in the Pacific Ocean.

Finished television programming is the UK's largest source of TV industry export revenue

Figure 3.37 shows how the export market for UK programming and associated activities break down by the different types of programme and licensing deals. The largest source of TV revenue comes in the form of finished television content, generating £644m in 2013. This figure is almost four times greater than the sales of 'licensing/miscellaneous', which is the second largest contributor to TV export revenue.

Sales of digital rights had the largest growth, with a 69% increase on 2012, rising to £49m in 2013.

Figure 3.37 UK television industry export revenues, by type: 2012 and 2013



Source: PACT. UK Television Exports Survey 2013

3.3 TV and audio-visual consumers

3.3.1 Summary

This is the final chapter of the audio-visual section. In Section 3.3.2 we examine patterns of digital television take-up, before considering the adoption of high-definition television and digital video recorders (Section 3.3.3). Section 3.3.4 analyses the number of pay-TV homes in each country, before examining how viewers in different countries consume broadcast television (Section 3.3.5).

- **In 2013, the UK, Italy, Japan, Australia and Singapore had 100% digital television take-up on main TV sets**, while a majority of TV homes in France (95%), the US (95%), Spain (99%) and the Netherlands (86%) also now receive digital television.
- **In the UK, digital satellite (which includes Freesat and Sky TV) was the country's number-one viewing platform on primary sets in 2013** (42% of TV households) while digital terrestrial was the second highest with 39%. Digital satellite was also the most popular platform in Germany, Poland, Russia and Nigeria. Cable, whether digital or analogue, continues to be the most popular viewing platform in seven of the 18 comparator countries.
- **Over half (53%) of TV homes in the UK had a pay-TV service in 2013.** India (99%), the Netherlands (98%) and South Korea (94%) were the three comparator countries with the highest proportion of pay-TV take-up in 2013.
- **IPTV is the most popular TV platform in France, with a take-up of 40%.** It is also the second most popular platform in South Korea and the Netherlands, with take-up of 25% and 21% respectively.
- **Across the ICMR comparator countries, audiences watched an average of 224 minutes per person per day in 2013.** The US had the highest level of TV viewing of all of the comparator countries (293 minutes per person per day) while Sweden had the joint lowest level, at 159 minutes. The UK ranked seventh of the 15 ICMR countries, with viewers watching on average 232 minutes of television a day in 2013.
- **Comparing 2013 to 2012, the data show a decline in viewing (by varying degrees) among nine of the 15 ICMR comparator countries**, with the UK showing the largest year-on-year decline of 3.7% (nine minutes). Some of the UK decline may be explained by increased viewing in 2012 due to the scheduling of the Olympic and Paralympic Games

3.3.2 Digital television take-up on main sets

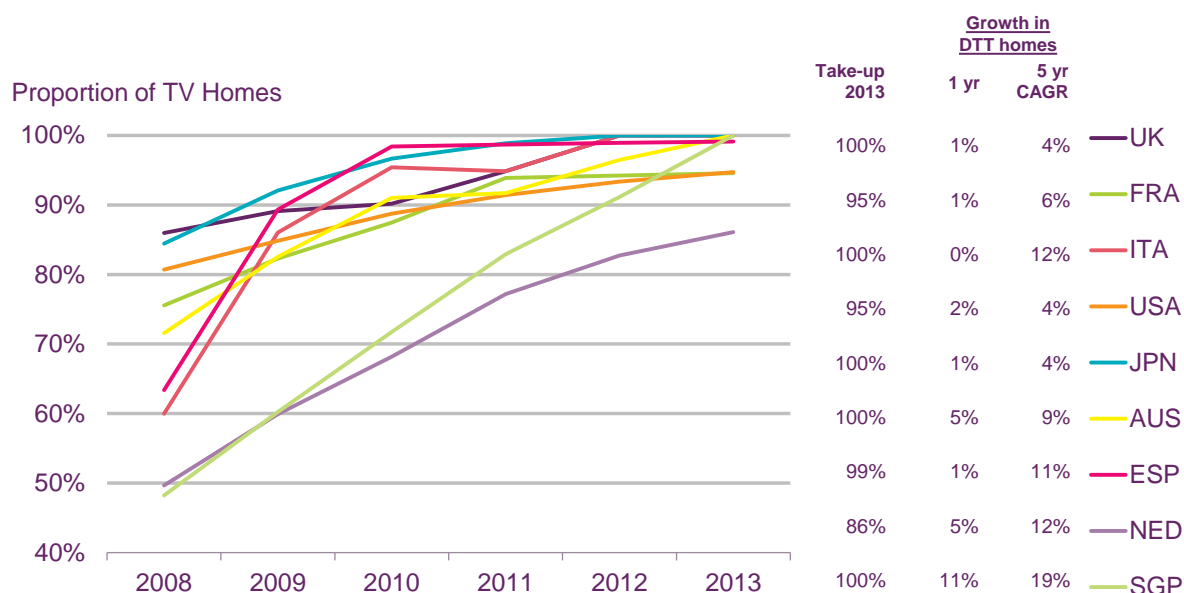
Digital TV take-up ranges from 100% in five countries to 36% in Brazil

The average digital television take-up of the 18 comparator countries stood at 82% in 2013. Figure 3.38 and Figure 3.39 show the growth in DTT take-up, and for ease of interpretation, the countries are illustrated in two charts⁷⁶.

⁷⁶ Note that the UK digital television figures in this report are compiled using a different source to Ofcom's CMR report, so the two sets of data are not directly comparable. Data in Ofcom's CMR are based on BARB's Establishment Survey, whereas this report is based on data from IHS – a single source is used for this report to enable comparisons across comparator countries.

The UK, Italy, Japan, Australia and Singapore were the only comparator countries to have 100% DTV take-up on main TV sets in 2013, with Singapore showing the largest growth of total DTV homes of these four countries, with an 11% year-on-year increase. All of the countries in Figure 3.38 have completed their digital switchover, with the exception of Singapore, although there is 100% DTV take-up already despite this. Analogue cable remains a popular platform in the remaining countries and is the reason why countries do not have 100% DTV take-up following switchover.

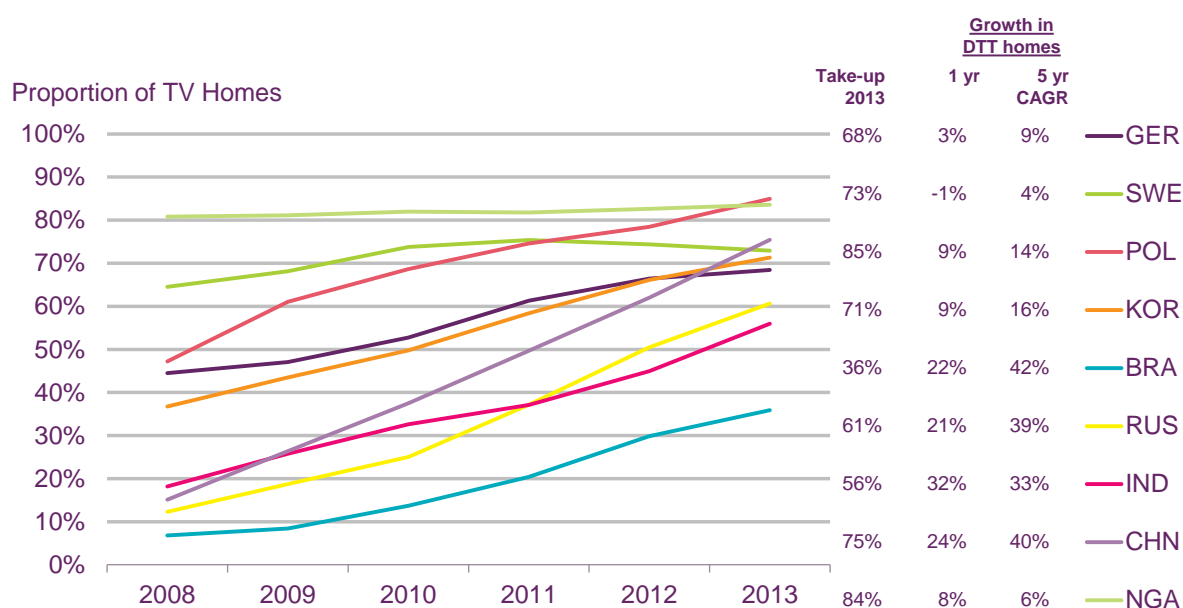
Figure 3.38 Take-up of digital television: top nine comparator countries



Source: IHS/ industry data/ Ofcom

Looking at the next nine comparator countries, DTV take-up remains well below the 82% average in seven of them, most notably in Germany (68%), Brazil (36%), Russia (61%) and India (56%). However, growth is understandably higher among countries with low DTV take-up in 2013, with 35% average year-on-year growth among the BRIC countries in the total number of homes with DTV. The exceptions here are Germany and Sweden, which showed relatively modest five-year average growth figures of 9% and 4% respectively, despite less than three-quarters of their TV households using DTV on their main sets. This is due to the slow migration to digital among analogue cable viewers in both countries, as well as a strong OTT market in Sweden.

Figure 3.39 Take-up of digital television: the next nine comparator countries



Source: IHS/ industry data/ Ofcom

Cable is the most popular television platform in many comparator countries

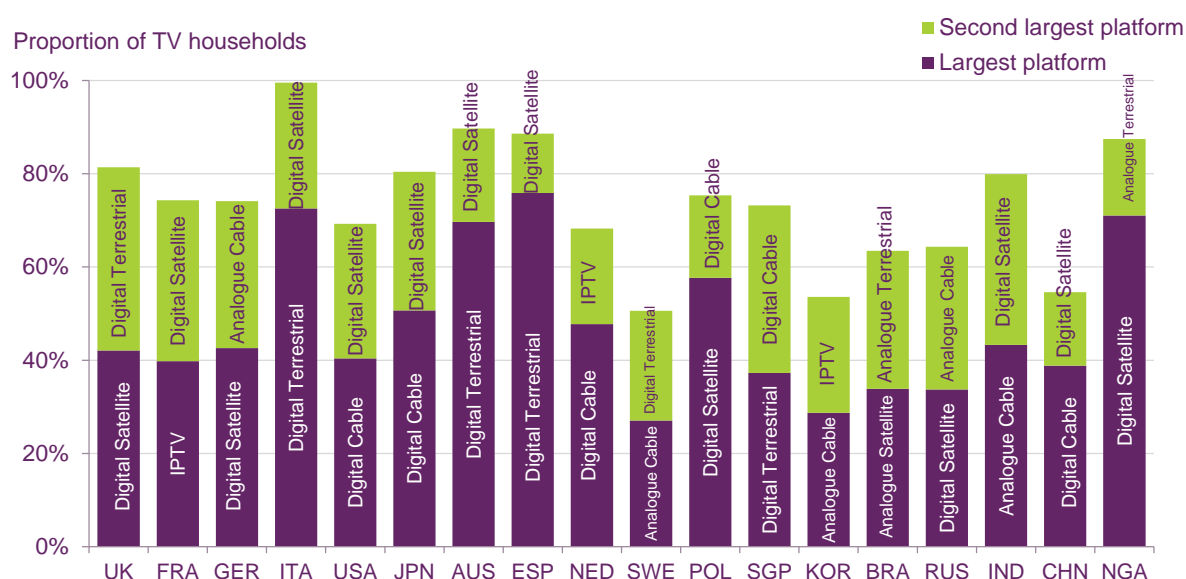
Looking at digital and analogue technologies together, cable was the most popular television platform for seven of the 18 comparator countries in 2013: the US, Japan, the Netherlands, Sweden, South Korea, India and China.

Satellite was the most popular platform in six of the comparator countries and the second most popular platform in a further eight; this means that satellite TV was the first or second most popular platform in 14 of the 18 comparator countries.

Digital terrestrial was the most popular platform in Italy, Australia, Spain and Singapore in 2013, and the second most popular platform in the UK and Sweden, while analogue terrestrial was the second most popular platform in Brazil and Nigeria.

IPTV was the most popular TV platform in France in 2013, with 40% of TV homes using it on their main TV set. It was also the second most popular platform in the Netherlands and South Korea.

Figure 3.40 Most popular TV platforms, by country: 2013



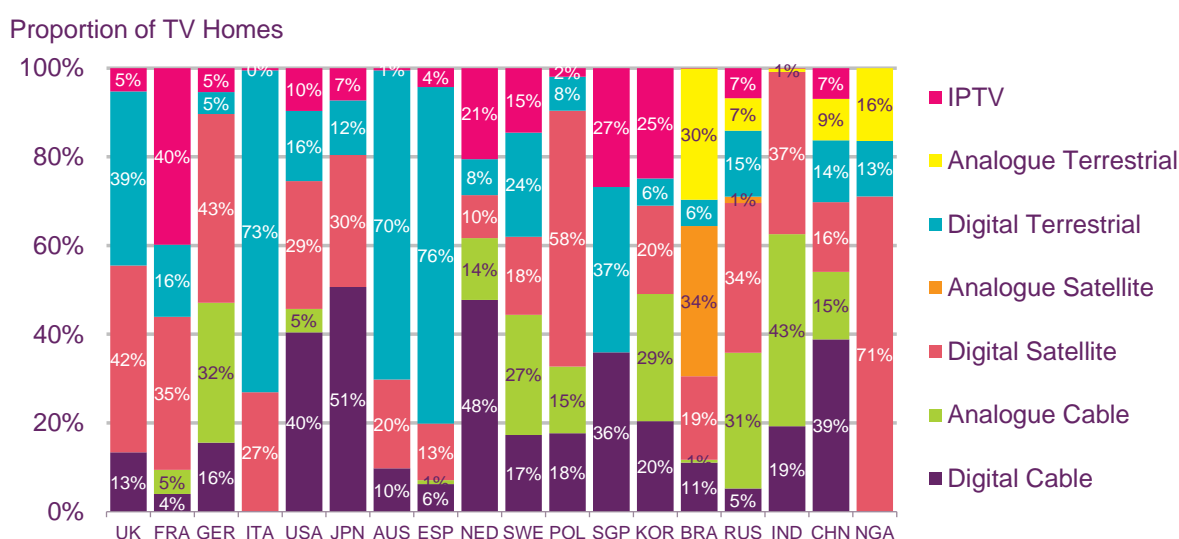
Source: IHS/ industry data/ Ofcom

Seven different TV platforms were used across the comparator countries in 2013

Digital terrestrial continues to dominate the TV markets in Italy (73% take-up), Australia (70%) and Spain (76%) while it remains strong in the UK and Singapore, with 39% and 37% take-up respectively.

Analogue cable continues to present the biggest obstacle to digital conversion among the comparator countries. Over a quarter of TV homes use it on their primary sets in Russia and India, where digital switchover is still a few years away, and also in Germany, Sweden and South Korea, where digital switchover has been completed. However, with the exception of Sweden, fewer TV homes are using analogue cable as their primary TV platform in each of these countries, when compared to 2012, as can be seen in Figure 3.42.

Figure 3.41 TV platform take-up, by country



Source: IHS/Industry Data/Ofcom. Note: Digital terrestrial includes additional paid for services such as Top Up TV. Digital Satellite includes free to air services as well as paid for.

There was a clear movement from analogue to digital TV platforms in 2013

Figure 3.42 sets out changes (by percentage point) in take-up of the different television platforms. The red/green tint indicates the relative change in each platform's take-up, when compared to the other changes set out in the table.

The association of analogue technologies with red tints makes clear the degree of migration from analogue to digital technologies.

The largest shift in platform take-up in 2013 was in China where total analogue take-up reduced by 13pp. Of the corresponding 13pp increase in digital platforms, terrestrial was the main beneficiary, with a 6pp increase, while digital cable take-up increased by 5pp.

Most of the movement from analogue to digital technologies is towards terrestrial and cable, with only Russia showing a large move towards digital satellite (a 5pp increase). China had the largest two-year digital conversion rate, with a 25pp increase, as it continues to move away from analogue platforms.

Figure 3.42 shows a clear movement from analogue cable to digital cable platforms, particularly in Poland (+5pp), India (+10pp) and China (+5pp). In the case of China, satellite is a very tightly regulated market; this is likely to be helping the growth of the digital cable platform.

In the Netherlands and South Korea, IPTV appears to be the main beneficiary of the move away from analogue cable; IPTV take-up increased by 5pp and 4pp respectively in 2013.

Figure 3.42 Year-on-year changes in platform take-up (pp), by country and platform

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
Digital terrestrial	-4	-4	0	1	1	-1	2	2	-3	-1	5	9	-2	2	2	0	6	5
Digital satellite	1	2	1	0	0	0	1	0	0	0	-3	0	1	2	5	2	0	-3
Digital cable	-1	0	2	0	-1	0	1	-1	1	-1	5	-1	2	2	1	10	5	0
IPTV	2	2	0	-1	2	1	1	-1	5	2	0	1	4	0	2	0	2	0
Total digital	0	1	2	0	2	0	4	0	3	-1	7	9	5	6	11	11	13	1
Analogue terrestrial	0	0	0	0	0	0	-4	0	0	0	-1	-9	0	-4	-10	0	-10	-1
Analogue satellite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Analogue cable	0	-1	-2	0	-2	0	0	0	-3	1	-6	0	-5	-1	-1	-11	-4	0
Total analogue	0	-1	-2	0	-2	0	-4	0	-3	1	-7	-9	-5	-6	-11	-11	-13	-1

Source: IHS/ industry data/ Ofcom

IPTV is the most popular TV platform in France

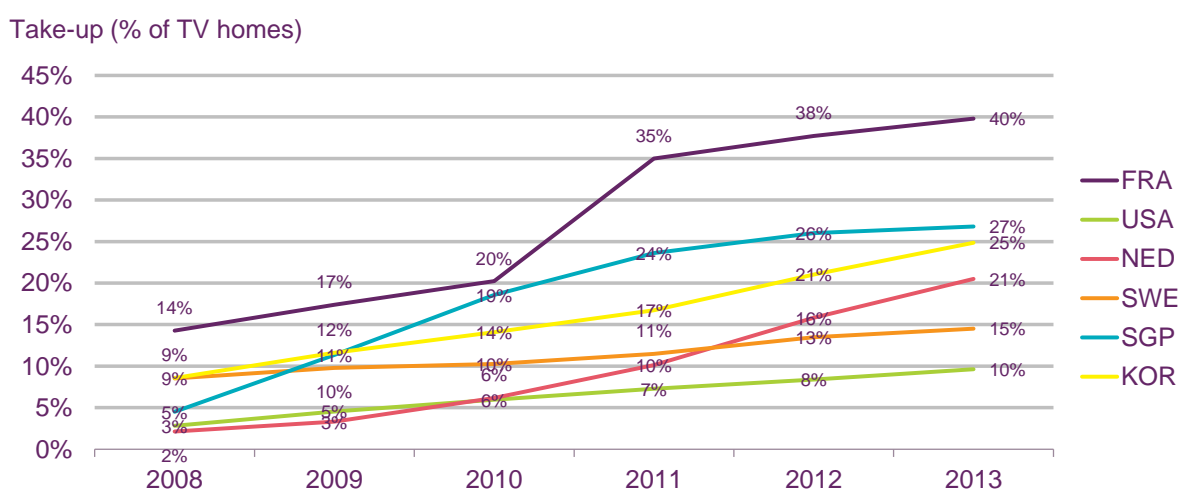
Internet protocol television (IPTV) is the term used for television programmes that are delivered to viewers using internet protocol (IP) technology over a broadband connection. For the purposes of this report, hybrid systems such as BT Vision, which provide television services through both an aerial and an IP connection, are considered IPTV platforms. In 2013, IPTV continued to compete with digital platform technologies, encouraged by the early marketing of triple-play bundled services in countries with high-bandwidth infrastructure. In France, IPTV was the most popular TV platform in 2013, with 40% of TV homes taking it up on their main TV sets. IPTV has proved to be more popular in France than in any other

comparator country, benefiting from healthy competition among providers, attractive bundling offers and the low take-up of digital cable, which in 2013 was lower in France (4%) than in any other comparator country where digital cable is available.

Take-up of IPTV services was at least 10% among TV homes in six comparator countries in 2013. In the UK this figure was 5% (up from 3% in 2012); the low IPTV penetration as a main platform in the UK may be partly due to competition with well-established digital platforms. On the other hand, IP-delivered video (both over-the-top and through multicast technology) is becoming an increasingly important complement to other distribution platforms in the UK, as the growth in subscriptions to video-on-demand services shows (Figure 3.49).

The Netherlands saw the largest increase in the proportion of main sets connected to IPTV in 2013, with a 5pp increase on 2012, following a 6pp increase from 2011 to 2012. This strong growth is due to the fact that IPTV subscriptions in the Netherlands, including catch-up TV, video on demand and HD, are available at a cost similar to that for basic digital cable, which is not available across the whole country. The Netherlands also has one of the highest broadband penetration rates globally.

Figure 3.43 IPTV take-up on main TV sets in countries where take-up is at least 10%: 2013



Source: IHS/ industry data/ Ofcom

3.3.3 Take-up of HDTV services

Figure 3.44 shows the number of HD services available across the platforms in seven comparator countries. Pay-TV satellite and cable platforms offer the greatest number of HD services across these comparator countries.

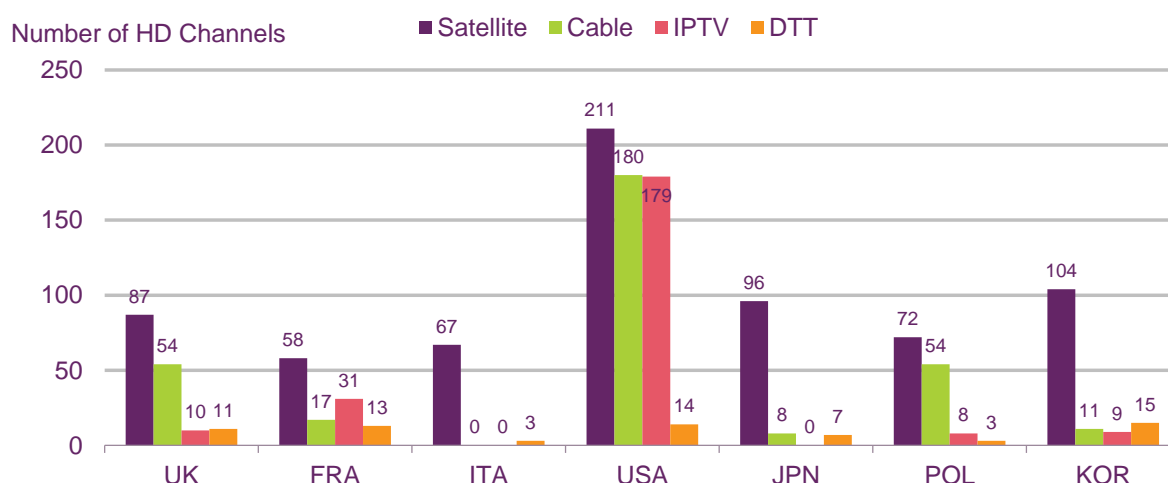
In the US, the majority of HDTV channels are provided by pay-TV formats. Satellite offers the highest number, with 211, while cable provides 180 and IPTV 179. Digital terrestrial TV offers 14 HD channels.

South Korea and Japan also provide a substantial amount of HD channels through pay-TV formats; the vast majority (104 and 96 respectively) are only available on satellite platforms.

As in South Korea and Japan, satellite TV provides the greatest number of HD channels in Europe. While the number of HD channels available through IPTV and DTT platforms is broadly similar across Europe, Japan and South Korea, consumers are able to access more

HD channels through cable TV in the UK and Poland than in any comparator country other than the US.

Figure 3.44 Number of HDTV channels: 2013



Source: IHS/ industry data/ Ofcom.

Digital video recorder, smart TV and 3D technology take-up

Figure 3.45 looks at the proportion of respondents who own a DVR, smart TV or 3DTV, and personally use them. The popularity of these devices varies from country to country.

Digital video recorders (allowing viewers to pause and rewind live television and to store content), were owned and personally used in 24%⁷⁷ of UK respondents' homes in 2013, second only to the US, where a third of people use their DVRs. The countries with the lowest DVR take-up and use were China (7%) and France (10%).

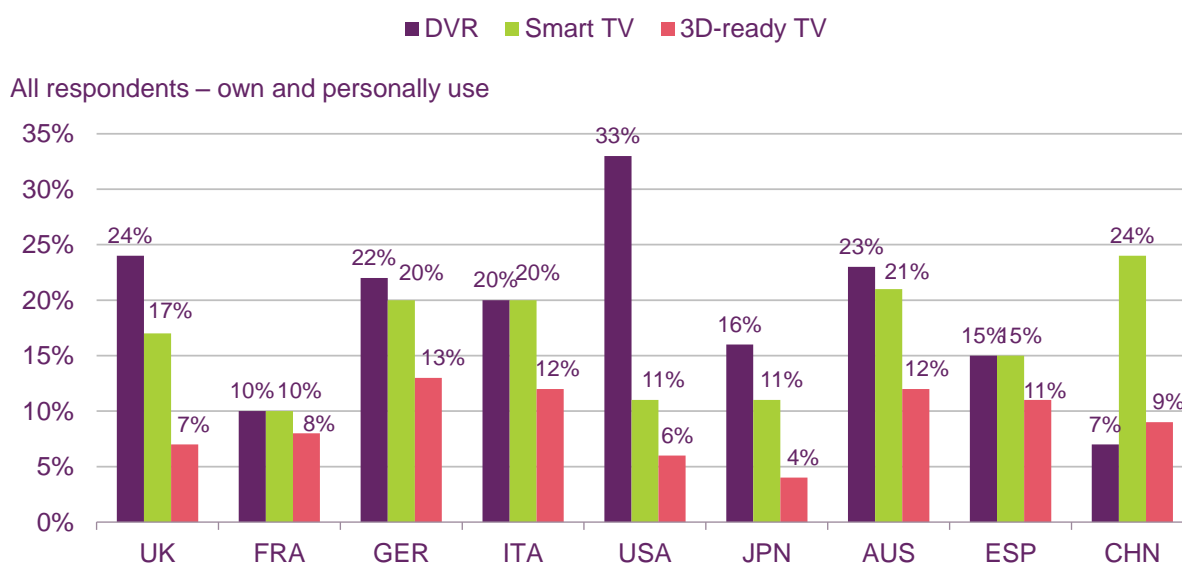
The proportion of respondents who claimed they owned, and personally used, a smart TV was highest in China. However, internet penetration is relatively low in China (around 46%⁷⁸, and centred in the cities), so the people responding to our survey are likely to be early adopters of new technology, and may not closely represent China's 1.4 billion inhabitants. Excluding China, Australia was the country with the highest take-up of smart TVs in 2013, at 21%. Germany and Italy were the next two countries, both with 20% of respondents saying they owned and personally used this technology. France and Japan both had the lowest percentage, at 10% and 11% respectively.

Germany had the highest number of respondents who said they used a 3D-ready TV, at 13%. In the UK the corresponding figure is at 7%. However, many connected TVs come with built-in 3D capability, so the actual penetration of 3DTVs may be higher than indicated below.

⁷⁷ This figure is lower than published data from Ofcom's Technology Tracker. Ofcom's Technology Tracker measures DVR take-up from a series of questions relating to ownership of specific branded set top boxes. A shorter, non-branded, question is used in the ICMR research for the purposes of international comparison.

⁷⁸ December 2013, International Telecommunication Union

Figure 3.45 Personal use of digital video recorders, smart TVs, and 3D-ready TVs



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011 FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q4a Which of the following devices do you personally use?

3.3.4 Pay-TV take-up

In 2013, 67% of the TV households among comparator countries used a pay-TV service

The popularity of pay-TV across comparator countries is influenced by a range of factors, including the availability of free-to-view channels, the exclusive rights that pay-TV operators may have to particular programmes or types of content, and the presence or lack of publicly-funded television channels.

Among the 18 comparator countries in this report, the take-up of pay television has increased by 14pp from 2008 to 67% of all TV households in 2013.

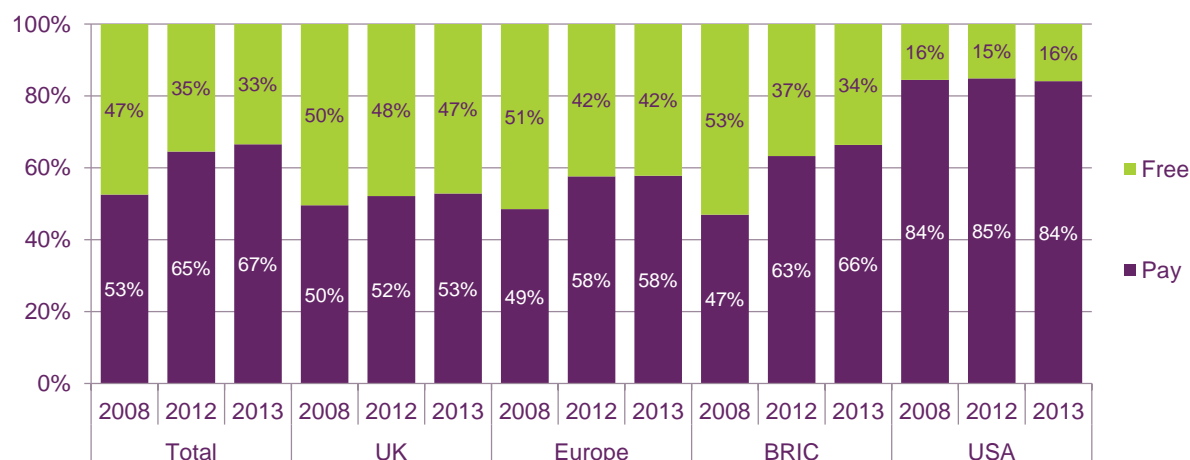
Looking at the European comparator countries, the UK has gone from having above-average take-up of pay-TV in 2008 (50% compared to the rest-of-Europe figure of 49%) to a below-average take-up in 2013 (53% compared to 58%).

The US has consistently had a very high take-up of pay TV when compared to the UK, and the rest of Europe combined. Eighty-four per cent of TV homes in the US had pay-TV in 2013, the same figure as in 2008 and slightly below the 85% take-up of 2012. This decrease in pay-TV take-up can be attributed to new homes simply not taking pay-TV up in the traditional, linear sense, as well as a continuing tendency for 'cord-cutting' among cable customers.

In contrast to the US, growth of pay-TV take-up among the BRIC countries was very strong between 2008 and 2013, rising from 47% of all TV homes in 2008 to 66% in 2013.

Figure 3.46 Take-up of pay TV among groups of comparator countries

Proportion of TV households (%)



Source: IHS / industry data / Ofcom. Note: 'Europe' in this context means those European countries within our comparator set; France, Germany, Italy, Spain, Netherlands, Sweden and Poland. 'Total' in this context means the 18 countries in this report's comparator set.

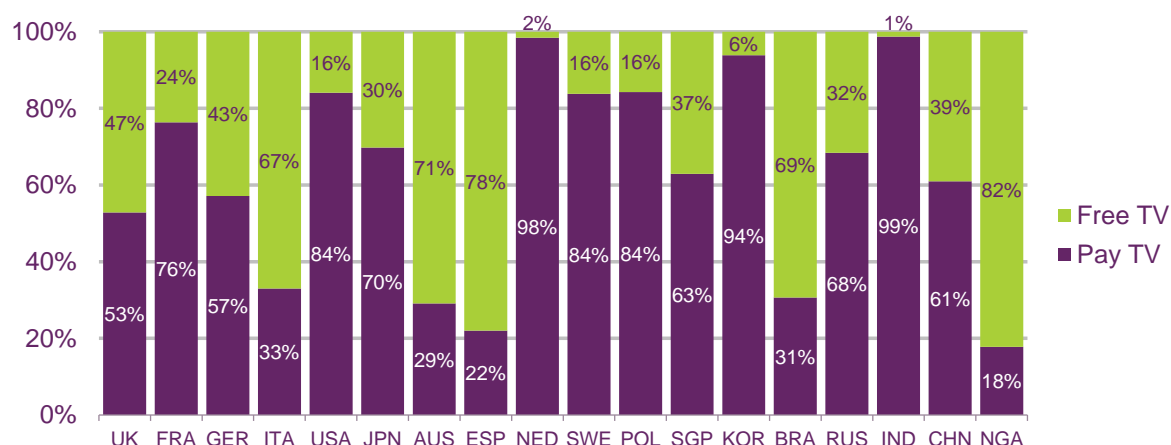
In 2013, the majority of the TV homes in 13 of the 18 comparator countries paid for additional television channels.

Although pay-TV take-up varies considerably between countries, a fairly broad category of those are, by and large, willing to pay for additional channels. India (99%), the Netherlands (98%), South Korea (94%), the US, Sweden and Poland (all 84%) all had strong pay-TV take-up numbers at the end of 2013. However the characteristics of pay-TV services differ between these countries. In the US, for instance, pay-TV services are similar to those in the UK in that they provide access to a large number of additional TV channels in exchange for payment. On the other hand, the pay-TV fee for some cable packages in the Netherlands and Sweden is more akin to an 'access charge', in return for which consumers receive a limited number of television channels.

Free-to-air television remains more popular than pay-TV in Italy, Australia, Spain, Brazil and Nigeria, among the comparator countries.

Figure 3.47 Take-up of pay TV and free-to-air TV: 2013

Proportion of TV Households



Source: IHS / industry data / Ofcom

Over the five-year period, the highest rates of growth in pay-TV take-up are found in Nigeria and Brazil

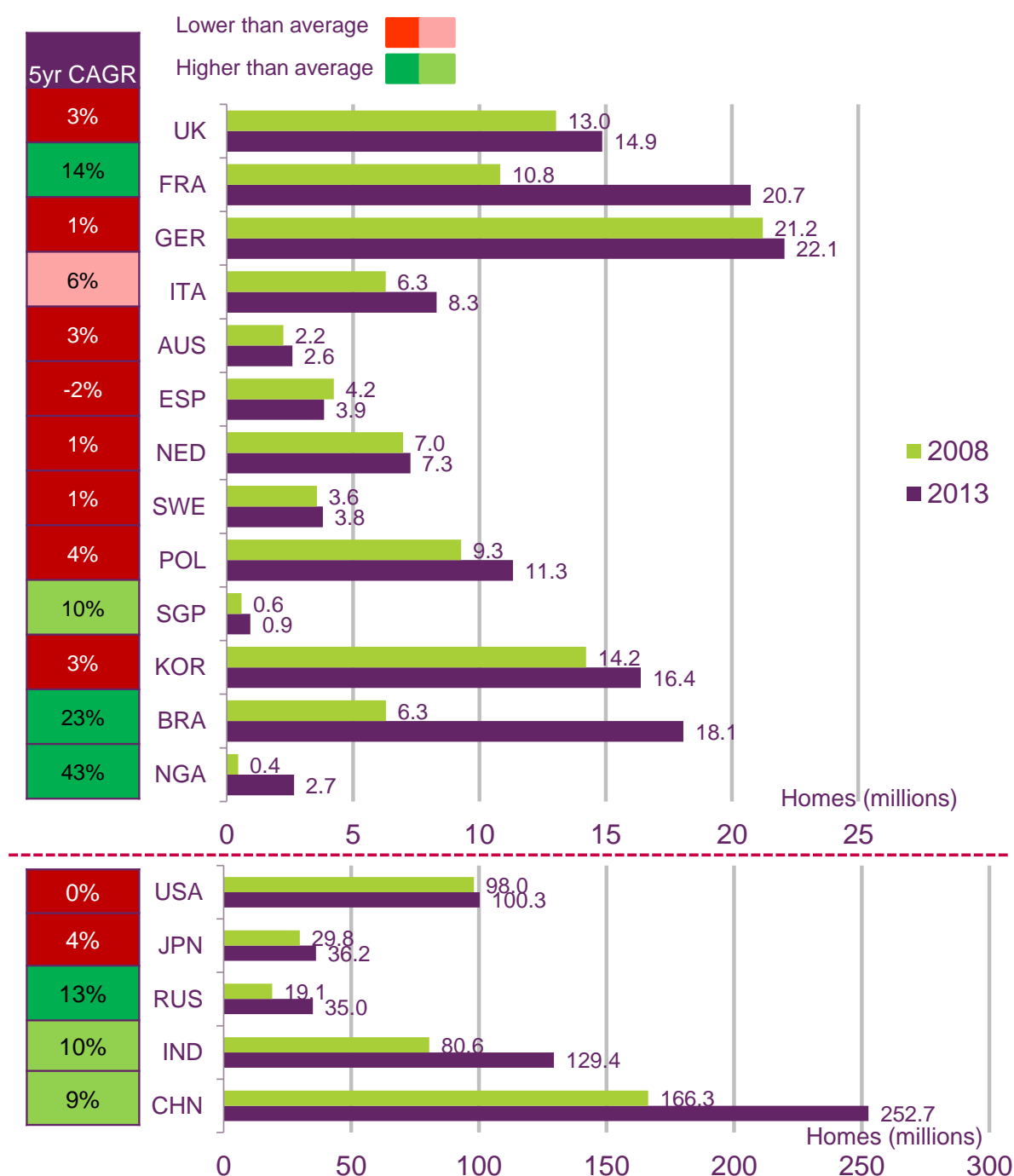
Looking at the five-year picture, it is perhaps unsurprising that the highest average rates of growth in pay-TV take-up can be found where free TV still dominates. Indeed, Nigeria and Brazil had average annual increases of 43% and 23% respectively from 2008 to 2013.

Spain has seen an average 2% annual decrease of pay-TV take-up each year from 2008 to 2013, as fewer households take up pay-TV satellite subscriptions, potentially due to the ongoing effects of the financial crisis.

There is a similar story in Italy where, although pay-TV numbers are up on 2008, the 2013 pay-TV take-up figure of 8.3 million households is lower than in any of the intervening years. The decline here is because new TV households are choosing to stick with the free-to-air terrestrial service as opposed to the pay-TV alternative.

France has by far the largest average annual growth rate among the European comparator countries, at 14% from 2008 to 2013. This feeds into the commentary around Figure 3.43 above, and shows the increasing popularity of IPTV in France; it was entirely a pay-TV platform in 2013.

Figure 3.48 Pay-TV take-up, millions of homes: 2008 and 2013



Source: IHS/ industry data/ Ofcom

3.3.5 Use of online subscription TV and film streaming services

The US leads the way in video-on-demand subscriptions

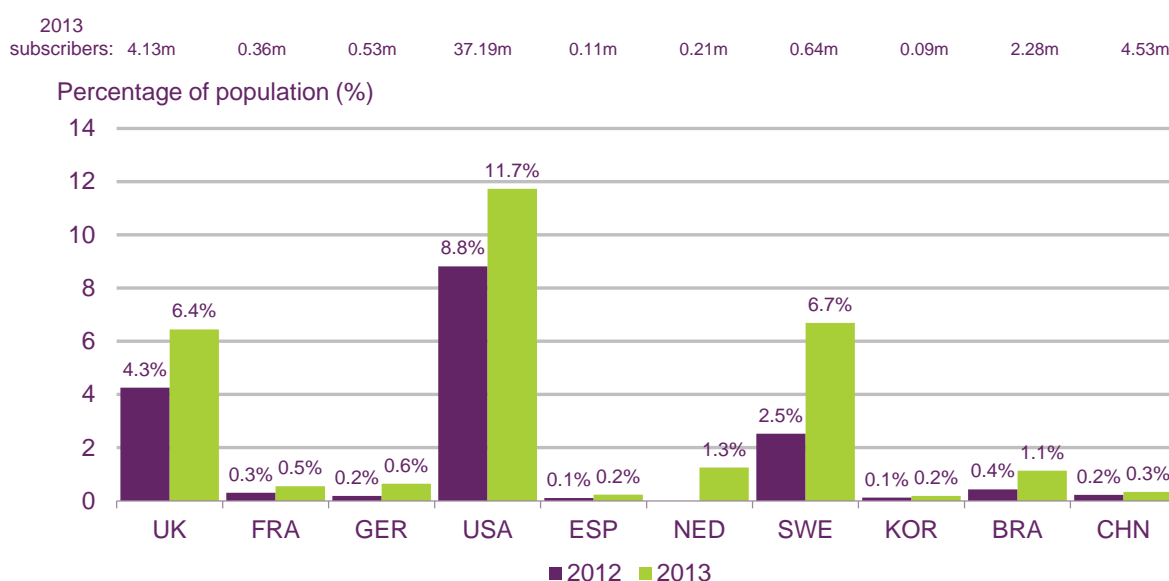
There continues to be a growing global trend in subscription video-on-demand (VoD) services. This section looks at the growth of VoD services among selected comparator countries.

Figure 3.49 shows the ten comparator countries with the greatest proportion of VoD subscribers in 2013. The US is largest in both proportional and absolute terms, with 37.19

million VoD subscribers in 2013, representing 11.7% of the US population. Such strong VoD take-up can be attributed to the long-standing availability and popularity of Netflix and Hulu, both based in the US.

Sweden has the second greatest proportional take-up of VoD services among our comparator countries, with 6.7% of the population subscribing in 2013. These figures should be read in conjunction with the declining DTV take-up in Sweden, discussed in section 3.1.3 above, and may explain why viewers in Sweden are abandoning traditional means of television consumption.

Figure 3.49 Percentage of population with subscriptions to video-on-demand services: 2012 and 2013



Source: IHS/ industry data/ Ofcom. Note: Italy, Japan, Poland and Russia are not charted here as their respective percentages were less than 0.1% in both years. No data were available for Australia, Singapore, India or Nigeria. Population figures are from IHS.

3.3.6 Broadcast television viewing

On average, viewers in the comparator countries watched 224 minutes of TV per day

Across the ICMR comparator countries, audiences watched an average of 224 minutes per person per day in 2013 (Figure 3.50). The US had the highest level of TV viewing of all the comparator countries (293 minutes per person per day) while Sweden and China had the joint lowest levels of daily TV viewing per head (159 minutes). The UK ranked in the middle (seventh of the 15 ICMR comparator countries), with viewers watching on average 232 minutes of television a day in 2013.

Comparing 2013 to 2012, the data show a decline in viewing (by varying degrees) among nine of the 15 ICMR comparator countries, with the UK showing the largest year-on-year decline of 3.7% (nine minutes). Some of the UK decline may be explained by increased viewing in 2012 due to the Olympic and Paralympic Games, and to the fact that there was a wetter summer in 2012 than in 2013. In addition, signs of economic recovery in 2013 may

also be a factor in the fall in daily viewing minutes: as people return to employment or have more disposable income, they may spend more time outside the home.⁷⁹

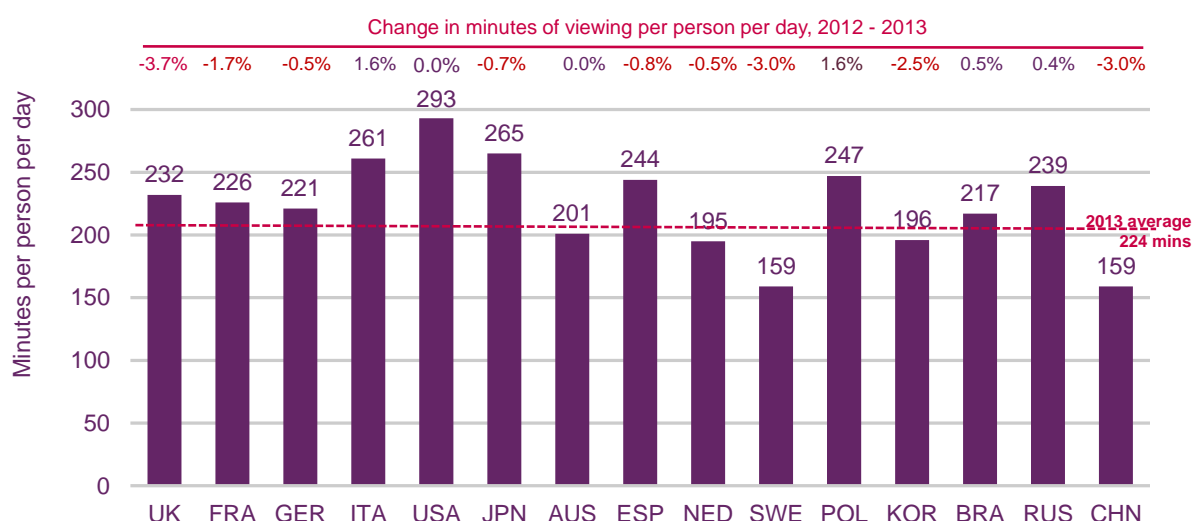
Sweden and China followed the UK, with the joint second largest decline, both down by 3.0% year on year. Italy and Poland had the largest increase in daily viewing since 2012, with a 1.6% rise in viewing minutes per head. Brazil and Russia also recorded increases (0.5% and 0.4% respectively) while the US and Australia were unchanged.

Across the European ICMR comparator countries the majority showed a decline in viewing, with the exception of Italy and Poland. Average daily viewing per head across the European comparator countries was highest in Italy (261 minutes), followed by Poland (247), Spain (244 minutes) and the UK (232 minutes).

Among the BRIC countries⁸⁰, Brazil and Russia each showed a modest uplift in viewing, with daily minutes increasing by 0.5% in Brazil and 0.4% in Russia, while daily television viewing in China decreased by 3.0% to 159 minutes.

There was a mixed picture among the Asia Pacific⁸¹ countries, with South Korea seeing a decrease in daily viewing of 2.5%, Japan⁸² declining by 0.7% and Australia unchanged.

Figure 3.50 Daily TV viewing per head: 2012-2013



Source: Médiamétrie, Eurodata TV Worldwide. Viewing in France relates to France National. Japan data relate to viewing in the Japan Kanto region. Viewing in Australia relates to Australia Regional which is calculated on the regions Queensland, Northern NSW, Southern NSW, Victoria & Tasmania.

⁷⁹ For an in-depth look at the recent decline in TV set viewing in the UK see http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/UK_2.pdf

⁸⁰ Includes Brazil, Russia and China. TV viewing data for India were not available.

⁸¹ Includes Japan, Australia and South Korea. TV viewing data for Singapore were not available.

⁸² Japan data relates to viewing in the Japan Kanto region. Japan Kanto is considered the main TV market in Japan although it is only representative of the Japan Kanto region and should not be considered as equivalent to nationally representative data for Japan (national data are not available).

Most popular national channels

As the number of television channels increases, patterns of consumption change. In order to gauge the impact of channel expansion and choice, we compare the year-on-year performance of the top-five highest-ranking channels, by market (Figure 3.51).

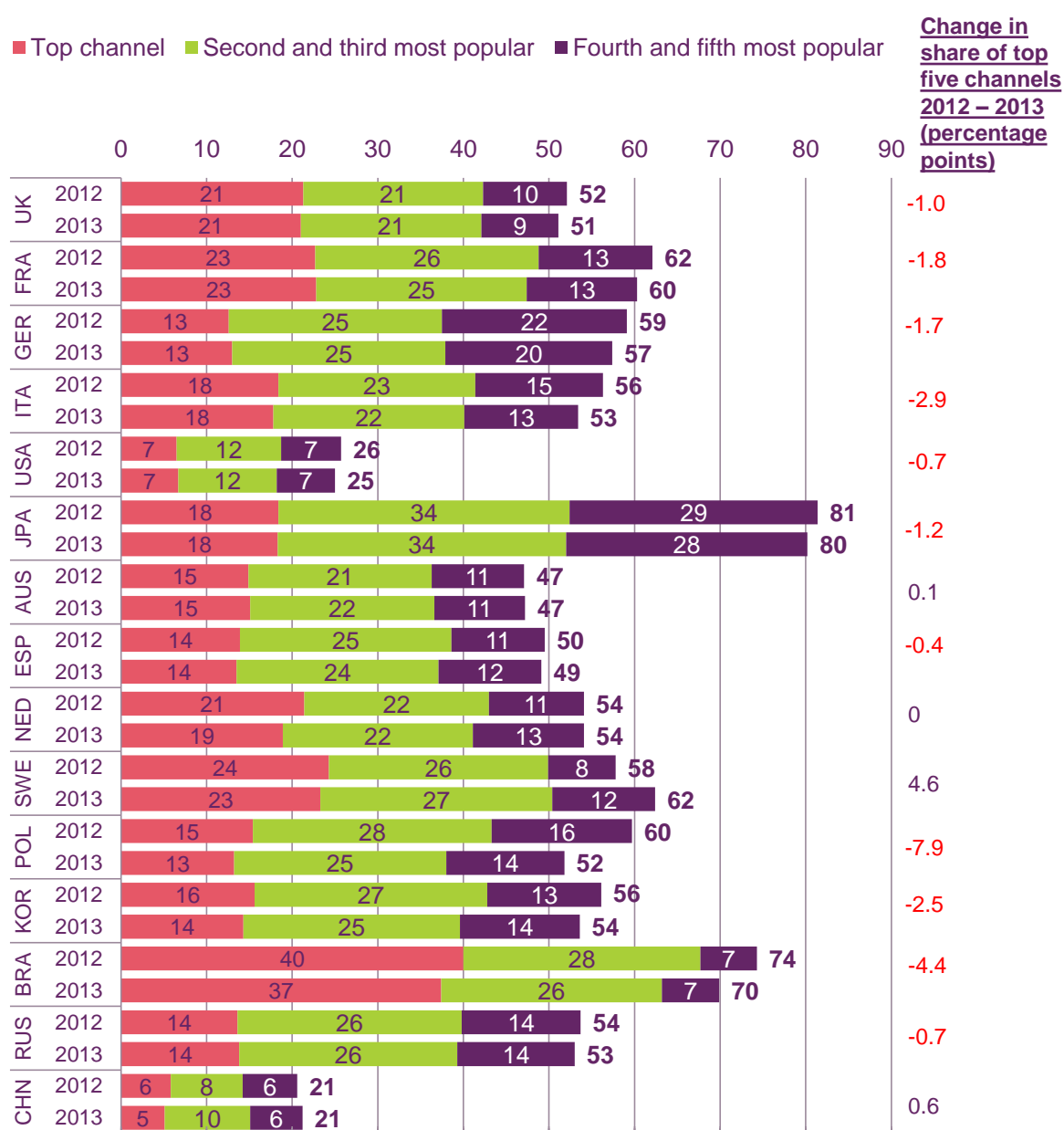
In the UK it is apparent that viewers continue to value PSB programming despite digital TV having reached universal coverage in 2012. In line with previous years, the main five PSB channels⁸³ made up the top five TV channels, and accounted for over half of all viewing (51%) in 2013 – this has declined by one percentage point since 2012. BBC One is the most-watched channel in the UK with a 21% share of total viewing, followed by ITV, BBC Two, Channel 4 and Channel 5, in that order.

We can see a general trend of reduction in the collective share of the top five TV channels in the comparator countries, with the exception of Australia, the Netherlands, Sweden and China. Sweden saw the highest rise in the collective share of viewing of its top five TV channels, rising from 58% to 62%. Conversely, Poland saw the largest percentage point decline in share of overall viewing to its top five channels, down by 7.9 percentage points from 60% to 52%, after having completed digital switchover halfway through 2013⁸⁴.

⁸³ BBC One, BBC Two, ITV, Channel 4 and Channel 5, including HD variants but excluding +1s

⁸⁴ Digital switchover was completed in Poland on 23 July 2013.

Figure 3.51 Patterns of viewing among the top five TV channels: 2012-2013



Source: Médiamétrie, Eurodata TV Worldwide. Viewing in France relates to France National. Japan data relates to viewing in the Japan Kanto region. Viewing in Australia relates to Australia Regional which is calculated on the regions Queensland, Northern NSW, Southern NSW, Victoria & Tasmania.

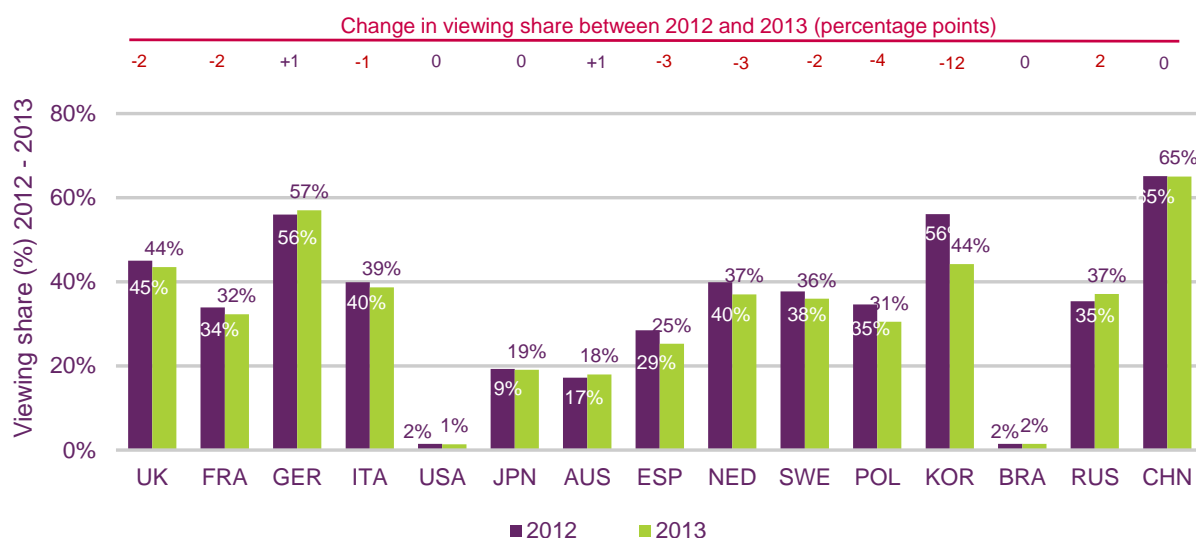
Publicly-owned channels have maintained or decreased share, in the main, in 2013

Germany, Australia and Russia were the only comparator countries in which viewing share to publicly-owned channels increased. Russia had the largest percentage point increase in viewing share to publicly-owned channels (by 2pp) followed by Germany and Australia, both up by one percentage point. Viewing share to publicly-owned channels stayed the same in the US, Japan, Brazil and China, and decreased in the remaining eight ICMR comparator countries, including the UK (down by 2pp since 2012).

Among the ICMR comparator countries, the share of viewing to publicly-owned channels was highest in China (65%), followed by Germany (57%). The UK had the joint third-highest

(with South Korea) share of viewing to publicly-owned channels, with 44% of viewing in the UK was to publicly-owned channels..

Figure 3.52 Viewing of publicly-owned channels



Source: Médiamétrie, Eurodata TV Worldwide. Uses the 'Status' flag attributed to each channel by country which relates to state ownership.⁸⁵ Viewing in France relates to France National. Japan data relate to viewing in the Japan Kanto region. Viewing in Australia relates to Australia Regional which is calculated on the regions Queensland, Northern NSW, Southern NSW, Victoria & Tasmania. Change in viewing share may not appear to add up with yoy 2012 to 2013 figures due to rounding of decimal places.

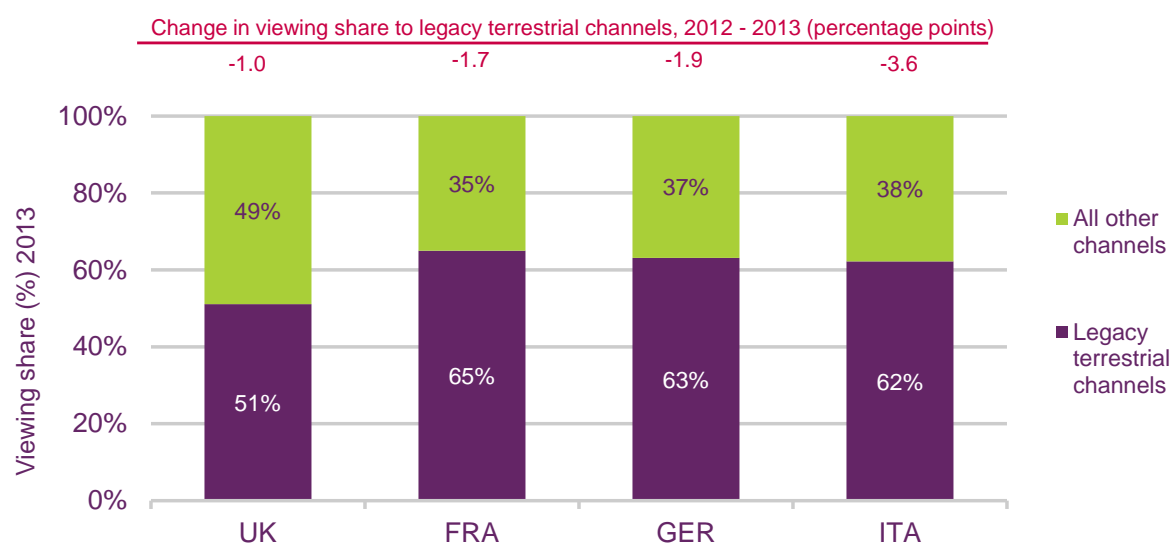
Legacy terrestrial channels make up the majority of viewing

The legacy terrestrial channels continue to command the majority of viewing share in the UK, France, Germany and Italy. In the UK, the legacy terrestrial channels, BBC One, BBC Two, ITV, Channel 4 and Channel 5, together command a share of 51% - down by one percentage point since 2012. The largest year-on-year decrease in share of viewing to legacy terrestrial channels was seen in Italy, where the collective share of RAI 1, RAI 2, RAI 3, CANALE 5, ITALIA 1, RETE 4 and LA7 decreased by 3.6 percentage points compared to 2012.

Among the comparator countries in Figure 3.53, the legacy terrestrial channels in France have maintained the largest share of total viewing (65%), followed by those in Germany (63%), Italy (62%) and finally the UK, at just over half of all viewing (51%).

⁸⁵ Includes domestic public, foreign public, public and mixed. 'Domestic public' refers to channels that broadcast locally and are state-owned. 'Foreign public' refers to international public channels. 'Public' refers to channels that are difficult to label between 'Domestic public' and 'Foreign public', such as BBC America. 'Mixed' refers to channels with a hybrid status (mix of public and private funding).

Figure 3.53 Terrestrial versus multichannel share



Source: Médiamétrie, Eurodata TV Worldwide. Legacy terrestrial channels are based on MediaMetrie's definition of channels considered to be 'historical leaders'.

UK=BBC One, BBC Two, ITV, Channel 4, Channel 5 (inc HD variants, exc +1s)

Germany = ARD1, ARD3, ZDF, RTL, Sat1, Pro7

France = TF1, France2, France3, M6, France5, Arte, Canal+

Italy= Rai Uno, Canale5, Italia 1, Rai Due, Rai Tre, Rete4, La Sette (La7)



International Communications Market Report 2014

4 Radio and audio

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4.1 Key market developments in radio and audio

4.1.1 Industry metrics and summary

This section provides a global overview and country-level analysis of radio and audio markets in the 18 comparator countries. It focuses on three topics – key market developments in the sector, industry revenues, and trends among radio and audio consumers.

- The key market developments section looks at the growth in radio revenues among our comparator countries.
- The radio industry section examines global radio revenues and looks at revenues among our comparator countries in 2013 in detail, as well as the availability of broadcast radio in each country.
- The audio consumer section presents the findings of our online consumer research into radio set ownership, radio listening and the use of connected devices to listen to radio and other audio content.

Figure 4.1 Key radio metrics: 2013

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
Total industry revenue (£bn)	1.2	1.1	2.9	0.4	12.8	0.8	0.7	0.4	0.3	0.1	0.1	0.1	0.1	0.4	0.3	0.2	1.3	0.1
Revenue change (% YOY)	-2.1	+1.7	0.0	-1.6	+2.8	-4.5	+3.5	-6.7	-5.4	+5.4	-0.7	+4.7	+0.7	+3.1	+15.2	+12.9	+8.6	+4.0
Revenues per capita (£)	18.2	16.8	35.7	6.7	40.4	6.5	29.6	7.6	15.5	12.5	2.8	16.8	3.0	1.8	2.4	0.2	0.9	0.3
% income from public licence fees	61.1	38.8	79.0	21.5	N/A	5.0	N/A	N/A	33.4	40.7	7.2	N/A	22.2	N/A	N/A	N/A	N/A	N/A

Sources: Ofcom, PricewaterhouseCoopers. All figures are nominal

The key market developments during the year include:

- **Radio revenue has increased for the fourth consecutive year.** Combined radio revenues among the 18 comparator countries analysed in this report grew for the fourth consecutive year in 2013, increasing by 2.1% to reach £23.3bn.
- **Revenue growth is being driven by increases in advertising and subscription revenues.** The largest absolute increase in revenue was in the US, where advertising and subscription revenues contributed to a combined growth of £352m.

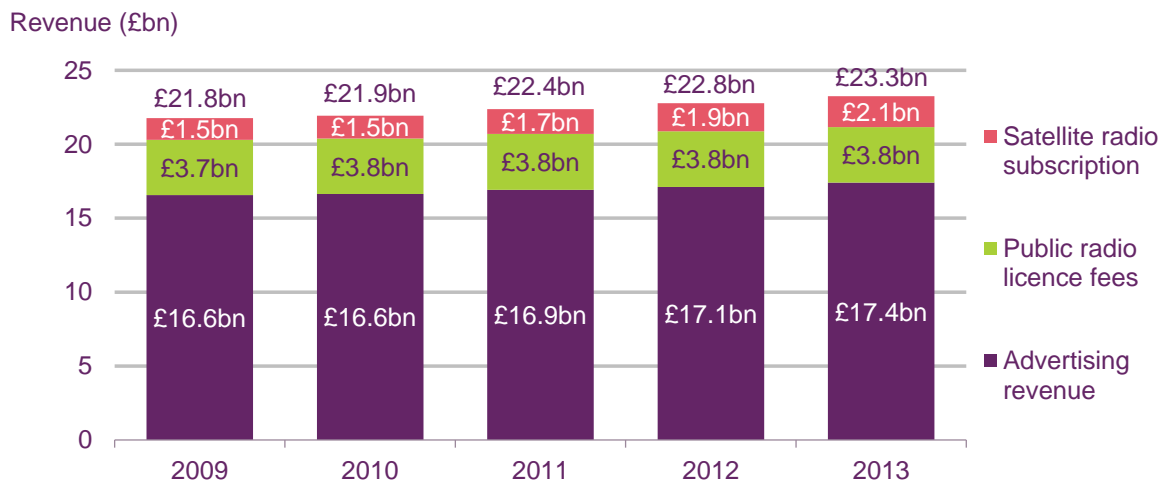
- **Among countries with public radio licence fees, revenue growth was highest in France.** France had revenue growth of £18m in 2013, an increase of 1.7% on 2012. Sweden was the only other comparator country to see growth in 2013 for both advertising and public radio licence fee revenue, with total growth of 5.4%.

4.1.2 Radio revenues among comparator countries up by 2.1% in 2013

Radio revenue has increased for the fourth consecutive year

Total radio revenues among the 18 comparator countries analysed in this report grew for the fourth consecutive year in 2013, increasing by 2.1% to reach £23.3bn. (Figure 4.2) While revenues from licence fees remained broadly stable, commercial revenues increased, with advertising revenues growing by 1.3% to £17.4bn. The US is the only one of our comparator countries to have satellite radio subscription as a revenue stream. This type of revenue grew by 0.8% in 2013 to total £2.1bn.

Figure 4.2 Total radio revenues for the 18 comparator countries

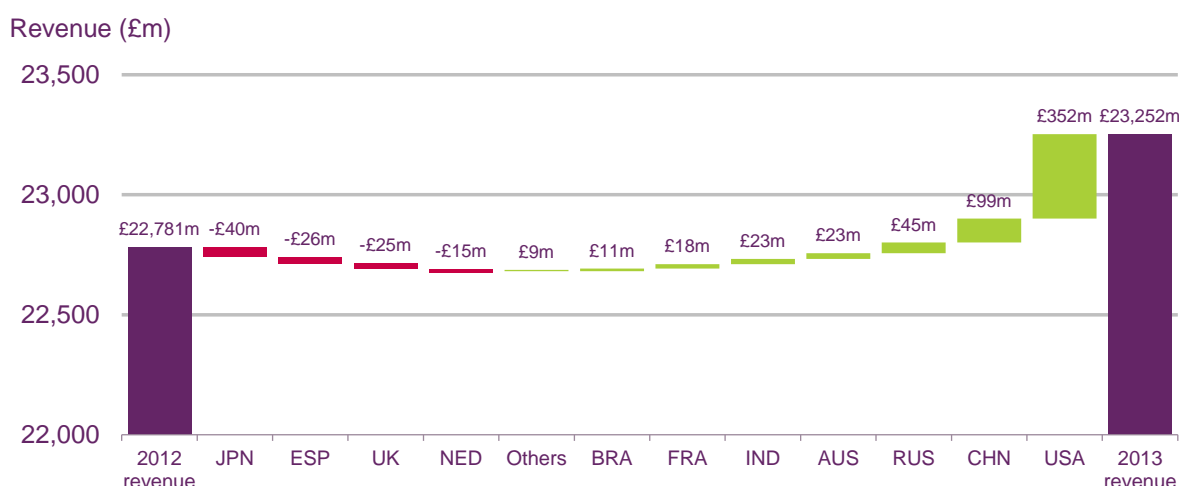


Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Revenues fell in Japan, Spain and the UK, but this was offset by growth among the other comparator countries

As Figure 4.3 shows, seven of the 18 comparator countries reported revenue increases in excess of £10m between 2012 and 2013. The largest absolute increase was in the US, where advertising and satellite subscription revenue both increased. The four BRIC countries and Australia, where radio revenue is generated solely through advertising, all reported an increase in revenue. France had the largest increase in revenue among European countries and countries with licence fees. The largest declines in revenue were in Japan, Spain and the UK; these were predominantly the result of falling advertising revenues, although Japan and the UK also saw a fall in revenue from public radio licence fees.

Figure 4.3 Changes in radio revenue, by country: 2012 and 2013



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. 'Others' are the comparator countries not set out in the chart where revenue change was smaller than £7m. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Revenue growth is driven by increases in advertising and subscription revenues

As Figure 4.4 shows, the largest absolute increase in revenue was in the US, where advertising and subscription revenues both increased. Sirius XM, the company that provides satellite radio services in the US, increased its subscriber base by 1.66 million in 2013 to end the year with 25.56 million subscribers.⁸⁶ Such growth led to subscription revenues increasing by £186m in 2013, a larger absolute increase than the £165m increase in advertisement revenue. Proportionally, subscription revenue increased by 9.8% year on year, compared to the 1.6% growth in US advertising revenue.

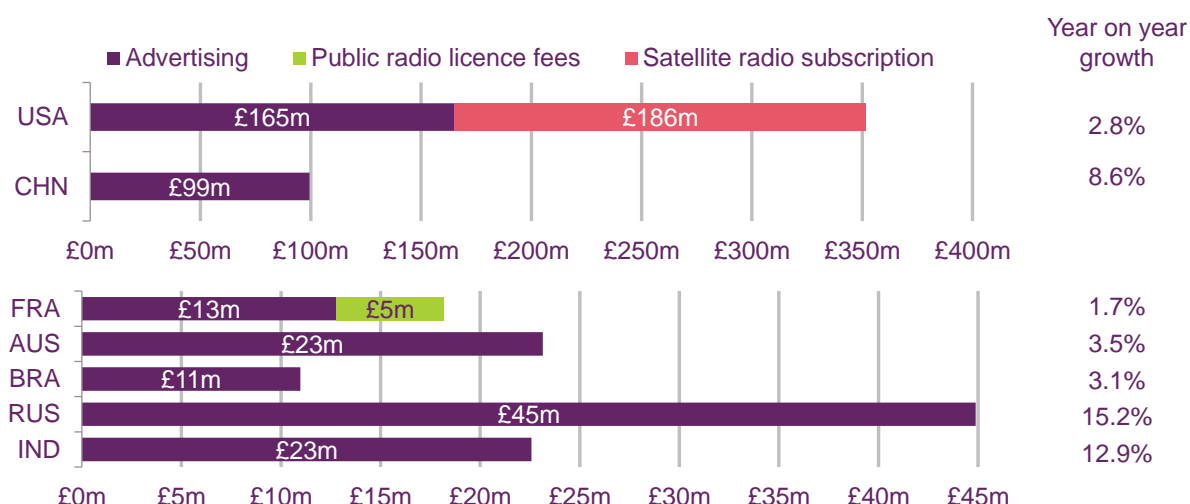
The next largest absolute growth was in China, where advertising revenues grew by £99m, or 8.6%, year on year. Growth in advertising revenue was also strong among the other BRIC countries.

Of the remaining countries where revenues are made up solely of advertising fees, Australia had the largest absolute revenue increase in 2013, at £23m (3.5%). Such growth suggests that advertisers are responding to the continuing increase in the number of listeners to commercial radio across Australia, which went up by 2.4% in 2013.⁸⁷

⁸⁶ Sirius XM, *statement to investors*, January 7 2014:
<http://investor.siriusxm.com/releasedetail.cfm?ReleaseID=817666>

⁸⁷ Commercial Radio Australia, press release, January 13 2014
http://www.commradio.cra.predelegation.com/index.cfm?page_id=1001&display_news_id_7573=2065

Figure 4.4 The most substantial increases in radio revenue, by component: 2012-2013



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013.

France, South Korea and Sweden were the only countries with public radio licence fees where radio revenue increased in 2013

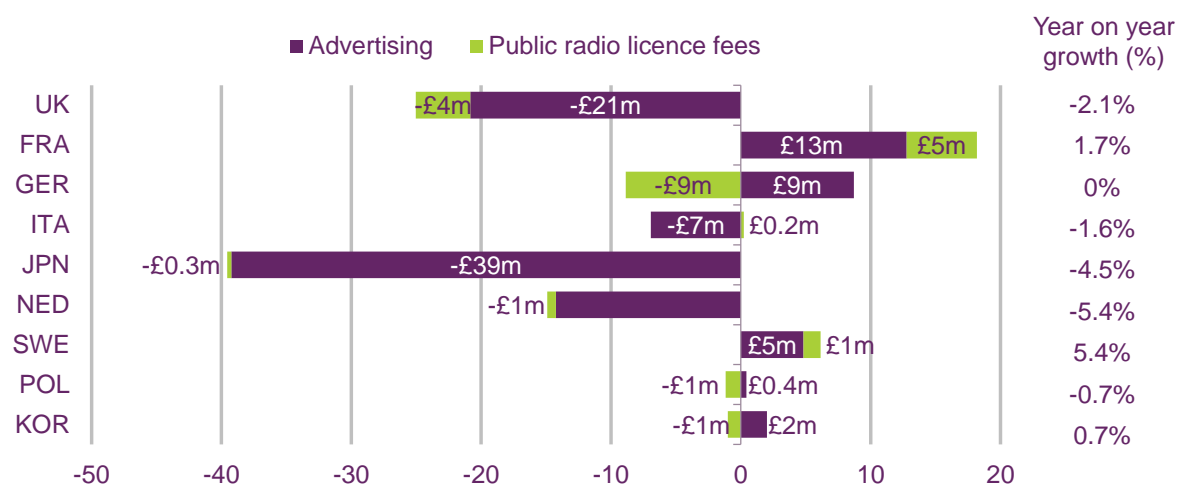
Of the 18 comparator countries, nine of the radio markets are part-funded by public radio licence fees. Year-on-year changes in total revenue in these countries are set out in Figure 4.5. France had the largest absolute growth in revenue among these countries, with an £18m increase in 2013. This is likely to be due in part to the annual licence fee increasing from €125 to €129 per household in 2013. Sweden had the largest proportional increase in revenue, up by 5.4%. South Korea was the only other country in this group whose revenue grew in 2013; its £1m decline in licence fee revenue was offset by a £2m increase in advertising revenue.

Of the countries with licence fees, Japan had the largest decline in revenue in absolute terms, with a £40m decrease in 2013. Almost all of this (£39m) was due to declining advertising revenue. This has fallen every year since the start of the global economic downturn in 2009, and is likely to be linked to the ageing radio listenership in Japan, which isn't being replaced by the younger generation.⁸⁸ The Netherlands had the biggest proportional drop in revenue in 2013, with a decrease of 5.4% - its second consecutive year of declining revenue.

⁸⁸ NHK Broadcasting Culture Research Institute, *Present Situation Regarding Television Viewing and Radio Listening: A Summary of the Results of Nationwide Survey on Individual Audience Ratings conducted by NHK in June 2013*, February 2014:

https://www.nhk.or.jp/bunken/english/reports/pdf/report_13060102.pdf

Figure 4.5 Changes in radio revenue among comparator countries with public radio licence fees, by component: 2012-2013



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

4.2 The radio industry

4.2.1 Introduction

This section looks at the revenues generated by the commercial radio sectors in each comparator country, along with the levels of licence fee funding that are invested in radio services. We also look at the availability of broadcast radio in each country. The main findings include:

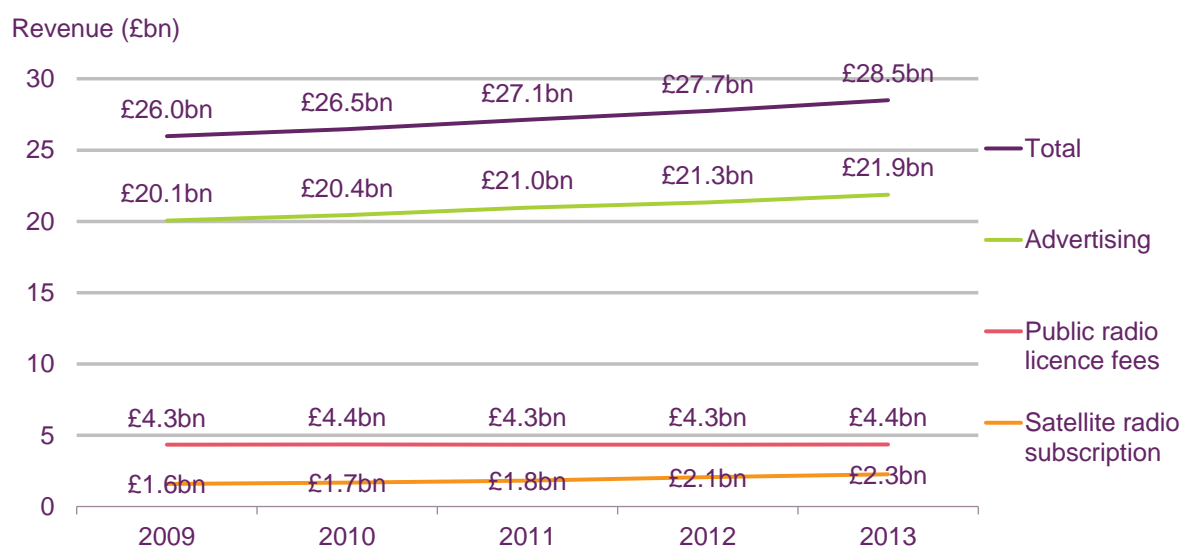
- **Worldwide radio revenues stood at £28.5bn in 2013.** Worldwide radio revenue rose by 2.7% in 2013 to reach £28.5bn. This is the fourth consecutive year of growth, and each component of radio industry revenues also saw year-on-year growth.
- **Eleven of our 18 comparator countries reported growth in revenue in 2013.** Revenues among the 18 comparator countries featured in this report grew by 2.1%. In the UK, radio revenues decreased by 2.1% to £1.2bn, due to a fall in national advertising and sponsorship revenue as well as licence fee revenue.
- **Revenue growth remains high among the BRIC countries, while Spain and the Netherlands had the largest proportional falls.** Russia had the highest rate of growth, at 15.2%, while the largest proportional decline was in Spain (6.7%), followed by the Netherlands (5.4%).
- **Public radio licence fees contributed the largest proportion of revenues in Germany and the UK.** Germany had the highest public funding ratio, with 79.0% of revenue coming from public radio licence fees; in the UK 61.1% of radio revenues come from public radio licence fees.
- **The UK has one of the largest proportions of digital radio stations among the comparator countries.** The 250 digital radio stations available in the UK in 2013 represent 31% of all radio stations, the same as in Germany and higher than in any other comparator country in 2013.

4.2.2 Worldwide radio revenue

Worldwide radio revenues stood at £28.5bn in 2013

Worldwide radio revenue rose by 2.7% in 2013 to reach £28.5bn. This is the fourth consecutive year of growth, with each individual component of radio industry revenues also growing. Advertising, up by 2.5%, continues to contribute the largest proportion of total industry revenue, accounting for over three-quarters (76.7%) of industry income. Revenues from public radio licence fees increased by 0.3% to total £4.4bn in 2013, while satellite radio subscription revenues had the largest proportional growth, up by 9.9% to £2.3bn.

Figure 4.6 Worldwide industry revenues: 2009-2013



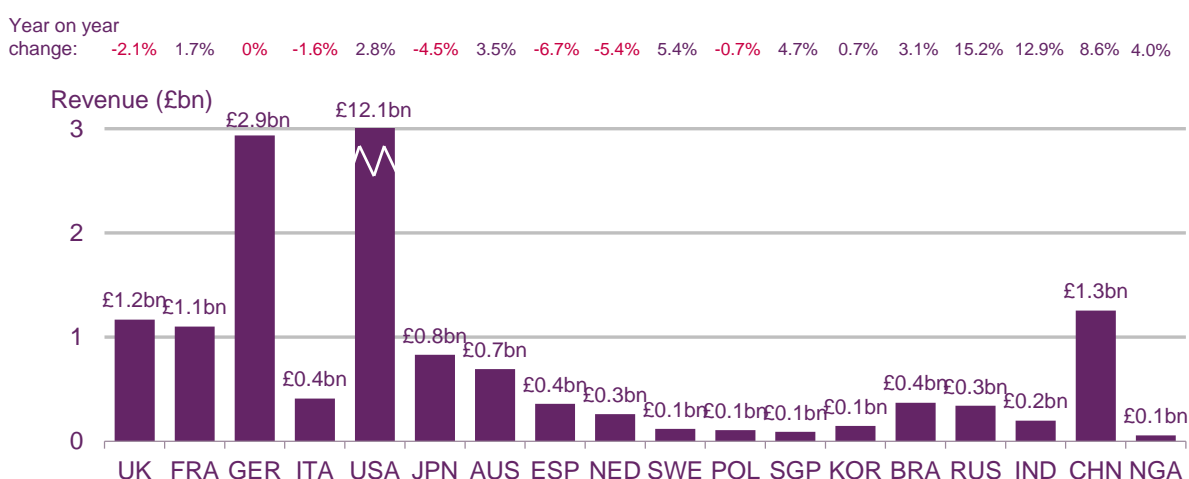
Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013.

4.2.3 Revenues among our comparator countries

Eleven of our 18 comparator countries reported growth in revenue in 2013

Revenues among the 18 comparator countries featured in this report grew by 2.1%, as discussed in section 4.1.2. Eleven of these countries reported an increase in radio revenues in 2013, with the largest proportional increases coming from Russia (15.2%) and India (12.9%). There was also significant growth in China and Sweden, where there were increases of 8.6% and 5.4% respectively. Revenues in the US market, the largest among our comparator countries, grew by £352m to £12.1bn, representing a 2.8% increase. The US accounts for 55% of the total revenue of the comparator countries as a whole. Revenues in the UK decreased by 2.1% to £1.2bn, due to a drop in commercial revenue as well as licence fee revenue.

Figure 4.7 Radio industry revenues: 2013



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Revenue growth remains high among the BRIC countries, while Spain and the Netherlands saw the largest proportional decline.

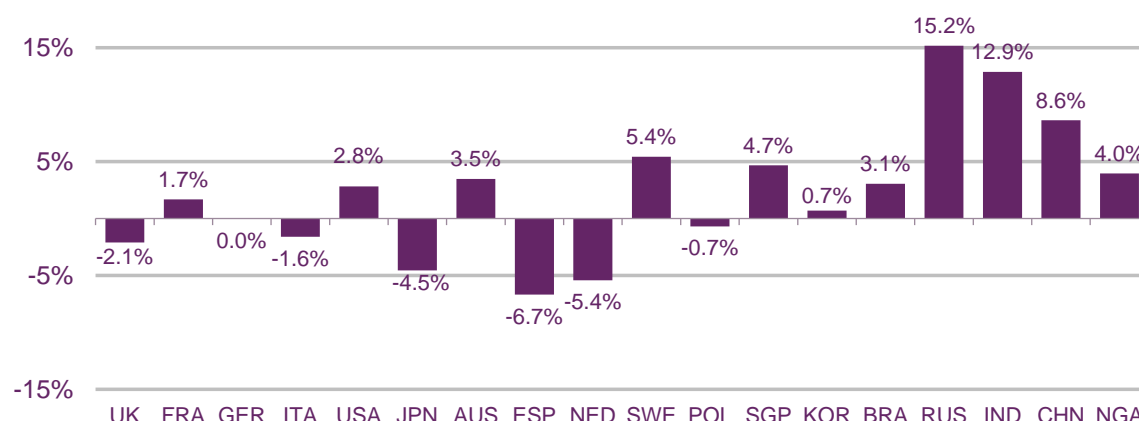
The proportional changes in revenue, as set out in Figure 4.8, show that the BRIC countries include three of the four fastest-growing markets in 2013. Russia had the highest rate of growth, at 15.2% while India was the only other country with a double-digit percentage increase in 2013, up by 12.9%, as more stations launched throughout the country and radio advertisement proved to be a particularly effective form of marketing.⁸⁹

The largest proportional decline was in Spain (6.7%), reflecting the country's continuing economic difficulties, followed by the Netherlands (5.4%).

⁸⁹ See FICCI-KPMG Indian Media and Entertainment Industry Report 2014, pp135-138: <http://aibmda.in/sites/default/files/FICCI-KPMG%20Report%202014.pdf>

Figure 4.8 Radio industry revenue annual growth: 2012-2013

Annual growth (%)



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Public radio licence fees contribute the largest proportion of revenues in Germany and the UK

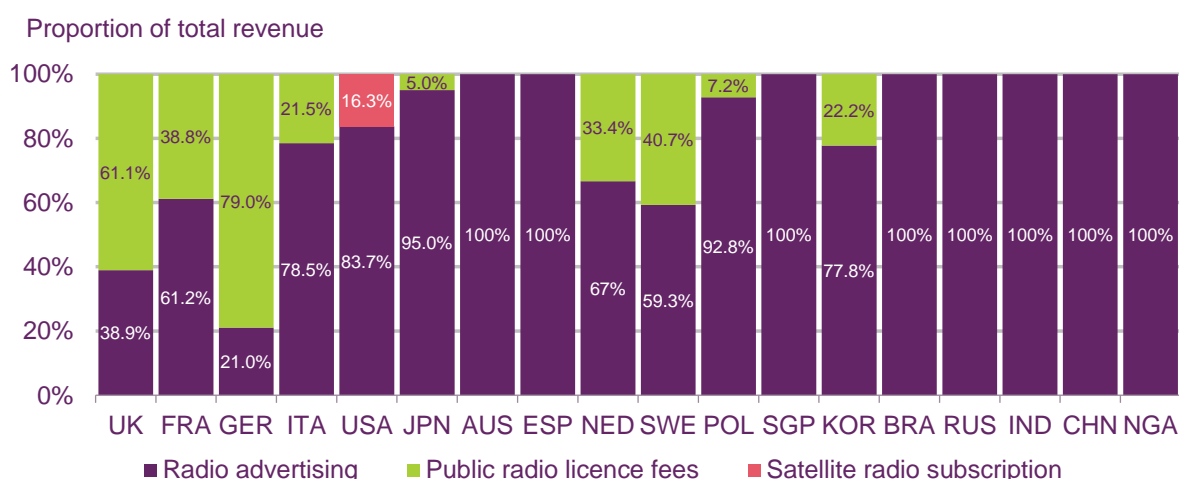
Of the 18 comparator countries, nine of the radio markets are part-funded by public radio licence fees and, with the exception of Japan and South Korea, all of these countries are within Europe. Public radio licence fees make up the majority of radio revenues in only two countries: Germany and the UK.

Germany has the highest public funding ratio, with 79.0% of revenues coming from public radio licence fees. Of the markets that are partially publicly-funded, public radio licence fees contribute the least in Japan (5.0%) and Poland (7.2%). In the UK just over three-fifths (61.1%) of radio revenue comes from public radio licence fees. Sweden, France and the Netherlands are the only other countries where public radio licence fees account for over a third of the total revenues.

The US is the only comparator country where subscriber based satellite radio is available and it contributed 16.3% to total revenues in 2013.

Some of the countries in Figure 4.9 may receive public funding from sources other than a licence fee; for example, government grants or support from other public bodies. The US, Australia and Spain all have a degree of publicly-funded radio programming.

Figure 4.9 Proportion of radio revenue, by source

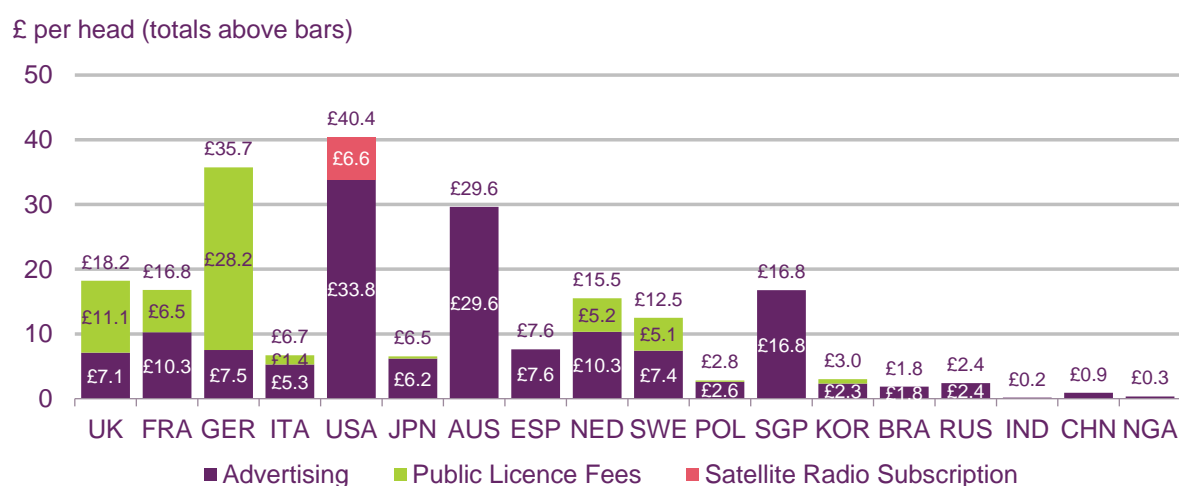


Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Radio markets in the US, Germany and Australia generate the highest revenue per head of population

The highest revenue per head of population in 2013 was in the US (£40.40), followed by Germany (£35.70). After Germany, the UK provided the next highest revenue-per-head figure in Europe, at £18.20. In Asia, the highest revenue per head of population was in Singapore, at £16.80.

Figure 4.10 Radio industry revenues, per head of population: 2013



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.56 to the GBP, representing the IMF average for 2013. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

4.2.4 Availability of broadcast radio

The US had the largest number of radio stations broadcasting in 2013

Figure 4.11 shows the number of radio stations broadcasting in each comparator country from 2008 to 2013. The US consistently had the largest number of stations on air, with 22,188 in 2013. The country with the second largest number of broadcast stations in 2013 was Brazil, with 9,629 stations - less than half the US total.

Among the European comparator countries, Spain had the most radio stations broadcasting in 2013, with 2,258, followed by Italy with 1,527.

Figure 4.11 Number of radio stations, by country: 2008-2013

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
2008	724	794	518	-	21,070	372	-	-	349	120	288	19	151	8,163	638	436	298	62
2009	769	794	518	-	21,439	372	-	-	349	120	305	19	151	8,601	638	477	372	77
2010	745	794	518	-	21,609	372	-	-	349	120	318	19	151	9,184	638	481	465	96
2011	762	794	518	-	21,889	372	273	-	349	134	323	19	151	9,479	638	486	581	120
2012	772	794	518	-	22,080	372	273	-	349	134	326	19	151	9,589	638	522	726	150
2013	803	814	518	1,527	22,188	372	273	2,258	349	134	332	19	151	9,629	638	618	907	188

Source: IHS/Ofcom Note: No data were available for Italy and Spain between 2008 and 2012 or Australia between 2008 and 2010. Where stations are broadcast digitally as well as on analogue, these will be counted twice.

Adjusting for population size shows that there are fewer people per radio station in the US than in any of the other comparator countries

The numbers in Figure 4.12 were calculated by dividing the 2013 population of each country by the number of radio stations broadcasting, showing the population of each comparator country per radio station. This provides a better indication of the number of stations in each radio market than the total number of stations, as countries vary in size. However, this does not take into account the relative size of the coverage area of individual stations within each country. Not all the stations broadcasting in each country will be available to all inhabitants, as many stations are broadcasting locally rather than nationally.

The US, despite having the third largest overall population among the comparator countries, had a radio station for every 14,000 people in the country in 2013; this was the lowest population per radio station among all the countries in our analysis. Brazil and Spain had the next lowest figures, each with 21,000 people per radio station in 2013, which reflects their positions of having the second and third greatest number of radio stations respectively in 2013.

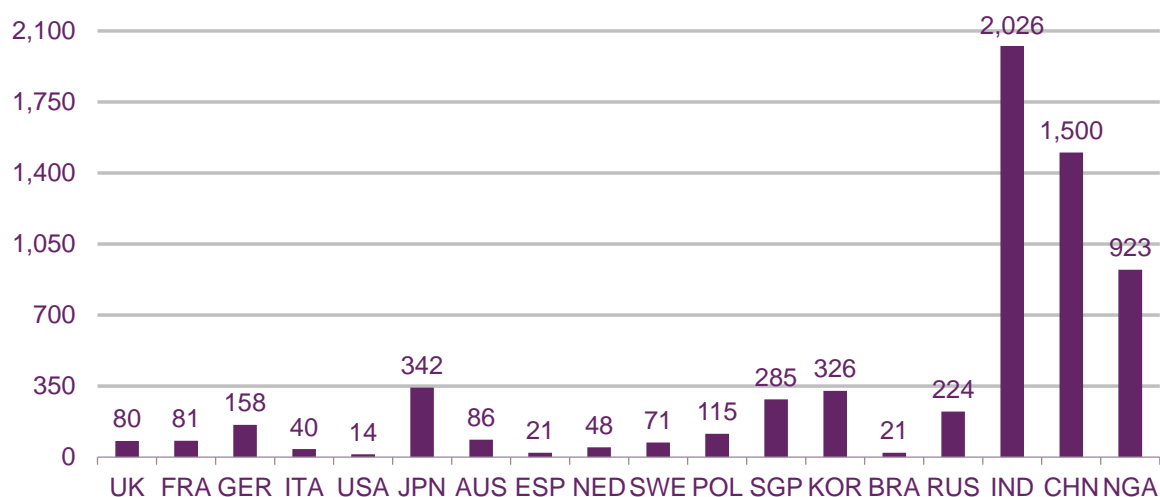
China and India have the largest populations of the comparator countries, and also have the greatest number of people per radio station.

Comparing the population per station for India, China and Nigeria with the radio industry revenues per head outlined in Figure 4.10 above shows that these three countries had the

greatest number of people for each radio station in 2013, of the comparator countries, and also produced the three lowest revenues per head of population in 2013.

Figure 4.12 Population per radio station: 2013

Population per radio station (000s)



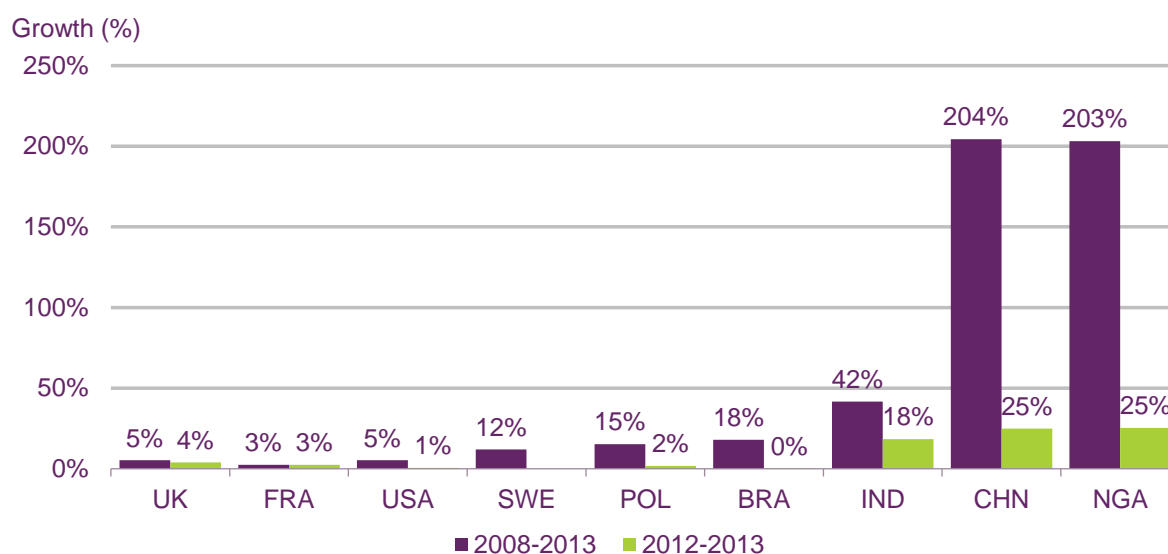
Source: IHS/ Ofcom

The number of radio stations broadcasting in China and Nigeria more than trebled between 2008 and 2013

Figure 4.13 shows increases in numbers of radio stations between 2008 and 2013. Growth was greatest in China and Nigeria over the five-year period, with increases of 204% and 203% respectively.

The UK experienced a 5% increase in the number of radio stations broadcasting between 2008 and 2013, up by 4% year on year.

Figure 4.13 Growth in the number of broadcast radio stations: 2008-2013



Source: IHS / Ofcom. Note: No data were available for ITA and ESP. There was no change in the number of stations for GER, JPN, AUS, NED, SGP, KOR and RUS so these countries are not included on the chart.

The UK has the one of the largest proportions of digital radio stations among the comparator countries

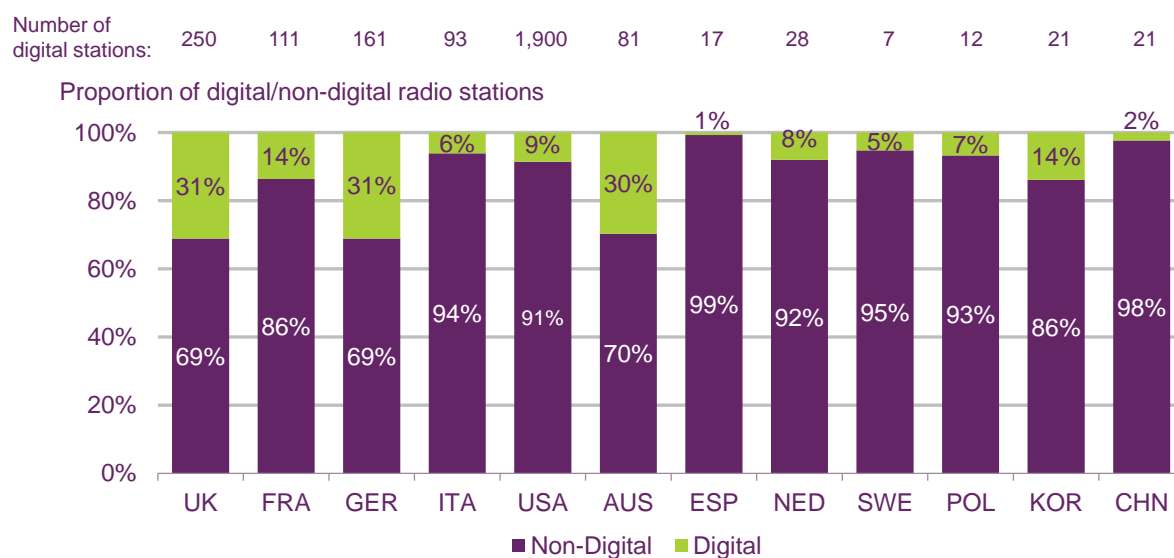
Digital radio stations were available in 12 of the 18 comparator countries in 2013. Of these, the UK had one of the highest proportions of DAB digital radio stations, with 31% of stations being broadcast digitally, equating to 250 digital stations. Germany also had 31% of its total number of stations being broadcast digitally. Australia had the next-highest proportion of digital stations among the comparator countries, at 30%.

Of the 12 countries to provide digital radio services in 2013, Spain had the smallest percentage of digital stations, at 1%, equivalent to 17 digital stations.

South Korea and China were the only Asian comparator countries to provide broadcast digital radio services in 2013, with 14% and 2% of all stations respectively being digital.

We note that in some countries, stations are broadcast simultaneously on DAB and on analogue. Where this is the case, both the digital and analogue broadcasts are included in the calculation.

Figure 4.14 Proportion of digital broadcast stations to analogue broadcast stations, in countries with stations broadcasting digitally: 2013



Source: IHS/ industry data/ Ofcom.

Note: Where stations are broadcast digitally as well as on analogue, these are counted twice.

4.3 The audio consumer

4.3.1 Introduction

The following section examines how people in our comparator countries consume audio services.

- **DAB radio set take-up in the UK stands at 41% in 2014, the highest among all the countries we surveyed.** DAB coverage is also highest in the UK, reaching 95% of households.
- **FM radios are the most common type of set owned by radio listeners in all of our comparator countries.** Take-up is highest in Italy (84%) and Spain (83%). The UK has the lowest take-up of FM-only radio sets, at 59%, although most radio sets with DAB or internet connectivity will include an FM tuner.
- **The reach of radio is lowest in Nigeria (20.0%) and Japan (37.5%),** and highest in China (97.9%), Sweden (94.0%) and Poland (93.0%). The lowest reach of radio in Europe was in Germany (69.6%).
- **Listeners in Germany tune in to radio for longer than those in the other comparator countries.** Despite having the lowest reach among our European comparators, radio listeners in Germany spend the most time listening to radio – an average of 22 hours each week.
- **Between 2008 and 2013, time spent listening to radio fell by 30% in the US.** This is likely to be due to the increased use of online radio stations and other streamed services.
- **One quarter of mobile phone users in the US use their device to listen to music at least weekly, compared to one fifth of those in the UK (20%) and Spain (22%).** Those in the US are also far more likely to use a streaming service to listen to music on their mobile phone; over a fifth (22%) of mobile phone users in the US have used a streaming service to listen to music on their mobile phone.

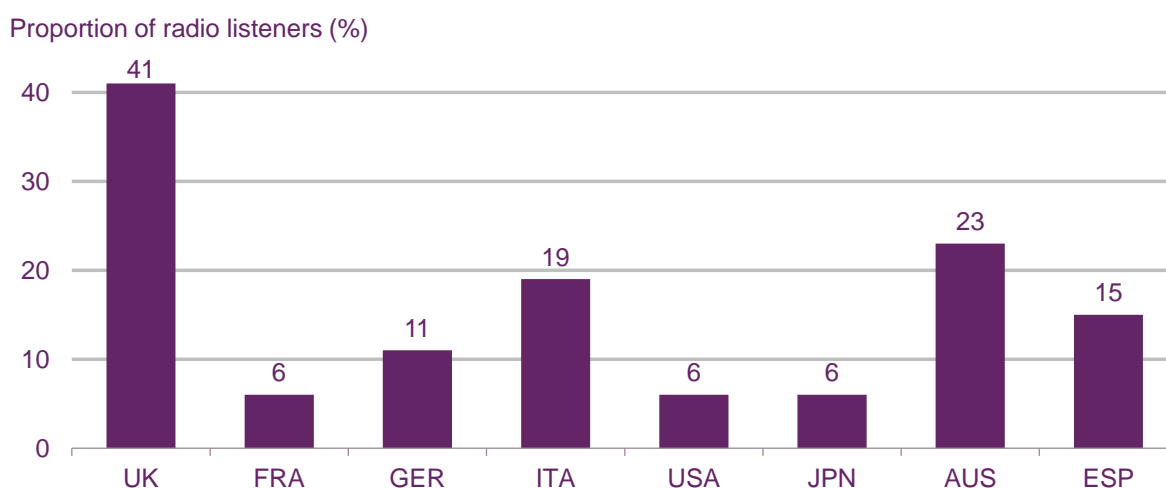
4.3.2 Radio set ownership

Take-up of DAB digital radio sets is highest in the UK

Take-up of DAB radio sets among radio listeners in the UK was 41% in 2014, the highest among any of the countries that we surveyed. The next highest take-up was in Australia, where 23% of radio listeners said that they owned a DAB set.

In Europe, take-up of DAB sets was next highest in Italy (19%) and Spain (15%). As shown in Figure 4.16, DAB coverage is higher in these countries than in others, and in most cases, higher DAB set take-up is found in countries with higher levels of coverage. The exception to this is Germany, where DAB coverage rose to 91% in 2014, yet DAB set take-up remains relatively low, at 11%.

Figure 4.15 Take-up of DAB radio sets among regular radio listeners: 2014



Source: Ofcom consumer research October 2014

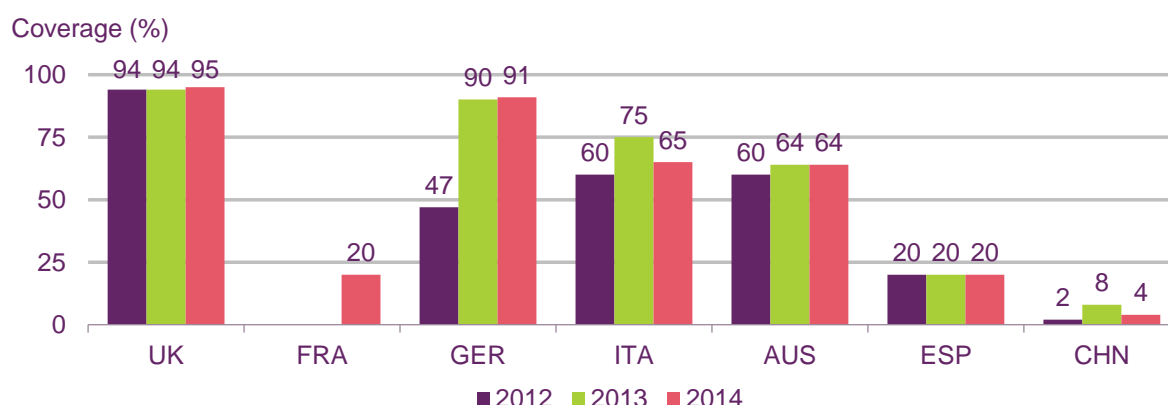
Base: Regular radio listeners, UK=636, FRA=729, GER=751, ITA=740, USA=629, JPN=401, AUS=632, ESP=720, CHN=285 Q.3a Which of the following devices do you have in your home?

DAB coverage is highest in the UK

DAB coverage in the UK reached 95% of households in 2014. This figure represents the proportion of households covered by the BBC's national DAB multiplex. The BBC is currently expanding its national multiplex, and plans to have 97% coverage by 2017. Germany also has widespread DAB coverage, at 91%, with DAB services available in all metropolitan areas.

Although trial services have been on air for a number of years in France, the first regular services began broadcasting in June 2014. Regular services are now available in Paris and Marseille and trial services continue in Nantes, Lyon and Rambouillet. Coverage is estimated at less than 20% of the population. The closing of some trial multiplexes in Italy has led to a 10pp fall in DAB coverage.

Figure 4.16 Coverage of DAB/ DAB+/ DMB radio: 2012 to 2014



Source: WorldDMB Global Update, Digital radio broadcasting using the DAB family of standards, September 2012; 2013, 2014

Note: DAB services were launched in France in June 2014, coverage is estimated as <20%. No data for DAB coverage exist for Japan due to digital television and radio services being broadcast over ISBD standards. In the US satellite radio is the country's main digital radio platform, which has grown to become a major component of US radio revenue since its introduction in the mid-2000s

FM radios are the most common type of radio owned by radio listeners in all of our comparator countries

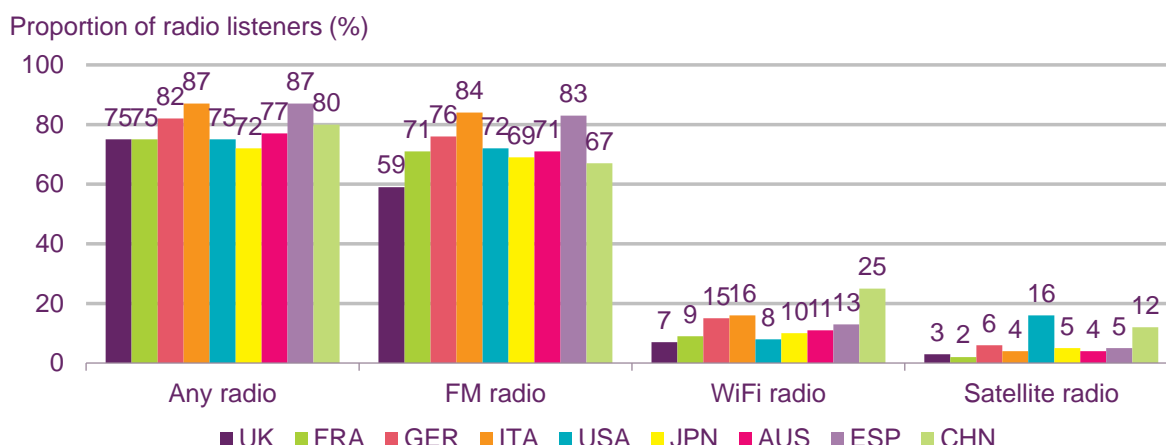
Across all of our comparator countries, ownership of FM radio sets was shown to be greater than ownership of any other type of radio set. Take-up was highest in Italy (84%) and Spain (83%). The UK had the lowest claimed ownership of FM radio sets, at 59%, significantly lower than in any of our comparator countries. However, take-up of *any radio set* in the UK is on a par with most other countries (with the exception of Germany, Italy and Spain), at 75%. This is due to the far greater take-up of DAB sets, as set out in Figure 4.15. Most DAB or other types of radio sets will also include an FM tuner.

Take-up of WiFi radio sets was highest in Germany (15%) and Italy (16%), and satellite radio set take-up was highest in the US (16%). The US is the only one of our comparator countries where commercial satellite radio services are widely available, as outlined in section 4.2.3 of this report.

Respondents in China claimed relatively high ownership of WiFi and satellite radio sets. However, ownership is likely to be overstated in China; our online research methodology means that the findings are likely to be more representative of early adopters in urban areas, rather than the whole population.⁹⁰

⁹⁰ Further information on our online market research methodology is presented in Appendix A: Consumer research methodology, and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

Figure 4.17 Take-up of any radio set, and FM, WiFi and satellite radio sets, among regular radio listeners



Source: Ofcom consumer research October 2014

Base: Regular radio listeners, UK=636, FRA=729, GER=751, ITA=740, USA=629, JPN=401, AUS=632, ESP=720, CHN=285 Q.3a Which of the following devices do you have in your home?

4.3.3 Regular listening to radio and other audio content

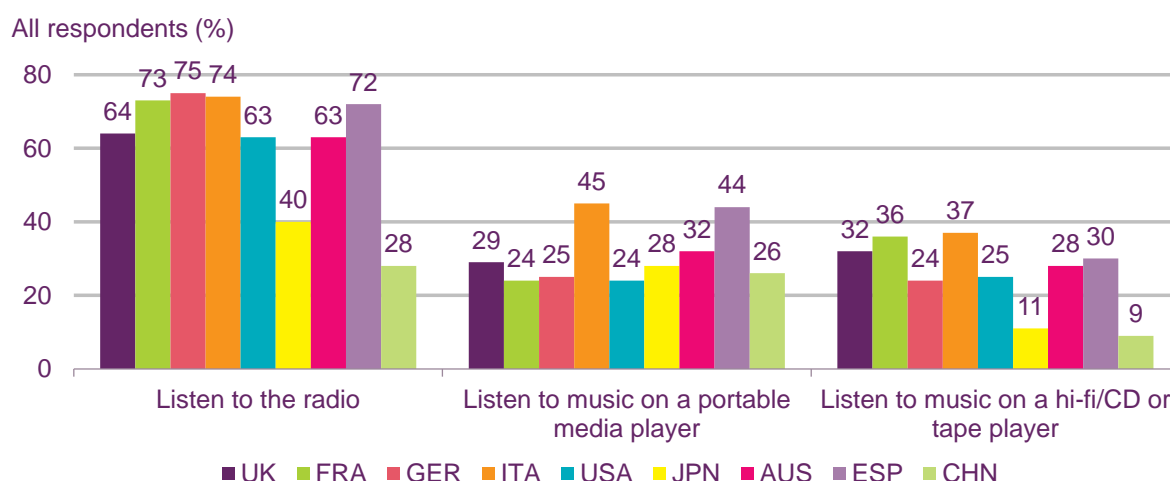
In all of the countries we surveyed, listening to the radio is the most common way to regularly consume audio content

In all of our European comparator countries except the UK, at least seven in ten online adults claimed to listen to the radio at least once a week, with similar incidence levels in Germany (75%), Italy (74%), France (73%) and Spain (72%). Weekly radio listenership was lower in the UK, where 64% of our respondents said they were regular listeners; similar to the levels seen in the US and Australia (both 63%). Across all of the countries we surveyed, Japan (40%) and China (28%) had the lowest proportion of respondents who claimed to listen to radio content at least once a week.⁹¹

We also asked about whether people used a portable media player or a hi-fi system or equivalent device. Use of a portable media player was highest overall in Italy (45%) and Spain (44%), while listening to music on a hi-fi or equivalent was most popular among respondents in Italy (37%), France (36%) and the UK (32%). Despite the differing levels of listening via these devices, the radio set was the most popular medium in all of the countries we surveyed.

⁹¹ Our results for the UK show lower listening figures than the average weekly reach of radio reported by the UK's radio listening measurement body, RAJAR, which reported that 90.4% of the UK population listened to radio in an average week in 2013. This is due to methodological differences; our research was designed to compare communications use and attitudes between different countries and not provide a definitive measure of the consumption of media in any one country.

Figure 4.18 Proportion of adults who claim regularly to consume audio content



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.6 Which of the following do you regularly do (at least once a week)?

The reach of radio is lowest in Nigeria (20.0%) and Japan (37.5%)

Data from IHS indicate that a majority of the population listen to radio in most of our comparator countries. The exceptions are Nigeria, where only 20.0% of the population are radio listeners, and Japan (37.5%).

The reach of radio was highest in China (97.9%) Sweden (94.0%) and Poland (93.0%). The lowest reach of radio in Europe was in Germany (69.6%).

The proportion of the population listening to radio remained relatively stable between 2008 and 2013 in the majority of our comparator countries, except in Russia, where it has declined.

Note that the data in Figure 4.19 are not comparable to our consumer research shown in Figure 4.18 as they are sourced from the industry measurement systems in each of the countries. As the methodology of the measurement systems in each country differs, comparisons between countries should be treated as indicative only.

Figure 4.19 Reach of radio: 2008 to 2013

Proportion of households (%)



Source: IHS

Note: Different measurement systems in each country are likely to use different methodologies, so comparative data should be treated as indicative only.

Listeners in Poland tune in for the longest time

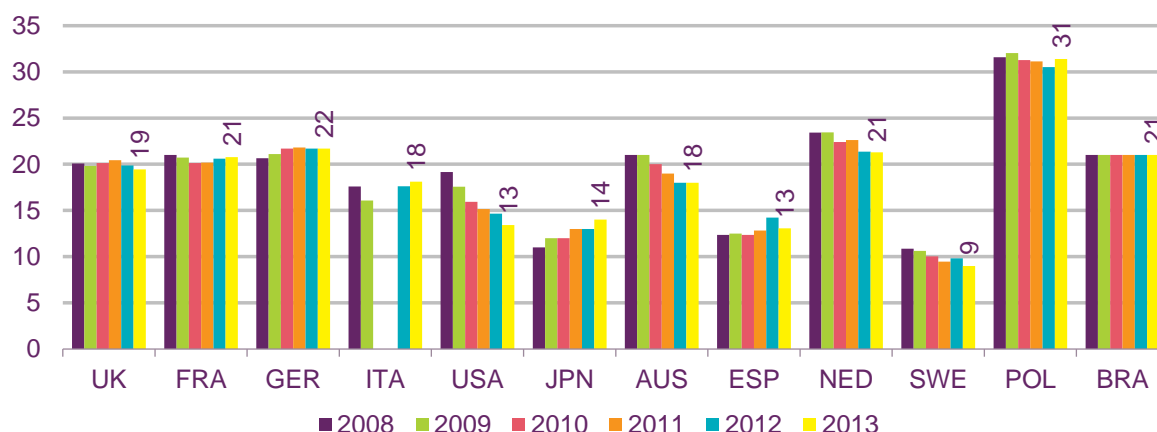
The average time spent listening per week in Poland was significantly higher than in any of our other comparator countries, with listeners tuning in for an average 31 hours per week.

Despite having the lowest reach among our European comparators, radio listeners in Germany spend the most time listening to radio – an average of 22 hours each week. Conversely, those in Sweden spend far less time listening to radio (9 hours per week) despite the high reach of radio in this country.

Those in France, the Netherlands and Brazil also listen to radio for a significant amount of time, with the average time spent listening at 21 hours in each of these countries. The time spent listening to radio has increased since 2008 in Japan, Spain and Germany, while there have been significant declines in the US and Australia.

Figure 4.20 Average weekly radio listening hours, by country: 2008-2013

Average weekly radio listening hours



Source: IHS

Note: Data were unavailable for 2010-2011 for ITA. Different measurement systems in each country are likely to use different methodologies so comparative data should be treated as indicative only.

The time spent listening to radio in the US fell by 30% between 2008 and 2013

Between 2008 and 2013, the average time spent listening to radio fell by 30% in the US, probably due to the increased use of online radio stations and other streaming services. The time spent listening to the radio also fell significantly in Sweden (-17%), where streaming service Spotify first launched in 2008.

The average time spent listening to the radio in Japan increased by 27% between 2008 and 2013. This may reflect the aging population in Japan, where the older demographics typically spend longer listening to radio.

Figure 4.21 Change in average weekly listening hours: 2008-2013

Change (%)



Source: IHS

4.3.4 Audio consumption on a mobile phone

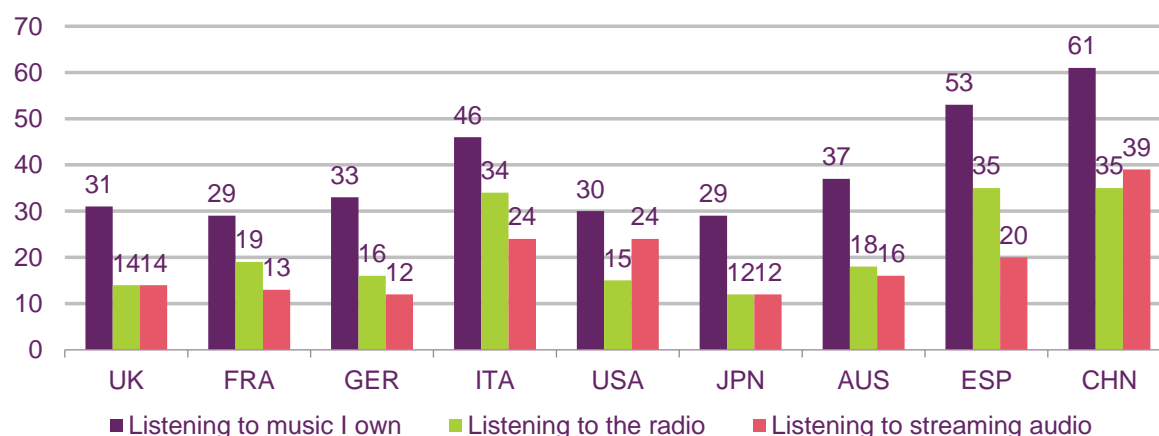
Just over a third of those in Spain and Italy use their mobile phone to listen to the radio

People in Spain and Italy are more likely to use their mobile phone to listen to the radio, and they are also more likely to use their phone for other audio activities. More than half (53%) in Spain and 46% in Italy used their mobile phone to listen to music they owned, and at least a fifth in each country used their device to access streamed audio. Streamed audio was also popular in the US, where online radio services such as Pandora have been available for a number of years.

In all of our comparator countries, mobile phone owners were more likely to listen to music that they owned on their device than listening to the radio or streaming audio. In the UK, 31% of mobile phone owners listened to “music I own,” compared to 14% who used their phone to listen to the radio. The same proportion of those who listened to the radio listened to streaming audio services on their mobile phone in the UK.

Figure 4.22 Use of a smartphone / mobile phone to consume audio content

All respondents with a mobile phone/ smartphone (%)



Source: Ofcom consumer research October 2014

Base: All respondents with a mobile phone/ smartphone, UK=827, FRA=797, GER=861, ITA=890, USA=748, JPN=801, AUS=869, ESP=866, CHN=853

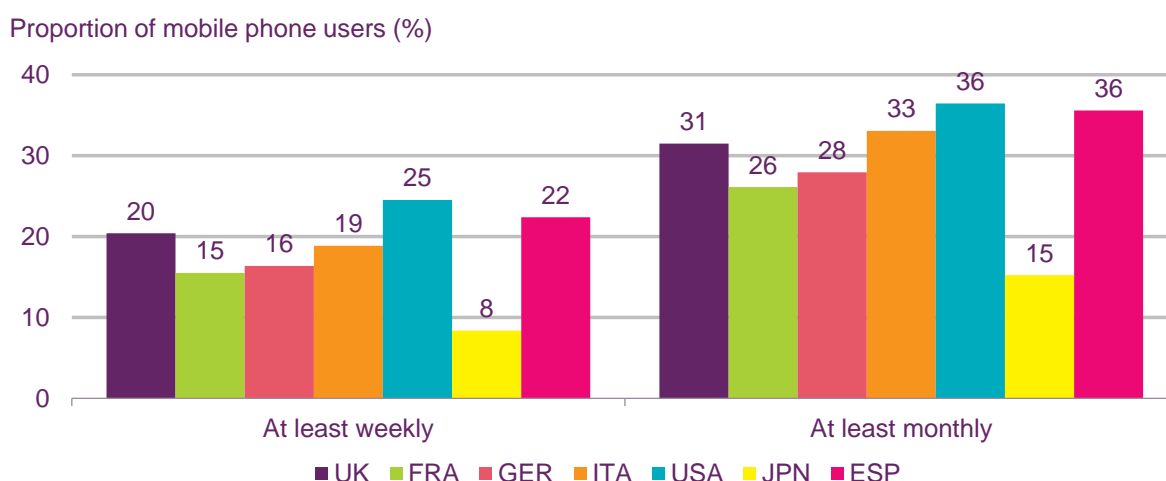
Q.9d Which, if any, of the following audio activities do you use each of your devices for?

One quarter of mobile phone users in the US use their device to listen to music at least weekly

Data from comScore's Mobilens survey show that people in the US, Spain and UK are the most likely to use their mobile phone to listen to music frequently. One quarter (25%) of mobile phone users in the US use their mobile phone to listen to music on a weekly basis. One fifth of those in the UK (20%) and Spain (22%) listen to music on their phone at least weekly.

Mobile phone users in Japan are the least likely to use their phone to listen to music regularly, whether on a weekly or monthly basis. Less than one in ten (8%) of mobile phone users in Japan listened on a weekly basis, and 15% listened on a monthly basis.

Figure 4.23 Frequency of listening to music on a mobile phone

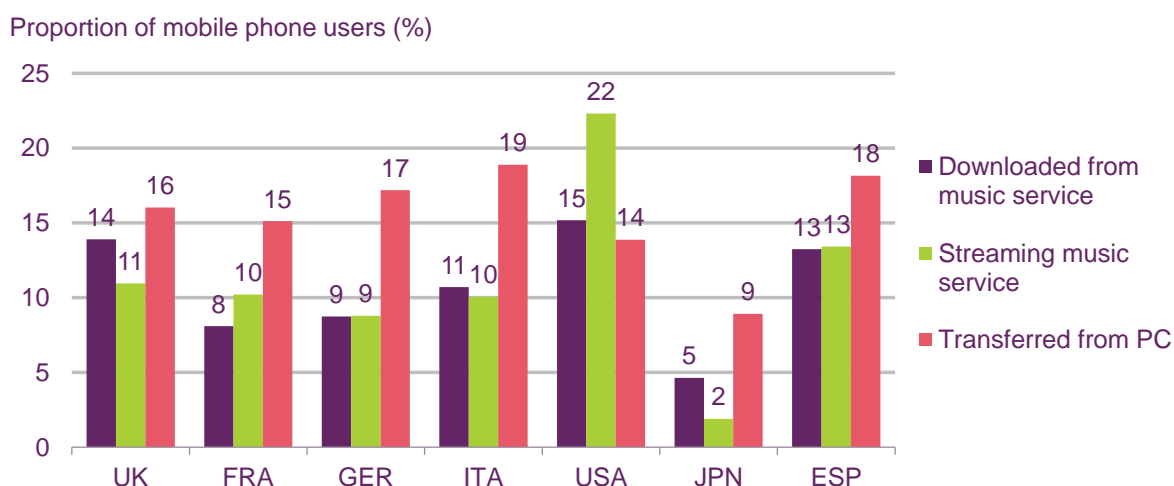


Source: comScore MobiLens, August 2014 (three-month average, mobile phone users aged 13+)

People in the US are the most likely to use a streaming service to listen to music on their mobile phone

Just over a fifth (22%) of mobile phone users in the US used a streaming service to listen to music on their mobile phone. In all of the other countries included in Figure 4.24, people were more likely to listen to music that they had transferred from their PC or laptop computer than to music from any other source.

Figure 4.24 Source of music listened to on a mobile phone

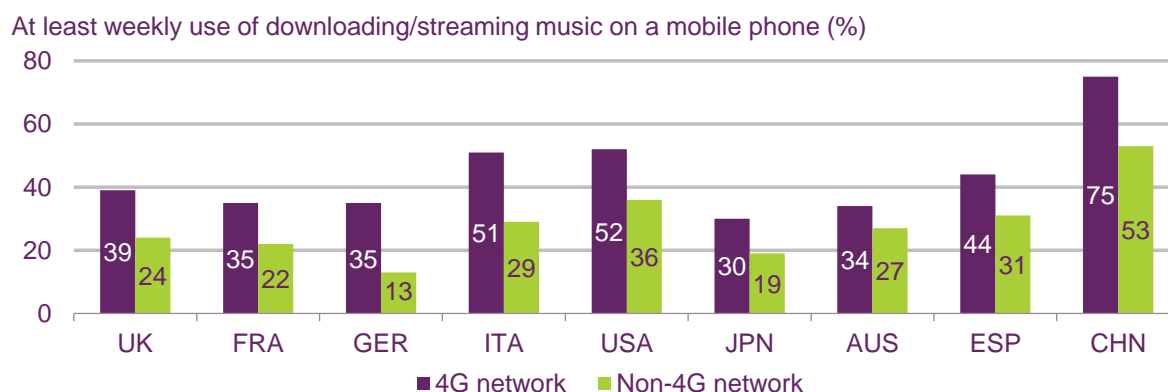


Source: comScore MobiLens, August 2014 (3 month average, mobile phone users aged 13+)

Mobile phone users with a 4G contract are more likely to stream or download music

In all of our comparator countries, mobile phone users with a 4G contract were more likely to stream or download music on their mobile phone on a regular basis. This may be due to the faster throughput speeds typically offered by 4G technology, or it may be due to the larger data caps that usually come with the higher-cost 4G contracts. In most countries, 4G is a relatively new development, so the increased proportion of people downloading or streaming music may also reflect the behaviour of early adopters.

Figure 4.25 Frequency of downloading/streaming music on mobile phone (4G vs non-4G)



Source: Ofcom consumer research October 2014

Base: All respondents with 4G mobile broadband internet access or those who access the internet access via a mobile handset; UK=81, FRA=99, GER=54, ITA=83, USA=136, JPN=93, AUS=164, ESP=113, CHN=132; All respondents with non-4G mobile broadband internet access or those who access the internet access via a mobile handset; UK=252, FRA=261, GER=315, ITA=562, USA=138, JPN=140, AUS=282, ESP=491, CHN=431 Q.27 How often, if at all, do you use your main mobile phone to do each of the following?

4.3.5 The role of radio as a main source of news

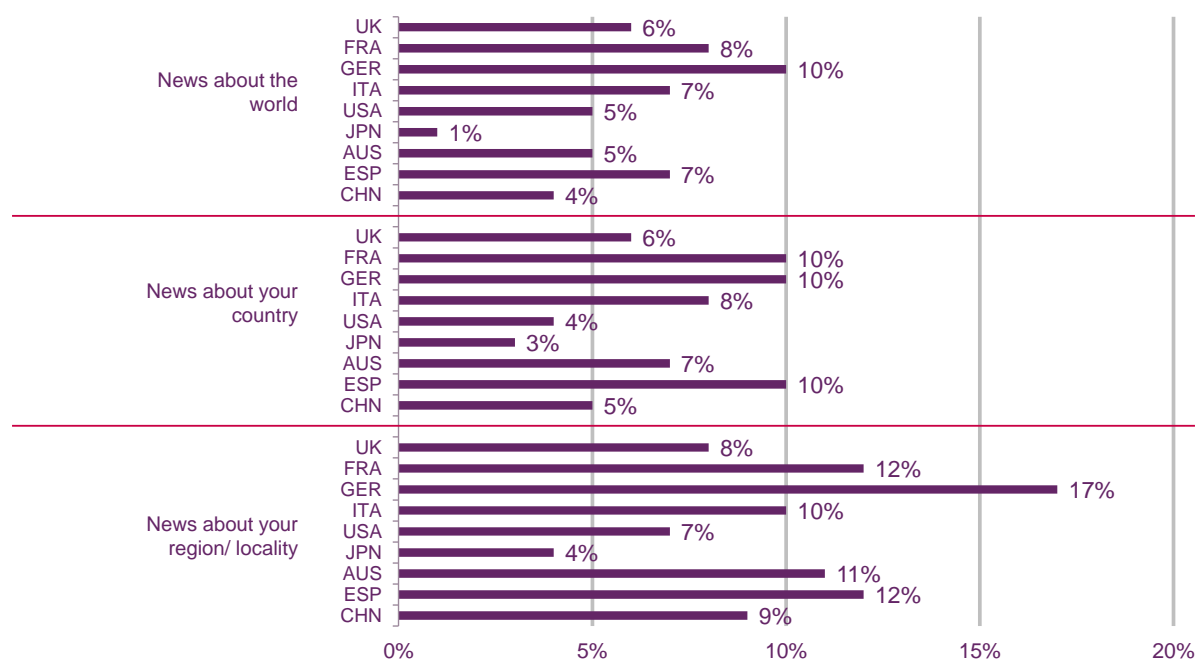
Across all our comparator countries, radio is more likely to be used to source regional/local news than any other type of news

Across our European comparators, Germany (10%) has the highest proportion of respondents who use radio for consuming world news. France follows, with 8%, with the UK the lowest in Europe, at 6%. Listeners in Japan are the least likely to use the radio for accessing world news, with only 1% of respondents using radio as their main source for this type of news.

The proportion of adults who use the radio as their main source of national news is highest in France, Germany and Spain (at 10% each), followed by Italy (8%). At 6%, adults in the UK are the least likely in Europe to use radio as their main source of national news, and again, listeners in Japan are the least likely to use the radio for national news (3%).

Across all our comparator countries, the type of news which is most likely to be sourced on radio is regional/local news. This is highest overall in Germany, where 17% of adults claim to use the radio as their main source of regional/local news; more than double the proportion in the UK (8%). In France and Spain just over one in ten use the radio as their main source of regional news (at 12% each).

Figure 4.26 Proportion of adults who use radio as their main source of news, by country



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q.11 Which, if any, is your main source for the following information?



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5 Internet and web-based content

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5.1 Key market developments in internet and web-based content

5.1.1 Introduction

Figure 5.1 Internet and web-based content: key international statistics

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
Online universe (m)*	39.2	37.0	52.0	30.9	197.4	73.7	15.9	23.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fixed broadband connections per 100 HH†	85	88	71	55	75	85	72	70	91	70	57	108	101	32	45	6	42	0
Mobile broadband connections per 100 population‡	8	6	10	13	8	10	26	4	7	23	11	3	5	3	13	0	1	3
Internet access via a mobile phone(%)‡	55	47	53	75	46	56	60	74	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	79	n/a

Source: IHS / Industry data / Ofcom / comScore

*comScore MMX, August 2014, home and work panel, persons 15+

† IHS / Industry data / Ofcom, 2014.

‡Ofcom international research, October 2014, all respondents 18+

While the internet has fast become a feature of people's lives across the world, the way in which they use it and what they use it for varies significantly. This chapter considers how people have adopted the internet to communicate and consume content, and how this differs between the countries considered in this report.

This chapter is split into three sections:

In this section (0), we look at internet advertising markets and e-commerce. Advertising plays a significant role as a source of revenue online. We consider the size of internet advertising in relation to other advertising markets, the type of advertising, the level of spend per head across wired and mobile devices, and recall of, and interaction with, mobile advertisements.

In section 5.2 we examine how people connect to the internet, which devices people use to access the internet, the respective size of countries' online audiences, how long people spend online, and how adoption of the internet varies by demographic.

In section 5.3 we consider what internet users do once they are online, which websites are most visited, and how this behaviour varies by demographic and by device.

Key findings

In summary, the key findings from this section of the chapter are:

- **Two-fifths of all advertising spend in the UK was online in 2013. The UK remained the country where the greatest share of all advertising spend was on the internet (40%) followed by the Netherlands (35%), Sweden (32%) and Australia (30%).**

- Spend on laptop and desktop internet advertising was greatest in Australia in 2013, at almost £100 per head. In the UK and the US spend per head grew by 7% in both countries, to £80 and £73 respectively.
- Video advertising continued to account for a small share of advertising expenditure in 2013, with video growing in our comparator countries by no more than one percentage point.
- The UK had the most valuable e-commerce market per head among our comparator countries in 2013. In the UK the value of business-to-consumer (B2C) e-commerce was almost £2000 per person in 2013.

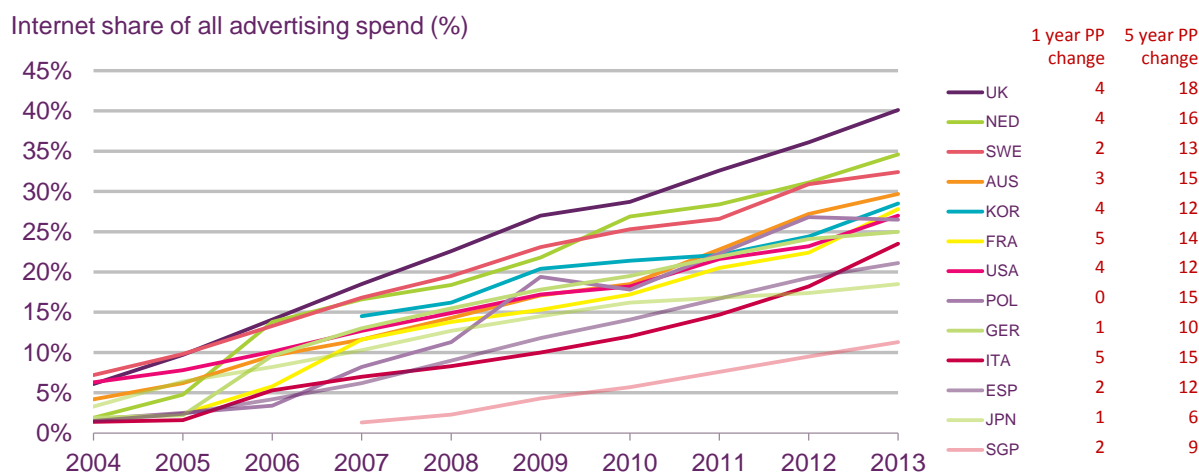
5.1.2 Internet advertising

Two-fifths of all advertising spend in the UK was online in 2013

The UK remained the country with the greatest share of all advertising spend on the internet, with two-fifths (40%) of advertising being attributed to the sector in 2013 (Figure 5.2). The Netherlands had the second largest share (35%), followed by Sweden and Australia (32% and 30% respectively), while Singapore had the smallest share of advertising spend online, at 11%.

There was growth in the internet share of total advertising spend in all of our comparator countries between 2012 and 2013, except for Poland, where the figure was unchanged. In 2013 the internet share of advertising spend grew fastest in Italy and France (both up by five percentage points).

Figure 5.2 Internet share of total advertising spend



Source: Warc data (www.warc.com)

Please refer to notes on adspend data for further detail and source information.

<http://www.warc.com/NotesOnAdspendData>

Note: Data for South Korea and Singapore are available only from 2007 onwards.

Spend on laptop and desktop internet advertising was greatest in Australia in 2013, at almost £100 per head

Internet advertising is spending by advertisers on paid search, banner/display, classified, video and other online formats such as email and sponsorship (including mobile advertising). Fixed internet advertising is a subset of internet advertising and refers to spend on adverts viewed on fixed or 'wired' devices, predominantly through web browsers on laptop and

desktop computers. Although these devices could access the internet through a mobile rather than a fixed broadband connection, wired advertising remains distinct from mobile advertising, which is advertising viewed on a mobile handset.

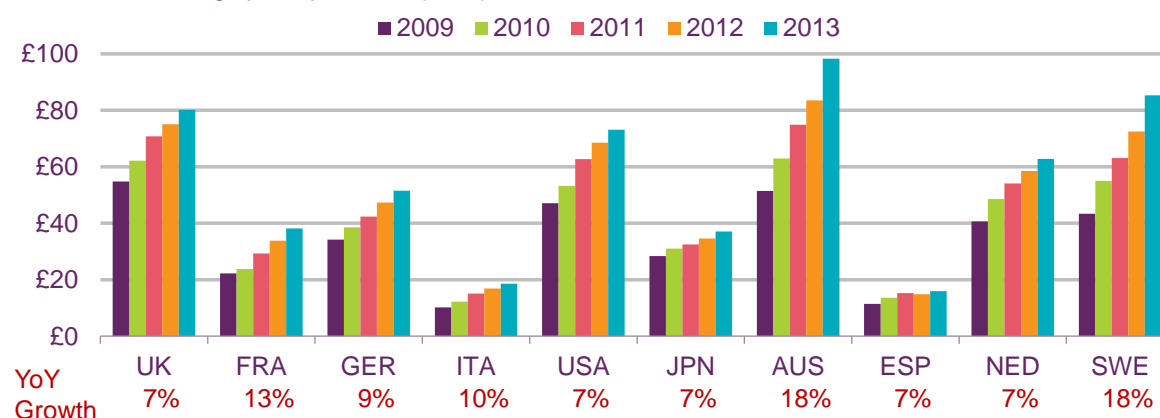
Mobile advertising includes all advertising delivered directly to the mobile device, and includes search and display advertising as well as SMS/MMS advertising formats. Mobile display advertising can also be delivered to the device's browser or to a mobile app.

Australia's spend per head on fixed internet advertising in 2013 was just under £100, the greatest among our comparator countries (Figure 5.3). Sweden had the second highest spend, at £85 per head, while the UK was third highest with £80 per head. Among those countries with the highest spend per head there was double-digit growth in Australia, France, and Sweden in 2013. In the UK and the US spend per head grew by 7% in both countries between 2012 and 2013. This slower growth may be due to substitution for mobile advertising in the UK and the US markets, as shown by the strong growth in this sector (Figure 5.5).

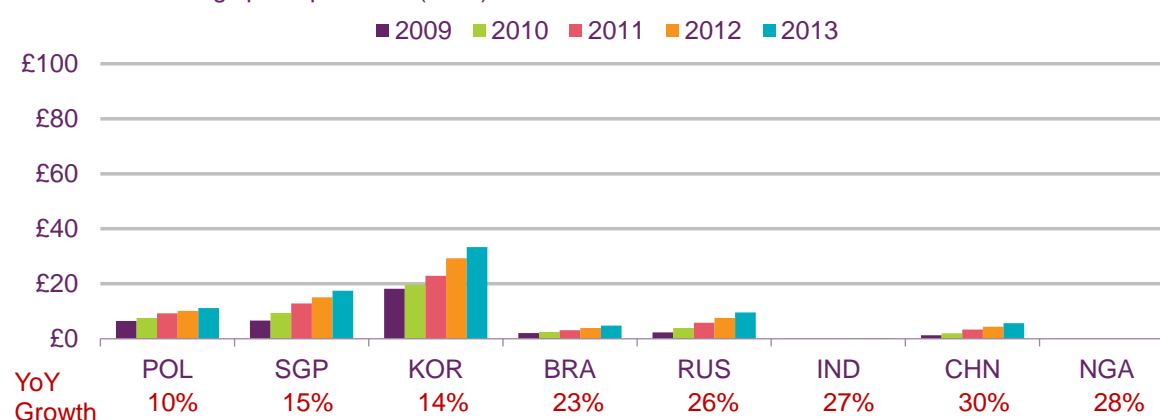
In the BRIC countries and Nigeria, fixed internet advertising revenues stood at under £10 per head in 2013. There were varying degrees of spend per head, from just £0.17 in India to close to £10 in Russia. Despite lower fixed internet advertising revenues per head in these countries, year-on-year growth rates were high compared to the other comparator countries (Brazil 23%, Russia 26%, India 27%, China 30% and Nigeria 28%).

Figure 5.3 Fixed internet advertising expenditure per head: 2009-13

Internet advertising spend per head (GBP)



Internet advertising spend per head (GBP)



Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Population figures from Ofcom/IHS

Video advertising continued to account for a small share of fixed internet advertising expenditure

There was little or no change in the ratios of revenue from different forms of online advertising in most of our comparator countries between 2012 and 2013 (Figure 5.4). There was variation between countries, however, with very different proportions attributed to different advertising forms. The respective strengths of internet classified, display, search and video advertising are likely to be the result of a number of country-specific factors including broadband penetration, broadband speeds, and the strength of other media competing for advertising spend.

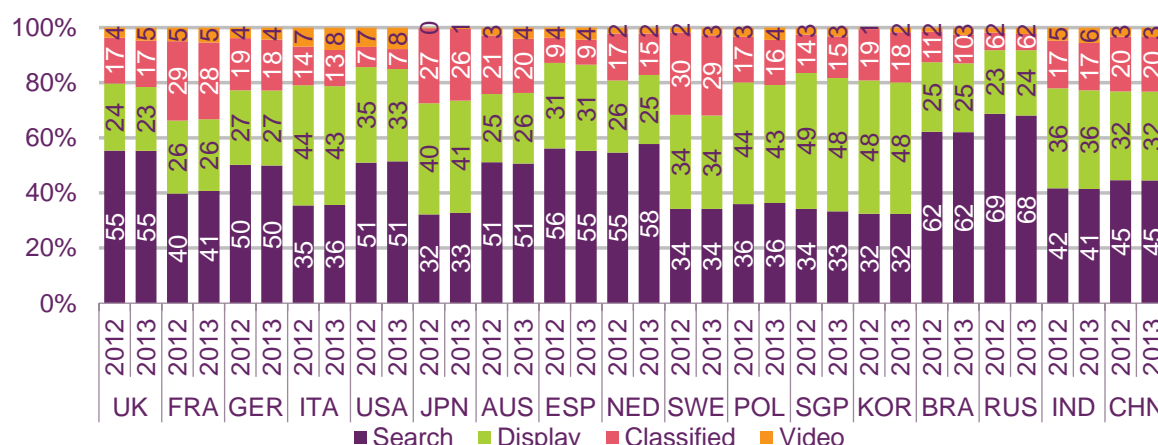
Among our comparator countries, the share of search advertising revenues remained stable between 2012 and 2013. In the UK, 55% of fixed internet advertising expenditure was search advertising, while only 5% was video advertising. The Netherlands had the largest shift in search advertising share, growing by three percentage points in a year to reach 58%.

Video advertising continues to account for a small share of fixed internet advertising expenditure, with video growth flat, or rising by one percentage point, in most of our comparator countries. Online video display advertising can take on of two forms. The first is similar to display advertising on websites, but in the form of an audio-visual advert rather than a static image or series of animated images, and like banner advertising, can sit in the page alongside other content. The second is similar to traditional spot television advertising, where adverts are shown either before, after, or mid-way through an online video, and the advert is embedded within the video player.

In 2013, the US was the only comparator country in which video advertising accounted for a greater share of fixed internet advertising than classified advertising (8% compared to 7%). Classified advertising accounted for a much smaller share of expenditure in the US than in other markets, such as France, Japan and Sweden, where classified advertising's share was close to 30% in 2013.

Figure 5.4 Fixed internet advertising expenditure, by category: 2012-13

Proportion of internet advertising revenue (%)



Source: PwC Global Entertainment and Media Outlook: 2014-2018

www.pwc.com/outlook

There was significant growth in mobile advertising spend between 2012 and 2013, but mobile advertising still accounts for a small proportion of overall internet advertising

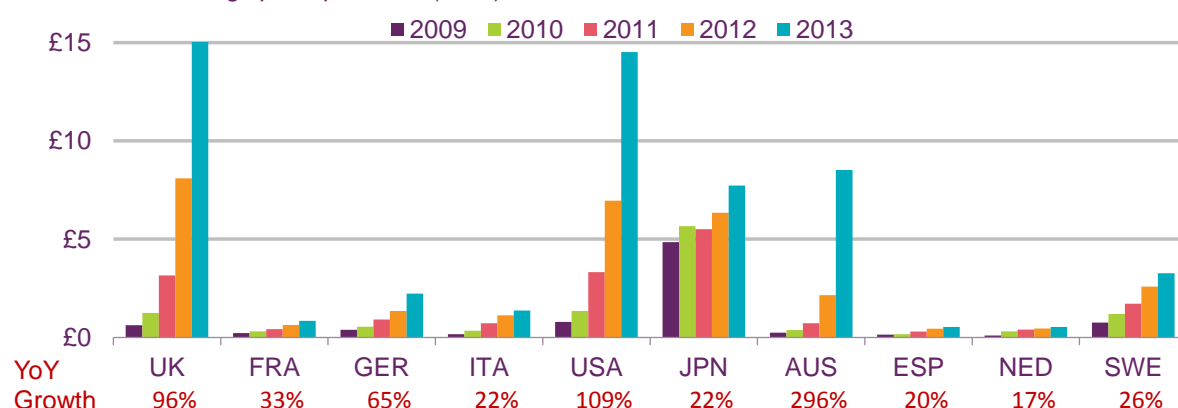
In the UK, mobile advertising spend doubled from £8 per person in 2012 to £16 in 2013 (Figure 5.5). In 2011 and the preceding years, Japan consistently had the greatest spend

per head, but in 2013, the UK, the US and Australia had higher spend. In Australia expenditure almost quadrupled from 2012 to 2013, with spend per head rising from £2 to just under £9.

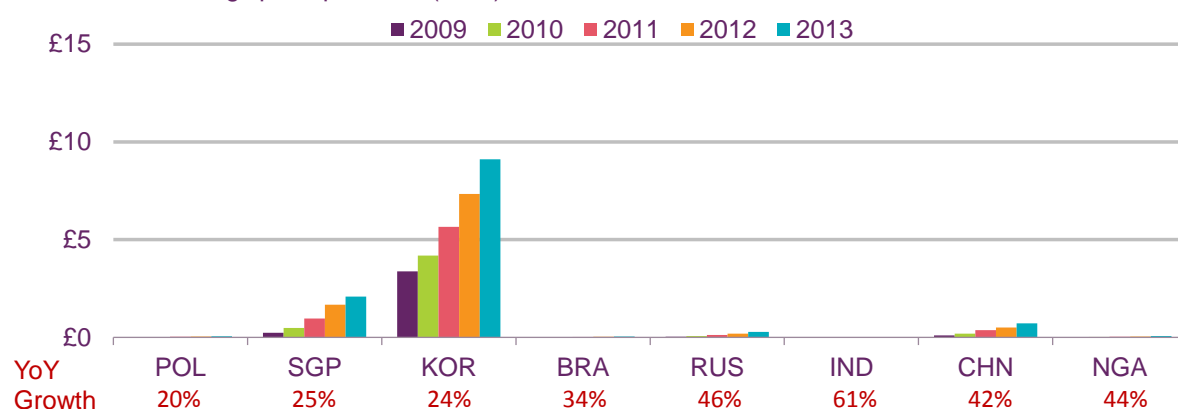
In the four years to 2013, mobile advertising spend per head in the UK has grown by over £15 per head in absolute terms whereas in some other comparator countries in Europe (Italy at £1 per head in 2013; Spain £0.40 per head in 2013; and the Netherlands £0.44 per head in 2013) growth has been smaller and on a par with absolute numbers in Singapore, Russia and China. In 2013, the highest spend on mobile advertising per head was seen in the UK and the US, both of which had spend per head in the teens, with rapid growth. The strong performance of mobile advertising in the UK, the US and Australia was not necessarily related to take-up of smartphones and the mobile internet, as Spain and Italy had higher levels of take-up (see Section 5.2.5). The higher spend may be due to a combination of factors, including established e-commerce and high overall advertising spend per head.

Figure 5.5 Mobile advertising expenditure per head: 2009-13

Internet advertising spend per head (GBP)



Internet advertising spend per head (GBP)



Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2014-2018 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Population figures from Ofcom/IHS

Mobile internet users in the UK, France and Germany are the least likely to claim to have tapped on an advert in the past month

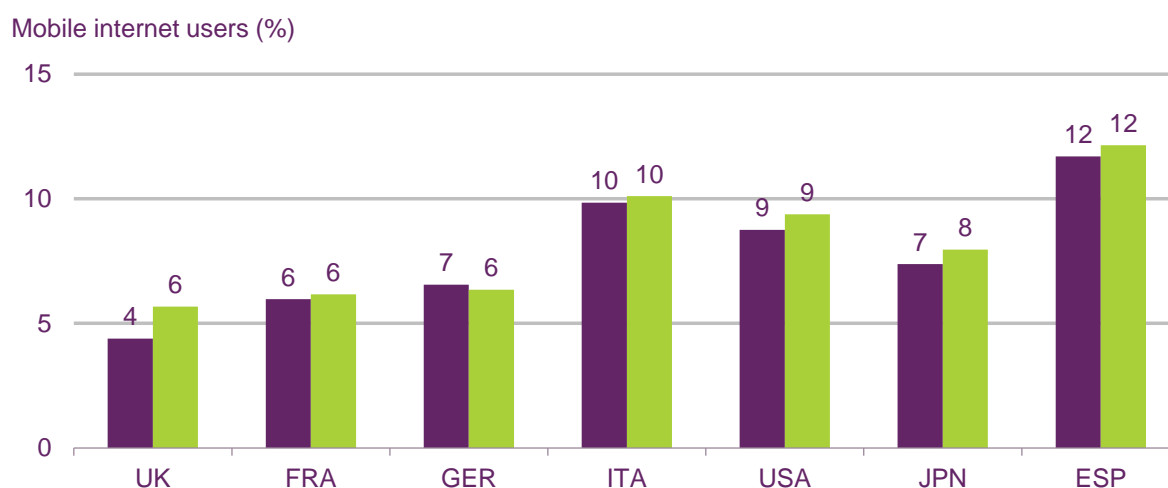
Mobile internet users in Spain were the most likely (12%) to claim to have tapped on an advert in a mobile browser or app in the past month, while users in France, the UK and Germany were the least likely (all three countries at 6%). The proportion of mobile internet

users has changed only marginally across our comparator countries in the year to August 2014, with most seeing no change (Figure 5.6).

In the context of high levels of mobile internet advertising spend in the UK, low levels of engagement with adverts may seem contradictory (Figure 5.5). But not all mobile internet advertising is intended to drive direct engagement such as a tap. Instead, advertisers may wish to maximise the number of times an advert is viewed by consumers, also known as *impressions*.

In the UK in 2013, mobile search advertising made up a large proportion of mobile advertising: 57% of mobile advertising revenues were from mobile search advertising and 42% from display advertising.⁹² However, consumers might not associate sponsored search results (which is an approach to mobile search advertising) as ‘adverts’ in the same way as display advertising, which may lower the proportion of those who claim to have tapped on an advert.

Figure 5.6 Tapped on an advert in a mobile browser or application in the past month



Source: comScore MobiLens, August 2013 (three-month average) and August 2014 (three-month average), mobile internet users aged 13+

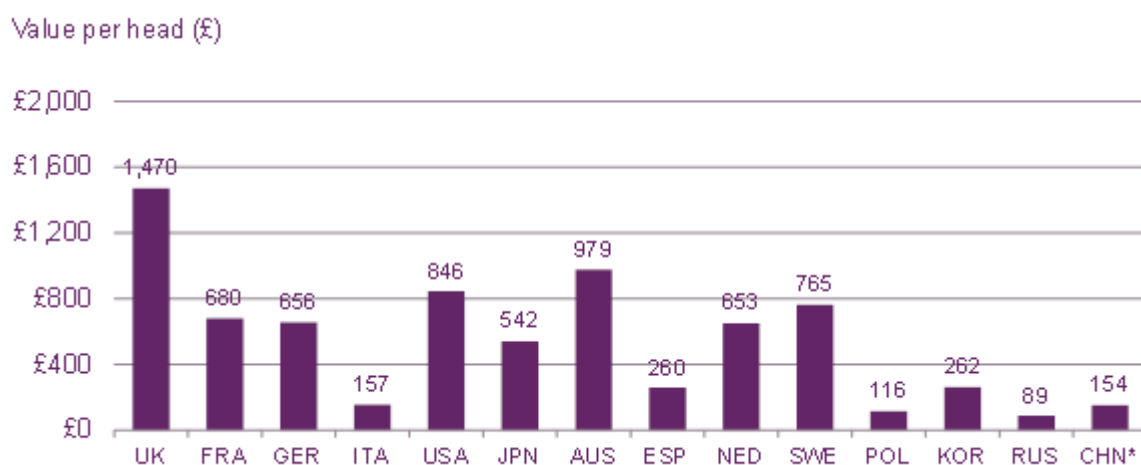
5.1.3 E-commerce

The UK had the highest per capita spend on e-commerce among our comparator countries in 2013

The UK has a highly developed e-commerce market, with the value of business-to-consumer (B2C) e-commerce at £1470 per person in 2013. This is significantly higher than the next highest-valued market, Australia, at £979 per head, and the US, at £846 per head. Despite having highly-connected mobile internet users, Italy and Spain had relatively low e-commerce value per head, at £157 and £260 respectively.

⁹²Source: UK Communication Market Report, Ofcom, August 2014.

Figure 5.7 Value of B2C e-commerce per head: 2013



Source: *European B2C e-commerce report 2014, Ecommerce Europe*

Notes: Values converted from Euros to British Sterling (£1 = €1.1769896). Population figures from Ofcom/IHS. *China also includes C2C goods and services.

5.2 Internet and devices

5.2.1 Introduction and key findings

Internet-enabled devices play a large part in defining the consumer experience and the range of content, communications and services accessed on the internet. In this section we examine the popularity of these devices before considering internet access as a whole.

- Section 5.2.2 considers the **technology** consumers use to access the internet, both fixed and mobile;
- Section 5.2.3 explores how **internet take-up** differs by age and gender among our comparator countries;
- Section 5.2.4 looks at the length of **time spent online** on laptop and desktop computers by internet users in a selection of comparator countries;
- Section 5.2.5 examines take-up of **internet-enabled devices** and how this varies by country.

Key findings

In summary, the key findings from this section of the chapter are:

- **Households in the UK and France are the least likely to have a mobile broadband connection.**⁹³ Eighty per cent of broadband households in the UK and 93% of broadband households in France had a fixed connection only, in October 2014. The other comparator countries in the survey were more likely to have mobile broadband, or a mix of fixed or mobile connections.
- **Online audiences on laptop and desktop computers declined in France and Germany in the year to August 2014, and grew marginally in the other comparator countries.**
- **The UK and the US spend the most time browsing on laptop and desktop devices in a month.** In the UK, users spent an average of 31 hours per month and in the US, 33 hours, in August 2014. Internet users in Italy and Japan spend the least time browsing, at just 20 and 19 hours a month respectively.
- **Laptop and desktop active audiences are getting older in the comparator countries.** Over-55-year-old laptop and desktop internet users made up the largest proportion of active audiences in most of the comparator countries in August 2014. In the UK a quarter of users (25%) were over 55, up two percentage points since August 2013.
- **At least half of internet users had a smartphone, in all of the countries for which data were available in October 2014.** In the UK, 63% of internet users said that they had a smartphone, the third-highest proportion among the EU5 countries after Spain and Italy. Among internet users in our European comparator countries, personal use of tablets was highest in Spain and Italy. The UK had the third-highest

⁹³ A mobile broadband connection is via a dongle or laptop with a built-in SIM, and does not include mobile handset internet access.

claimed personal use of tablets among the European countries for which we have data (at over one in three).

5.2.2 Internet take-up, by technology⁹⁴

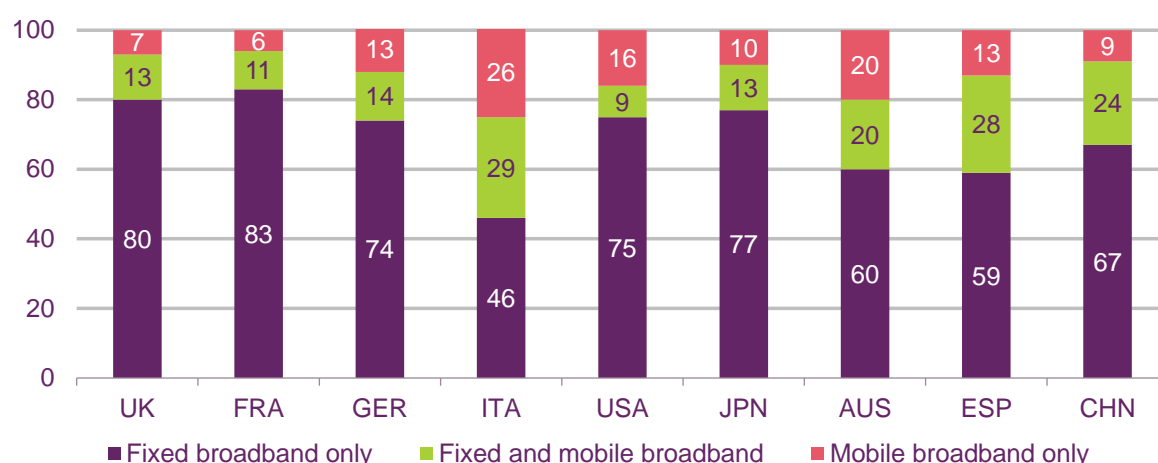
Households in the UK and France are the least likely to have a mobile broadband connection

Among households with either a fixed broadband connection or a mobile broadband connection in the comparator countries, shown in Figure 5.8, households in France were the most likely to have a fixed broadband connection (94%), followed by the UK (93%).

Italy had the largest proportion of mobile-only broadband households in October 2014, at 26%, and the highest proportion of households with both fixed and mobile broadband (29%). Having access to both mobile and fixed broadband connections was also popular in Spain (at 28% of households), while broadband households in the US were the least likely to have adopted both broadband technologies, at 9%.

Figure 5.8 Take-up of fixed and mobile broadband among broadband households

% of broadband households



Source: Ofcom consumer research October 2014

Base: All respondents with broadband, UK=929, FRA=945, GER=844, ITA=877, USA=747, JPN=737, AUS=910, ESP=903, CHN=923.Q3b. Which of the following services do you have in your home?

5.2.3 Internet take-up

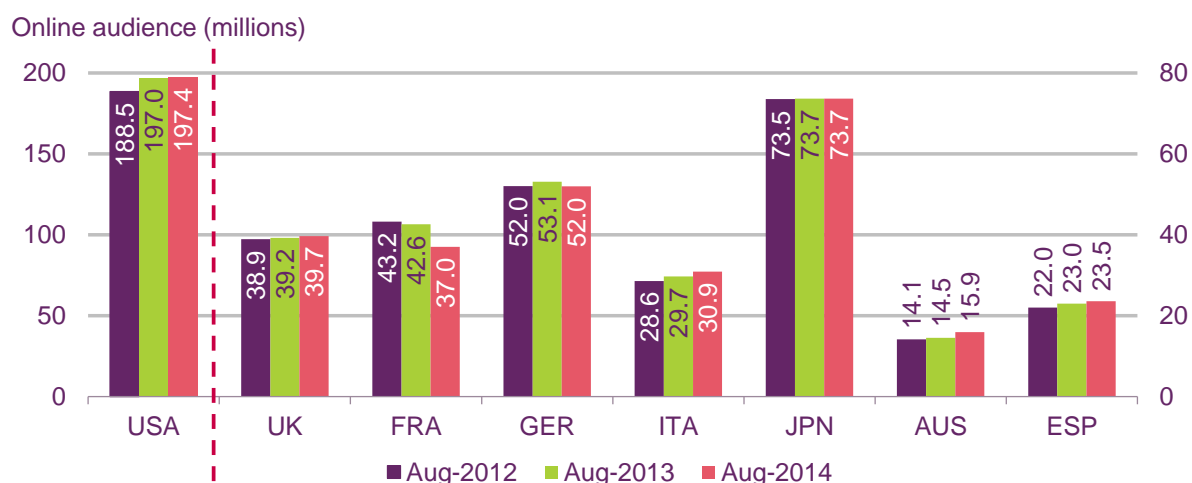
Laptop and desktop active users declined in both France and Germany in the year to August 2014, but grew marginally in the other comparator countries

Between August 2013 and August 2014, the active online audience on laptops and desktops fell in both France and Germany (Figure 5.9). In France this has been a trend since 2012; the active online audience has fallen by 14% over the two years. In Germany the active online audience fell by 2.1% to 52.0 million in the year to August 2014.

⁹⁴ This chapter predominantly draws from two comScore sources. For analysis of laptop and desktop computer internet activity we use comScore MMX™, which employs comScore's Unified Digital Measurement™ methodology, explained below. For analysis of mobile internet activity and user behaviours we use comScore MobiLens®. [More information can be found here.](#)

In the UK, the online active audience grew by 500,000 to 39.7 million people in the year to 2014. This low level of growth was reflected in most of the other comparator countries. This could reflect the relatively mature fixed broadband markets in almost all of the comparator countries; there are fewer new adopters likely to go online. The decline in France and Germany may be a result of an increase in mobile-only households, and the mature laptop and desktop markets, where there are few homes not online that are likely to get online in the near future.

Figure 5.9 Active audience on laptop and desktop computers: 2012-14



Source: comScore MMX, work and home panel, August 2012 to August 2014, persons 15+

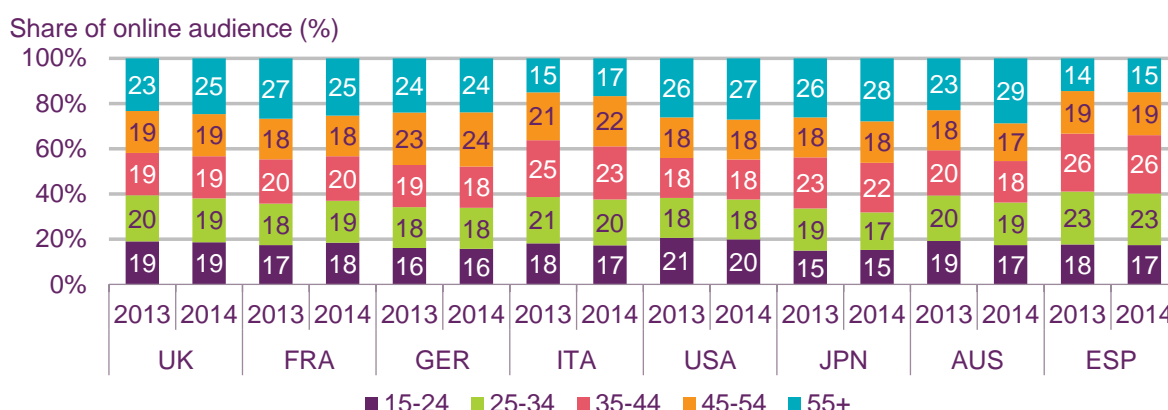
The laptop and desktop active audience is getting older in our comparator countries

Laptop and desktop internet users aged over 55 made up the largest proportion of users in most of our comparator countries (Figure 5.10). In the UK, a quarter of users (25%) were over 55, up by two percentage points since August 2013. In Australia close to 30% of users were over 55, the highest proportion of all the comparator countries. Australia also had the greatest change in the age profile of the laptop and desktop active audience, among comparator countries; its over-55 age group grew by six percentage points, to 29%, between August 2013 and August 2014.

Spain and Italy had the youngest demographic of laptop and desktop internet users in August 2014, with 66% aged under 45 in Spain and 61% aged under 45 in Italy.

The US had the highest proportion of laptop and desktop internet users aged between 15 and 24, at 20%. In the UK, the active audience was more evenly distributed between the age groups, with 25% aged 55 and over, and the remaining age groups accounting for just under a fifth (19%) each.

Figure 5.10 Active audience on a laptop or desktop computer, by age: 2013- 2014



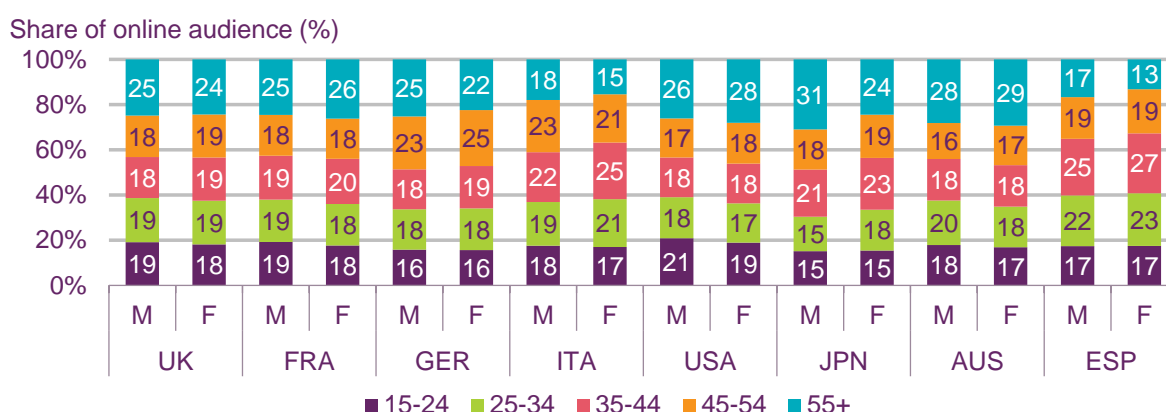
Source: comScore MMX, home and work panel, August 2013 and August 2014, persons 15+

In Japan and Germany, male laptop and desktop internet users are likely to be older than female users

In Japan and Germany, male laptop and desktop internet users were more likely than female users to be aged 55 or over in August 2014 (Figure 5.11). In Japan, 31% of the male laptop and desktop active audience was in this age group, as were 25% in Germany. The age breakdown by gender was fairly equal in the UK and France; however, in the US female laptop and desktop users were likely to be older than male internet users.

There were no significant gender differences among the youngest internet users on laptops and desktop computers across our comparator countries; it was equally likely for an internet user between the ages of 15 and 24 to be male as female. The only exception was the US, where 15-24s were slightly more likely to be male than female.

Figure 5.11 Active audience on a laptop or desktop computer, by age and gender: August 2014



Source: comScore MMX, home and work panel, August 2014, persons 15+

5.2.4 Time spent online

The UK and the US spend the most time browsing on laptop and desktop devices, but the gap between these two countries and the rest has closed since 2013

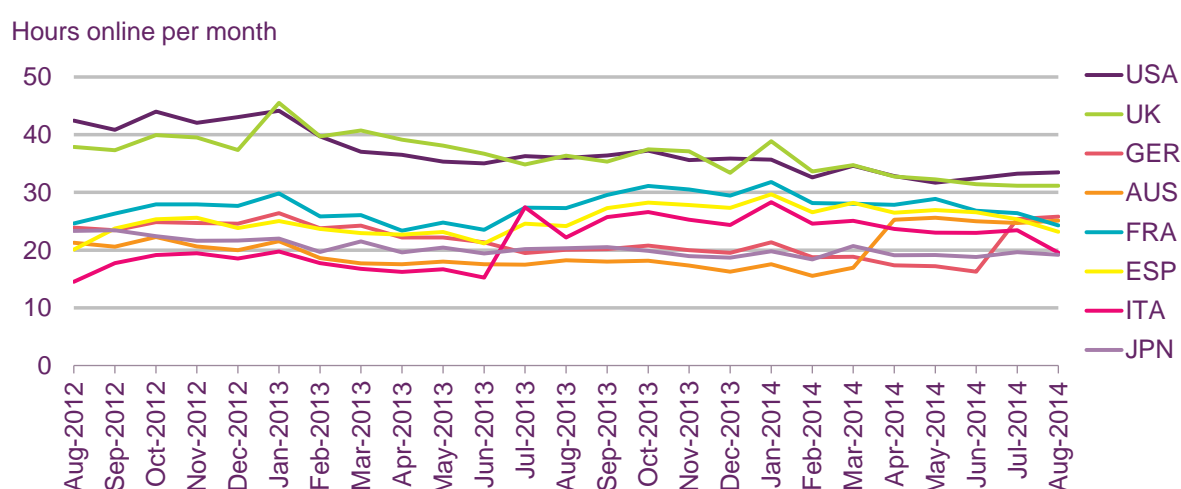
Internet users in the UK and the US spent the most time browsing online on a laptop or desktop computer, of all our comparator countries, in August 2014 (Figure 5.21), at an

average 31 and 33 hours per user respectively. Internet users in Italy and Japan spent the least time browsing, at just 20 and 19 hours respectively.

In the US and the UK average time spent browsing on a laptop or desktop has fallen significantly since August 2012: time spent browsing on these devices fell by nine hours per user in the US and seven hours per user in the UK. This may be due to users in these countries substituting browsing on mobile platforms for laptop and desktop browsing. However, there may be non-technology factors at play, such as rates of unemployment and the clemency of the weather.

Most of the European comparator countries analysed since 2012 follow a seasonal pattern of internet use, with browsing increasing in the autumn to a peak in January, before falling again as summer approaches.

Figure 5.12 Average time spent browsing on a laptop or desktop computer



Source: comScore MMX, work and home panel, August 2012 to August 2014, persons 15+
Note: Comparisons between data before and after January 2013 in the UK, March 2013 in the US, and July 2013 in France, Spain and Italy should be treated with caution due to a change in panel weighting methodology.

5.2.5 Internet-enabled devices

Accessing the internet through games consoles and smart TV was a relatively niche activity compared to access through laptops, netbooks and desktops

Ofcom research conducted in October 2014 found that 12% of internet users in the UK accessed the internet using smart TVs, in line with Italy (14%) and Australia (13%). China had the greatest proportion of users accessing the internet through smart TVs. However, as internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants, in contrast to the respondents in the UK and other comparator countries, where internet take-up is more widespread among the general population.⁹⁵

While the overall number of people using smart TVs for internet access is low, in all of the comparator countries the vast majority of smart-TV owners had connected and used the

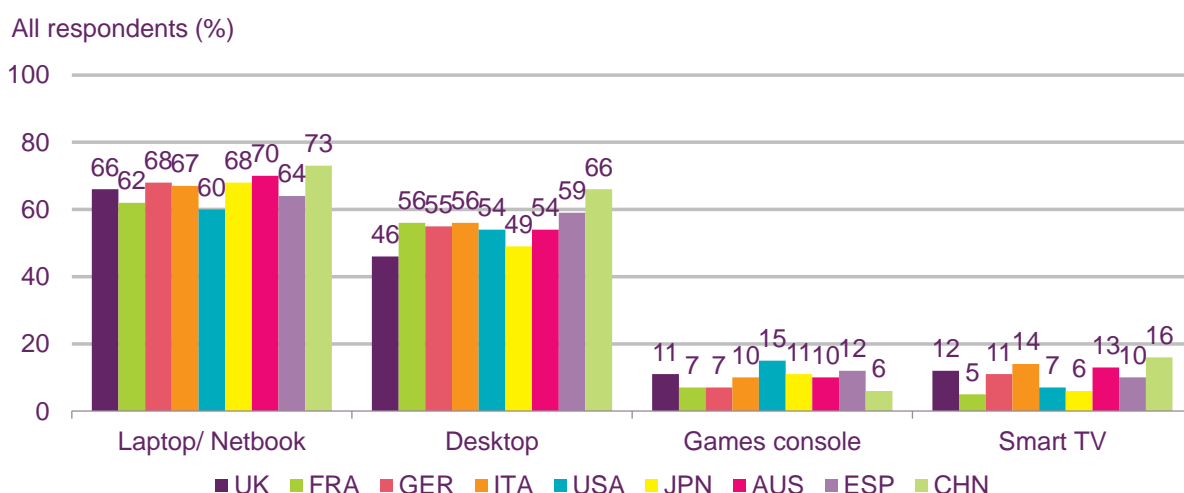
⁹⁵ Further information on our online market research methodology is presented in Appendix A: Consumer research methodology, and perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

internet connection on their smart TVs. In the UK, 84% of people had connected and used the internet connection, and in Italy, where smart-TV take-up is 26%, 84% of people with smart TVs had used them online.⁹⁶

In all of the comparator countries in Figure 5.13, laptop and netbooks were the most popular devices on which to access the internet. In the UK, 66% of internet users used laptops or netbooks to access the internet, compared to 46% using a desktop.

Across the comparator countries, games consoles were used to access the internet by a higher proportion of people in the US (15%), than in other countries, particularly France (7%) and Germany (7%). Internet users in Italy and Spain were more likely than not to have games consoles in their home, with take-up at 58% in Italy and 62% in Spain. Nevertheless, only 10% of respondents in Italy, and 12% in Spain, used their games console to access the internet. In the UK take-up of games consoles was close to half of internet users at 48%, but only 11% respondents used them for internet access.

Figure 5.13 Fixed devices used to access the internet



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.7a Which of the following devices do you use to access the internet?

At least half of internet users had a smartphone in all of the countries for which data were available in October 2014

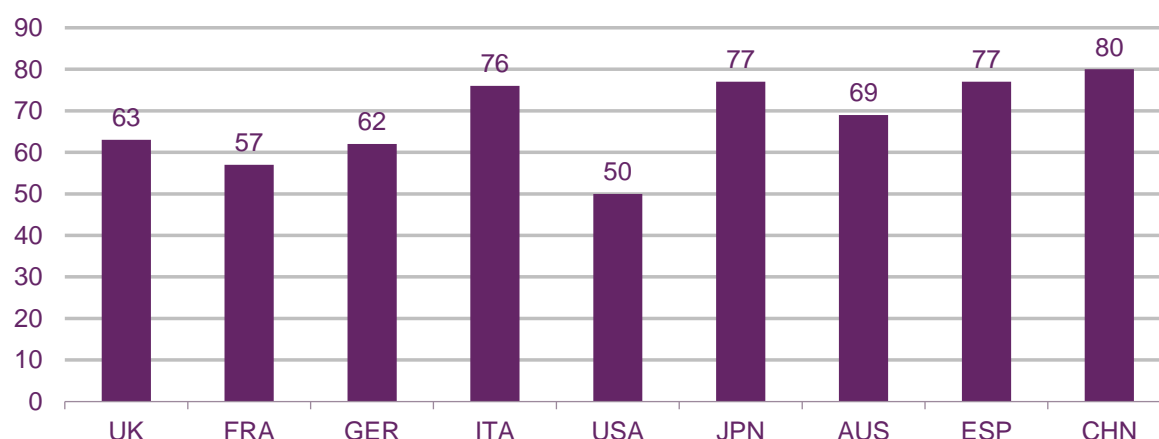
Ofcom research conducted in October 2014 suggests that in all of the nine countries where the research was conducted, at least half of internet users had a smartphone. Smartphone take-up was highest in China, at 80% of internet users (although this figure will be overstated as the research was conducted online)⁹⁷ followed by Spain and Japan (both 77%). In the UK, 63% of internet users said that they had a smartphone, the third-highest proportion among the EU5 countries, after Spain (77%) and Italy (76%).

⁹⁶ Ofcom consumer research October 2014. Q.4a(i) Which of the following comes closest to your use of the internet connection on your smart TV?

⁹⁷ Internet penetration is low in China, so while members of the online panel represent China's online population, they are more likely to be affluent, urban, and exhibit the behaviour of early adopters.

Figure 5.14 Use of smartphones

Proportion of respondents (%)



Source: Ofcom consumer research October 2014

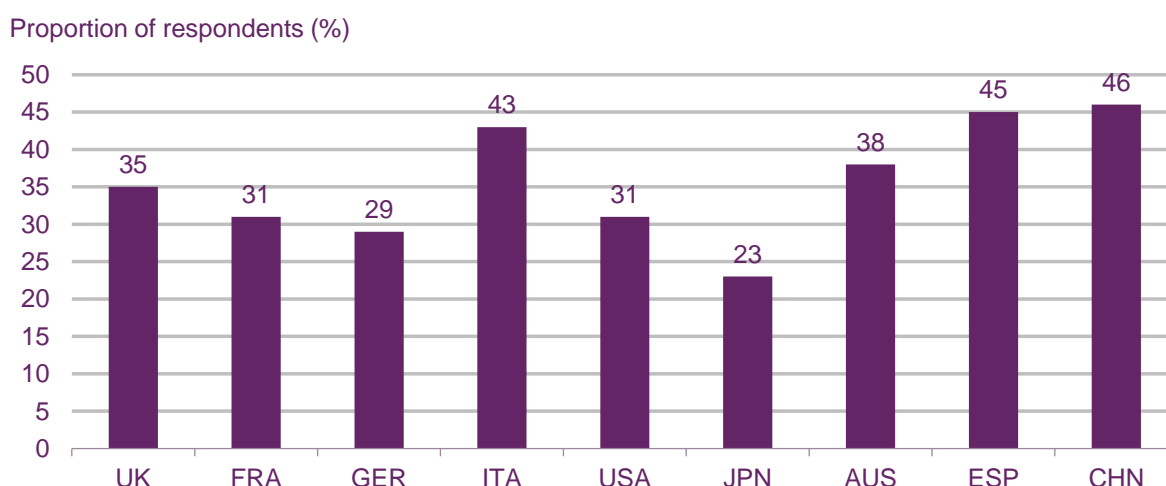
Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q 4a Which of the following devices do you personally use?

Among internet users in our European comparator countries, personal use of tablets was highest in Spain and Italy

Ofcom research conducted in October 2014 found that four in ten internet users in Spain and Italy personally use a tablet, the highest among our European comparator countries. The UK had the third-highest claimed personal use of tablets among the European countries for which we have data (at over one in three), followed by France (31%) and Germany (29%).

Figure 5.15 Use of tablets



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q 4a Which of the following devices do you personally use?

Users in Italy, Spain and China are the most likely to use smartphones to access the internet

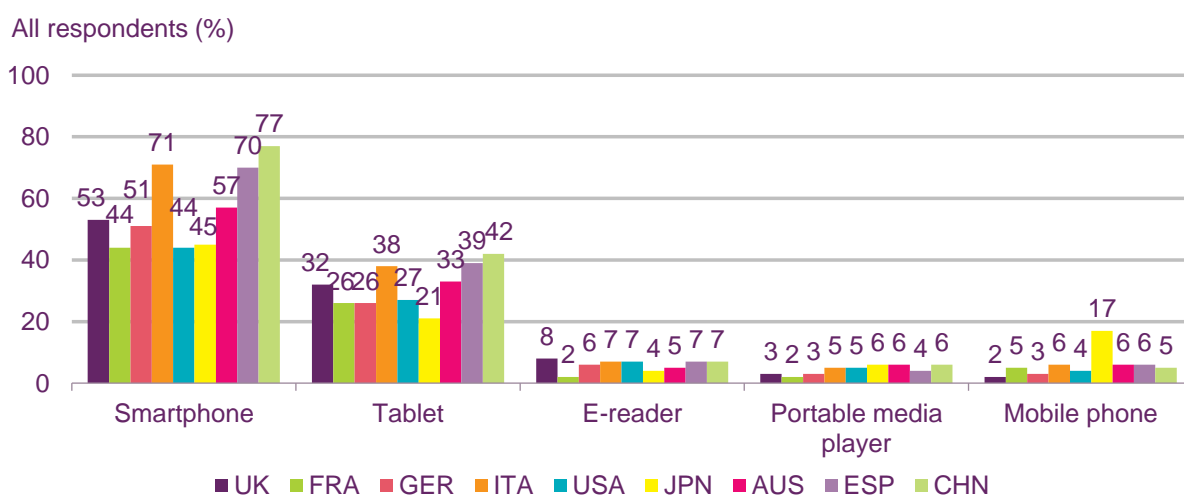
Ofcom research conducted in October 2014 found that the internet is accessed through smartphones and tablets rather than other portable devices. Few people in any of the comparator countries used e-readers, portable media players or mobile phones (feature phones that aren't smartphones) to access the internet.

The only exception was Japan, where 17% of respondents accessed the internet through a mobile phone. In contrast, access via a smartphone in Japan was among the lowest (45%) of the comparator countries. This is probably due to the advanced functionality that feature phone handsets have in Japan. For example, 90% of respondents in Japan with a mobile phone (not a smartphone) can receive emails on it.⁹⁸

Of the portable devices shown in Figure 5.16, our research found that the smartphone was the most popular device for accessing the internet in all the comparator countries.

⁹⁸ Ofcom consumer research, October 2014. Q.4a(ii) Which, if any, of the following can you do on your mobile phone? Base: All J respondents in Japan who have a mobile phone (not a smartphone)

Figure 5.16 Portable devices used to access the internet



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

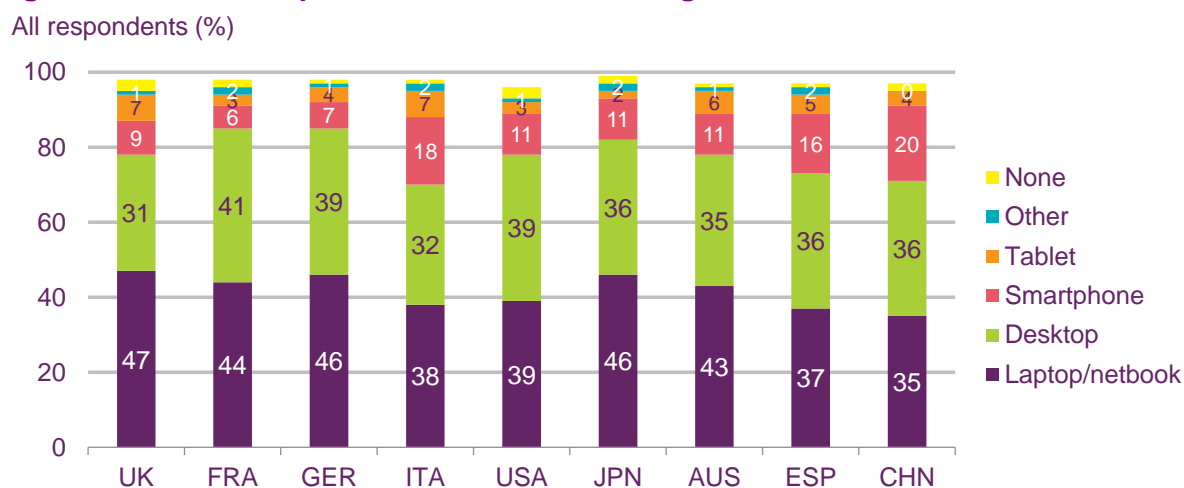
Q.7a Which of the following devices do you use to access the internet?

Internet users in Italy, Spain and China are most likely to say their smartphone is the most important device for accessing the internet

In the UK, one in ten internet users (9%) said their smartphone was their most important device for accessing the internet in October 2014, compared to 18% of users in Italy, 16% in Spain and 20% in China. Seven per cent of internet users in the UK claimed their tablet was most important, similar to internet users in Italy (7%) and Australia (6%).

With the exception of the US and China, in all of the comparator countries (Figure 5.17) a laptop or netbook computer was seen as the most important device to access the internet.

Figure 5.17 Most important device for accessing the internet



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.7b Which is the most important device that you use to connect to the internet (at home, or elsewhere)?

Note: 'Other' response is the aggregate of responses to for mobile phone, smart TV, video games console, ebook reader, portable media player, and other.

5.3 Web-based content

5.3.1 Introduction

This section explores the kinds of content and services that people access through the internet.

- Section 5.3.2 gives an **overview** of the activities people undertake on the mobile internet, and highlights the most popular web properties across eight of our comparator countries.
- Section 5.3.3 focuses on **search**, including the leading search engines, and the most popular and fastest-rising search terms in the past year.
- Section 5.3.4 examines the take-up of **social networking** using different devices, the popularity of social networking sites, and the use of check-in services.
- Section 5.3.5 looks at the reach of **online video** sites, the popularity of different services across platforms, and the type of online video consumed.
- Section 5.3.7 looks at the use of the internet for consumption of **online news** services.

Key findings

- **Social networking, and reading news online, are the the two most popular internet activities on a smartphone in all comparator countries except Australia, where mobile banking is more popular then reading news online.** In the UK just under two-thirds of owners claimed to access social networking sites on their phone, and 44% read the news online.
- **A small number of key websites are popular across all of our comparator countries.** Google and Microsoft sites appeared in the top ten for every one of our comparator countries, while Yahoo! sites featured in the top ten for all but Germany.
- **Google is the most popular search engine across the EU5, the US and Australia.** Japan is the only country with Google second to Yahoo! Search.
- **The number of people accessing social networking sites in the UK each week fell to 56% of users in October 2014 from 65% in September 2013.** While the number of weekly social networkers increased year on year in many countries, in the UK, the US, China and Japan the proportion fell.
- **YouTube was visited by at least half of all laptop and desktop users in the majority of the comparator countries,** and a quarter of mobile users used Facebook to access video content in the UK, Spain, Italy and the US.
- **Mobile users across all our comparator countries accessed more paid TV/video in August 2014 than in August 2013, but web-based videos were by far the most popular form of video.** Mobile internet users in the UK were more likely to watch TV using their device than were users in any of the other comparator countries (24% did so in August 2014).

- **Internet users in China, Japan and Italy are the most likely to see the internet as their primary source of news.** Only in China were respondents more likely to see the internet as their primary source of world and national news, with 56% seeing it as their primary source for world news, and 54% for national news.

5.3.2 Overview

Social networking, and reading news online, are the the two most popular internet activities on a smartphone in all comparator countries except Australia

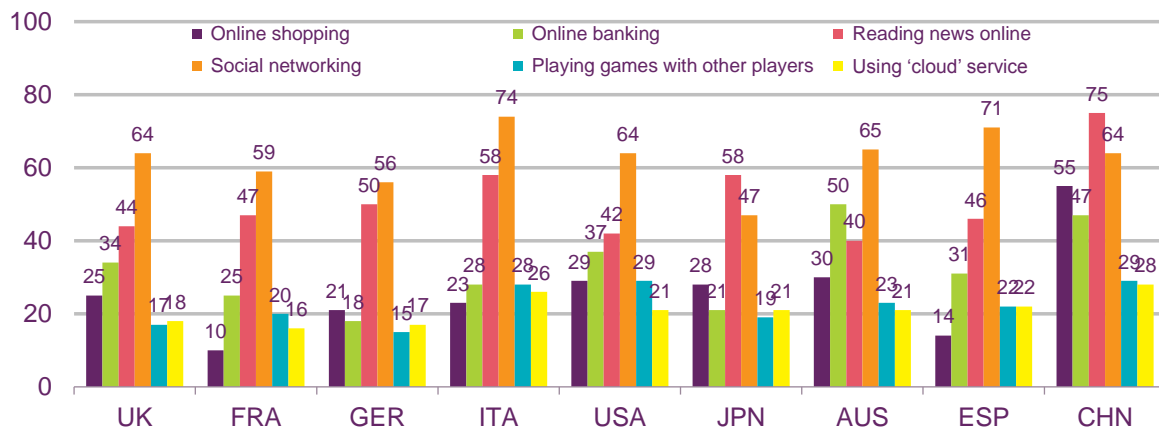
Of the selected activities shown in Figure 5.18, social networking was the most popular activity in all but two of the comparator countries in October 2014. It was most popular among mobile phone and smartphone owners in Spain and Italy, where more than seven in ten users used their handset for social networking (71% in Spain and 74% in Italy). In the UK, just under two-thirds of respondents claimed to access social networking sites on their phone, and 44% read the news online. However, in Japan and China reading online news (58% and 75% respectively) was more popular than social networking (47% and 64% respectively).

A significant minority of mobile internet users in many of the comparator countries have done online banking on their phones. In the UK 34%, and in the US 37% of mobile internet users have used their device for internet banking.

The countries in which a particular mobile activity was most popular were: online banking in Australia (50%), online shopping in China (55%), online shopping in China (55%), and playing multiplayer games online in the US and China (both at 29%).

Figure 5.18 Mobile-internet activities

All respondents who access internet with a mobile phone/ smartphone (%)



Source: Ofcom consumer research October 2014

Base: All respondents who access internet with a mobile phone/ smartphone, UK=540, FRA=469, GER=531, ITA=762, USA=443, JPN=566, AUS=579, ESP=742, CHN=808

Q9a Which, if any, of the following internet activities do you use each of your devices for?

Google-owned sites were the most popular properties across all of the comparator countries in August 2014

A handful of web properties were popular with internet users across all the comparator countries, as shown in Figure 5.19. Microsoft sites appeared in the top ten for every one of our comparator countries, while Yahoo! sites featured in the top ten for all except Germany.

These 'properties' own web portals, which feature a range of similar services, such as web search, email, news and weather.

The popularity of online shopping was also evident: Amazon and eBay appeared in the top ten across all the comparator countries apart from France and Spain, and eBay did not appear in Japan's top ten. In Japan Rakuten was listed, which runs Rakuten Ichiba, one of the largest e-commerce sites in Japan.⁹⁹ Facebook appeared in the top four web properties in all the comparator countries except Japan, where it did not appear in the top ten. Despite its origins in the US, Wikimedia foundation sites, which include Wikipedia, appeared in the top ten properties for all comparator countries except the US.

Alongside these global web properties were popular national websites, such as the BBC in the UK, and CBS and NBC in the US. These websites provide regional written and audio-visual content such as news, sport and entertainment. In France, Webedia produces several popular websites under its 'pure' brand. purepeople, for example, is a popular celebrity news site.

A number of media groups and multimedia publishing groups appear among the top ten web properties, such as Axel Springer (which publishes Bild, a German tabloid newspaper), RCS Media Group (which publishes Corriere Della Sera, an Italian newspaper), Prisa in Spain and Fairfax Media in Australia.

Figure 5.19 Top ten web properties accessed on a laptop and desktop computer, by country

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP
1	Google Sites -2	Google Sites -13	Google Sites -5	Google Sites 4	Google Sites 2	Google Sites 3	Google Sites 12	Google Sites 3
2	Facebook -2	Microsoft Sites -13	Facebook 8	Facebook -1	Yahoo Sites -12	Yahoo Sites -2	Microsoft Sites 5	Facebook 3
3	Microsoft Sites -10	Facebook -13	Amazon Sites 5	ItaliaOnline -18	Microsoft Sites -9	FC2 inc. -10	Facebook 11	Microsoft Sites -7
4	Yahoo Sites -3	Webedia Sites 277	eBay -3	Yahoo Sites -12	Facebook 7	Microsoft Sites -1	Yahoo Sites -17	Unidad Medios Digitales -12
5	Amazon Sites -10	CCM-Benchmark -9	Microsoft Sites 2	Microsoft Sites -9	AOL, Inc. -4	NHN Corporation -7	eBay 11	Wikimedia Foundation Sites -10
6	BBC Sites 7	Yahoo Sites -15	Axel Springer SE -5	Banzai -5	Amazon Sites -9	Rakuten Inc 13	Wikimedia Foundation Sites -2	Yahoo Sites -12
7	eBay -11	Orange Sites -15	Deutsche Telekom -13	Wikimedia Foundation Sites -9	Mode Media (formerly Glam Media) -21	Amazon Sites -20	Amazon Sites 28	Prisa -13
8	Wikimedia Foundation Sites -22	Schibsted Media Group -25	United-Internet Sites -7	eBay -2	eBay -7	DMM -10	Telstra Corporation Limited 32	Vocento -11
9	Apple Inc. -18	Solocal Group -22	Hubert Burda Media -4	RCS Media Group 1	CBS Interactive -19	Wikimedia Foundation Sites -18	Fairfax Media 64	Schibsted Media Group -11
10	AOL, Inc. 7	Wikimedia Foundation Sites -30	Wikimedia Foundation Sites -13	Amazon Sites 18	Comcast NBCUnivers al 7	NTT Group -21	Apple Inc. -15	Dropbox Sites 0

Source: comScore MMX, home and work panel, August 2013 and August 2014, persons 15+

Note: Coloured font indicates brand appears more than once. Web property audience includes relevant internet application audiences where available. '+' or '-' and a number denotes change in rank since 2013 comScore data, '-' only denotes no change, and 'N' denotes a new entrant to the top ten.

⁹⁹ FT.com, Rakuten Inc, Business profile.

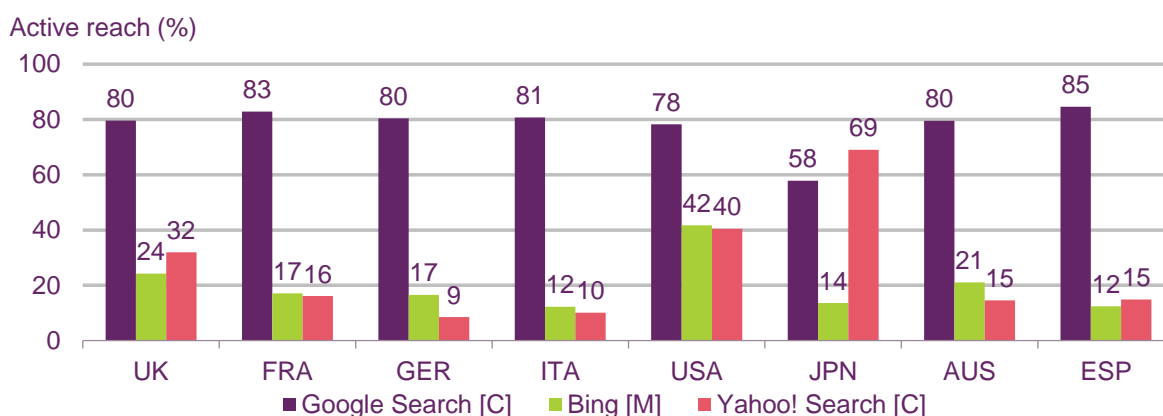
5.3.3 Search

Google is the most popular search engine across the EU5 countries, the US and Australia. Japan is the only country where Google is in second place to Yahoo! Search.

Google was the most popular search engine across all of the comparator countries apart from Japan (Figure 5.20). Google was most popular in the European comparator countries; over 80% of internet users in each country visited the search engine in August 2014.

Yahoo! Search's active reach is approaching, or has overtaken, Bing's active reach in many of the comparator countries. Yahoo! Search has overtaken Bing in the UK, increasing its active reach from 23% in August 2013 to 32% in August 2014. In Japan, Yahoo! Search had a higher active reach than Google Search, with a lead of 11 percentage points. This reflects the strong history of Yahoo! in Japan; the Japanese internet and telecommunications company Softbank is the majority shareholder¹⁰⁰, rather than Yahoo! Inc. itself.

Figure 5.20 Active reach of selected search engines on laptop and desktop computers



Source: comScore MMX, home and work panel, August 2014, persons 15+

Online brands such as Facebook and YouTube were the most searched-for terms online in the majority of our comparator countries

The most popular search term on Google for 11 of our 18 comparator countries in the year to August 2014 was 'Facebook'. However, Facebook appeared to be less popular in Russia, where Russian social networks 'Odnoklassniki' and 'VKontakte' were two of the top three most searched-for terms, and 'vk', the abbreviation of *Vkontakte*, was the search term with the largest increase.

The majority of the popular search terms are the brand names of web services or sites. However, the World Cup featured as one of the most popular search terms in some countries in this period, and it was one of the few non-brand search terms (Figure 5.21). Other increasingly popular search terms include television programmes, such as the reality programme *Utopia* in the Netherlands, news issues such as MH370 (the lost Malaysian airlines flight) in Singapore, and Ebola in Nigeria.

¹⁰⁰ Yahoo! Japan Investor Relations, <http://ir.yahoo.co.jp/en/holder/status.html>

Figure 5.21 Most popular search terms on Google: August 2013 to August 2014

Country	1 ST	2 ND	3 RD	Largest increase
UK	facebook	bbc	google	world cup 2014
FRA	facebook	youtube	bon coin	coupe du monde
GER	facebook	google	youtube	filmze
ITA	facebook	youtube	google	mondiali 2014
USA	facebook	google	you	world cup
JPN	画像 ¹	天気 ²	yahoo	モンスター ³
AUS	facebook	google	youtube	world cup
ESP	facebook	hotmail	youtube	comuniato
NED	facebook	google	youtube	utopia
SWE	google	facebook	youtube	dreamfilm
POL	facebook	onet	allegro	olx
SGP	singapore	google	youtube	mh370
KOR	네이버 ⁴	토렌트 ⁵	밍키넷 ⁶	밍키넷 ⁷
BRA	facebook	google	youtube	whatsapp
RUS	одноклассники ⁸	vk ⁹	яндекс ¹⁰	украина ¹¹
IND	facebook	india	fb	matka
CHN	百度 ¹²	qq	手机 ¹³	helloworld
NGA	nigeria	news	facebook	ebola

Source: Google Insights Search Tool, August 2013 to August 2014. Translation Notes: 1. image 2. weather 3. monsuto 4. naver 5. torrent 6. our mingki 7. our mingki 8. classmates 9. vc 10. yandex 11. ukraine 12. baideo 13. cell phone

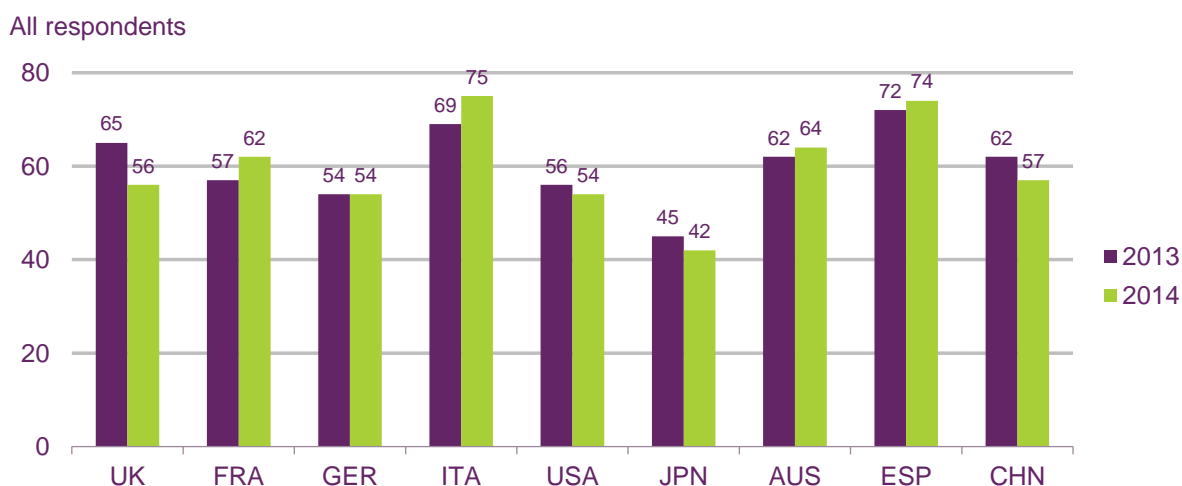
5.3.4 Social networking

The number of people accessing social networking sites in the UK each week fell to 56% of users in October 2014 from 65% in September 2013

The majority of internet users accessed social networks on a weekly basis in all of our comparator countries apart from Japan, where only 42% did so (Figure 5.22). The most active social networkers were in Italy and Spain, where three-quarters of internet users accessed social networks at least once a week.

While the number of weekly social networkers increased year on year in many comparator countries, in the UK, the US, China and Japan the proportion fell, while in Germany it was unchanged. In September 2013 65% of UK internet respondents to our consumer research reported using social networks at least once a week; this fell to 56% in the year to October 2014. In China the proportion fell from 62% to 57% over the same period, and in Japan it dropped three percentage points to 42%.

Figure 5.22 Weekly access to social networks



Source: Ofcom consumer research October 2014 and September 2013

Base (2014): All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.8 Which, if any, of the following activities do you use your internet connection for at least once a week?

Smartphone owners are equally as likely to be social networkers as laptop, desktop or notebook users

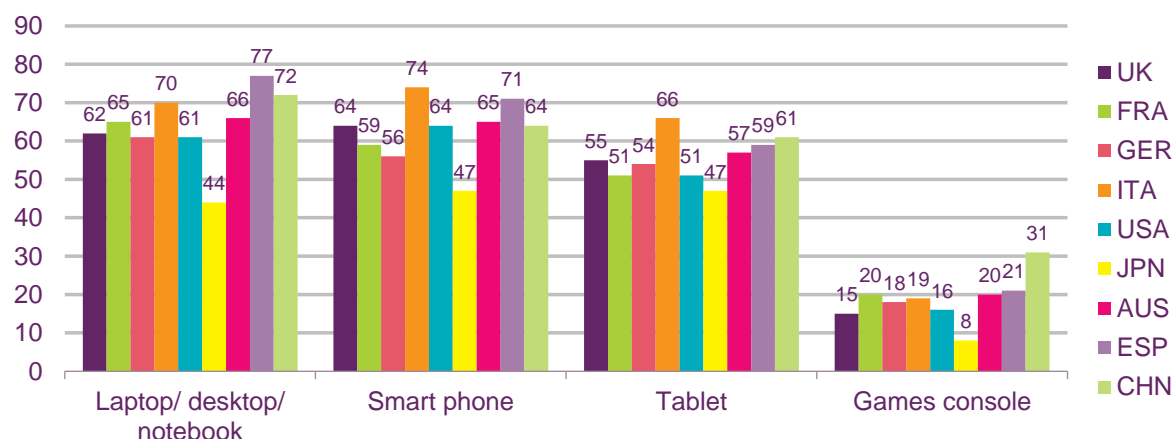
In the UK, 62% of laptop, desktop and notebook users used their device for social networking; this was similar to the proportion of smartphone owners (64%), but more than tablet owners (55%) or games console owners (15%).

Italy and Spain had some of the highest proportions of social networkers in our comparator countries in October 2014. Internet users in Spain were most likely to access social networks on laptops, desktops or notebooks (77%). Tablet owners in Italy were the most likely internet users to use social networks, across our comparator countries. Over half of the respondents in Japan, using all of the devices in Figure 5.23 below, did not use social networks, and there was little variation in how much they used social networks on different devices.

Around one in five people who accessed the internet on their games consoles used their console to access social networks. This was consistent across the comparator countries, except in Japan, where only 8% of this group of people used their consoles to access social networks. These low proportions may reflect the difficulty people have in using social networks on consoles (which are often connected to television sets). However, this may change with the functionality of the new generation of games consoles such as the Xbox One and PS4, where linking up gaming profiles with social networks is encouraged, to enable users to share progress and scores within games.

Figure 5.23 Accessing social networks, by device ownership

Proportion (%) of respondents who access the internet on each device type



Source: Ofcom consumer research October 2014

Base: All respondents who access internet with each type of device - UK=905/540/318/99*, FRA=953/469/270/67*, GER=949/531/263/69*, ITA=902/762/384/97*, USA=907/443/274/131, JPN=934/566/209/103, AUS=944/579/325/87*, ESP=903/742/394/116, CHN=947/808/446/67* (*Caution: base under 100)

Q9a Which, if any, of the following internet activities do you use each of your devices for?

Social networking is most popular among 18-24s in all comparator countries apart from China, where 25-34s are more likely to use social networks weekly

In the UK, as in most other comparator countries, those aged 18 to 24 were more likely to use social networks each week, compared to other age groups. In the UK, almost three-quarters (74%) of 18-24s used social networks at least once a week. In France, Italy, Australia and Spain over 80% of 18-24s used social network sites each week.

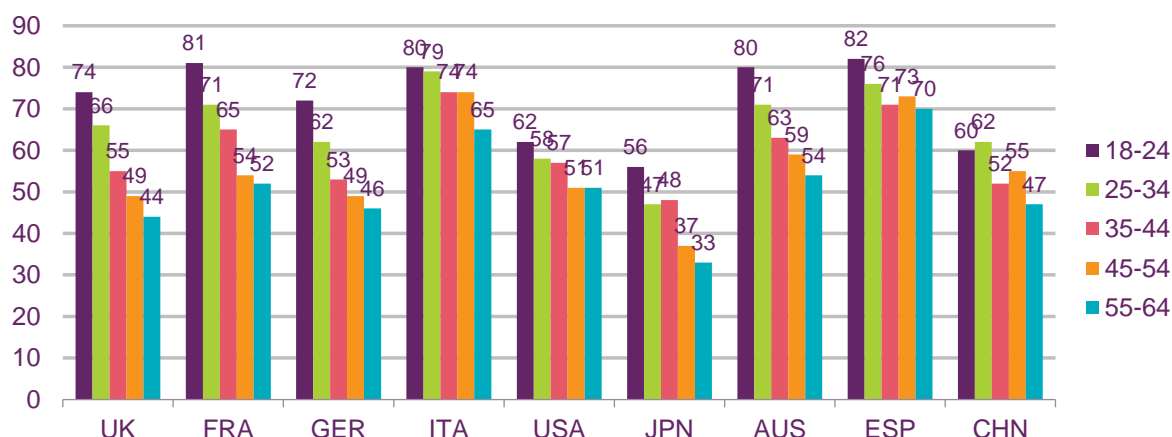
Reflecting the low active reach of sites such as Facebook and Twitter in Japan (see Figure 5.25), this was the country where internet users were least likely to use social networks. Apart from 18-24s, the majority of internet users in Japan did not use social networks on a weekly basis.

Older internet users in Italy and Spain were also regular social networkers; 65% of 55-64s in Italy and 70% of 55-64s in Spain use social networks at least once a week. In fact, internet users aged 55-64 in Italy and Spain were more likely to use social networks than 18-24 year olds in Japan, the US and China.

France and the UK were the two countries with the greatest difference in weekly use of social networks between age groups. In the UK, there was a 30 percentage point difference in popularity between the youngest and oldest age groups, and in France a 31 percentage point difference.

Figure 5.24 Weekly use of internet connection to visit social networks, by age

All respondents



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q.8 Which, if any, of the following activities do you use your internet connection for at least once a week?

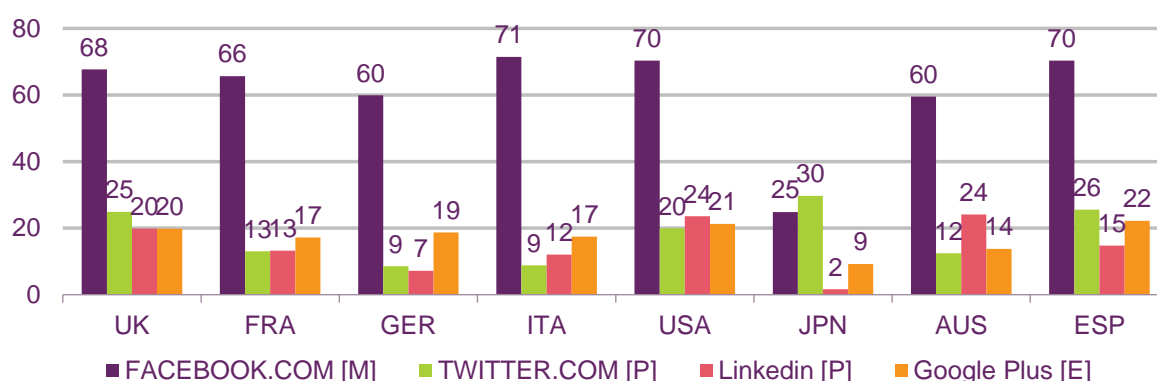
Facebook is by far the most popular social network in our comparator countries, apart from Japan, where Twitter is more popular

Facebook was the most popular social network, by a significant margin, in seven of the eight comparator countries shown in Figure 5.25. Among these countries, Facebook was most popular in Italy, where 71% of respondents accessed it at least once in August 2014. The UK (68%) and Spain (70%) were also among the countries where Facebook was most popular.

Japan was the only comparator country where another social network, in this case Twitter, was more popular than Facebook (30% vs. 25%) in August 2014. There was no consistent second-place social network across the comparator countries. In the UK and Spain, Twitter was the second most popular, with a reach of 25% and 26% respectively. The professional-oriented social network LinkedIn was the second most popular social network in Australia and the US, with an active reach of 24% in both countries.

Figure 5.25 Active reach of selected social networks on laptop and desktop computers

Active reach (%)



Source: comScore MMX, home and work panel, August 2014, persons 15+

Among mobile internet users, the US and the UK have the most active social networkers

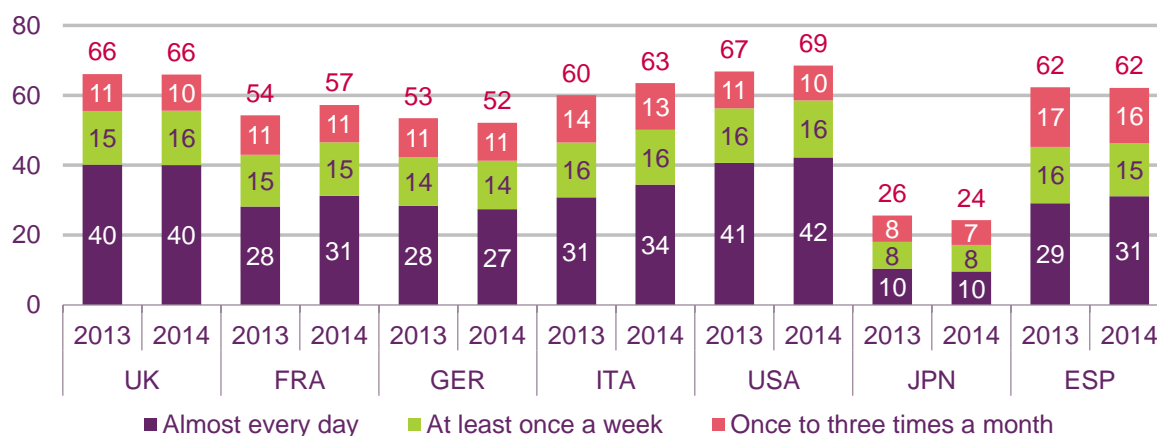
The UK was second only to the US in the proportion of mobile internet users who used their handset to visit social networks in August 2014 (Figure 5.26). The UK also had the second highest proportion of daily users, after the US, with two-thirds of UK mobile social networkers stating that they visited a social networking site using their handset almost every day. Overall use of social networking sites continued to grow in France and Italy, with growth coming from those users who used social networks daily. In Spain, overall use of social networking sites remained static, but more users visited social networks on a daily basis in August 2014 than they did in August 2013.

Japan has by far the lowest proportion of mobile internet users accessing social networks, of all the comparator countries. Just under a quarter of mobile internet users do social networking each month. The percentage of mobile internet users who use social networks also dropped in Japan, with a lower proportion of mobile internet users accessing these services infrequently (two or three times a month). This is the second year in which the proportion of mobile internet users accessing social networks has fallen in Japan.

For a second year in a row, the proportion of mobile social networkers in the UK remained static, with no change in the overall proportions of UK mobile internet users using their handset for social networking. Between August 2013 and August 2014 a higher proportion of mobile internet users accessed social networking sites weekly, although there was no change in the daily users.

Figure 5.26 Monthly accessing of social networks on mobile phones

Proportion of mobile internet users (%)



Source: comScore MobiLens, August 2013 (three-month average) and August 2014 (three-month average), mobile internet users aged 13+

5.3.5 Online video

This analysis looks at web-based video. 'Web-based video' refers to free videos or video clips on websites that are accessible using a browser or the website's application.

Across our comparator countries Italy has the highest claimed viewing of online video clips via computers, mobile phones and tablets

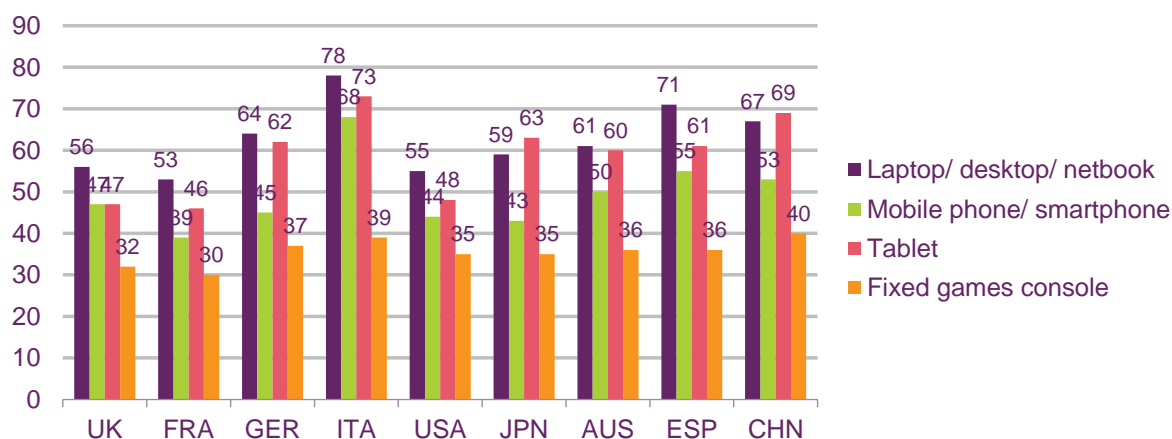
In Italy, 78% of computer (desktop, laptop or netbook) owners, and 73% of tablet owners, claimed to view online video clips through each of these types of device in October 2014

(Figure 5.27). This was the highest across all nine comparator counties, and compares to 56% and 47% respectively in the UK. The levels of viewing video clips on computers and tablets in the UK were relatively similar to France and the US. However, France had the lowest cited viewing via a mobile phone, at 39%.

Games consoles had the lowest claimed use for video clips across all of the four types of device in our comparator countries, ranging from 30% in France to 40% in China.

Figure 5.27 Accessing online video clips, by device ownership

All respondents who access internet with each device (%)



Source: Ofcom consumer research October 2014

Base: All respondents with each device, laptop/desktop/netbook 902-953 in each market, mobile phone/ smartphone 443-808 in each market, tablet computer 209-446 in each market, games console attached to TV 63-131 in each market.

Q.9c What sorts of video content do you watch on each of your devices over the internet?

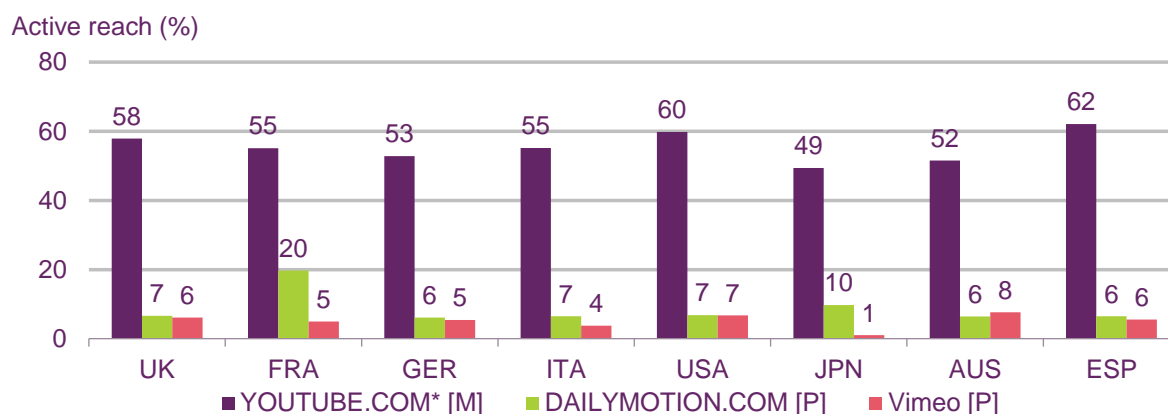
YouTube was visited by at least half of all laptop and desktop users in the majority of comparator countries

YouTube was more popular in Spain than in any other comparator country, with almost two-thirds (62%) of its internet users visiting the website at least once a month. YouTube was significantly more popular than any other of our selected online video websites, across all the comparator countries (Figure 5.28). The popularity of YouTube was also evident from our analysis of the most popular search terms on Google (Figure 5.21), where it appeared in the top three most searched-for terms in six of the eight countries analysed (Figure 5.28). YouTube states that over six billion hours are watched each month on YouTube, and 40% of that time is spent watching on mobile devices¹⁰¹.

YouTube's lead was narrowest in France, where 20% of internet users visited Dailymotion, a French video-sharing website with a global reach, in August 2014, against the 55% of users who visited YouTube in the same period. Dailymotion was the second most popular video-sharing website in five of the eight comparator countries. Only video sharing sites with a worldwide reach were considered in this analysis, so there may be other nation-specific video sites with higher reach than those included below.

¹⁰¹ YouTube statistics, <https://www.YouTube.com/yt/press/en-GB/statistics.html>

Figure 5.28 Active reach of selected online video websites on laptop and desktop computers



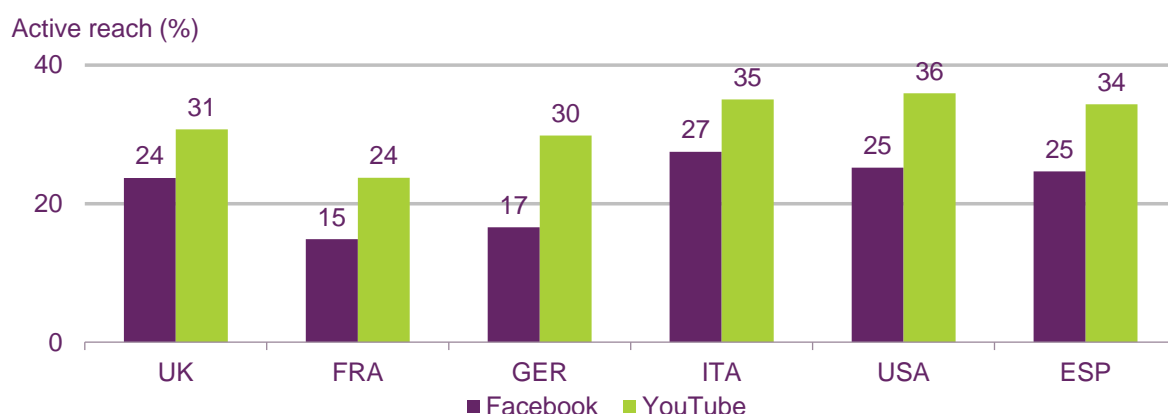
Source: comScore MMX, home and work panel, August 2014, persons 15+

A quarter of mobile internet users used Facebook to access video content in the UK, Spain, Italy and the US

This analysis was restricted to the comparison of two websites, YouTube and Facebook, which have worldwide reach. This analysis did not include very short video such as that available on Vine and Instagram.

Of the two websites analysed, YouTube was the most popular among mobile internet users for viewing online videos (Figure 5.29). YouTube was most popular in the US, where 36% of mobile internet users visited the site at least once in August 2014, and least popular in France, where only a quarter (24%) of mobile internet users did so. YouTube's lead was narrowest in the UK, where 24% of mobile internet users watched video on or through Facebook, compared to 31% who visited YouTube on their mobile devices.

Figure 5.29 Active reach of selected websites for viewing online video on mobile



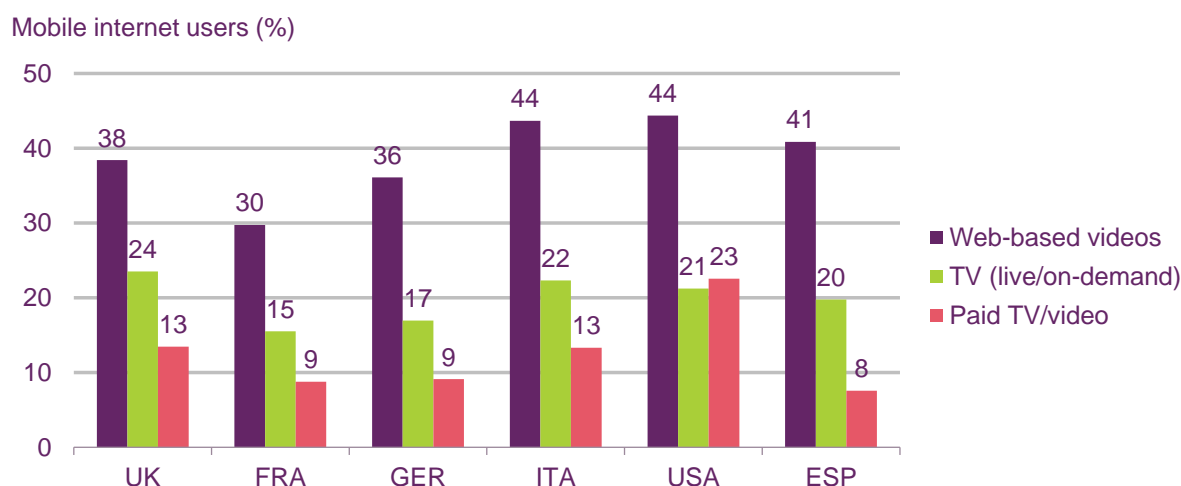
Source: comScore MobiLens, August 2014 (three-month average), mobile internet users aged 13+

Mobile users across all our comparator countries accessed more paid TV/video in August 2014 than in August 2013, but web-based videos were by far the most popular form of video

Since 2013 there has been growth in the number of users who access paid video on their mobile devices. The UK has had the largest proportional growth; 9% of users accessed paid services in August 2013, rising to 13% in August 2014. The proportion of mobile internet users watching web-based videos rose in all six comparator countries.

Mobile internet users were far more likely to access web-based videos than any other kind of TV or video content in August 2014 (Figure 5.30). Users in the US and Italy were among the most likely to access this type of video content on a mobile device, and those in France were among the least likely. Watching TV (live or on demand) was the second most popular type of video-watching activity on mobile devices across all of our comparator countries except for the US, where users were more likely to watch paid TV and video. Mobile internet users in the UK were more likely to watch TV using their mobile device (at 24%) than users in any of the other comparator countries, which may reflect the UK's well-established online catch-up services from free-to-air broadcasters.

Figure 5.30 Type of TV/video service accessed on mobile



Source: comScore MobiLens, August 2014 (three-month average), mobile internet users aged 13+

5.3.6 Online news

Internet users in China, Japan and Italy are most likely to see the internet as their primary source of news

Users in China were more likely than those in any of the other comparator countries analysed to claim that the internet was their primary source of any kind of news, with over half claiming that the internet was their primary source of both 'world' (56%) and 'national' (54%) news (Figure 5.31).¹⁰² There is also some evidence¹⁰³ of a greater preference to consume news online in China: four of the top five news websites in China are online-only entities, rather than newspapers, broadcasters or news agencies that have diversified online.

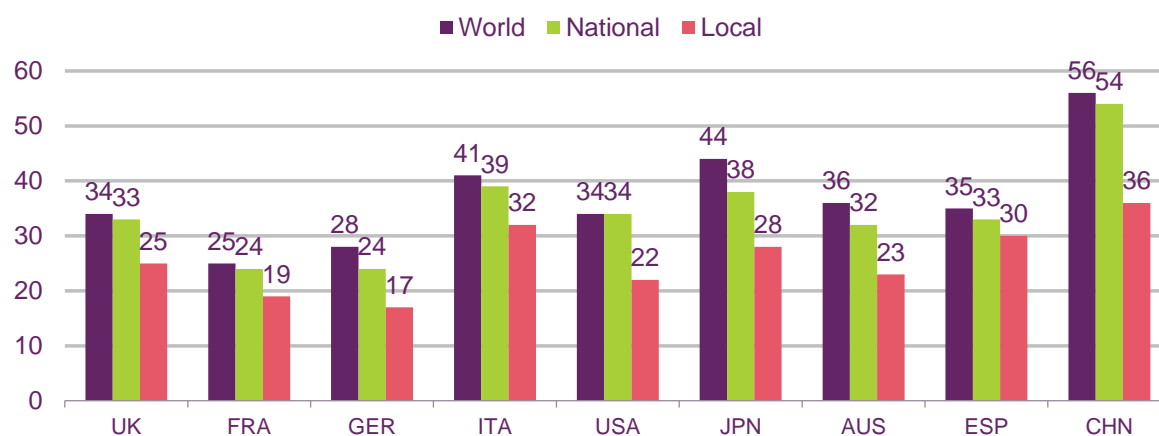
In most of our comparator countries the internet was more likely to be the most important source for world news than it was for national and local news. The exception was the US, where the same proportion of users (34%) saw the internet as their primary source for world news and national news. Respondents in all of the comparator countries were less likely to consider the internet their primary source of 'local' news than for 'world' or 'national' news.

¹⁰² As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and may not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

¹⁰³ *International Online News Consumption*, Communications Chambers, January 2012

Figure 5.31 The internet as a primary source of news

Proportion of respondents claiming internet was their primary source of world/national/local news (%)



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q.11 Which, if any, is your main source for the following information?



The International Communications Market 2014

6 Telecoms and networks

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6.1 Key market developments in telecoms and networks

6.1.1 Overview

The telecoms section of this report looks at the fixed voice, fixed broadband and mobile voice and data markets in our 18 comparator countries. The section is split into three parts:

- **Key market developments** – provides an overall context, and highlights key developments in international telecoms markets, including the growth of next generation access (NGA) networks and the increasing use of VoIP services.
- **The telecoms industry** – provides a ‘top-down’ approach by looking at the telecoms sector from an industry and operator viewpoint, and compares and contrasts trends in revenues and market structures across our comparator countries, before looking specifically at voice and data markets.
- **The telecoms user** – provides a ‘bottom-up’ approach from the point of view of consumers, and looks at the overall take-up of communications services, before focusing specifically on consumers’ experience of fixed-line voice, fixed broadband and mobile voice and data use.

6.1.2 Introduction

The availability and take-up of internet services continued to increase in 2013. Online services have become more important to consumers and businesses, as availability and reliance on the internet for transactions, information and entertainment, among other things, grows. Increasing internet access speeds allow the internet to be used in a variety of new ways, and next generation access (NGA) technologies are becoming increasingly available as the industry moves to meet increasing demand from consumers for higher speeds.

Take-up of fixed-line broadband services grew across the majority of the comparator countries in 2013, with Japan experiencing the largest annual change in fixed broadband take-up, from 32 connections per 100 population in 2012 to 35 connections per 100 population in 2013. The availability of fixed-line broadband services also increased across our comparator countries in the five years to 2013, except in the UK, South Korea, and Australia, which remained at a stable high level (100%, 100% and 95% respectively).

Mobile data use has increased significantly across our comparator countries in the five years to 2013. In 2008, the average mobile data use was 70MB a month per mobile data connection, increasing to an average of 426MB a month per mobile data connection over the five years to 2013. This growth in mobile data use has been driven by several factors such as the increase in the number of mobile data connections (including handsets and dedicated mobile data connections) and the advancement of mobile data technology (from 2G to 3G and 4G¹⁰⁴). In our comparator countries, the number of mobile data connections has increased from 483 million in 2008 to 1.9 billion in 2013.

Smartphones have had a large effect on the mobile data landscape, and increasing data use is due in part to the increasing take-up of smartphones. As a result of the numerous applications on smartphones that require mobile data, and the fact that smartphones can be

¹⁰⁴ The fourth generation of mobile communication standards, providing higher speeds than the preceding standards (1G, 2G and 3G)

used to access the internet, it is likely that when a consumer upgrades from a non-smart phone, their data use will increase.

The number of 4G connections has increased year on year since the commercial launch of 4G services. In 2013 4% of total mobile subscriptions were 4G across our comparator countries, more than double the proportion a year previously. While this is a relatively small proportion, the figure is much higher in some countries, such as South Korea (51%) and Singapore (24%).

In this section we analyse two of the key developments which are currently shaping telecoms markets, looking at both consumer and industry data:

- **The growth of next generation access (NGA) connections, both in terms of take-up and availability.** We look at how NGA availability and take-up is shaping consumers' use of online services as well as its effects on consumer satisfaction.
- **The revenues, take-up and use of managed VoIP connections.** We look at the managed VoIP market, concentrating on the patterns of use and take-up, including an analysis of the devices used to access VoIP services.

Figure 6.1 Key telecoms indicators: 2013

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHN	NGA
Telecoms service revenues (£bn)	29	21	27	19	179	85	16	16	8	5	6	3	19	31	22	15	106	7
Monthly telecoms revenues per capita (£)	37	26	27	26	47	56	58	28	37	39	14	51	33	13	13	1	7	3
Fixed voice connections per 100 population (inc. managed VoIP)	59	60	45	37	42	45	44	41	43	41	18	36	55	22	29	2	20	0
Monthly outbound fixed minutes per capita	137	131	172	92	124	87	144	94	100	111	25	85	108	70	84	5	9	0
Mobile connections per 100 population	130	117	140	159	106	114	131	107	128	148	148	156	113	137	169	71	91	73
Mobile data connections per 100 population	77	64	51	74	100	113	136	79	60	133	110	153	110	76	61	18	38	40
4G as % of all mobile connections	4	4	5	3	23	22	20	3	4	11	2	24	51	0	1	0	0	0
Monthly outbound mobile minutes per capita	175	175	117	205	339	132	149	126	115	222	165	279	203	181	269	127	178	67
Average mobile data volumes per person (Mbyte)	251	192	271	469	794	1101	763	239	421	2,305	261	439	1,369	102	135	8	58	65
Fixed broadband connections per 100 population	36	38	34	23	29	35	28	26	41	34	21	30	37	10	18	1	15	0
Average monthly fixed broadband data volumes per person (Gbyte)	11	10	9	6	15	27	8	7	15	24	4	20	43	2	3	0	2	0
NGA connections per 100 population	11	3	9	1	20	25	9	7	23	20	7	19	33	4	11	0	4	0
Dedicated data-only mobile broadband connections per 100 population	8	6	10	13	8	10	26	4	7	23	11	3	5	3	13	0	1	3
Managed VoIP connections per 100 population	7	36	16	5	15	20	3	6	31	16	3	8	19	3	1	0	1	0

Sources: IHS / industry data / Ofcom

6.1.3 Next generation access (NGA) networks expand in both availability and take-up as networks continue to grow

NGA network availability and technology greatly differed by country in 2013

There are many factors that lead to the varied availability of NGA connections across countries. Available investment for new infrastructure is a large factor in the coverage differences between comparator countries, with more developed countries often having higher coverage percentages than developing countries. Another large factor is housing density; it is more expensive to provide coverage in countries with lower housing densities, along with the presence of existing cable networks.

Next generation access (NGA) technology and 'superfast' broadband

'Superfast' broadband is generally considered to be a broadband service that delivers speeds of 30Mbit/s or higher. Next generation access (NGA) refers to those technologies that are capable of delivering superfast broadband services.

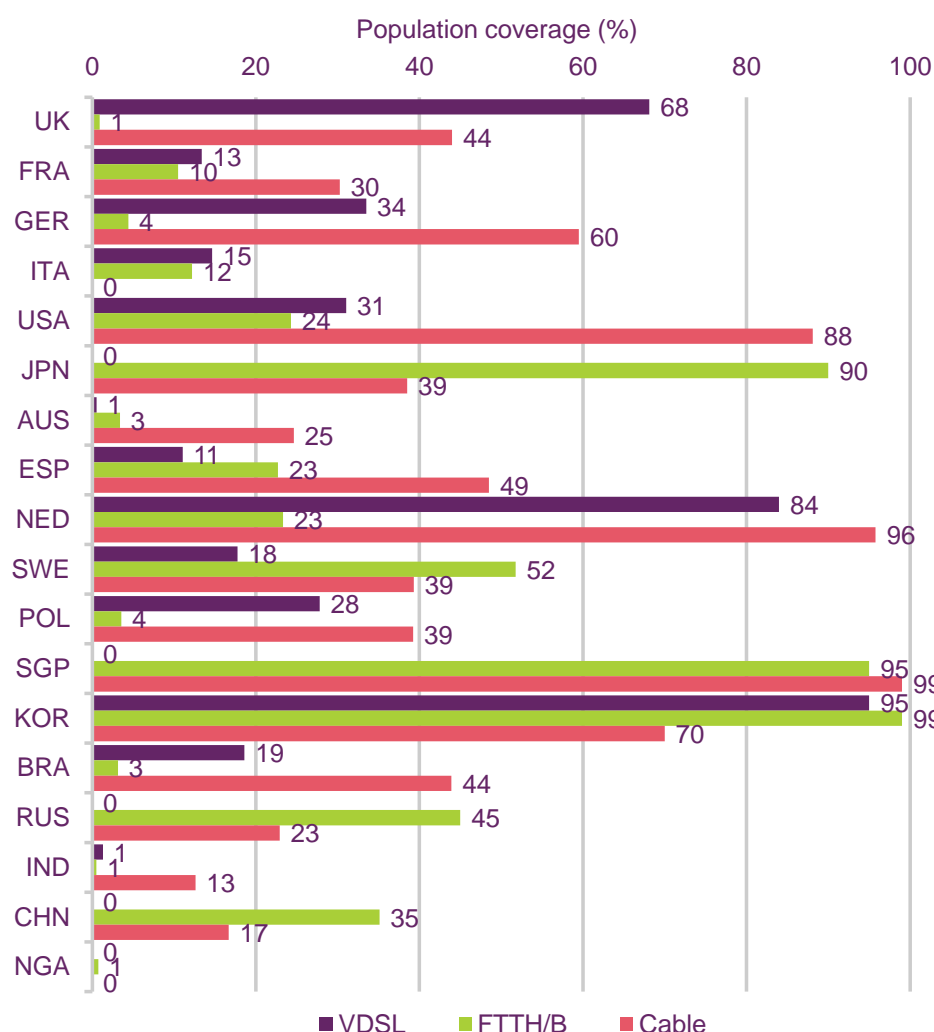
The terms 'superfast broadband' and 'NGA' are often used interchangeably. NGA connections do not always deliver 'superfast' speeds. Examples of this are fibre-to-the-cabinet, where the speed the consumer receives may be below 30Mbit/s if the copper wires between the cabinet and the house are relatively long, or where a service that it provided over an NGA technology is capped at a speed below 30Mbit/s.

As the measurement of broadband services in different countries improves, and 'superfast' take-up increases, this distinction is becoming both measurable and more important. Therefore we have decided to define 'superfast' broadband as a broadband service providing modem sync speeds of 'more than or equal to' 30Mbit/s. The modem sync speed represents the highest possible speed at which data can be transferred across the line.

In the UK, VDSL NGA technology was available to 68% of the population, while cable services were available to 44%, at the end of 2013 (Figure 6.2). These figures are comparable to the majority of comparator countries, excluding South Korea, Singapore and Japan, which typically had very high availability of most NGA technologies. FTTH/B technology was only available to around 1% of the UK population by the end of 2013, a low figure compared to the majority of non-BRIC comparator countries. This is partly due to BT making the investment decision to deploy VDSL instead of FTTH/B. Building the infrastructure for VDSL is considerably less expensive than rolling out FTTH/B, although it is a generally slower technology.

In countries such as Singapore, Japan and South Korea, the providers upgraded directly from non-NGA connections such as ADSL to FTTH/B connections, leading to the current high availability of this connection type at the end of 2013, at 95%, 90% and 99% respectively.

Figure 6.2 Availability of NGA networks by technology and country: 2013



Source: IHS

Take-up of NGA broadband varies widely between countries

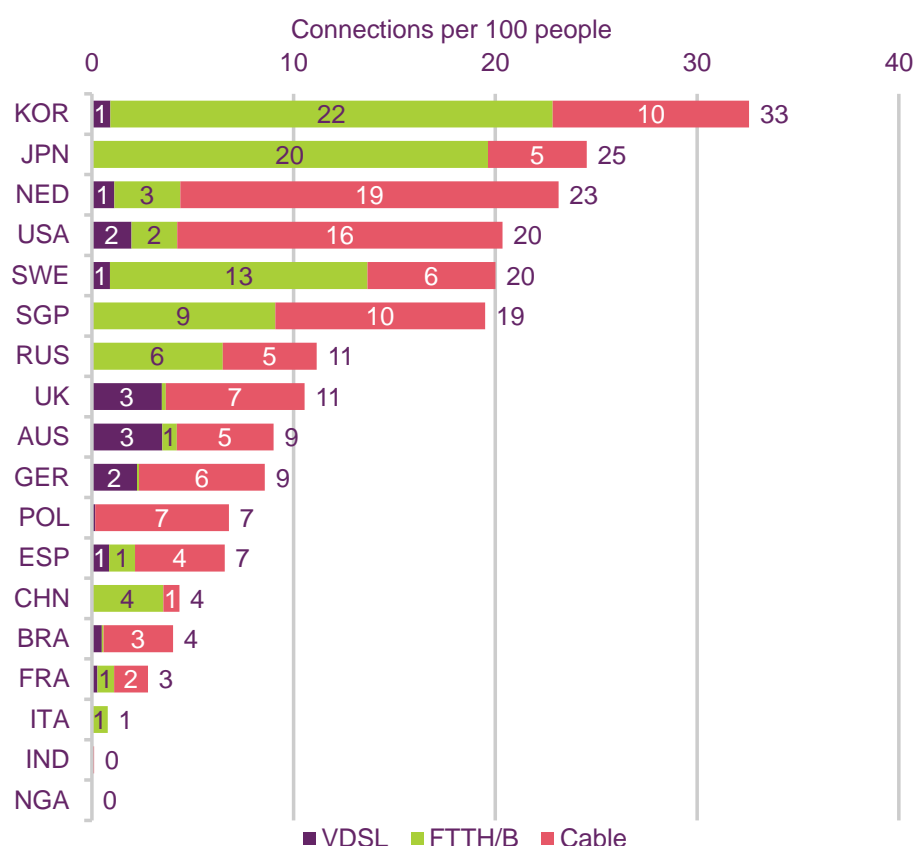
The number of NGA connections per 100 people at the end of 2013 varied between countries, from zero (in India and Nigeria) to 33 connections per 100 population (in South Korea).

India, Brazil, Nigeria and China had low take-up of NGA services at the end of 2013, possibly due to lower economic prosperity and lower levels of investment in infrastructure (Figure 6.3). South Korea had the highest number of NGA connections per 100 people at the end of 2013, followed by Japan, at 25 connections. This is likely to be due to the early introduction of NGA technology in these countries, as well as the high population densities. The UK had 10 NGA connections per 100 people at the end of 2013, ranking eighth among our comparator countries. The majority of the NGA connections in the UK were cable connections; there was less than one FTTH/B connection per 100 people at the end of 2013.

The number of FTTH/B connections per 100 people was low across most comparator countries in 2013, except in the case of Japan, Sweden and South Korea, which had 20, 13 and 22 FTTH/B connections per 100 people respectively. The relatively low take-up of FTTH/B is probably due to a lack of availability, because of the high cost of infrastructure for this technology. In contrast, cable and VDSL were the most prevalent NGA technologies

across the comparator countries at the end of 2013, most likely due to the existence of legacy cable infrastructure and the relative cost of VDSL compared to FTTH/B.

Figure 6.3 NGA broadband connections per 100 people, by technology: end 2013



Source: IHS

Note: NGA on the left hand side of the chart is the country code for Nigeria, and does not refer to next generation access technologies.

The UK has the second highest proportion of fixed broadband connections, with headline speeds of 30Mbit/s or higher among the EU5 countries, after Spain

In every comparator country, the proportion of fixed broadband connections with a headline speed 'less than or equal to' 2Mbit/s dropped in the five years to 2013 (excluding those which already had a proportion of less than 1% in 2008). Germany had the smallest decrease of the comparator countries, at less than one percentage point. The proportion of connections with a headline speed greater than 2Mbit/s and 'less than or equal to' 8Mbit/s fell in the majority of countries, excluding Italy, Australia, Poland and India, where it is likely that connections in this range replaced the slower connections.

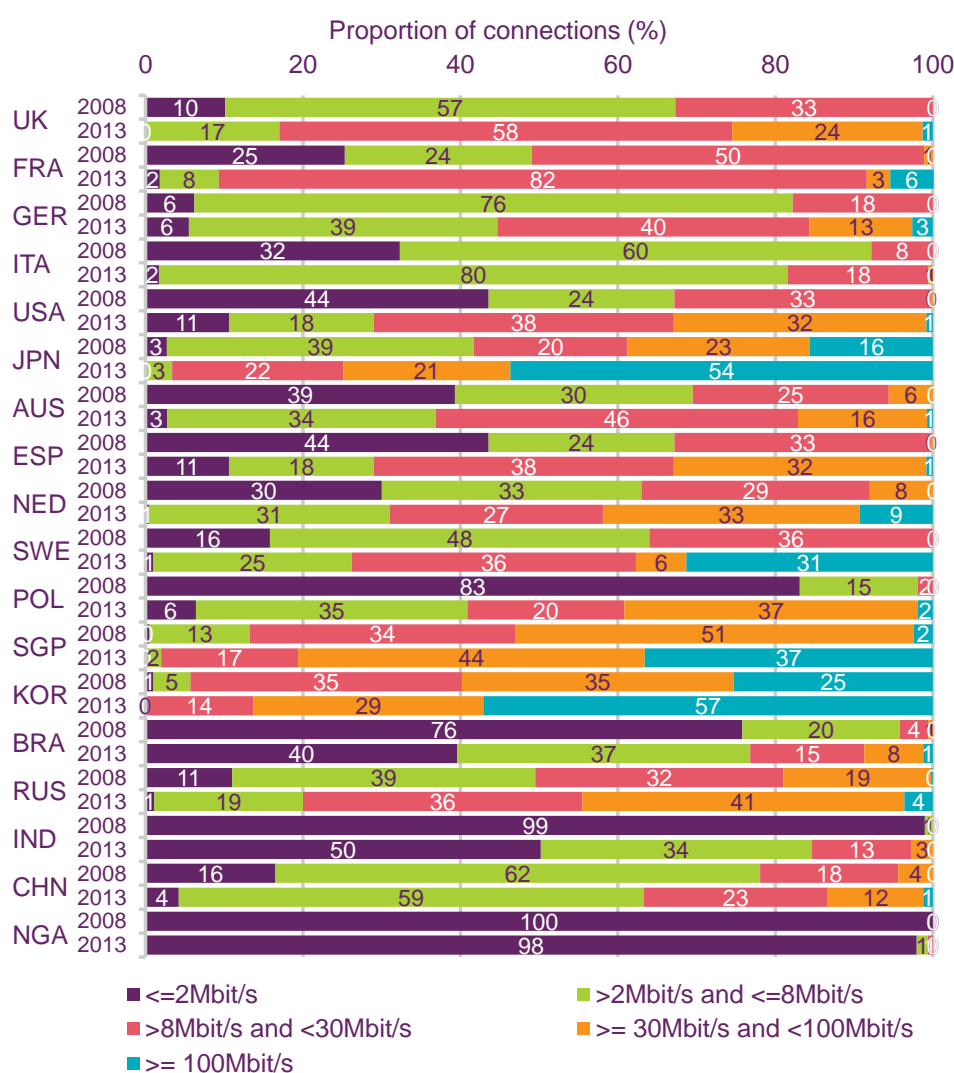
The UK's proportion of headline speeds of 'more than' 30Mbit/s increased in the five years to 2013, with connections 'more than or equal to' 30Mbit/s and 'less than' 100Mbit/s increasing in proportion by 24 percentage points, and connections 'greater than or equal to' 100Mbit/s increasing by one percentage point; from 0% to 1%. These changes in the UK fixed-line broadband take-up by headline speed are indicative of the year-on-year average actual speed increases that the UK has been experiencing.¹⁰⁵ When compared to the other EU5

¹⁰⁵ <http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/broadband-speeds-may2014/>

countries, the UK (at 25%) came second in terms of its proportion of connections 'greater than or equal to' 30Mbit/s, after Spain (33%).

South Korea had the highest proportion of connections with a headline speed of 'more than or equal to' 100Mbit/s. This is likely to be due to high levels of government and ISP investment in fixed-line broadband infrastructure (mainly FTTH/B), as well as high population concentration and the prevalence of high-rise residential buildings.

Figure 6.4 Fixed broadband connections, by headline speeds: 2008 and 2013



Source: IHS

Other than price, download speed is the biggest factor in respondents' choice of broadband service across our comparator countries

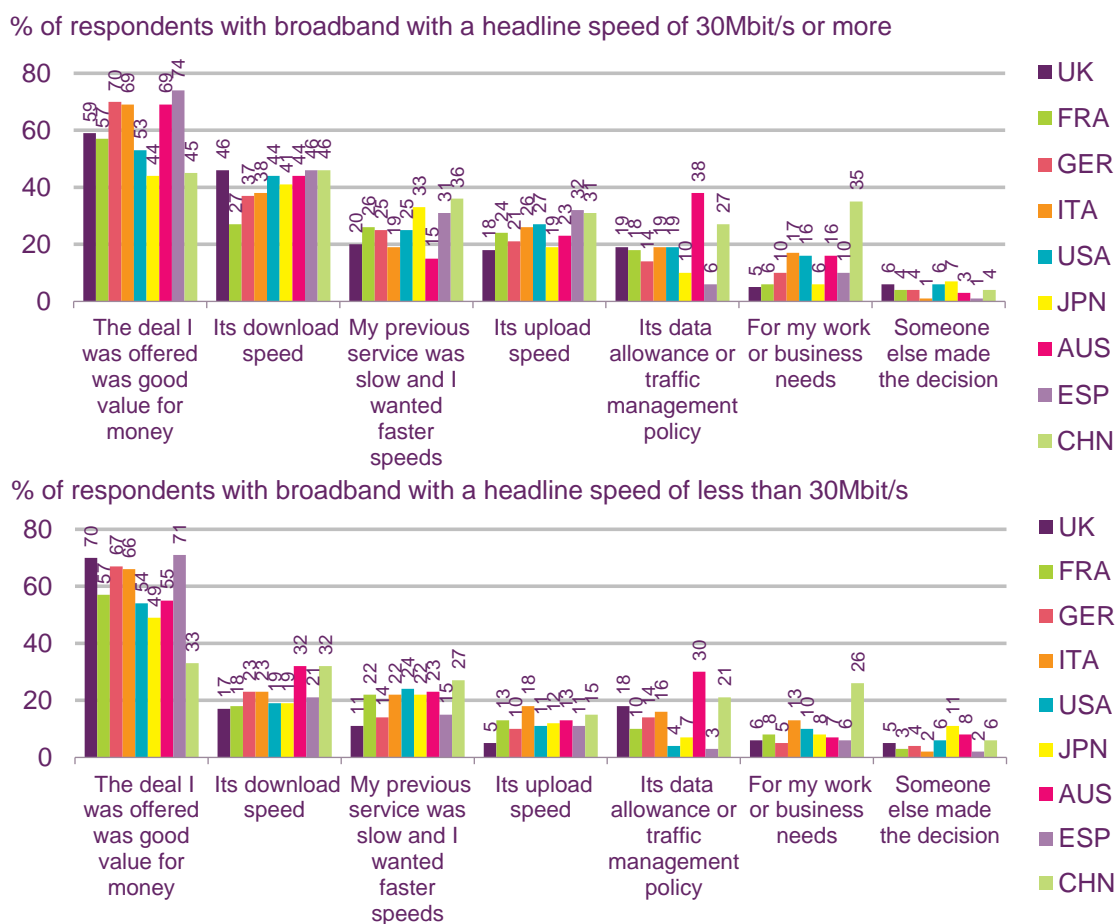
Value for money was the reason most frequently cited by respondents for choosing their current fixed broadband service, both among those with connections at a headline speed of 30Mbit/s or more, and those with speeds less than 30Mbit/s (Figure 6.5).

Respondents whose fixed broadband connections had a headline speed of 30Mbit/s or higher were more likely than those with slower ones to cite download speed as a reason for choosing their broadband service, and this difference was most marked in the UK (46% vs.

17%). Across both headline speed groupings, and all comparator countries, more people cited download speeds than upload speeds as a reason for choosing their fixed broadband service.

The reason: 'Its data allowance or traffic management policy' was cited by less than 20% of respondents in all countries except for Australia and China¹⁰⁶.

Figure 6.5 Reason for choosing current fixed broadband service



Source: Ofcom consumer research October 2014

Base: All respondents with superfast broadband, UK=238, FRA=190, GER=254, ITA=114, USA=141, JPN=314, AUS=140, ESP=229, CHN=240

Base: All respondents with non-superfast broadband, UK=249, FRA=199, GER=269, ITA=304, USA=137, JPN=107, AUS=122, ESP=359, CHN=534

Q.29 Why did you choose your home broadband service?

¹⁰⁶ [1] As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

6.1.4 Increasing number of consumers use managed VoIP as an alternative to traditional telephony

The Netherlands had the highest proportion of fixed voice revenues¹⁰⁷ generated by managed VoIP services in 2013

The proportion of fixed voice revenues that were generated by managed voice over internet protocol (VoIP) services was highest in the Netherlands, among our comparator countries, in 2013, at 29%, a 17 percentage point increase compared to 2008 (Figure 6.6). The second highest proportions were seen in the US and Japan, both at 23%.

VoIP definitions

Managed VoIP refers to the provision of a packet-switched voice over internet protocol (VoIP) service over a fixed broadband network such as xDSL, FTTP and cable. Managed VoIP includes VoIP as a primary service (such as VoIP over FTTP or naked xDSL) and as a secondary service (such as VoIP over xDSL, where the subscriber also pays a monthly fee for a PSTN line). OTT VoIP services consumed over fixed broadband connections, such as Skype, are not included within the definition of managed VoIP because they do not support emergency calling and are therefore not marketed as landline replacement services.

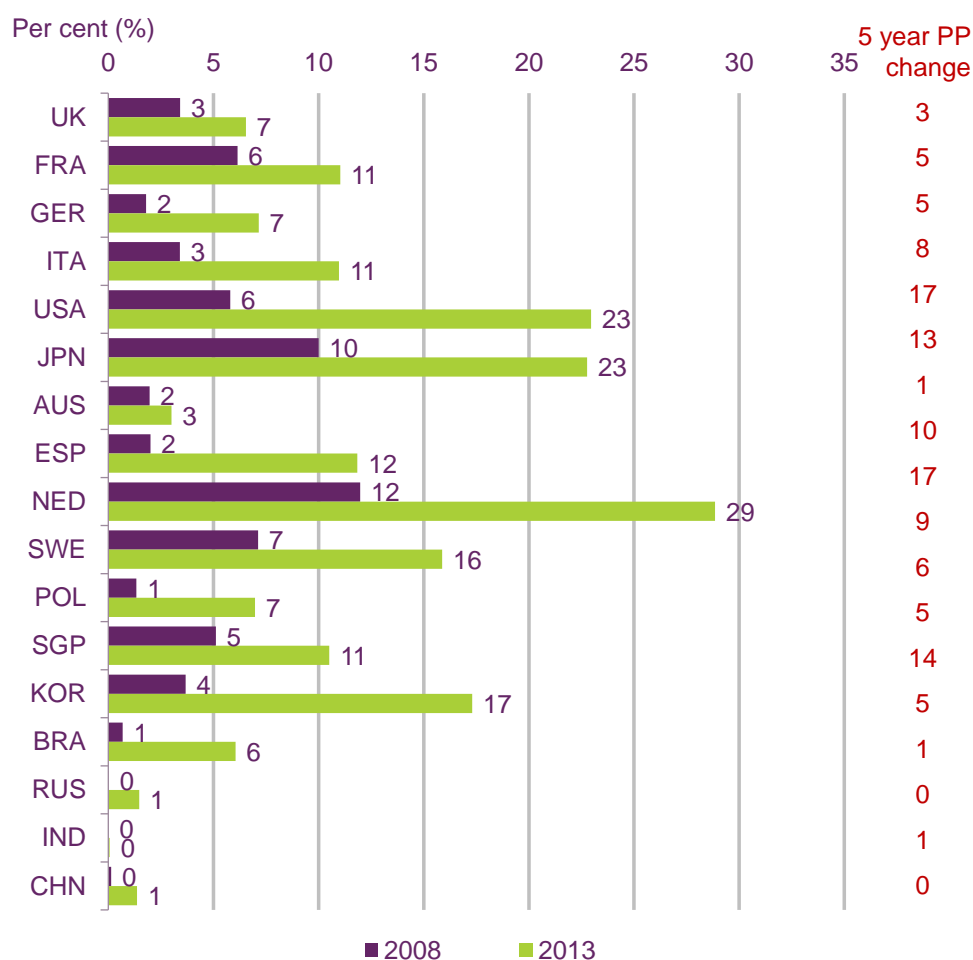
Over-the-top (OTT) services are provided over the internet rather than a managed network and are delivered directly to the end-user by the service provider, independent of the internet service provider (ISP) which owns the network over which the service is provided.

In the BRIC countries (Brazil, Russia, India and China), managed VoIP services represent only a small fraction of the fixed voice market, although the proportion of total fixed voice revenues generated by managed VoIP services increased from 1% to 6% in Brazil in the five years to 2013. Nigeria was the only country where managed VoIP was not present in 2013, and we have excluded Nigeria from the analysis in this section of the report.

In the UK, the proportion of total fixed voice revenues generated by managed VoIP services was 7% in 2013, the same proportion as in Germany, but lower than in Spain (12%), France and Italy (both 11%). However, in terms of growth, the UK had the lowest level of increase of the EU comparator countries in the analysis; three percentage points in the five years to 2013.

¹⁰⁷ Total fixed voice revenue is defined by the total revenue from traditional fixed line voice services plus the total revenue from managed VoIP services.

Figure 6.6 Managed VoIP revenues as a proportion of fixed voice revenues: 2008 and 2013



Sources: IHS / Industry data / Ofcom

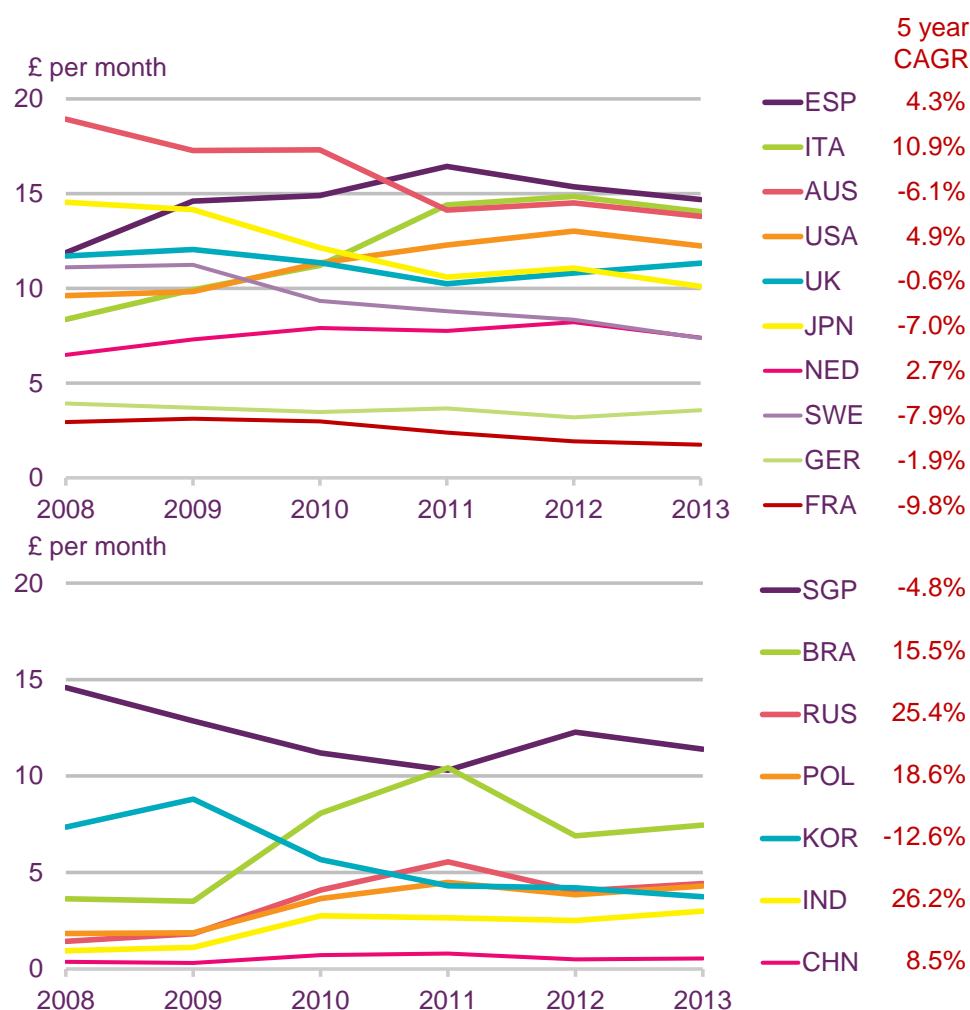
India had the largest average annual growth in monthly managed VoIP revenue per connection in the five years to 2013

Spain had the highest average revenue per managed VoIP connection among our comparator countries for which managed VoIP data were available in 2013, at £14.68 per month, followed closely by Italy at £14.05 (Figure 6.7). In contrast, China had the lowest average managed VoIP revenues per connection in 2013, at just £0.55 a month.

Among the EU comparator countries, France had the lowest average managed VoIP revenues per connection in 2013, at £1.75 per month, although it had the highest penetration of managed VoIP connections of all the comparator countries (see Figure 6.11). This is probably because France has a highly competitive fixed voice market and the majority of managed VoIP connections are delivered over naked DSL connections (internet connections that do not require a fixed voice line of any description). In the UK, the average monthly revenue per managed VoIP connection was £11.33 in 2013.

In the five years to 2013, India had the highest average growth rate of managed VoIP monthly revenue per connection, at 26.2% per year, followed by Russia (up 25.4% on the year) and Poland (up 18.6%), while South Korea saw the largest average decline over the same period, falling by 12.6% per year. In comparison, the average monthly revenue generated by managed VoIP services in the UK fell by 0.6% per year between 2008 and 2013.

Figure 6.7 Monthly managed VoIP revenue per connection



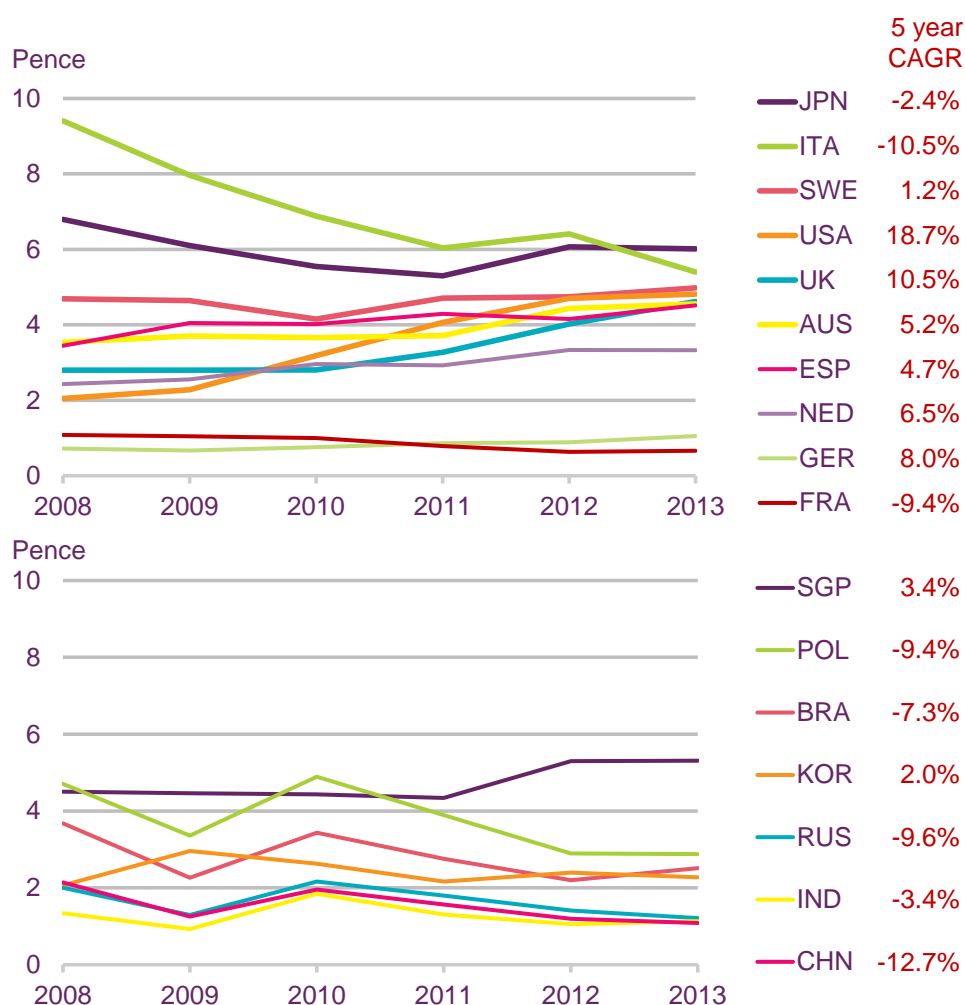
Source: IHS / industry data / Ofcom

Average per-minute managed VoIP prices were lowest in France among our comparator countries in 2013

France had the lowest average price per managed VoIP call minute in 2013, at 0.7 pence per minute, followed by Germany and China at 1.1 pence per minute (Figure 6.8). The average price per managed VoIP call minute was highest in Japan, Italy and Singapore in 2013, at 6.0, 5.4 and 5.3 pence per minute respectively (in the UK it was 4.6 pence, the sixth most expensive among all comparator countries where managed VoIP data were available).

The US had the largest average annual increase in the price of a managed VoIP minute in the five years to 2013, up by 18.7% a year. The UK had the second largest average increase over the same period; its per-minute managed VoIP call price rose by an average of 10.5% per year over this period. The largest fall in the average price of a VoIP call minute was in China, where prices fell from 2.1 pence per minute in 2008 to 1.1 pence per minute in 2013 (an average annual fall of 12.7%).

Figure 6.8 Average price per managed VoIP minute



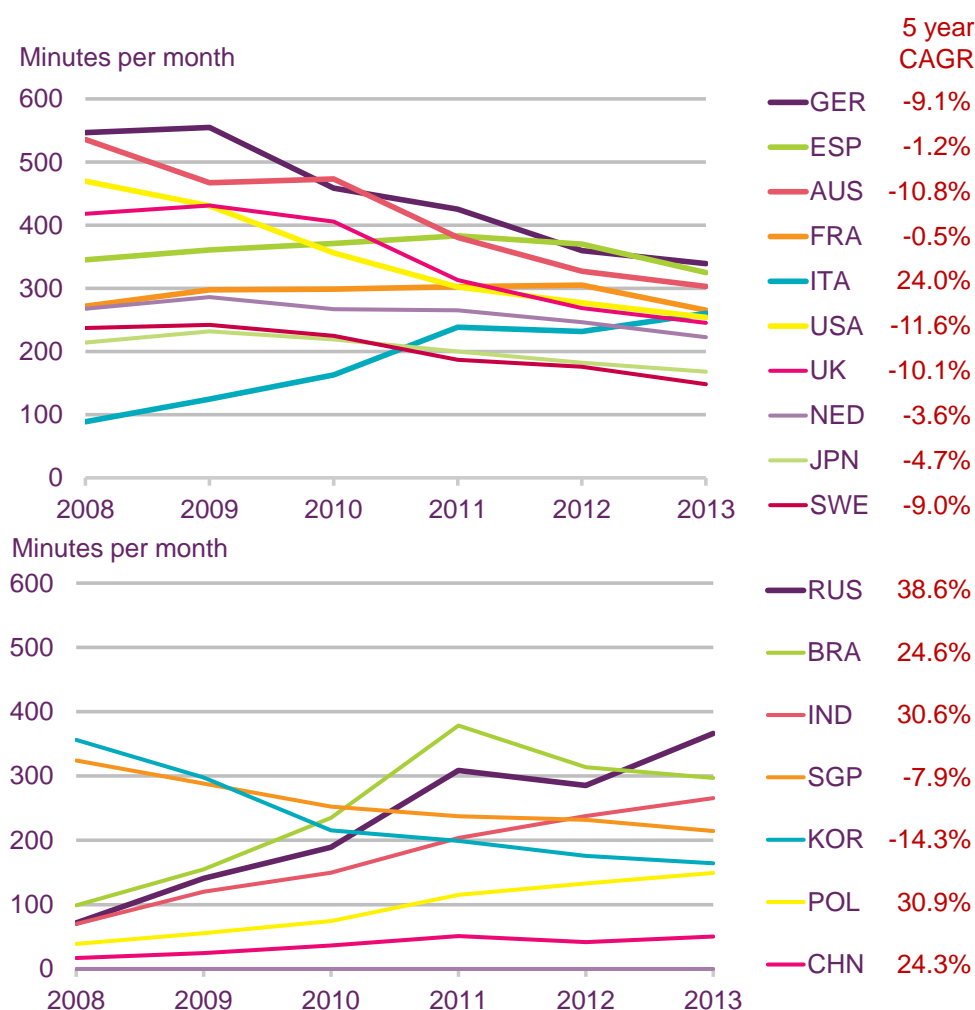
Source: IHS / industry data / Ofcom

Germany had the highest average monthly managed VoIP call minutes per connection in 2013

Germany had the highest level of managed VoIP minutes per connection in 2013, with an average volume of 339 minutes per month, while the monthly average use of managed VoIP was 245 minutes per connection in the UK (Figure 6.9). The average volume of managed VoIP was lowest in China in 2013, at 50 minutes per month per connection.

The highest average annual growth in monthly managed VoIP call minutes per connection was seen in Russia and Poland between 2008 and 2013, with increases of 38.6% and 30.9% respectively. Average monthly managed VoIP volume per connection fell by 14.3% a year on average in South Korea in the five years to 2013. Among the EU5 countries, Italy was the only country in which the monthly average use of VoIP increased between 2008 and 2013, rising by 24.0% a year per connection. Average monthly managed VoIP minutes per connection fell in the UK over the same period, at an average rate of 10.1% per year.

Figure 6.9 Average monthly managed VoIP call minutes per connection



Source: IHS / industry data / Ofcom

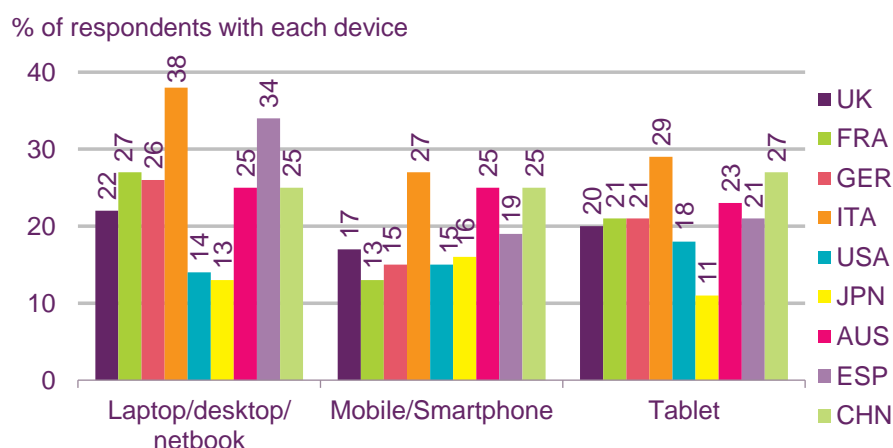
Cited levels of VoIP use on computers¹⁰⁸, tablets and mobile phones¹⁰⁹ are higher in Italy than in all other comparator countries

Italy had the highest proportion of respondents who claimed to use VoIP on each of the three device types: 38% for computers, 27% for mobile phones and 29% for tablets. For use on computers, Spain was in line with this, at 34%, while the US (14%) and Japan (13%) had the lowest levels of VoIP use. Japan had the lowest claimed use of VoIP on a tablet (11%). In the UK, around one in five owners of each device type used it to make VoIP calls (laptop/computer 22%, mobile phone 17% and tablet 20%). Despite the difference in scale, the US, Japan, Australia and China all showed similarly little variation between devices in this respect.

¹⁰⁸ Computers includes desktops, laptops and tablets.

¹⁰⁹ Mobile phones includes smartphones

Figure 6.10 VoIP use, by device type



Source: Ofcom consumer research October 2014

Base: All who own each device, UK=905/540/318, FRA=953/469/270, GER=949/531/263, ITA=902/762/384, USA=907/443/274, JPN=934/566/209, AUS=944/579/325, ESP=903/742/394, CHN=947/808/446

Q.9B. Which, if any, of the following ways of communicating over the internet do you use each of your devices for?

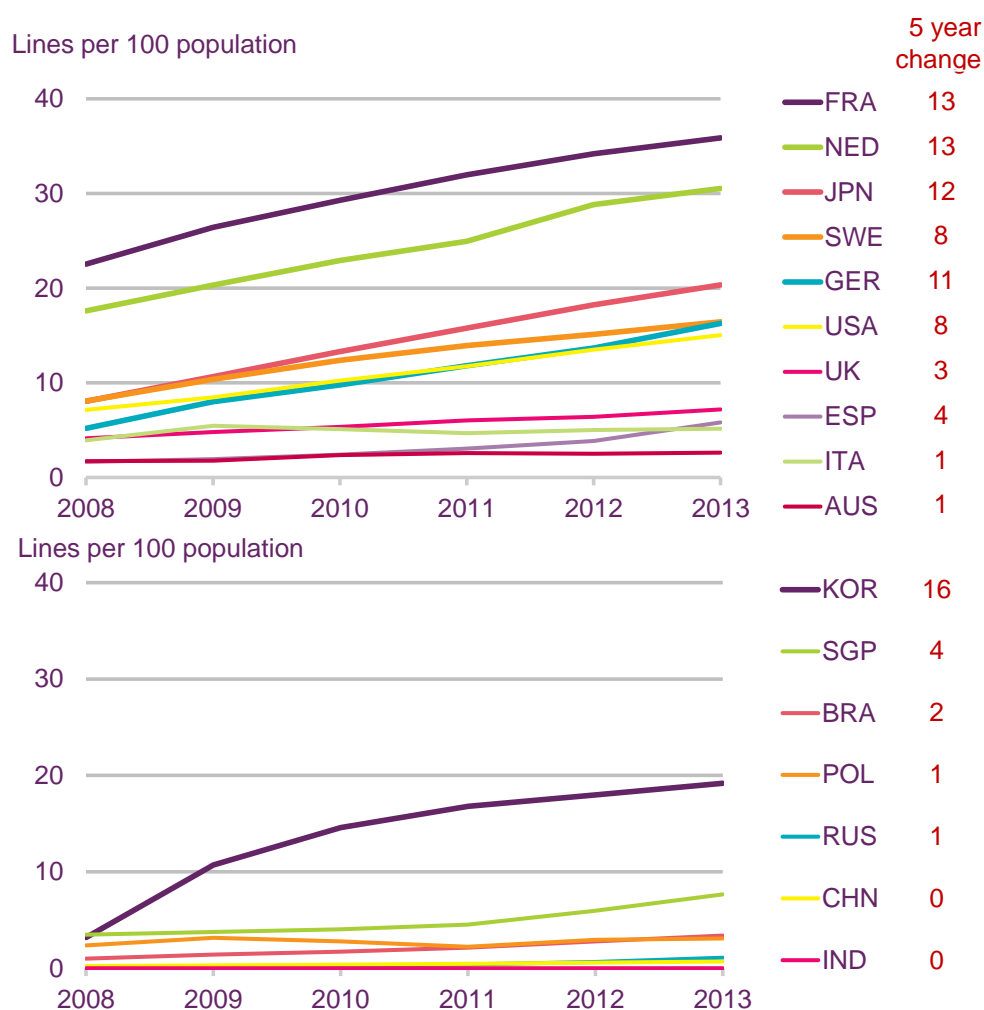
Managed VoIP connections per 100 people had increased in all comparator countries by the end of 2013

The number of managed VoIP connections per 100 people increased in all comparator countries (where managed VoIP data were available) between 2008 and 2013, with the largest increase being in South Korea; up by 16 connections from three connections per 100 people in 2008 (Figure 6.11). The increase in managed VoIP connections among the other comparator countries in the five years to 2013 ranged from less than one connection per 100 people in India to 13 per 100 people in France. The UK had an increase of three connections, to seven managed VoIP connections per 100 people, over this period.

In France, there were 36 managed VoIP connections per 100 people at the end of 2013; the highest among our comparator countries where managed VoIP data were available. As mentioned before, this is likely to be due to a combination of the high availability of naked unbundled DSL services, and the fact that managed VoIP services are cheaper than those delivered over traditional fixed lines.

The Netherlands had the second highest number of managed VoIP connections of our comparator countries at the end of 2013, with 31 connections per 100 people. At the end of 2013, the number of managed VoIP connections for the other comparator countries ranged from less than one per 100 people in India to 20 per 100 people in Japan.

Figure 6.11 Managed VoIP connections per 100 people



Source: IHS / industry data / Ofcom

The Netherlands and France had the most managed VoIP connections as a proportion of total fixed voice connections¹¹⁰ at the end of 2013

Virgin Media, the UK's largest cable provider, provides fixed voice services using PSTN technology. However, cable networks in some other comparator countries (such as the Netherlands) were not deployed with this capability, and where they do have the capability, fixed voice services are provided over managed VoIP connections, and take-up of managed VoIP services tends to be high.

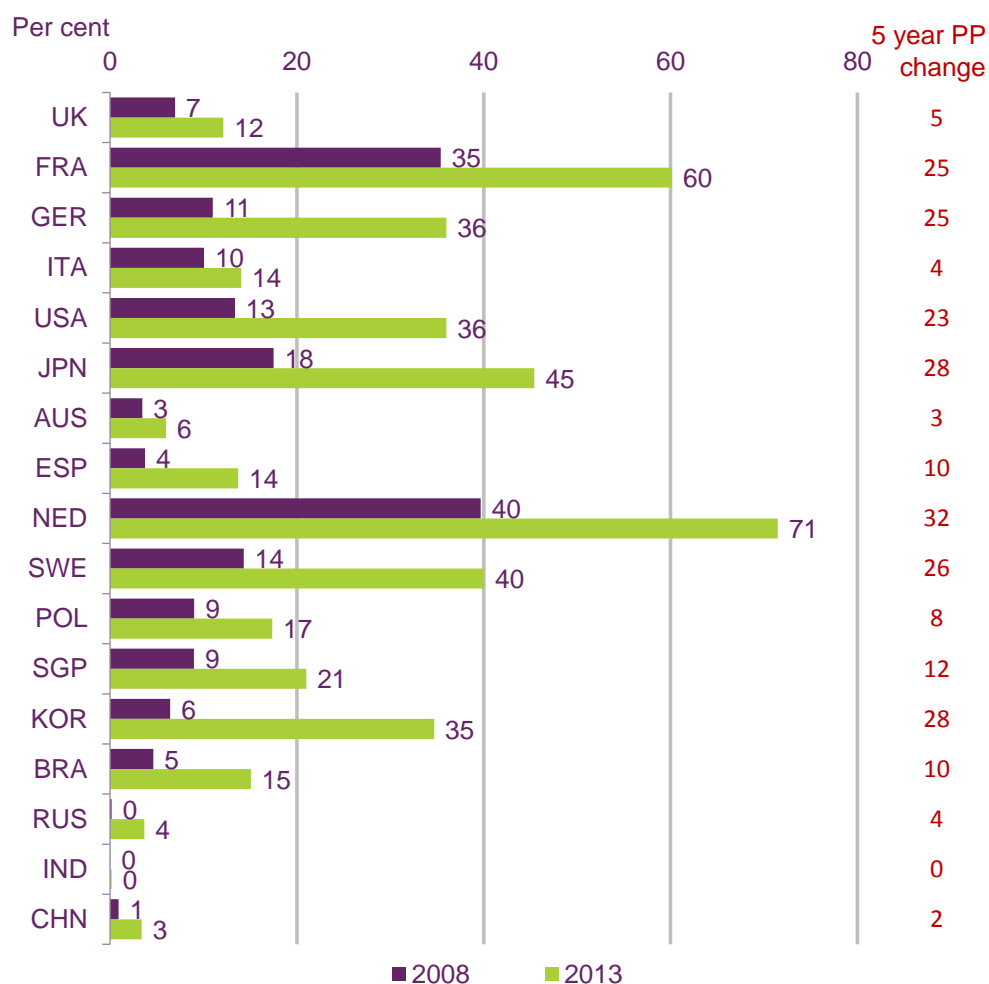
Managed VoIP connections as a proportion of total fixed voice connections were highest in the Netherlands and France at the end of 2013, at 71.5% and 60.2% respectively, while the proportion in the other comparator countries where managed VoIP data were available ranged between 0.2% in India and 45.4% in Japan (Figure 6.12). In the UK, 12.1% of all fixed voice connections were managed VoIP connections at the end of 2013.

The largest rise in the proportion of fixed voice connections that were provided using managed VoIP was in the Netherlands; up by 32 percentage points between 2008 and 2013.

¹¹⁰ Total fixed voice connections is defined as the total number of fixed landline connections plus the total number of VoIP connections.

The increase in the proportion of managed VoIP connections was five percentage points in the UK between 2008 and 2013, while for our other comparator countries where managed VoIP data were available, it ranged from less than one percentage point in India to 28 percentage points in South Korea over the same period.

Figure 6.12 Managed VoIP connections as a proportion of total fixed voice connections



Source: IHS / industry data / Ofcom

6.2 The telecoms industry

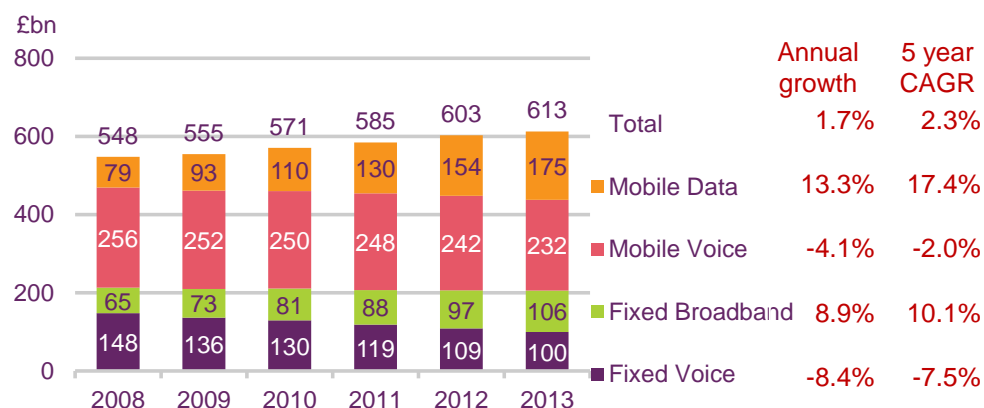
6.2.1 Market overview

Total comparator country retail telecoms revenues increased by 1.7% in 2013

Total retail telecoms revenues (including those generated by fixed voice, fixed broadband, mobile voice and mobile data services, but excluding narrowband internet revenues) increased by £10bn (1.7%) to £613bn across our 18 comparator countries in 2013 (Figure 6.13). Mobile services contributed 66.4% of retail revenues in 2013, a similar proportion as in the previous year. Total fixed voice revenues decreased by 8.4% (£9bn) to £100bn in 2013, as a result of falling fixed call volumes (down 8.0%) and fixed lines (down 5.7%). Total fixed broadband revenues increased by 8.9% (£9bn) to £106bn during the past year, due to a 7.2% increase in the total number of fixed broadband connections.

Total mobile voice revenues decreased by 4.1% (£10bn) to £232bn in 2013, despite increasing mobile voice call volumes (up 7.5%) and mobile connections (up 6.0%). Total mobile data revenues (including mobile messaging and mobile internet services) increased by 13.3% (£21bn) to £175bn in 2013, as a result of a 19.7% increase in mobile internet revenues, which was offset by a 4.0% fall in mobile messaging revenues. Total mobile data revenues more than doubled between 2008 and 2013, increasing by an annual average rate of 17.4%. Overall, fixed and mobile voice services generated 54.2% of the total revenue shown below, down from 58.2% in 2012 and 73.7% in 2008.

Figure 6.13 Total comparator country retail telecoms revenue, by sector: 2008 to 2013



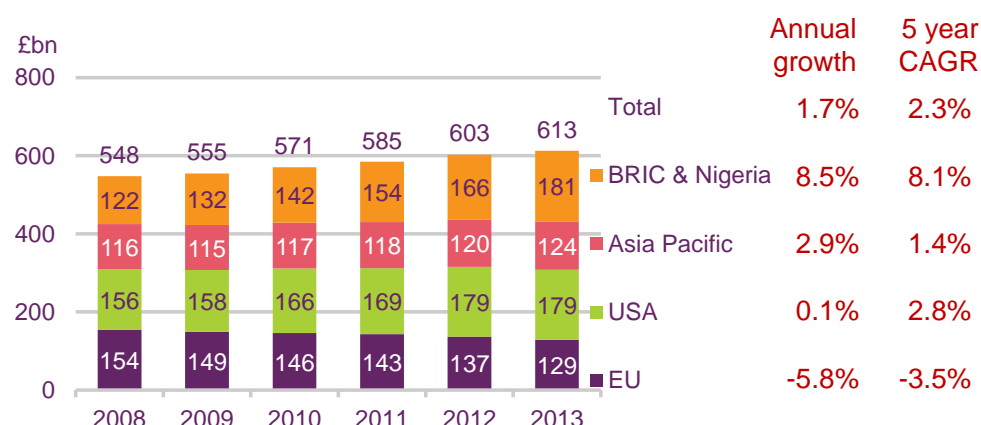
Sources: IHS / industry data / Ofcom

Note: Fixed voice revenues include managed VoIP revenues; voice revenues include access/line rental revenues and may include revenues relating to bundled data services.

The BRIC countries and Nigeria had the largest increase in total retail telecoms revenues in 2013

As shown in Figure 6.14, the 1.7% increase in the total comparator country retail telecoms revenue in 2013 was the result of revenue increase in BRIC countries and Nigeria (up by 8.5% to £181bn) and in Asia Pacific (up by 2.9% to £124bn). BRIC and Nigeria contributed the largest proportion of total comparator country revenues; 29.5% of the total telecoms revenues in 2013, overtaking the US, which was the largest contributor between 2008 and 2012. The total retail telecoms revenues were unchanged at £179bn in the US in 2013, while revenue decreased by 5.8% to £129bn in our EU comparator countries.

Figure 6.14 Total comparator country retail telecoms revenue, by country type: 2008 to 2013



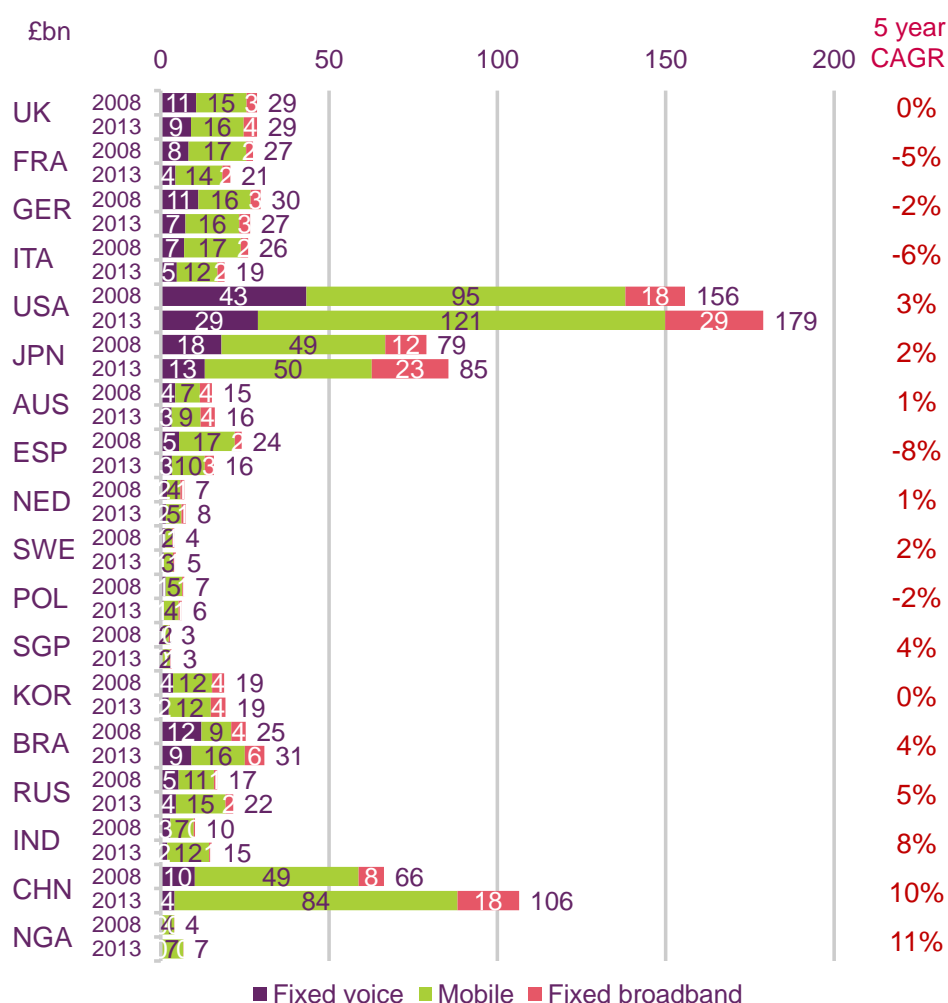
Sources: IHS / industry data / Ofcom

The US and China contributed almost half the total retail telecoms revenue in 2013

The US continued to have the highest comparator country retail telecoms revenue, at £179bn in 2013, while China overtook Japan to become the second largest comparator country in terms of telecoms revenue, generating £106bn in 2013 (Figure 6.15). The US and China contributed almost half (47%) of the total retail telecoms revenues in 2013. The telecoms market in China grew rapidly, with an average annual growth rate of 10% in total telecoms revenues in the five years to 2013. Only in Nigeria did telecoms revenues increase faster (up by 11% a year) over the same period, although the Nigerian telecoms market was the third smallest in 2013, at £7bn (only Singapore and Sweden were smaller).

Telecoms retail revenues decreased in five EU comparator countries between 2008 and 2013; the largest fall was in Spain, at an average rate of 8% a year, partly due to the ongoing effect of the economic downturn. The other four EU comparator countries with falling revenues were Italy (down 6% a year), France (down 5% a year), Germany (down 2% a year) and Poland (down 2% a year) over the same period. The figures were unchanged in the UK and South Korea (at £29bn and £19bn respectively), although in both countries fixed voice revenues decreased, while both mobile and fixed broadband revenues increased in the five years to 2013.

Figure 6.15 Telecoms service retail revenues, by country and sector: 2008 and 2013



Sources: IHS / industry data / Ofcom

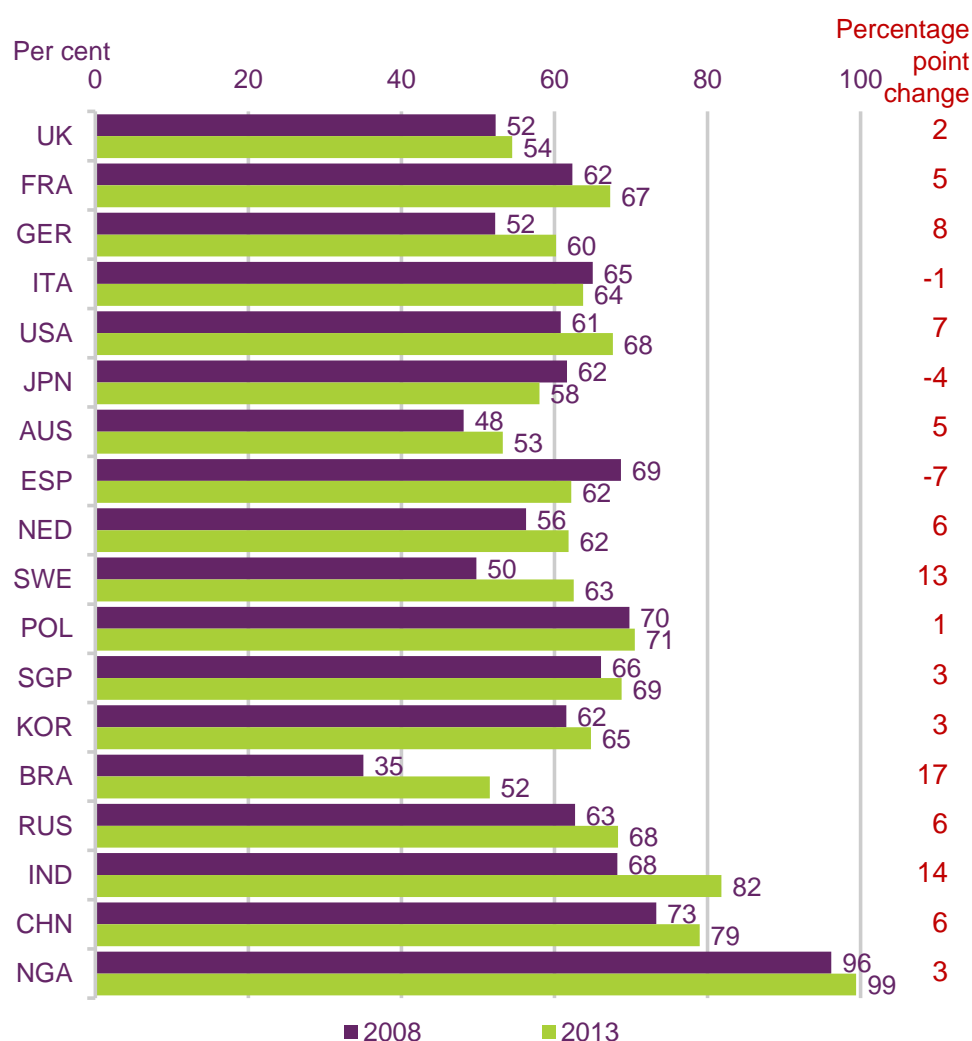
Note: Fixed voice revenues include managed VoIP revenues.

Mobile services generated two-thirds of total comparator country telecoms revenues in 2013

In most of our comparator countries the proportion of telecoms revenues generated by mobile voice and data services was above 60% in 2013, except in Brazil, Australia, the UK and Japan, where the proportions were lower, at 52%, 53%, 54% and 58% respectively (Figure 6.16).

The three countries with the highest proportion of mobile telecoms revenues were Nigeria, India and China (at 99%, 82% and 79% respectively) in 2013, due to fast growing mobile markets in these countries, and low fixed-line availability and penetration in Nigeria and India (0.2 and 2.3 fixed lines per 100 populations respectively). The proportion of telecoms revenues generated by mobile services increased in almost all comparator countries in the five years to 2013, with the largest increase being in Brazil, at 17 percentage points, followed by India (14pp) and Sweden (13pp). The proportion of telecoms revenues generated by mobile services decreased in three comparator countries over the same period, with the biggest fall in Spain (down 7 percentage points), followed by Japan (down 4pp) and Italy (down 1pp).

Figure 6.16 Mobile as a proportion of total telecoms revenues: 2008 and 2013



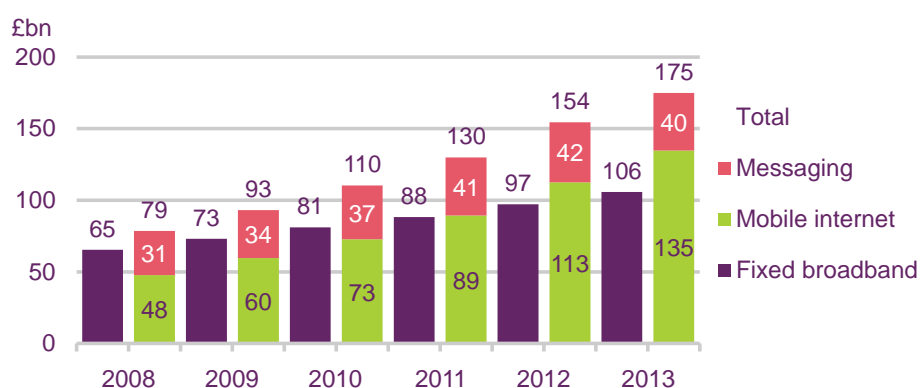
Sources: IHS / industry data / Ofcom

Mobile data revenues continued to exceed fixed broadband revenues

Total mobile data revenues (including mobile messaging and mobile internet services) increased by 13.3% (£21bn) to £175bn in our 18 comparator countries in 2013 (Figure 6.17). Mobile internet service revenues increased by 19.7% (£22bn) to £135bn in 2013 (when they were almost three times higher than in 2008), mainly as a result of increasing smartphone take-up and consumers upgrading to 4G services. The proportion of total telecoms data revenues generated by mobile internet services increased from 33.2% in 2008 to 48.0% in 2013.

Total mobile messaging revenues (including SMS and MMS) fell for the first time in 2013, down by 4.0% (£2bn) to £40bn. The main reasons for this decline are the substitution of OTT (over-the-top) messaging services for network-based services, and increasing smartphone take-up, as more sophisticated handsets enable mobile users to access alternative communication methods, such as emails, instant messaging and social networking sites. Fixed broadband services generated £106bn in revenue in 2013, a £9bn (8.9%) increase compared to 2012 and £40bn more than in 2008. The main reason for this growth is the increasing number of fixed broadband connections in almost all our comparator countries.

Figure 6.17 Total fixed broadband and mobile data revenues: 2008 to 2013



Sources: IHS / industry data / Ofcom

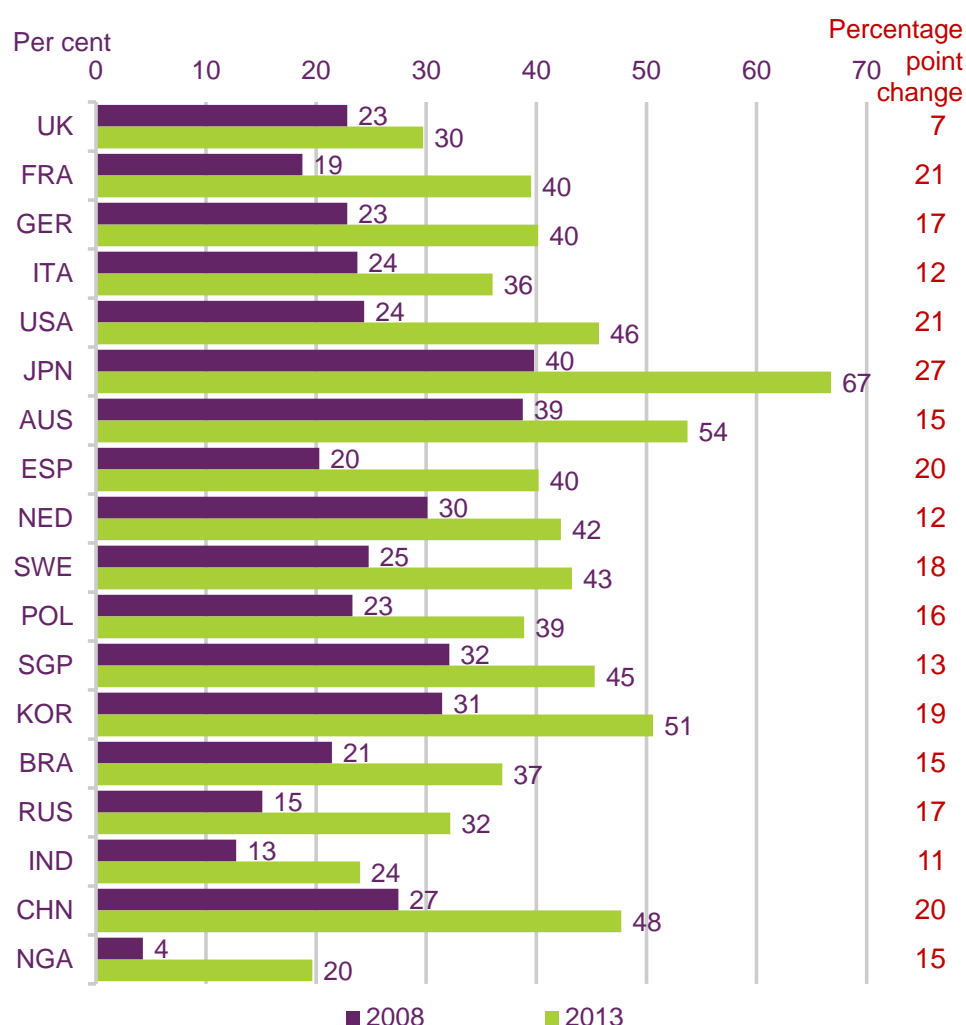
Note: Messaging includes SMS and MMS.

Japan continued to have the highest proportion of total telecoms revenues that were generated by data services in 2013

Japan had the highest proportion of total telecoms revenues that were generated by data services (including both fixed and mobile data services), at 67% in 2013 (Figure 6.18). This was as a result of a 47% increase in the number of fixed broadband connections, and an 84% increase in the number of mobile data connections (including handset and dedicated mobile broadband connections) in the five years to 2013. The UK had the third lowest proportion of total telecoms revenues generated by data services (after India and Nigeria), at 30% in 2013, although this figure will be understated as it excludes revenues from bundled data services that are included in post-pay mobile subscription revenues.

Although Nigeria had the lowest proportion of data service revenues, its market expanded rapidly, from 4% in 2008 to 20% in 2013, which was only 4pp lower than the proportion of data revenue in India, which had the second lowest proportion. The proportion of total telecoms revenues generated by data services increased in all our comparator countries in the five years to 2013. Japan had the biggest increase compared to 2008, at 27 percentage points, while the UK had the lowest increase, at 7pp (although this increase will be understated for the reasons outlined previously).

Figure 6.18 Data revenue as a proportion of total telecoms revenue: 2008 and 2013



Sources: IHS / industry data / Ofcom

6.2.2 Fixed voice services

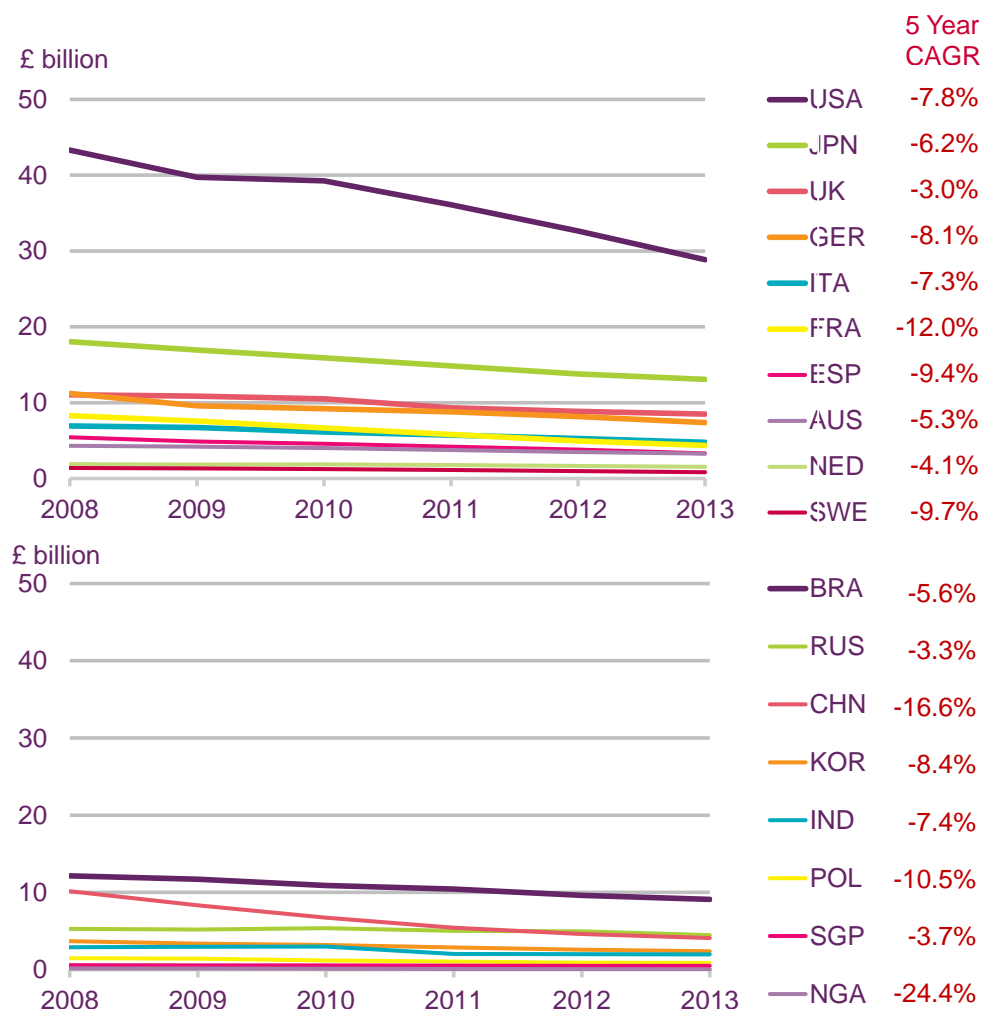
The UK had the lowest average rate of decline in retail fixed voice revenues in the five years to 2013

Retail fixed-line voice revenues fell by an average of 8.4% across our comparator countries in the year to 2013, higher than the average annual drop of 7.5% in the five years to 2013 (Figure 6.19). The main reason behind this decline is the increasing migration of consumers from traditional fixed voice services to mobile and alternative voice and non-voice communication methods, such as VoIP and instant messaging (as shown in Figure 6.11). The number of managed VoIP connections per head increased in all of our comparator countries between 2008 and 2013, while data provided to Ofcom by IHS show that total instant messaging volumes in our comparator countries increased from 113 billion to 10.1 trillion in the five years to 2013.

The fastest rate of decline in fixed voice revenues over the five-year period was in Nigeria, at an average of 24.4% a year (although Nigeria's fixed voice market is very small), followed by China, at an average annual rate of 16.6%. The next two highest annual rates of decline were found in comparator EU countries: France (down 12.0% as a result of increasing take-up of low-cost managed VoIP services) and Poland (down 10.5%). In the UK, retail fixed-line

voice revenues fell by an annual average rate of 3.0% to £9bn in the five years to 2013, the slowest rate of decline among our countries. This decline was mainly due to falling fixed voice call volumes per line, as the decline in the number of fixed lines was comparatively low in the UK (see Figure 6.23).

Figure 6.19 Retail fixed-line voice revenues: 2008 to 2013



Sources: IHS / industry data / Ofcom

Note: Includes managed VoIP revenues.

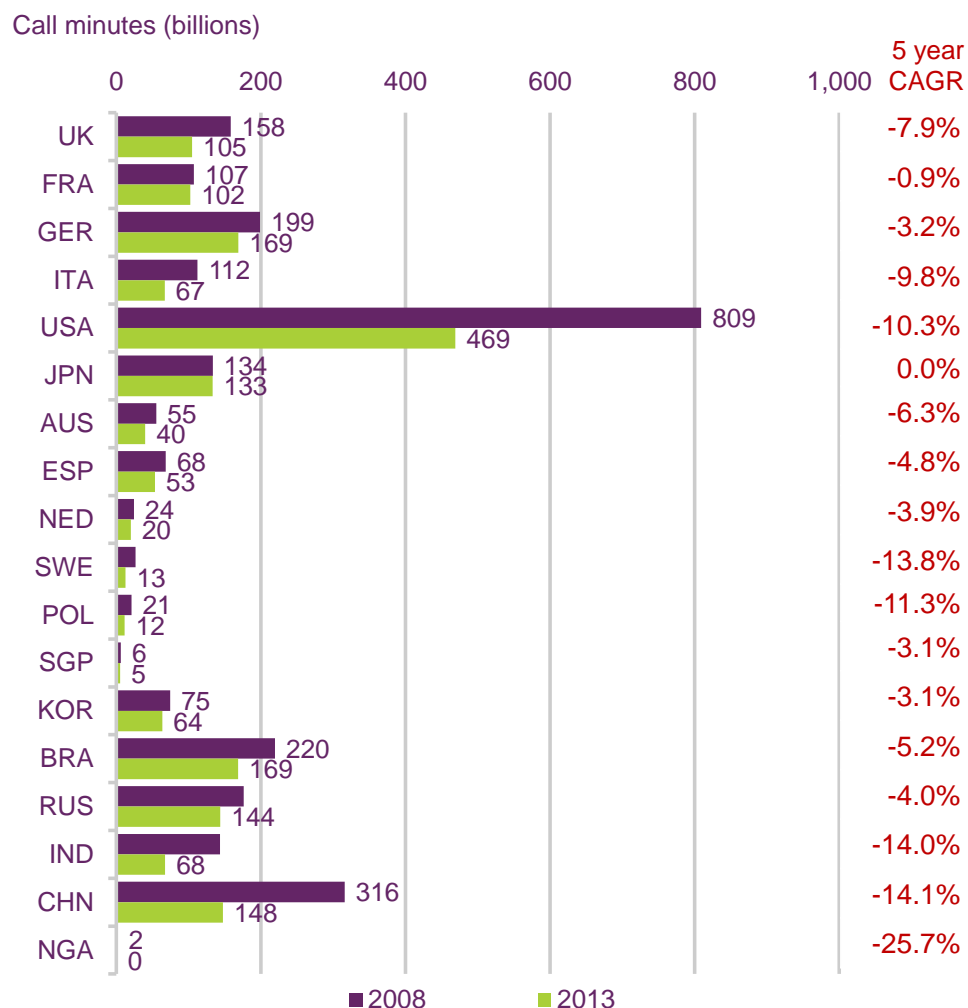
Fixed-line voice call volumes fell across all comparator countries between 2008 and 2013

Total fixed-line voice call volumes across all our comparator countries fell by an average annual rate of 7.7% to 1.8 trillion minutes in the five years to 2013 (Figure 6.20). This decline was due to falling traditional fixed call volumes (which fell by an average of 10.5% annually during this period), as managed VoIP call volumes increased in almost all comparator countries over the five-year period (up by an average of 9.1% a year). Further information regarding managed VoIP services can be found in Section 6.1.4 of this report.

In the UK, total fixed-line call volumes decreased by an annual average rate of 7.9% to 105 billion minutes between 2008 and 2013. The steepest fall in fixed-line voice call volumes was seen in Nigeria (where total fixed call volumes were the lowest among our comparator countries as a result of low fixed-line take-up) at an annual average rate of 25.7%, followed

by China (down 14.1% a year) and India (down 14.0% a year). The main reasons behind falling fixed call volumes in most comparator countries are increasing mobile phone use (mobile voice call volumes were up by an annual average of 12.6% across our comparator countries in the five years to 2013) and easy access to alternative communication methods, such as email, instant messaging and social networking sites,.

Figure 6.20 Fixed line voice call volumes: 2008 and 2013



Sources: IHS / industry data / Ofcom

Note: Includes managed VoIP calls. Figures for USA and CHN include incoming calls.

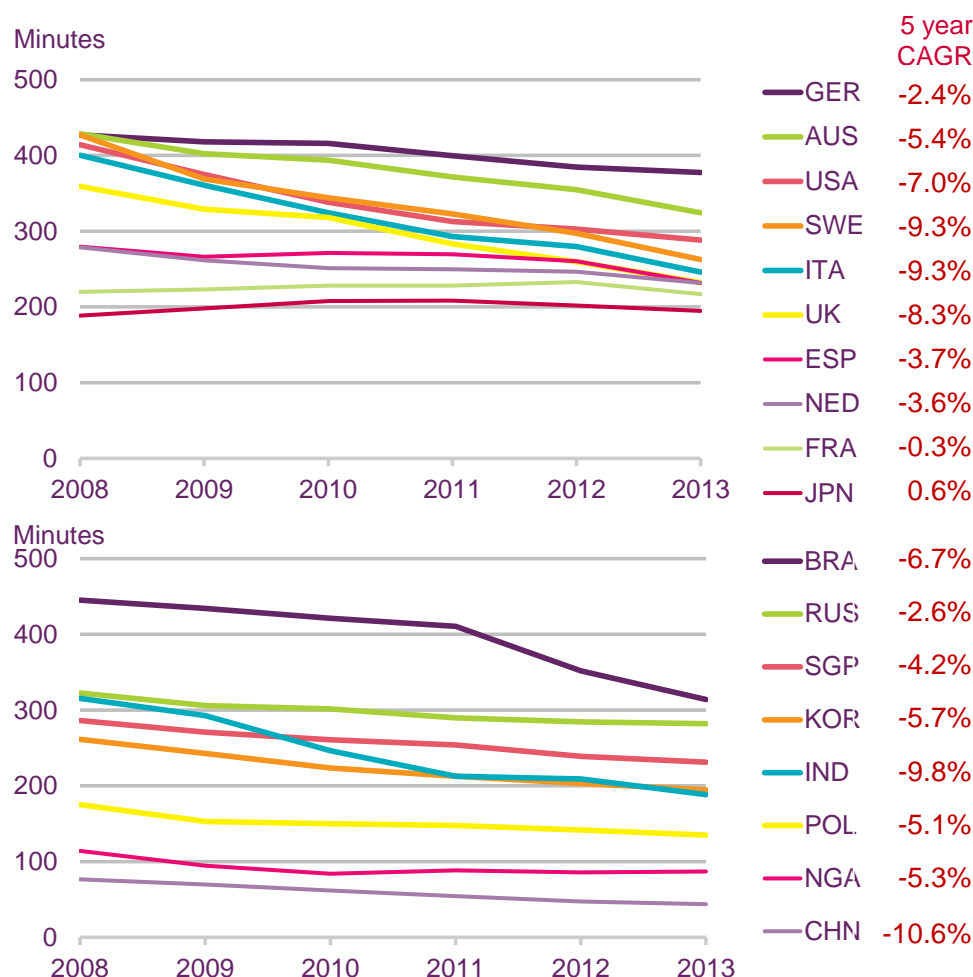
Germany had the highest monthly outbound minutes per fixed line in 2013

The number of monthly outgoing call minutes per fixed line (including managed VoIP calls and connections) decreased by an average 5.4% a year to 184 minutes a month across the comparator countries in the five years to 2013 (Figure 6.21). China (which had the lowest number of outbound call minutes per fixed line, at 44 minutes a month in 2013) had the steepest fall over the five-year period, down by an annual average of 10.6%, followed by India, Sweden and Italy (down 9.8%, 9.3% and 9.3% a year respectively). The only comparator country where average monthly minutes per fixed line increased between 2008 and 2013 was Japan, up by an average annual rate of 0.6%.

Germany had the highest monthly outbound minutes per fixed line in 2013, at 378 minutes, mainly due to the significant difference between the average fixed and mobile voice cost (at

4.4 pence/min and 7.4 pence/min respectively in 2013). In the UK, the number of outgoing call minutes per fixed line was at 232 minutes a month in 2013, down from 359 minutes five years previously. This represents an average rate of decline 8.3% a year during this period, mainly as a result of growing fixed-to-mobile substitution and the increasing use of non-voice communication methods such as email and instant messaging.

Figure 6.21 Monthly outbound minutes per fixed line: 2008 to 2013



Sources: IHS / industry data / Ofcom

Note: Includes managed VoIP calls. Figures for USA and CHN include incoming calls.

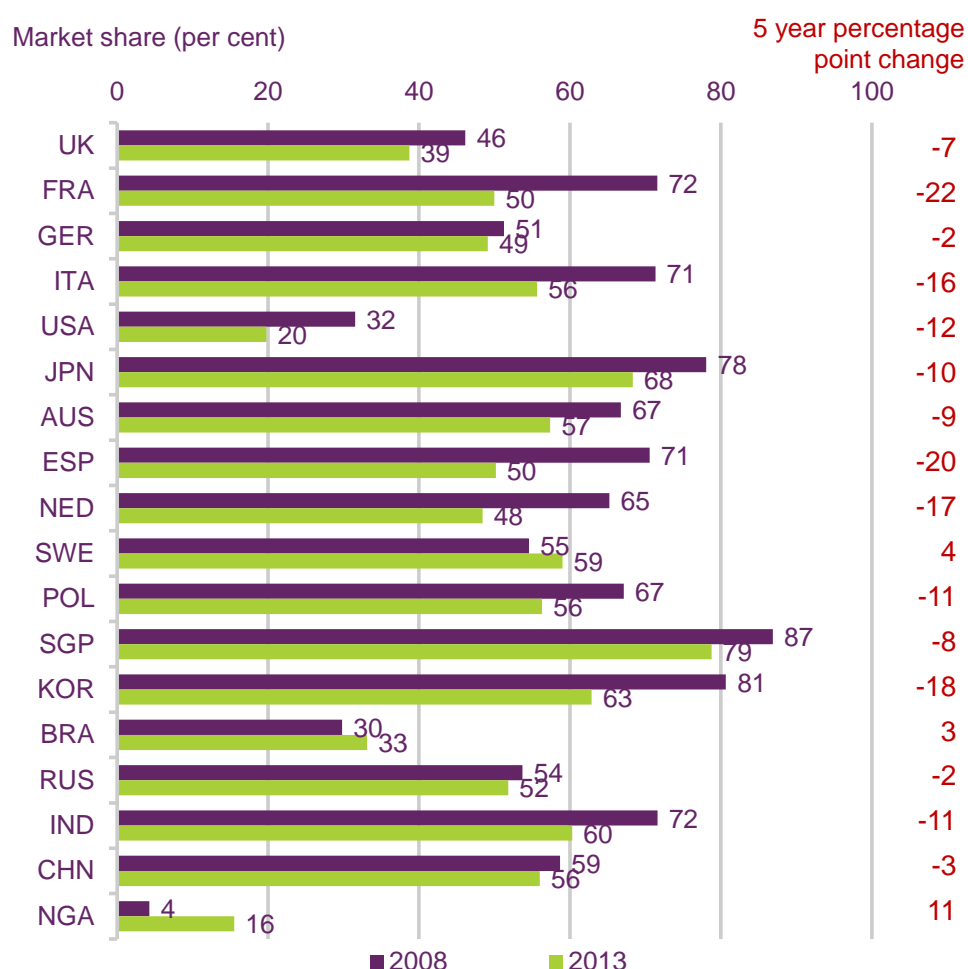
The incumbent operator's share of fixed voice call volumes declined in most comparator countries in the five years to 2013

The incumbent operator's share of fixed voice call volumes was the highest in Singapore in 2013 (at 79%), followed by Japan and South Korea (at 68% and 63% respectively), due to the late liberalisation of the fixed-line markets (Figure 6.22).

The decline of the incumbent operator's share of fixed call volumes was highest in France, at 22 percentage points (down to 50%) in the five years to 2013, followed closely by Spain at 20pp (also down to 50%). The share of fixed voice call volumes increased in only three countries. In Sweden, Telia's market share increased from 55% in 2008 to 59% in 2013; in Brazil, Oi's market share increased by 3pp to 33%; and in Nigeria, Nitel's share grew by 11pp (the highest across the comparator countries) to 16% in the five years to 2013. In the UK, BT's share of fixed voice call volumes decreased by seven percentage points to 39%

over the five-year period, due to competition from operators providing services using local loop unbundling (LLU).

Figure 6.22 Incumbent operators' share of fixed voice call volumes: 2008 and 2013



Sources: IHS / industry data / Ofcom

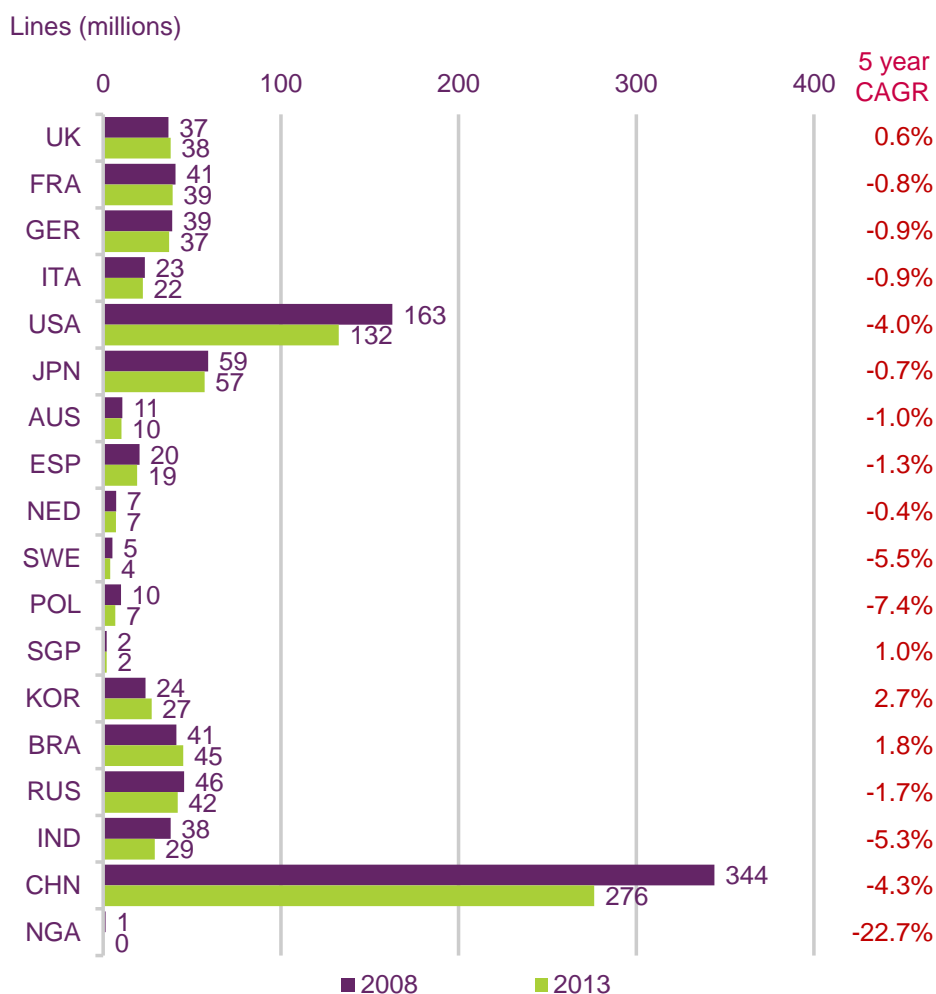
Numbers of fixed voice connections fell in most comparator countries in the five years to 2013

The total number of comparator country fixed voice connections (which includes PSTN lines and managed VoIP connections) fell by 21 million (2.5%) to 795 million in 2013, and by an annual average rate of 2.7% in the five years to 2013 (Figure 6.23). The UK was one of just two comparator countries (along with Brazil) where the number of fixed voice connections increased in 2013; in the UK the number of connections was 38 million at the end of the year, an increase 0.2 million (1.6%) which is likely to be due to an increase in the number of households and the requirement for most UK homes to have a landline in order to be able to access fixed broadband services.

The number of fixed voice connections fell in all but four of our comparator countries (the UK, Singapore, South Korea and Brazil) between 2008 and 2013, with the fastest average annual decline being in Nigeria, at 22.7%, over this period. The main driver behind the fall in fixed voice connections in these countries is fixed-to-mobile substitution, although there have also been increases in the use of text-based forms of communication (such as email, instant messaging and social networking sites). The average annual increase in the number of fixed

voice connections was highest in South Korea in the five years to 2013, at 2.7% (in the UK it averaged 0.6% a year over this period).

Figure 6.23 Fixed voice connections: 2008 and 2013



Sources: IHS / industry data / Ofcom

Note: Includes managed VoIP connections

6.2.3 Fixed broadband services

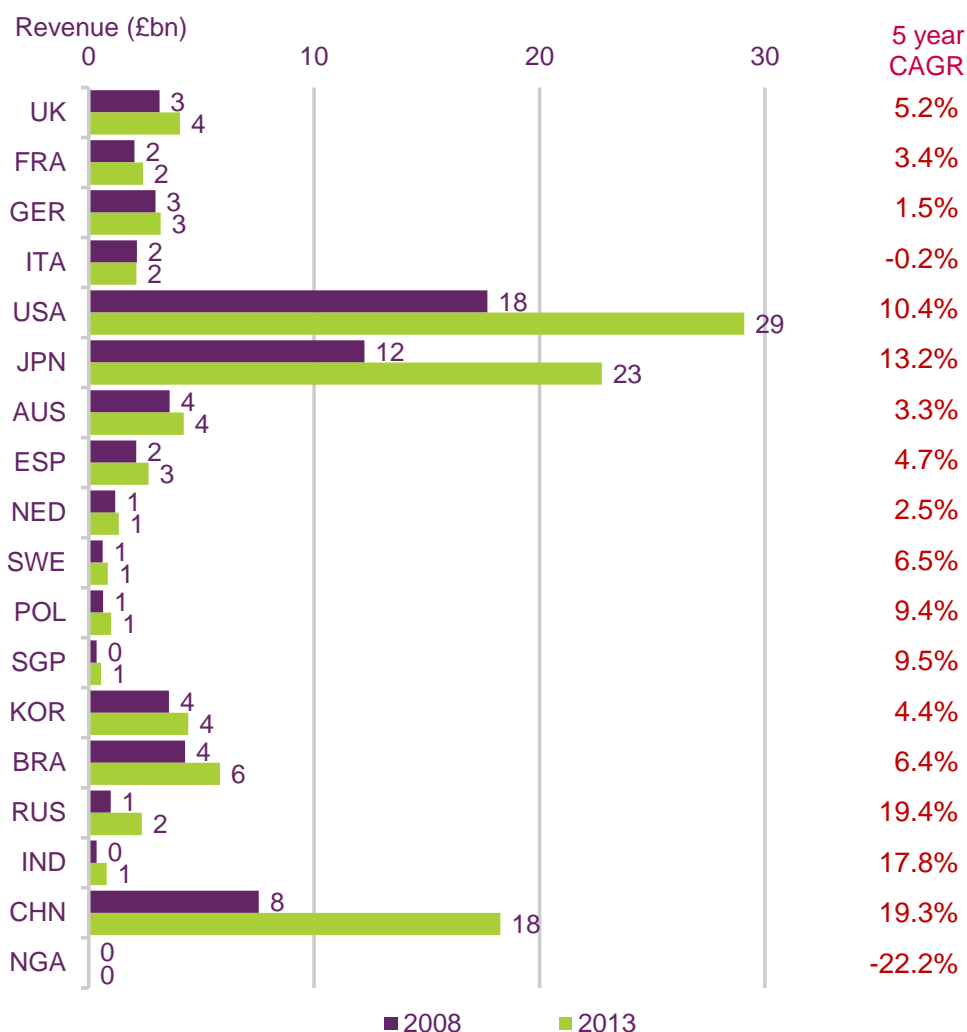
Total fixed broadband revenues more than doubled in the BRIC countries between 2008 and 2013

Total fixed broadband revenues increased by £40bn to £106bn among our comparator countries in the five years to 2013, equivalent to an average annual growth rate of 10.1% (Figure 6.24). The BRIC countries had the fastest increase over the five-year period, with Russia experiencing the highest average annual growth rate, at 19.4%, followed closely by China (up 19.3% a year) and India (up 17.8% a year). The reason behind this high increase is the fast-growing fixed broadband connection base (up by an annual average rate of 19.2% in those three countries between 2008 and 2013) and comparatively low take-up in 2008.

Fixed broadband revenues decreased in only two countries in the five years to 2013; the largest fall was in Nigeria (where take-up is very low), at 22.2% a year, followed by Italy with a slight average decrease of 0.2% a year, although in Italy fixed broadband revenues increased by 2.1% in 2013 compared to the previous year, while Nigeria experienced a

53.0% year-on-year fall. In the UK, fixed broadband revenues increased by an average annual rate of 5.2% to £4bn in the five years to 2013, as a result of a 5.6% annual average growth in the number of broadband connections, and increasing take-up of higher bandwidth connections.

Figure 6.24 Fixed broadband revenues: 2008 and 2013



Sources: IHS / industry data / Ofcom

The proportion of total fixed telecoms revenues generated by fixed broadband services increased in all our comparator countries in the five years to 2013

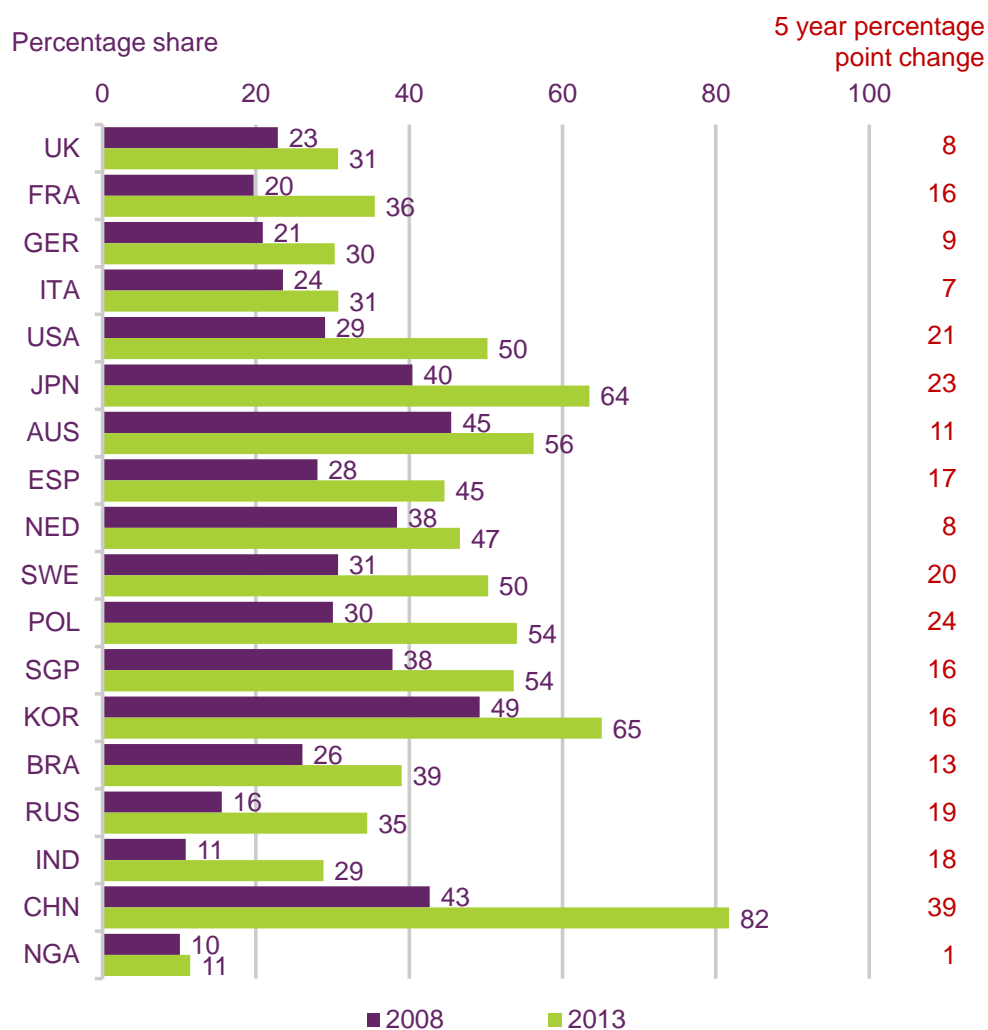
The proportion of total fixed revenues generated by fixed broadband services increased by an average of 21 percentage points to 51% across our comparator countries between 2008 and 2013 (Figure 6.25). This was the result of a 10% average annual increase in total fixed broadband revenues in the five years to 2013 and an 8% a year average fall in total fixed voice revenues over the same period (Figure 6.13).

The proportion of fixed telecoms revenues that were generated by broadband services was highest in China, at 82% in 2013. China also had the largest increase in this proportion (among our comparator countries) between 2008 and 2013, at 39pp. This was the result of a large increase in the number of fixed broadband connections (as shown in Figure 6.27, the number of fixed lines increased by an average of 18% a year in China in the five years to

2013) and despite low fixed broadband prices in China (the third lowest behind Russia and India, at £8.07 per connection per month).

The proportion of total fixed-line revenues generated by fixed broadband services was the lowest in Nigeria in 2013, at 11%, where take-up of both fixed voice and fixed broadband is very low, followed by India (at 29%) and Germany (at 30%). In the UK, the proportion of fixed broadband revenues was 31% in 2013, eight percentage points higher than in 2008.

Figure 6.25 Fixed broadband as a proportion of total fixed revenues: 2008 to 2013



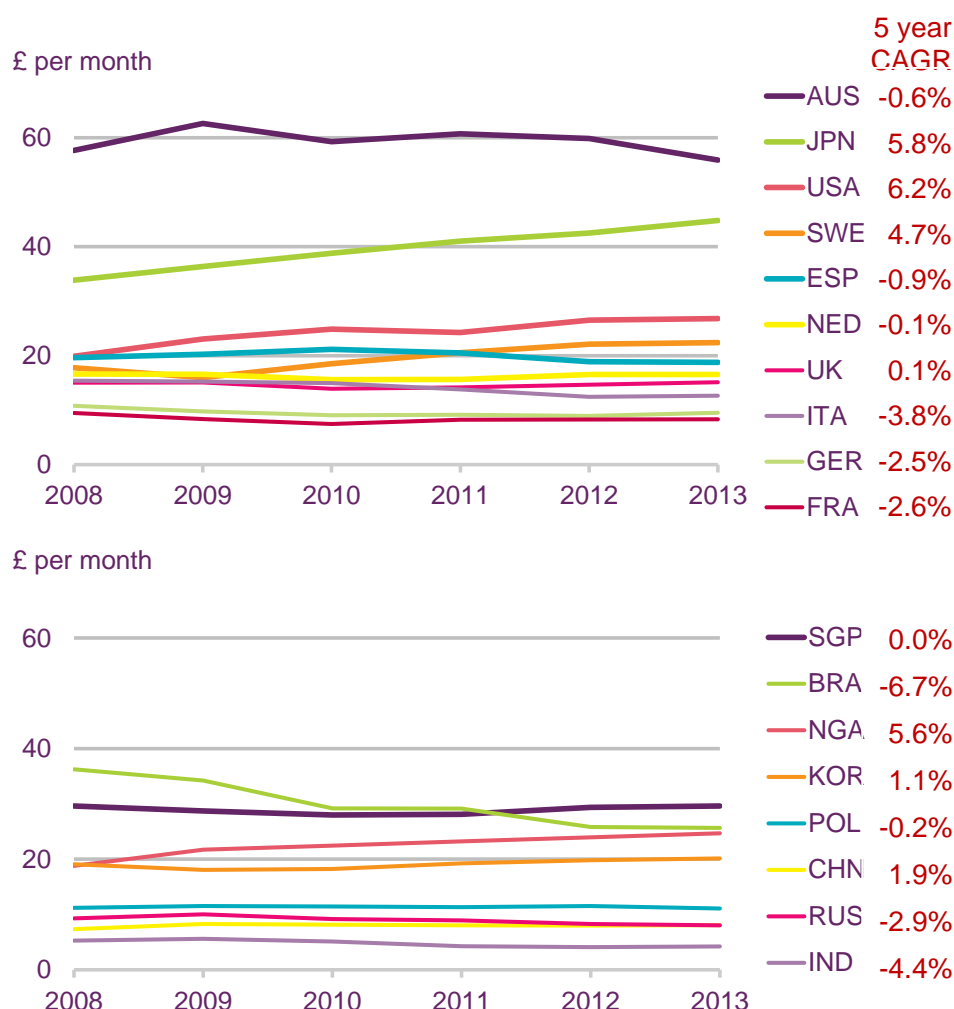
Sources: IHS / industry data / Ofcom

Australia had the highest monthly retail fixed broadband average revenue per connection in 2013

Monthly retail fixed broadband revenues increased by an average of 0.2% a year to £16.83 per connection across our comparator countries in the five years to 2013 (Figure 6.26). While average fixed broadband revenues per connection decreased in ten of our comparator countries between 2008 and 2013, seven countries have seen an increase over the same period, with the largest increase being in the US (up by an average of 6.2% a year), followed by Japan (up 5.8% a year). In the UK, average fixed broadband revenues increased slightly, by an annual average rate of 0.1% to £15.10 in the five years to 2013.

Average monthly fixed broadband revenue was unchanged in Singapore compared to 2008, at £29.61 per connection in 2013. Average revenue per fixed broadband connection had the largest decrease in Brazil (down by 6.7% a year), followed by India (down 4.4% a year) between 2008 and 2013. Monthly retail fixed broadband average revenue was highest in Australia, at £55.90 per connection, and lowest in India, at £4.22 per connection in 2013.

Figure 6.26 Retail fixed broadband average revenue per connection: 2008 to 2013



Sources: IHS / industry data / Ofcom

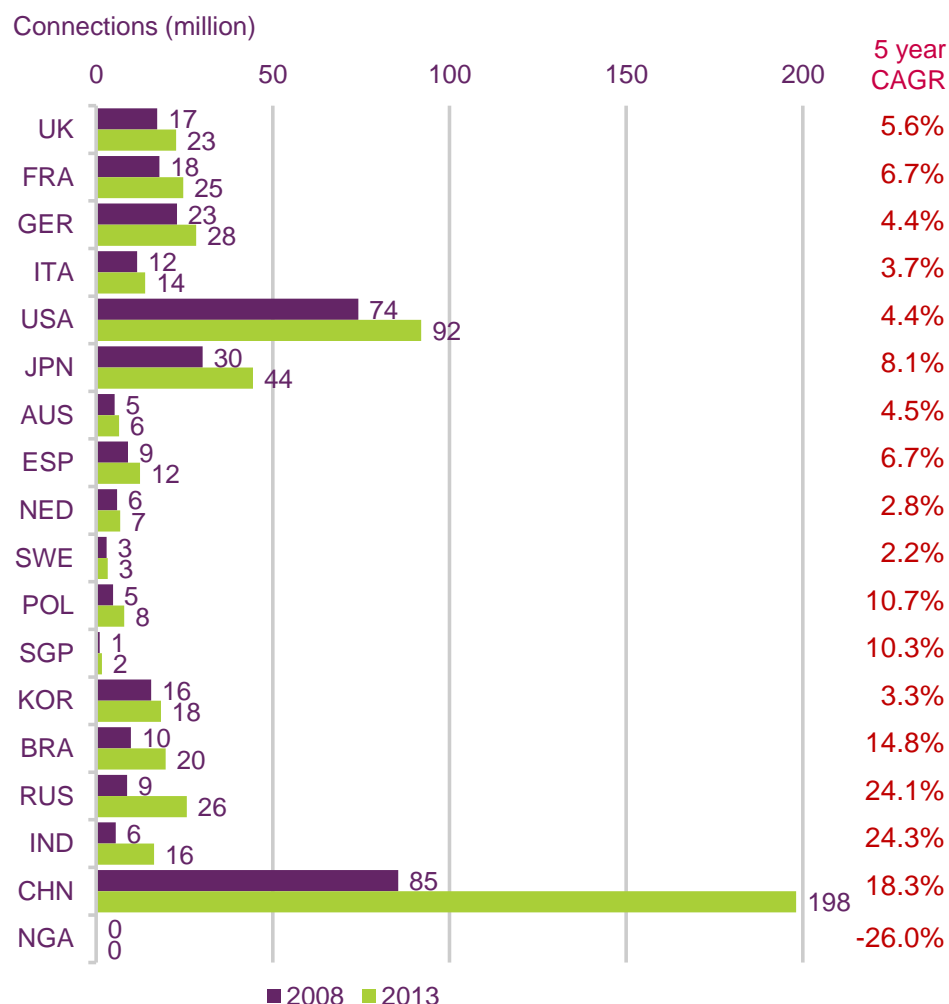
The total number of fixed broadband connections increased by an average of 10.6% a year across our comparator countries in the five years to 2013

The number of fixed broadband connections increased by 214 million to 542 million in the five years to 2013 (Figure 6.27). The average annual rate of growth in fixed broadband connections was highest in BRIC countries, ranging between 14.8% a year in Brazil to 24.3% a year in India, mainly because these countries had comparatively low fixed broadband take-up in 2013 and are still catching up with other nations in terms of broadband penetration (as shown in Figure 6.51, the BRIC countries had the four lowest broadband penetration rates in 2013, behind Nigeria).

Among our non-BRIC countries, the highest average annual rate of growth between 2008 and 2013 was in Poland (up 10.7% a year), followed by Singapore (up 10.3% a year). In only one country did the number of fixed broadband connections fall during this period: Nigeria,

where fixed broadband availability is low, and where the number of connections fell by an average of 26.0% a year as a result of rapid growth in the use of mobile data services. In the UK, the total number of fixed broadband connections increased by an average annual growth rate of 5.6% to 23 million in the five years to 2013.

Figure 6.27 Fixed broadband connections: 2008 to 2013



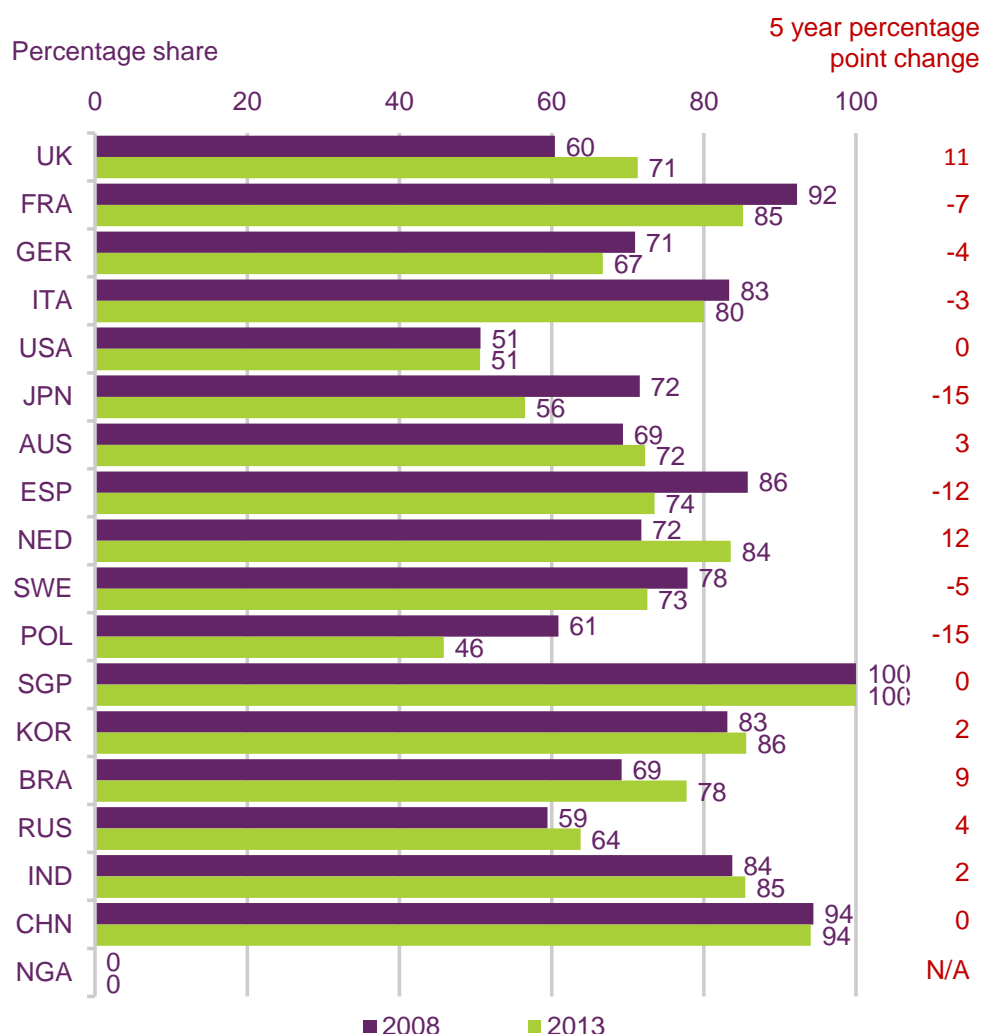
Sources: IHS / industry data / Ofcom

Singapore had the most concentrated fixed broadband market in 2013

The retail connection share of the three largest fixed broadband providers was highest in Singapore, at 100% in 2013, followed by China at 94% and South Korea at 86% (Figure 6.28).

In the five years to 2013, seven of the 17 comparator countries for which data were available (we do not have any data for Nigeria) saw a decrease in combined fixed broadband connection share: Japan and Poland (both down 15 percentage points), Spain (down 12pp), France (down 7pp), Sweden (down 5pp), Germany (down 4pp) and Italy (down 3pp). The Netherlands had the greatest increase, of 12 percentage points, in the three largest providers' combined share of fixed broadband connections between 2008 and 2013, followed by the UK, with an 11pp increase over the same period.

Figure 6.28 Retail connection share of the three largest fixed broadband providers: 2008 to 2013



Sources: IHS / industry data / Ofcom

6.2.4 Mobile voice and data services

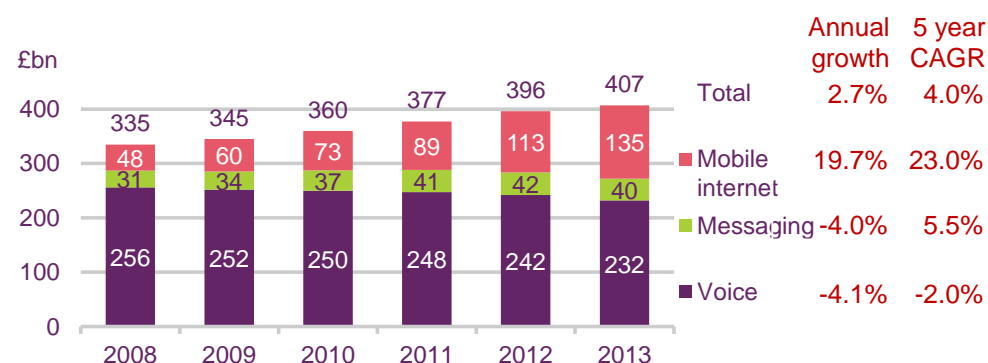
Total mobile internet revenues increased by 19.7% across our comparator countries in 2013

Total mobile telecoms revenues (including voice, messaging and mobile internet services) increased by £11bn (2.7%) to £407bn in our comparator countries in 2013, as a result of increasing mobile internet revenues (Figure 6.29). Total mobile internet revenues almost tripled; from £48bn to £135bn in the five years to 2013, an annual average of 23.0% increase over the five-year period, and by 19.7% (£22bn) in 2013. This was largely the result of growth in take-up of mobile data services (including handset and dedicated mobile data connections) across our comparator countries in the five years to 2013 (Figure 6.63). Overall, the proportion of total mobile revenues generated by mobile internet services increased from 14.3% to 33.1% between 2008 and 2013.

Total mobile messaging revenues (including SMS and MMS) saw a decline of £2bn (4.0%) to £40bn in 2013, after a continuous increase since reporting started. The reason behind this fall was an 8.7% decrease in total messaging volumes in 2013, which was due to the increasing use of newer communication methods such as instant messaging, email and

social networking. Total voice revenues continued to fall in 2013, decreasing by 4.1% (£10bn) to £232bn, mainly due to falling prices (total mobile voice call volumes increased by 7.5% across our comparator countries in 2013).

Figure 6.29 Total comparator country retail mobile telecoms revenue, by sector: 2008 to 2013



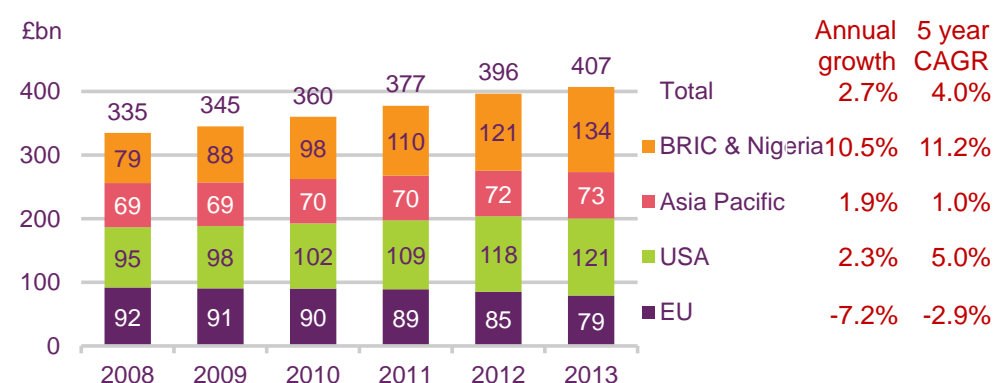
Sources: IHS / industry data / Ofcom

Note: Messaging includes SMS and MMS.

Total retail mobile telecoms revenues increased by 10.5% in the BRIC countries and Nigeria in 2013

Total retail mobile telecoms revenues increased by an annual average rate of 4.0% in our comparator countries in the five years to 2013 (Figure 6.30). The BRIC countries and Nigeria had the largest increases, up by an annual average of 11.2% over the five-year period and by 10.5% compared to 2012, as a result of rapid growth in the number of mobile connections. Mobile telecoms revenues also increased in the US (up 2.3% in 2013) and in Asia Pacific (up 1.9% in 2013), mainly as a result of increasing mobile internet revenues. Mobile telecoms revenues decreased among our EU comparator countries, down by 7.2% in 2013 and by an average of 2.9% a year in the five years to 2013, due to falling prices.

Figure 6.30 Total comparator country retail mobile telecoms revenue, by country type: 2008 to 2013



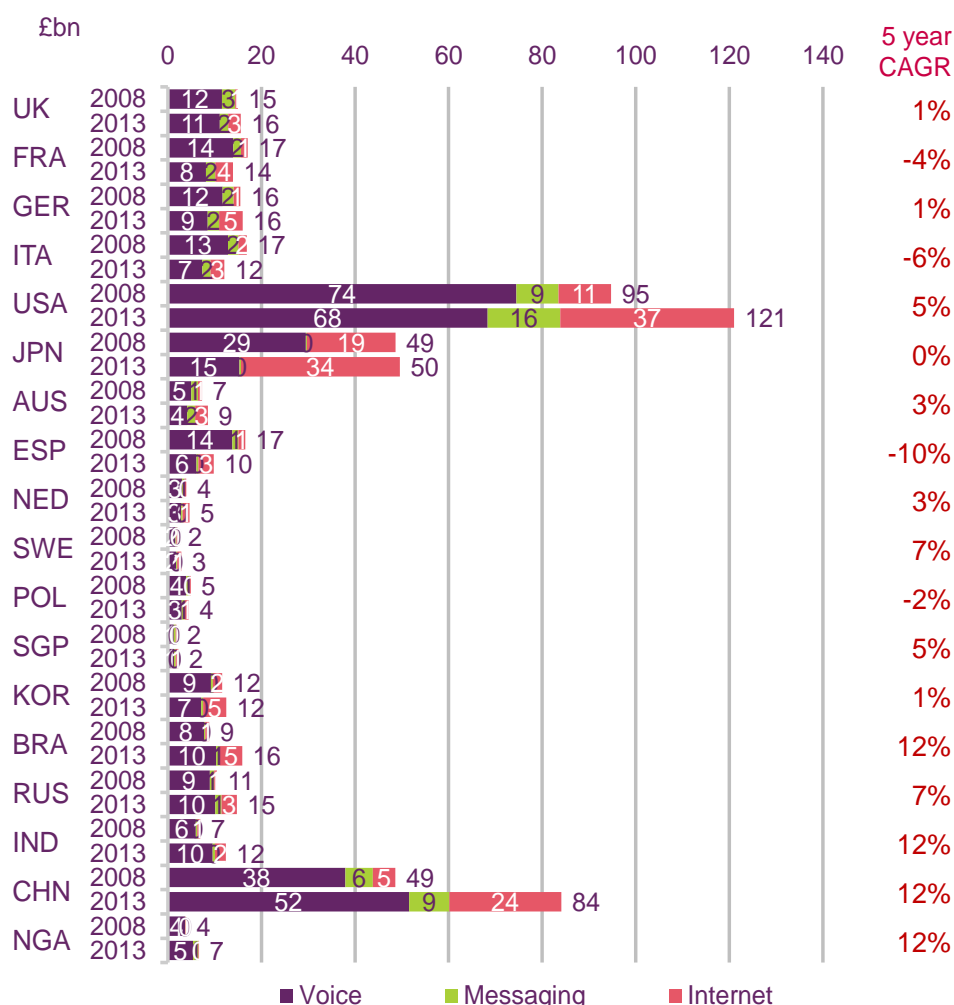
Sources: IHS / industry data / Ofcom

Retail mobile revenues increased in most of our comparator countries in the five years to 2013

The greatest increases in mobile service revenues over the five-year period were found among the BRIC countries and Nigeria, with revenues increasing by an average of 12% a year in Brazil, India, China and Nigeria, and by 7% in Russia (Figure 6.31). This was mainly due to large increases in the number of mobile connections. Total retail mobile revenues decreased in four of our 18 comparator countries, with the steepest fall in Spain (down by 10% a year as a result of the continued effect of the economic downturn), followed by Italy, France and Poland (down by 6%, 4% and 2% a year respectively).

Three comparator countries (US, China and Japan) generated 63% of the total retail mobile revenues across our comparator countries, although revenue growth has slowed significantly both in the US and Japan. The proportion of mobile revenue generated by voice services decreased in all the comparator countries, while mobile data revenues had a sharp increase. In the UK total mobile revenues increased by an average annual rate of 1%, as a £2bn increase in mobile internet revenue was partly offset by falling voice and messaging revenue (it should be noted that UK mobile messaging and data revenues will be understated as they exclude revenues generated by bundled services).

Figure 6.31 Retail mobile revenues, by service and country: 2008 and 2013



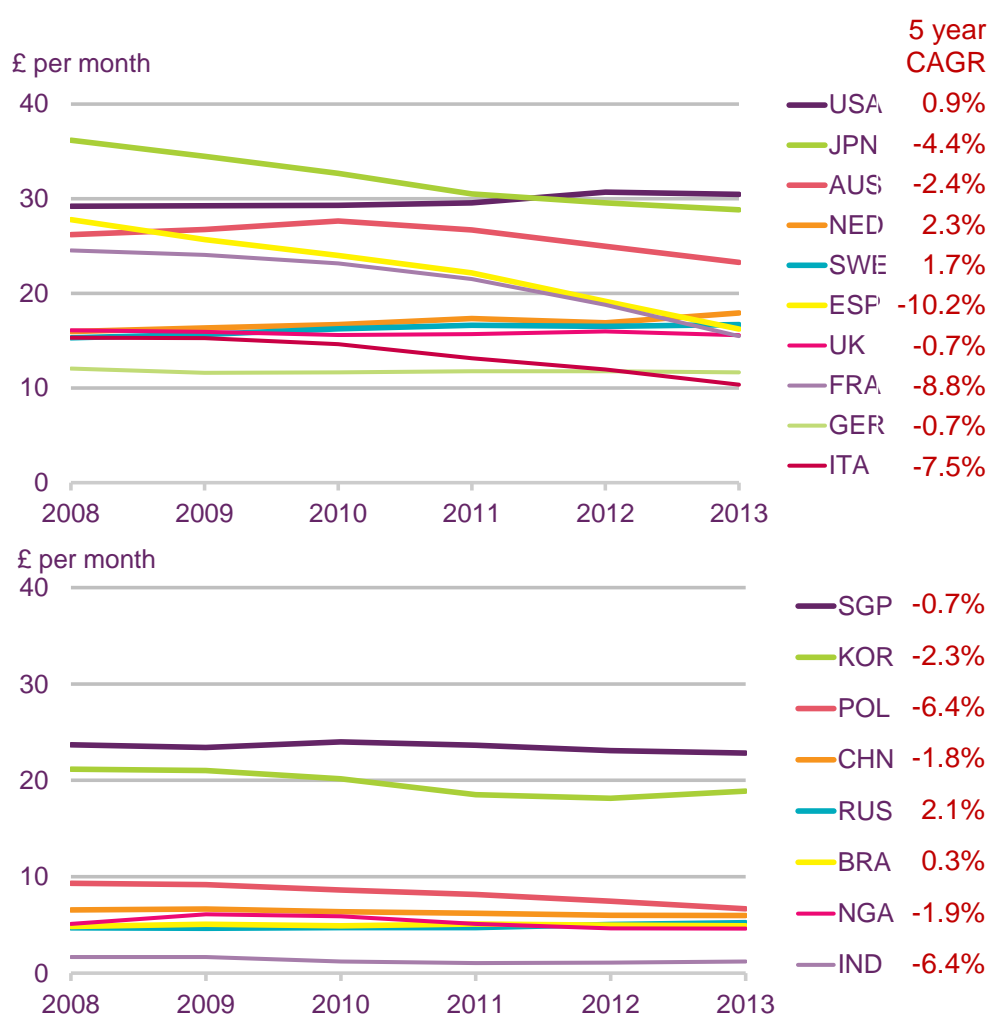
Sources: IHS / industry data / Ofcom

Note: Messaging includes SMS and MMS.

The US had the highest average monthly revenue per mobile connection in 2013

In the US, the average monthly revenue per mobile connection increased by an annual rate of 0.9% to £30 in the five years to 2013, which is the highest average monthly mobile revenue among our comparator countries in 2013 (Figure 6.32). The Netherlands had the highest average annual increase in average revenue per mobile connection in the five years to 2013 (2.3%). Outside the US and the Netherlands, the only other comparator countries where the average monthly revenue per connection increased in the five years to 2013 were Russia, Sweden and Brazil (up by 2.1%, 1.7% and 0.3% a year respectively). Spain had a significant average annual fall, of 10.2% a year, between 2008 and 2013, followed by France, down by 8.8% a year over the same period. In the UK, the average monthly mobile revenue per connection was £16 in 2013, £1 less than in 2008.

Figure 6.32 Average monthly revenue per mobile connection: 2008 to 2013



Sources: IHS / industry data / Ofcom

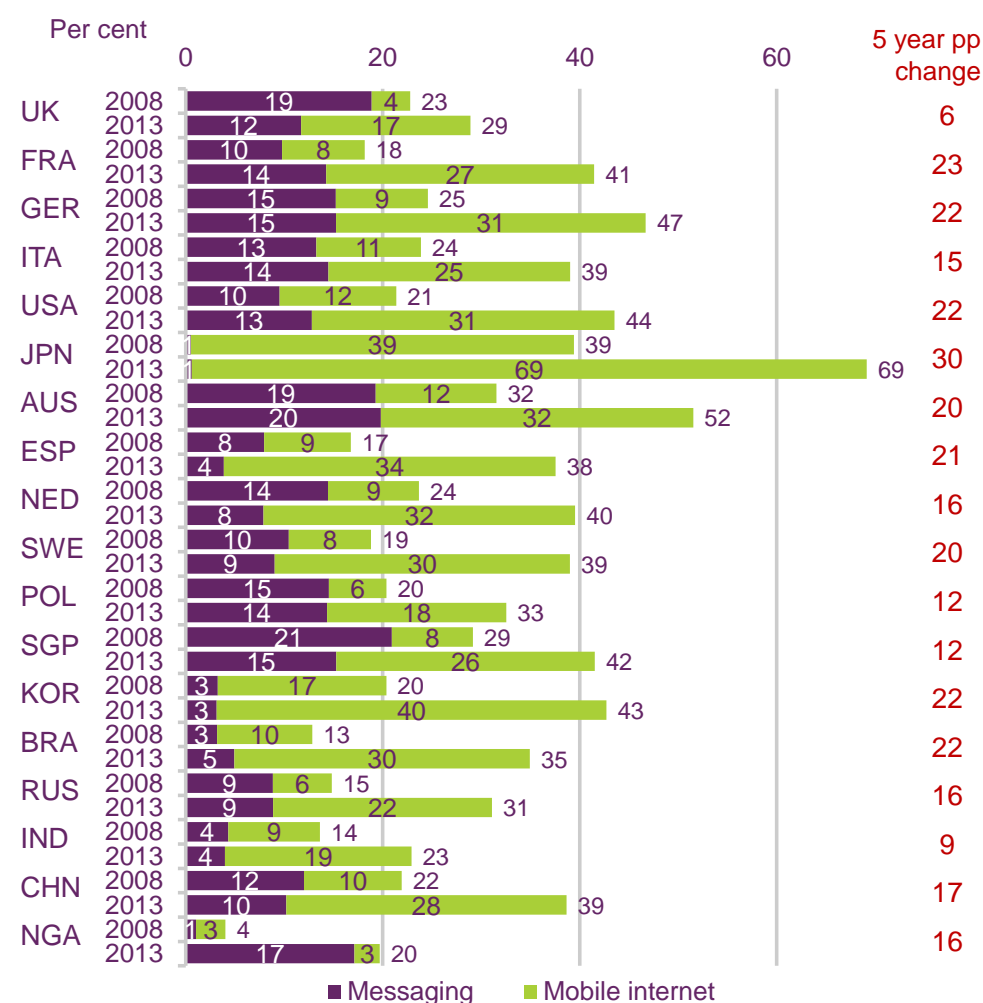
Japan had the largest proportion of mobile revenue generated by data services in 2013

The proportion of total mobile revenue generated by data services (including mobile messaging and mobile internet) increased by 20 percentage points to 43% across our comparator countries in the five years to 2013 (Figure 6.33). This is the result of an average annual growth rate of 23% in mobile internet revenues over the same period. All of our

comparator countries saw an increase in the proportion of mobile data to total mobile revenues over the five-year period to 2013, with the largest increase being in Japan, at 30 percentage points, and the lowest in the UK, at six percentage points. It should be noted that in the UK mobile data revenues are understated, as revenues from bundled data services will be included in subscription revenues.

Japan had the highest proportion of mobile revenues generated by data services across our comparator countries in 2013, at 69%, due to a strong post-pay market and high average mobile data consumption. Nigeria had the lowest proportion of mobile data revenues, at 20% in 2013, although this proportion increased by 16 percentage points in the five years to 2013, mainly due to an increase in mobile messaging revenues.

Figure 6.33 Data as a proportion of total mobile service revenues: 2008 and 2013



Sources: IHS / industry data / Ofcom

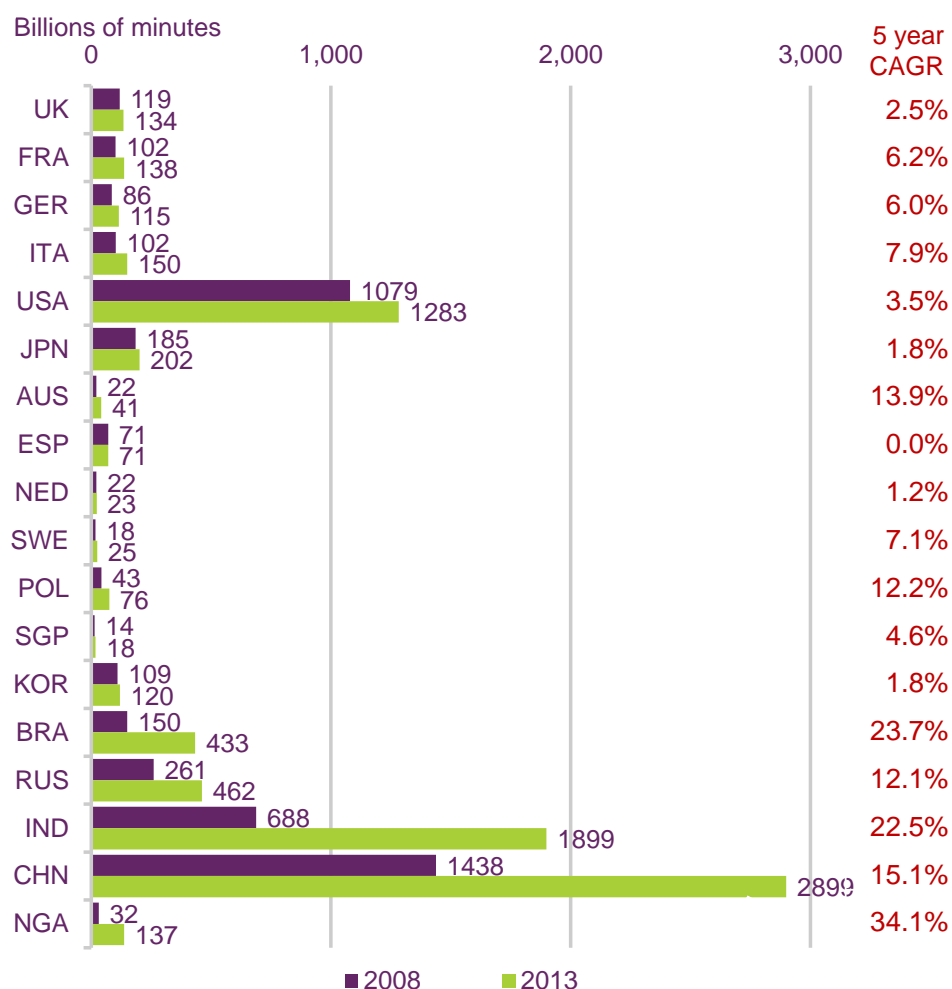
Note: Messaging includes SMS and MMS.

Mobile voice call volumes increased in almost all comparator countries in the five years to 2013

Total mobile voice call volumes increased by an average annual rate of 12.6% across our comparator countries in the five years to 2013, and by 7.5% in 2013 (Figure 6.34). China had the highest number of mobile voice call volumes in 2013, at 2.9 trillion, followed by India at 1.9 trillion, and the US at 1.3 trillion.

Mobile voice call volumes increased rapidly among the BRIC countries and Nigeria in the five years to 2013, as a result of the increasing number of mobile connections. Nigeria had the highest average annual growth rate between 2008 and 2013, at 34.1%, followed by Brazil (up 23.7% a year) and India (up 22.5% a year). However, the growth rate in BRIC countries is slowing (all had a lower growth rate in 2013 than their five-year CAGR), while Nigeria still had the biggest increase in 2013, at 66.6%, followed by France (up 14.7%) and the US (up 13.8%). Spain was the only country where mobile voice call volumes were unchanged in the five years to 2013, but saw a slight increase of 0.9% in 2013.

Figure 6.34 Mobile voice call volumes: 2008 and 2013



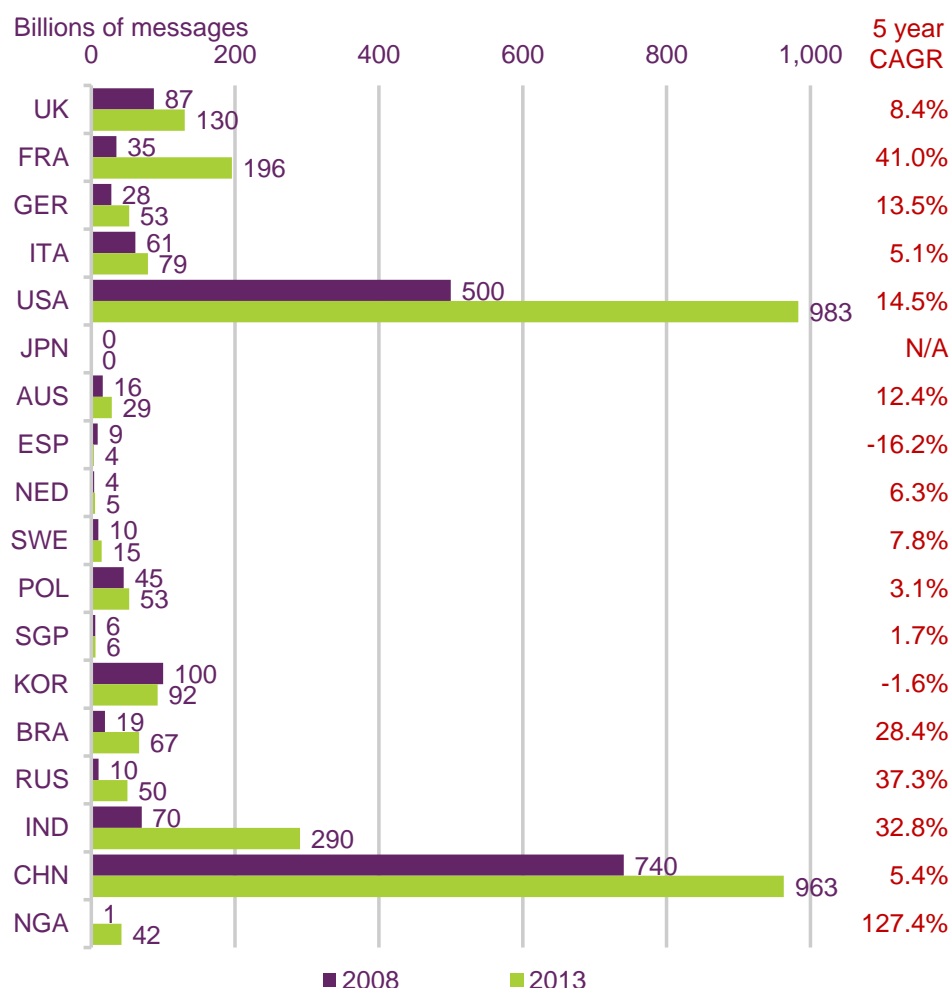
Sources: IHS / industry data / Ofcom

The mobile messaging market declined steeply in almost all comparator countries in 2013

The total number of mobile messages (including SMS and MMS) increased by an average annual rate of 11.9% to 3.0 trillion between 2008 and 2013, despite an 8.7% decline in 2013 (Figure 6.35). The fall was the result of the increasing use of communication methods such as email, instant messaging and social media. In the five years to 2013, mobile messaging volumes decreased in only two countries: Spain (down by an average rate of 16.2% a year) and South Korea (down by an average rate of 1.6% a year). Almost all our comparator countries saw a fall in messaging volumes in 2013; the exceptions were Nigeria (up 104.2% due to lower SMS pricing and increased subscription growth), and Russia, France, Australia and Brazil (up 25%, 6.0%, 4.0% and 2.1% respectively).

Total mobile messaging volumes were highest in the US, at 983 billion in 2013, followed closely by China, at 963 billion, although the average per-capita monthly mobile message volumes were much higher in the US, at 259 a month, compared to 59 a month in China (see Figure 6.59). In the UK, total mobile messaging volumes increased by an average annual rate of 8.4% to 130 billion in the five years to 2013, but fell by 24.3% in 2013.

Figure 6.35 Mobile messaging volumes: 2008 and 2013



Sources: IHS / industry data / Ofcom

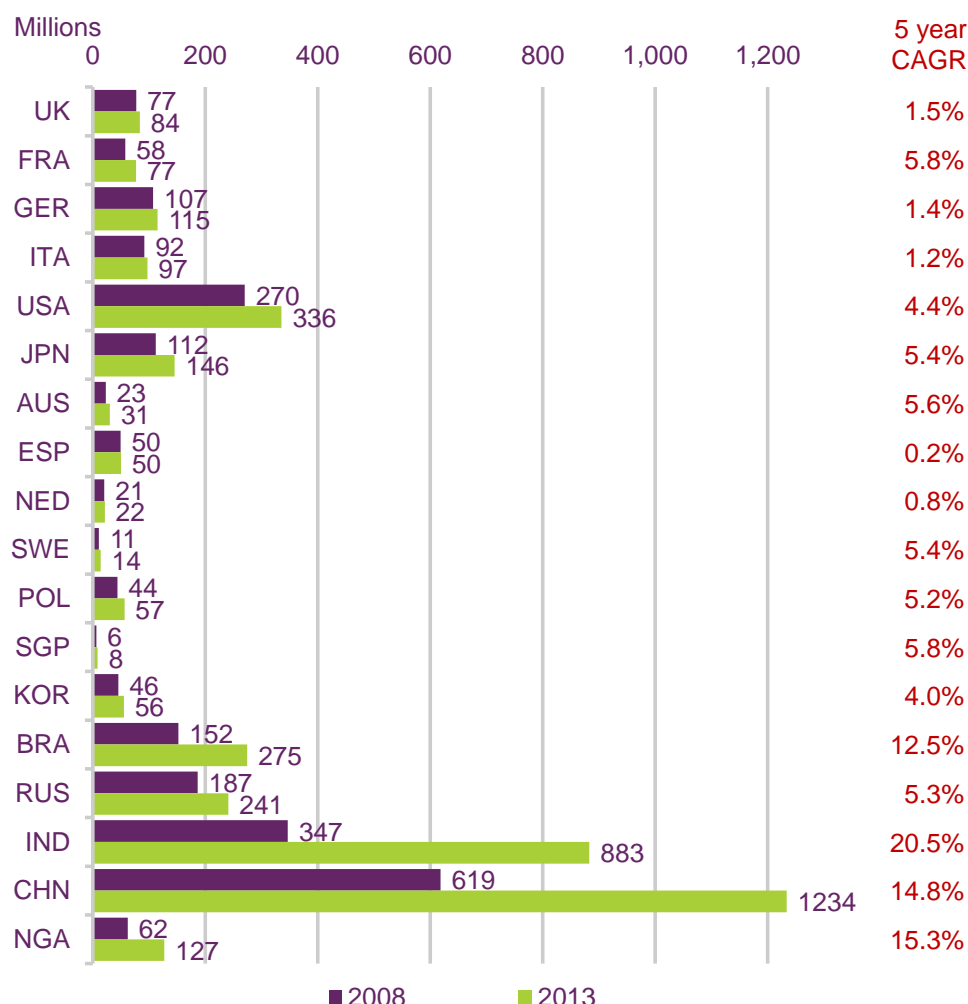
Note: Includes SMS and MMS messages.

The number of mobile connections increased in all of our comparator countries in the five years to 2013

The total number of mobile connections increased by an annual average rate of 11.0% to 3.9bn across our comparator countries between 2008 and 2013 (Figure 6.36). The average annual increase was highest in the the BRIC countries and Nigeria over the five-year period, with India leading at 20.5% a year, followed by Nigeria (up 15.3% a year), China (up 14.8% a year) and Brazil (up 12.5% a year). In the non-BRIC countries, the increase was much slower in the five years to 2013, as these countries tend to have more mature markets. France and Singapore had the highest average growth, both at 5.8% a year, and Spain had the lowest average increase, at 0.2% a year between 2008 and 2013. The increase in mobile connection figures slowed down over the five-year period, and two countries saw a decrease in 2013: Spain (down 1.0%) and the Netherlands (down 0.8%). In the UK, total mobile connections increased by an annual average rate of 1.5% in the five years to 2013.

China had the highest total number of mobile connections, at 1.2 billion, followed by India, at 883 million. As shown in Figure 6.62, both countries had relatively low mobile penetration in 2013, at 91 and 71 connections per 100 people respectively. In the EU comparator countries, Germany had the highest number of mobile connections in 2013, at 115 million, followed by Italy at 97 million, and the UK at 84 million.

Figure 6.36 Mobile connections: 2008 and 2013



Sources: IHS / industry data / Ofcom

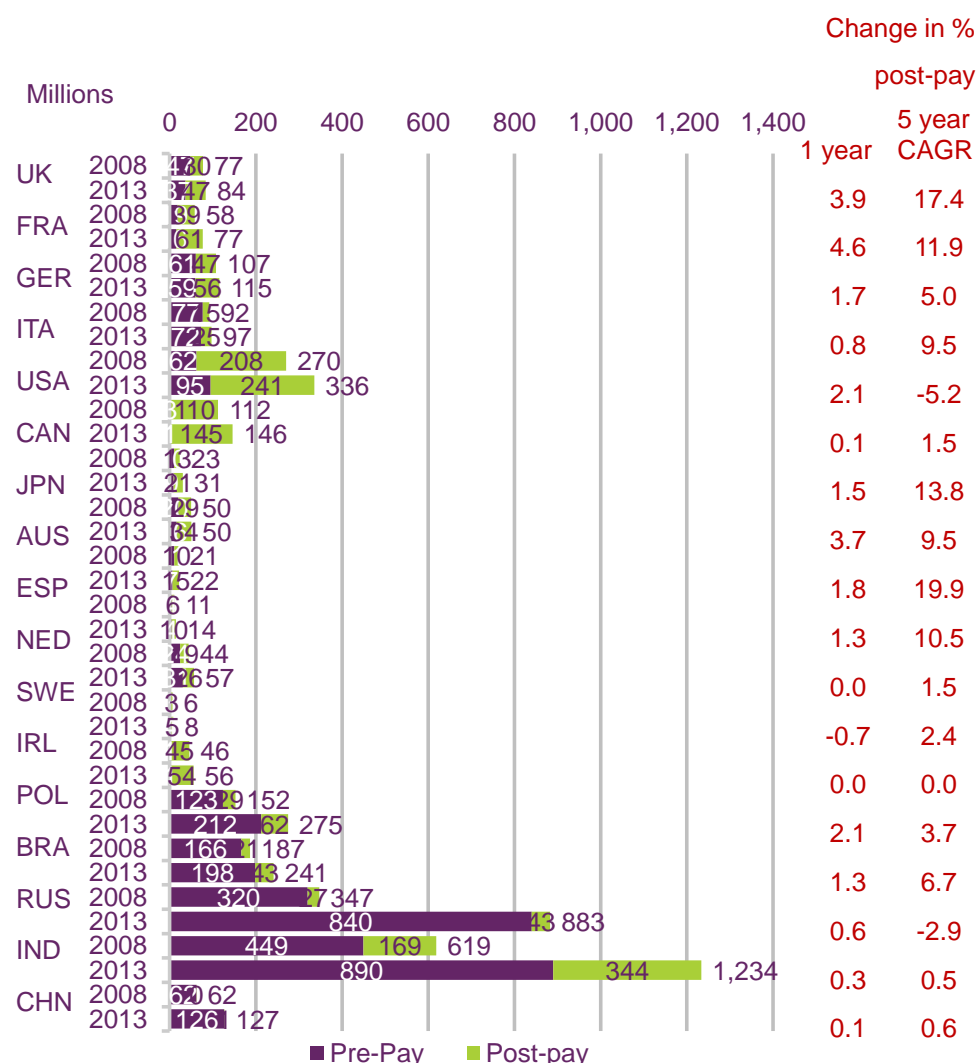
The proportion of mobile connections that were post-pay decreased in the US and China in the five years to 2013

The total number of post-pay mobile connections increased by an average annual rate of 8.5% across our comparator countries in the five years to 2013, while the total number of pre-pay connections increased by an average rate of 12.3% a year over the same period (Figure 6.37). The proportion of mobile connections that were post-pay was 32.0% across our comparator countries in 2013, a four percentage point decrease since 2008.

The proportion of mobile connections that were pre-pay was highest in Nigeria, at 99.1% in 2013, followed by India, at 95.1%. Outside the BRIC countries, the pre-pay mobile proportion was highest in Italy, at 74.5% in 2013. The proportion of connections that were post-pay was highest in Japan, at 99.3% in 2013, followed by South Korea, at 97.9%. In the UK, the

proportion of mobile connections that were post-pay increased by 4pp to 56.1% in 2013 and by 17pp in the five years to 2013.

Figure 6.37 Mobile connections, by type: 2008 and 2013



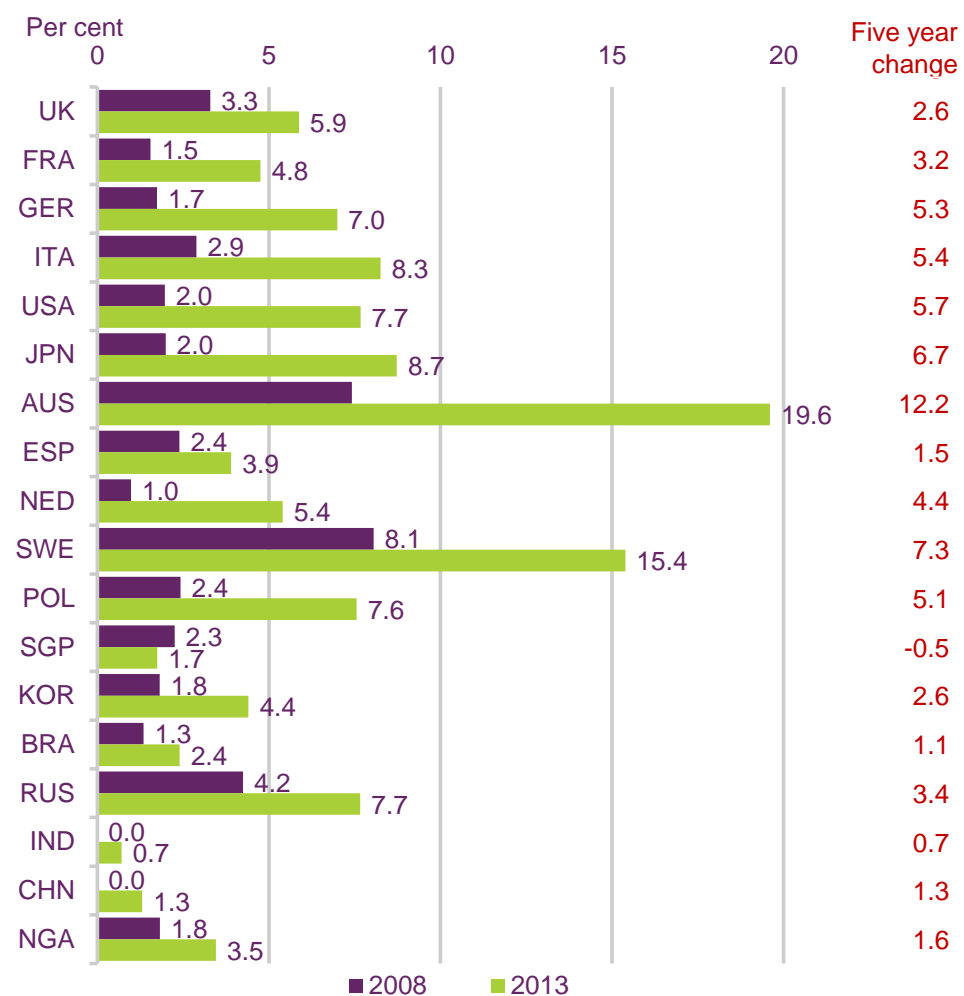
Sources: IHS / industry data / Ofcom

Australia had the highest proportion of mobile connections that were dedicated data connections in 2013

The total number of dedicated data-only mobile broadband connections (such as dongles and data-only SIMs) increased by an annual average rate of 32.5% to 133 million across our comparator countries in the five years to 2013 (Figure 6.38). The proportion of total mobile connections that were dedicated mobile broadband connections increased from 1.4% in 2008 to 3.5% in 2013 across the comparator countries.

The proportion of data-only connections was highest in Australia, at 19.6% in 2013, followed by Sweden at 15.4%. These were also the two countries with the largest increase in this proportion between 2008 and 2013: Australia, with a 12.2 percentage point increase and Sweden with a 7.3 pp increase. Singapore was the only comparator country in which the proportion of mobile connections that were data-only decreased over the five-year period; down by 0.5 pp to 1.7%. In the UK the proportion of dedicated mobile broadband connections increased by 2.6 percentage points to 5.9% in the five years to 2013.

Figure 6.38 Dedicated mobile broadband as a proportion of total mobile connections: 2008 and 2013



Sources: IHS / industry data / Ofcom

6.3 The telecoms user

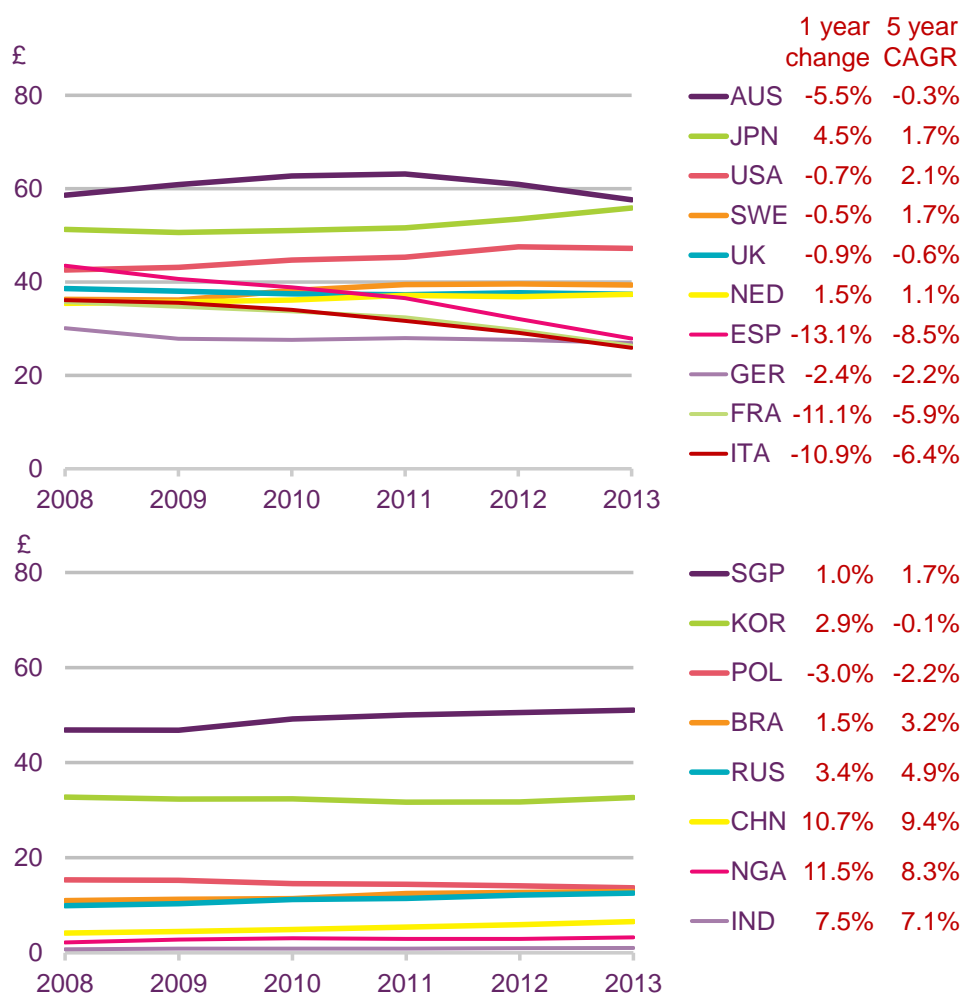
6.3.1 Overview

Per-capita UK telecoms revenue fell by 0.6% a year in the five years to 2013

Average monthly telecoms spend per head showed significant variation among our comparator countries in 2013, ranging from £1 per person in India to £58 per person in Australia (Figure 6.39). Average spend declined in nine of our 18 comparator countries during the year, including the UK where it fell by 0.9% to £37 per person per month, this being the sixth highest average telecoms spend among the countries included in the analysis.

The largest percentage fall in per-capita telecoms spend during 2013 was a 13.1% drop, to £28 per month, in Spain (which is partly related to the continued effect of the economic downturn), while the highest rate of growth was an 11.5% increase (to £3 per month) in Nigeria, which was largely due to the growing use of mobile services. Spain had the largest average annual fall in average per-capita spend in the five years to 2013 (down by 8.5% a year), while the largest average increase over the period was in China, at 9.4% (in the UK, per-capita spend fell by an average of 0.6% a year in the five years to 2013).

Figure 6.39 Per-capita monthly telecoms service revenue: 2008 to 2013



Source: IHS / industry data / Ofcom

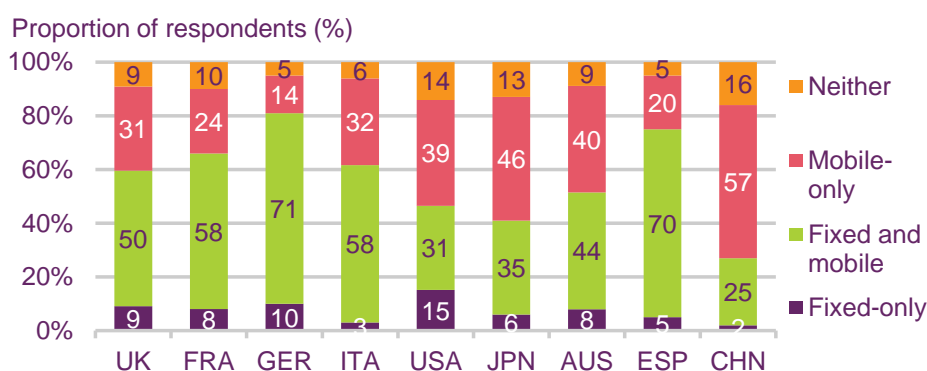
Note: Includes spend by businesses, and is therefore not representative of average consumer spend.

Over half of respondents in Japan and the US are not regular users of landline services

As shown in Figure 6.40, in three of the countries where our consumer research took place (China, Japan and the US), less than half of respondents claimed to use a landline phone (either 'fixed-only', or 'fixed and mobile') at least once a week. In China¹¹¹, the proportion was 27%, compared to 81% in Germany, where landline use was highest (in the UK, the figure was 60%).

The proportion of respondents who regularly used mobile services (either 'mobile-only', or 'fixed and mobile') was lowest in the US, at 70%, and highest in Italy (91%) and Spain (90%), while the percentage of respondents who said that they were regular users of both fixed and mobile telephony ranged from 25% in China to 71% in Germany (in the UK it was 50%). China (16%), the US (14%) and Japan (13%) had the highest proportion of respondents who indicated that they used neither a landline nor a mobile phone; this figure was 10% or lower in the remaining countries.

Figure 6.40 Regular use of fixed and mobile telephony services



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q6. Which of the following do you regularly do (at least once a week)?

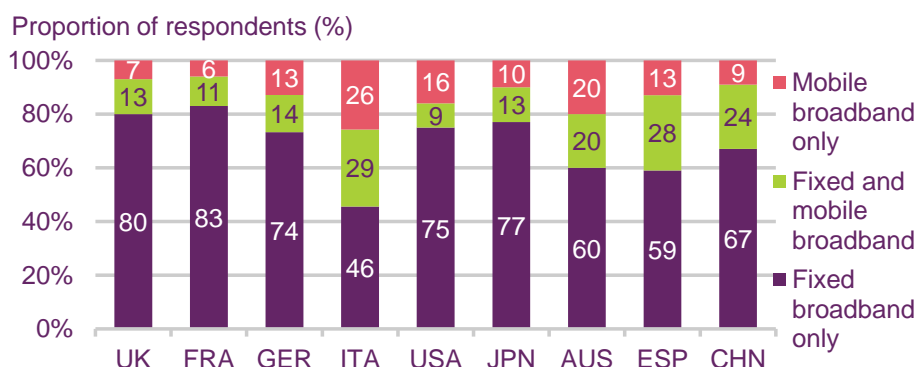
Over half of internet households in Italy use dedicated mobile data services

Italy was the only one of the nine comparator countries where less than half of internet users lived in a household that solely used fixed broadband services (Figure 6.41). In Italy, 55% of internet users said that their household used dedicated mobile broadband services (i.e. through a dongle or data-only SIM); in France and Spain the figures were 17% and 41%, and in the UK this figure was towards the lower end of the scale, at 20%.

The proportion of internet users who lived in a household with a fixed broadband connection ranged from 75% in Italy to 94% in France, while the proportion living in a household which used mobile broadband only was lowest in France (at 6%) and highest in Italy (at 26%). The UK level was similar to France; 93% of internet users said they had a fixed broadband connection, and 7% said they only used a dedicated mobile broadband connection.

¹¹¹ As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

Figure 6.41 Household take-up of fixed and dedicated mobile broadband data connections



Source: Ofcom consumer research October 2014

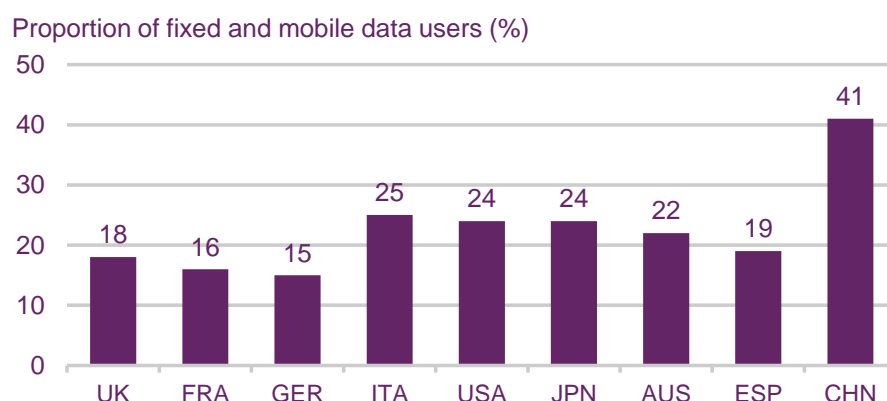
Base: All respondents with broadband, UK=929, FRA=945, GER=844, ITA=877, USA=747, JPN=737, AUS=910, ESP=903, CHN=923.

Q3b. Which of the following services do you have in your home?

Over four in ten internet users in China make VoIP calls at least once a week

Across our comparator countries, people in China were the most likely to say they made VoIP calls at least once a week, with 41% of fixed and mobile data users claiming to do this (Figure 6.42). However, this figure should be treated with caution as the research was conducted online. Among the other eight countries in which the research took place, the proportion who said that they used VoIP services at least once a week ranged from 15% in Germany to 25% in Italy. It should be noted that these figures may be understated in countries such as France, Germany, the US and Japan, where the use of managed VoIP services is comparatively high, as consumers may not be aware that they are using VoIP (further information regarding the use of managed VoIP can be found in Section 6.1.4 of this report). In the UK, 18% said that they used VoIP services at least once a week.

Figure 6.42 Proportion of respondents using VoIP services at least once a week



Source: Ofcom consumer research October 2014

Base: All respondents with mobile broadband internet access or those who access the internet access via a mobile handset, UK=339, FRA=361, GER=383, ITA=662, USA=284, JPN=250, AUS=464, ESP=620, CHN=568

Q.27 How often, if at all, do you use your main mobile phone to do each of the following?

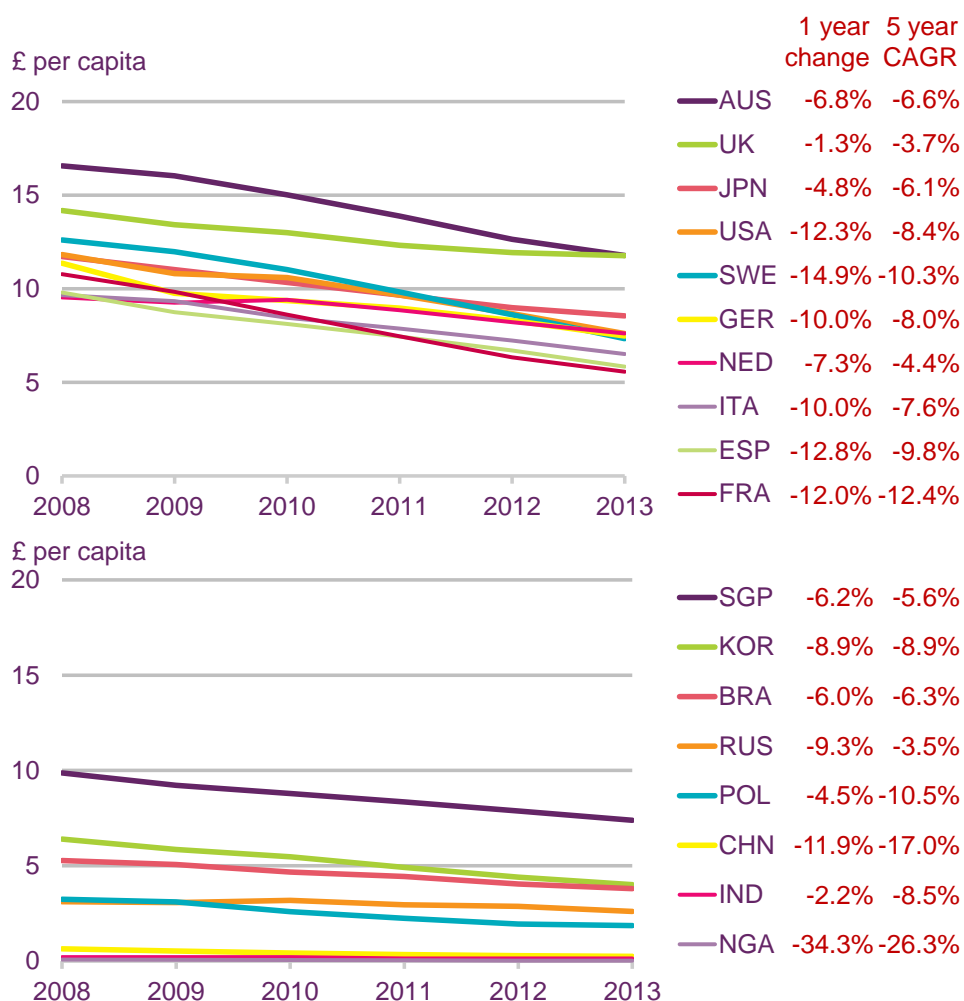
6.3.2 Fixed voice services

The UK had the second highest average spend on fixed voice services among our comparator countries in 2013

Although Australia experienced a 6.8% fall in average per-capita spend on fixed voice services (including managed VoIP) in 2013, it continued to have the highest average fixed voice spend per person among our comparator countries during the year, at £11.78 per month (Figure 6.43). The UK had the second highest average spend on fixed voice services, at £11.77 per person per month, and the gap between Australia and the UK narrowed significantly between 2012 and 2013. Average monthly fixed voice spend was lowest in Nigeria in 2013, at just £0.02 per person; this is because fixed voice service availability and take-up are low (there were just 0.2 fixed lines per 100 people in Nigeria at the end of 2013).

Per-capita monthly fixed voice spend declined in all of our comparator countries in 2013, ranging from a 1.3% drop in the UK to a 34.3% fall in Nigeria. Per-capita monthly fixed voice spend fell in all countries over the five-year period; the largest decline, again, was in Nigeria at 26.3% a year (in the UK it fell by an average of 3.7% a year, the second lowest rate of decline over the period after Russia, at 3.5%).

Figure 6.43 Average monthly per-capita fixed voice revenue: 2008 to 2013



Source: IHS / industry data / Ofcom

Note: Includes managed VoIP revenues.

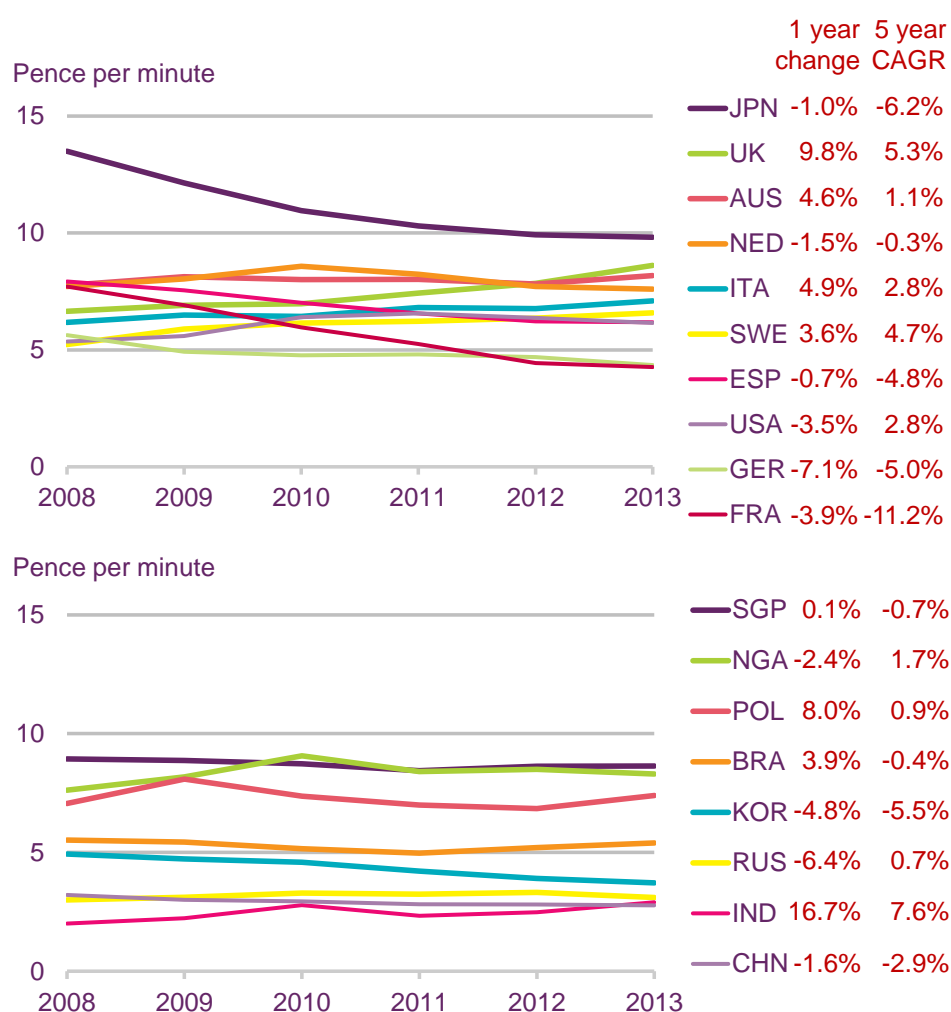
The average price of a fixed voice call minute was highest in Japan in 2013

We can calculate the average price of a fixed voice call minute by dividing total fixed voice revenues (including the line rental fee) by the number of call minutes originated on fixed networks. It should be noted that the average call price figures below will be slightly understated where a bundled allowance of fixed calls is included in the monthly fee of another communications service (for example, fixed broadband) as none of that revenue is allocated to fixed voice services.

The UK had the second highest average price for an outgoing fixed voice call minute among our comparator countries in 2013, at 8.6 pence per minute (this was highest in Japan, at 9.8 pence per minute). The UK average price per minute in 2013 increased by 0.8 pence (9.8%) compared to 2012, whereas in Japan it fell by 0.1 pence per minute (1.0%) during the year (Figure 6.44). In eight of our 18 comparator countries (the UK, Australia, Italy, Sweden, Singapore, Poland, Brazil and India) the average price of a fixed voice call minute increased in 2013. This increase was most marked in India (the only country where the average price of a call minute was rose more steeply than in the UK in 2013) at 16.7%. The highest rate of decline in the price of a fixed call minute in 2013 was in Germany, which experienced a 7.1% decrease in the average cost of a fixed voice call, to 4.4 pence per minute, during the year.

The steepest rate of decline in fixed voice prices between 2008 and 2013 was in France, where the cost of a fixed call minute fell by an average of 11.2% per year as a result of the availability of low-cost bundled VoIP-based fixed telephony services. The average cost per minute of a fixed voice call increased at an average rate of 5.3% per year between 2008 and 2013 in the UK; this was the second-highest average increase among our comparator countries, after India (7.6%). Further information on communications service pricing can be found in Section 2 of this report.

Figure 6.44 Average price of a fixed voice call minute: 2008 to 2013



Source: IHS / industry data / Ofcom

Note: Includes managed VoIP call; figures for USA and CHN include incoming calls.

Japan had the only increase in average per-capita monthly fixed voice call minutes between 2008 and 2013

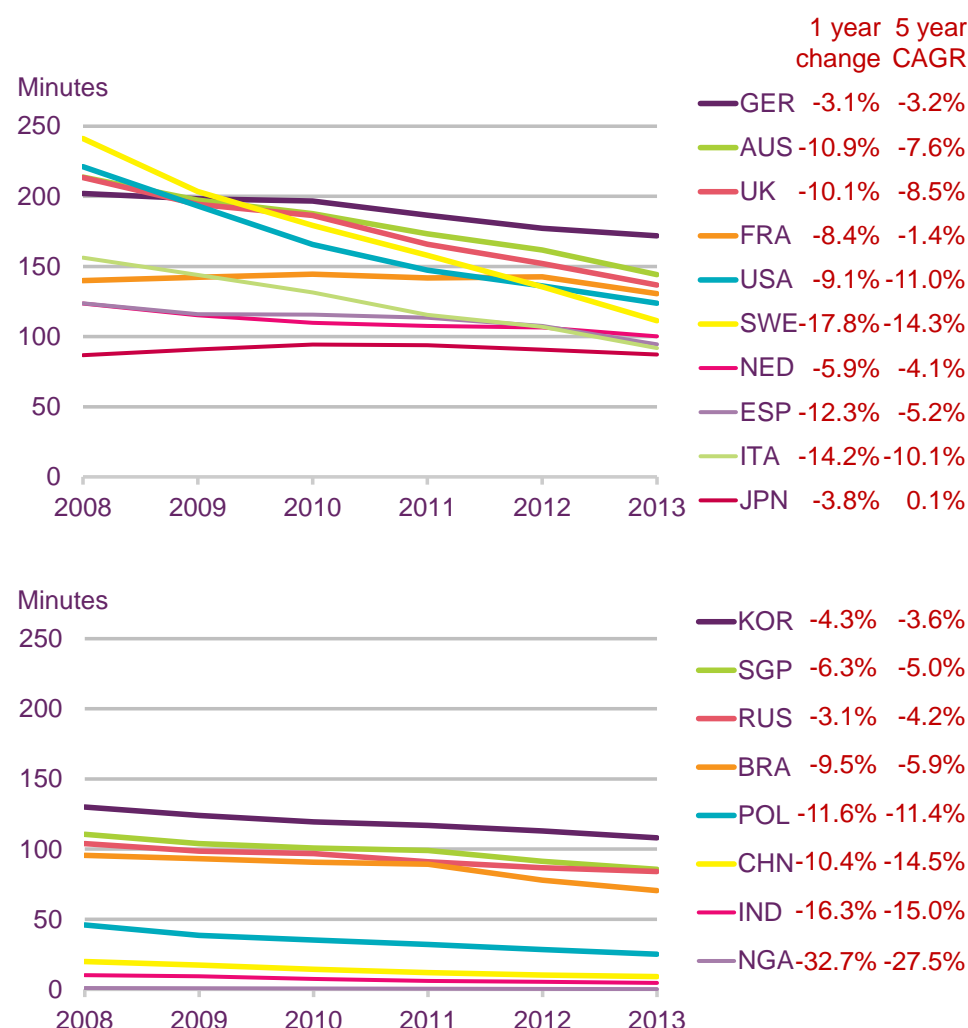
Japan was the only comparator country where the average number of outgoing fixed voice call minutes per person increased between 2008 and 2013, growing by an average of just 0.1% a year to 87 minutes per person per month (Figure 6.45). This increase was despite average outbound fixed call minutes per person having been in decline since 2010, offsetting the increases recorded between 2008 and 2010.

The average volume of outgoing fixed-line calls per person was lowest in Nigeria, where fixed voice service use is low, at 0.2 minutes per month in 2013. Conversely, the highest average for outgoing fixed voice call minutes was in Germany (where fixed voice calls are comparatively cheap compared to mobile calls) at 172 minutes per month (in the UK, the average was 137 minutes per person per month, the third highest figure after Germany and Australia). Average per-capita fixed call use in the UK in 2013 was 10.1% lower than the 152 minutes per person per month figure for 2012, and 36.0% lower than the 213 minute average recorded in 2008.

France had the smallest average annual decline in per-capita fixed call volumes between 2008 and 2013, at just 1.4%. Nigeria had the largest average annual decline over the period,

at 27.5%, mainly due to the growing use of mobile voice services. It is important to note that average monthly fixed call use per person did not exceed one minute per month in Nigeria between 2008 and 2013, and the large percentage decrease in average use over this period relates to a very small decrease in actual terms (an average decrease of less than 0.8 minutes per person per month).

Figure 6.45 Per capita monthly fixed voice call minutes: 2008 to 2013



Source: IHS / industry data / Ofcom

Note: Includes managed VoIP calls; figures for USA and CHN include incoming calls.

Over a quarter of internet users in Japan have a home phone that is not used regularly

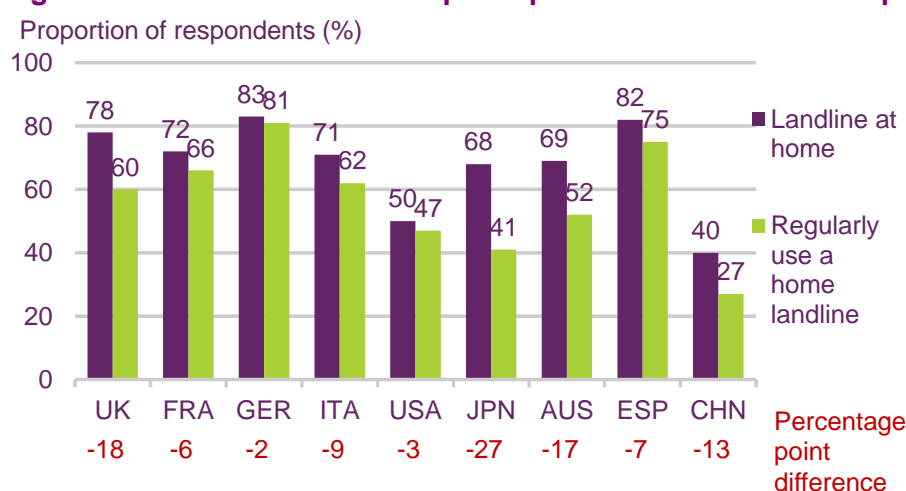
A landline is often required in order to be able to buy fixed broadband services, meaning that consumers may purchase a landline service that they do not use, or use infrequently, in order to be able to have fixed broadband. In the UK, Virgin Media (which offers cable broadband services to just under half of UK premises) is the only major ISP to offer a fixed broadband without the requirement for a fixed line, whereas in some countries (such as France and the Netherlands) naked DSL and fibre services (which do not require a landline of any description) are available.

Our research asked consumers in nine countries whether they were regular users of fixed telephony services at home and whether they had a landline at home, to try to gain an idea

of the extent to which consumers are purchasing landline services in order to be able to use fixed broadband (Figure 6.46).

The proportion of internet users who had a home landline ranged from 40% in China to 83% in Germany among the nine comparator countries in which the research took place (in the UK, the proportion was at the higher end of this range, at 78%). Similarly, the proportion of internet users who were regular users of landline services at home (i.e. they used them at least once a week) ranged from 27% in China to 81% in Germany (in the UK it was 60%). Japan had the largest difference (27pp) between the proportion of people who had a home landline and used it regularly), while the UK also had a fairly wide difference (18pp). The smallest difference was in Germany, at just two percentage points, implying that a large majority of those who had a landline used it at least once a week.

Figure 6.46 Household take-up and personal use of fixed telephony services



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q3b. Which of the following SERVICES do you have in your home? Q9a. Which, if any, of the following internet activities do you use each of your devices for?

Almost all comparator countries saw a decrease in the number of fixed voice connections per 100 people between 2008 and 2013

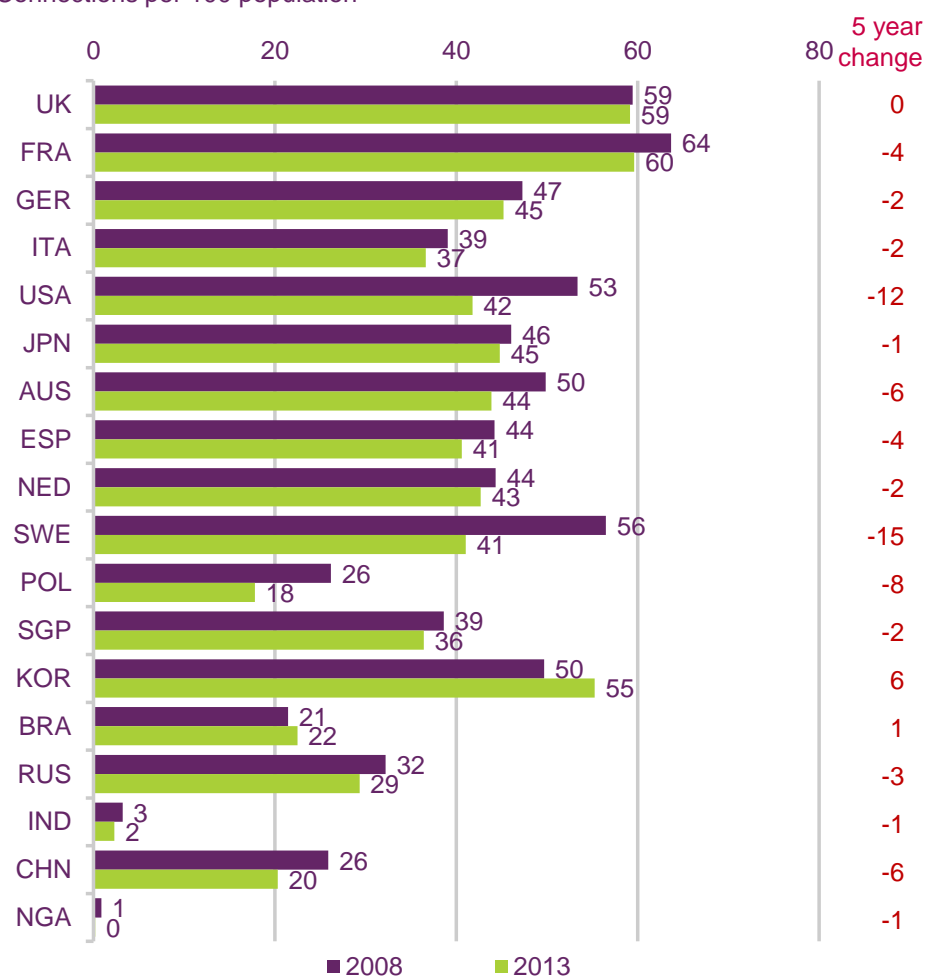
France and the UK had the largest number of fixed voice connections per 100 people (including PSTN lines and managed VoIP connections) at the end of 2013, at 60 and 59 respectively. In the UK, this figure was unchanged from five years previously, while in France it represented a fall of four connections per 100 (Figure 6.47). Nigeria and India had the lowest take-up of fixed voice services at the end of 2013, at less than one and two connections per 100 people respectively. This is due to the lower availability of fixed telecoms infrastructure in these countries.

All of our comparator countries apart from South Korea and Brazil (where take-up increased by one and six connections per 100 people respectively) saw a fall in the number of fixed voice connections per 100 people in the five years to 2013. These falls are related to growing mobile voice use in most countries, along with increasing use of other forms of communication, such as email, mobile messaging, instant messaging, VoIP and social networking, as well as increased take-up and use of mobile phones (including smartphones).

Sweden had the largest decrease in per-capita fixed voice between 2008 and 2013, with the number of fixed voice connections falling by 15 per 100 people to 41 during this period, as a result of high levels of mobile voice and data use. This decline was much greater than those recorded in our other comparator countries, among most of which the fall was less than five connections per 100 people during this period.

Figure 6.47 Fixed voice connections per 100 population: 2008 and 2013

Connections per 100 population



Source: IHS / industry data / Ofcom

Note: Includes managed VoIP connections

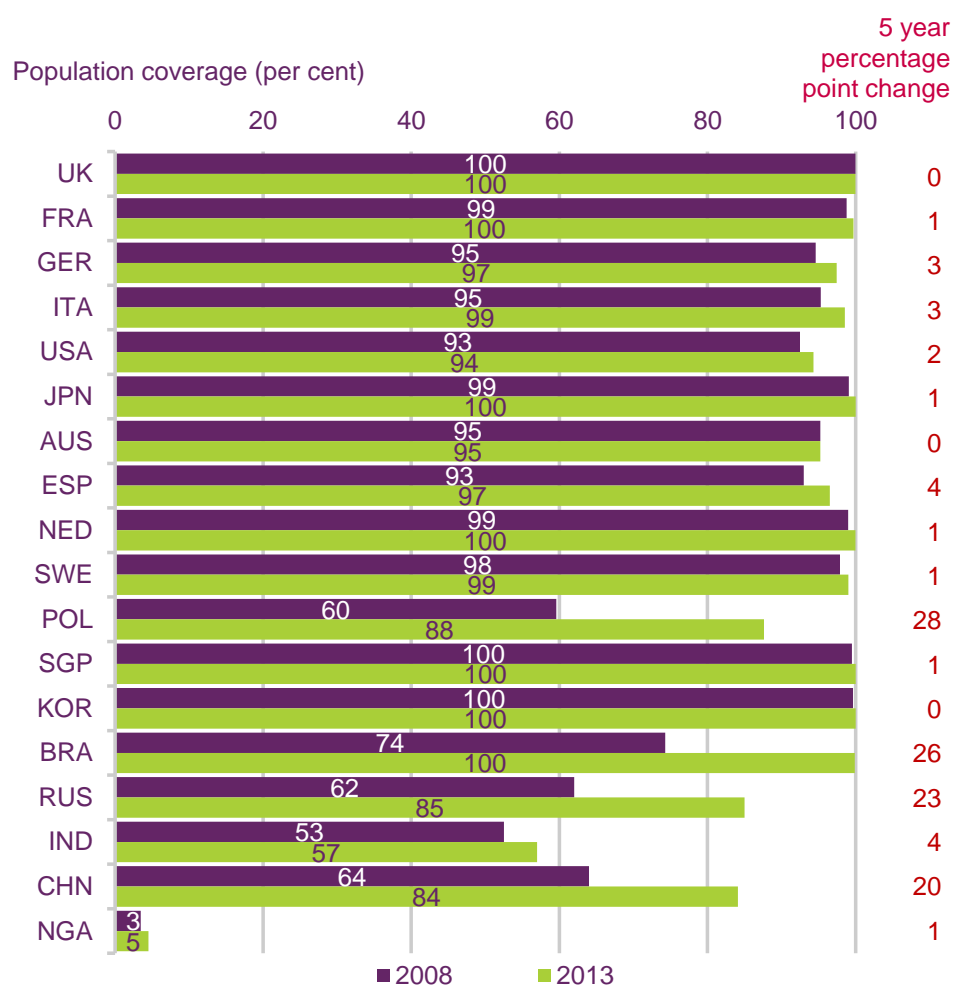
6.3.3 Fixed broadband services

Most comparator countries had over 95% fixed broadband population coverage in 2013

In almost all of our comparator countries most of the population were able to access fixed broadband services by the end of 2013. The exception was Nigeria, where just 5% of the population could do this (Figure 6.48). In the UK, ADSL fixed broadband services have been available to almost all of the population for a number of years, and in other comparator countries, including France, Japan, the Netherlands, Singapore, South Korea and Brazil, fixed broadband services were available to over 99% of the population by the end of 2013.

There were significant increases in the availability of fixed broadband services in Poland, Brazil, Russia and China between 2008 to 2013, and in all of these countries the proportion of people living in areas where fixed broadband services were available increased by over 20 percentage points during this period. Poland had the largest increase in the five years to 2013, at 28 percentage points, with fixed broadband availability standing at 88% of the population by the end of this period.

Figure 6.48 Fixed broadband availability: 2008 and 2013



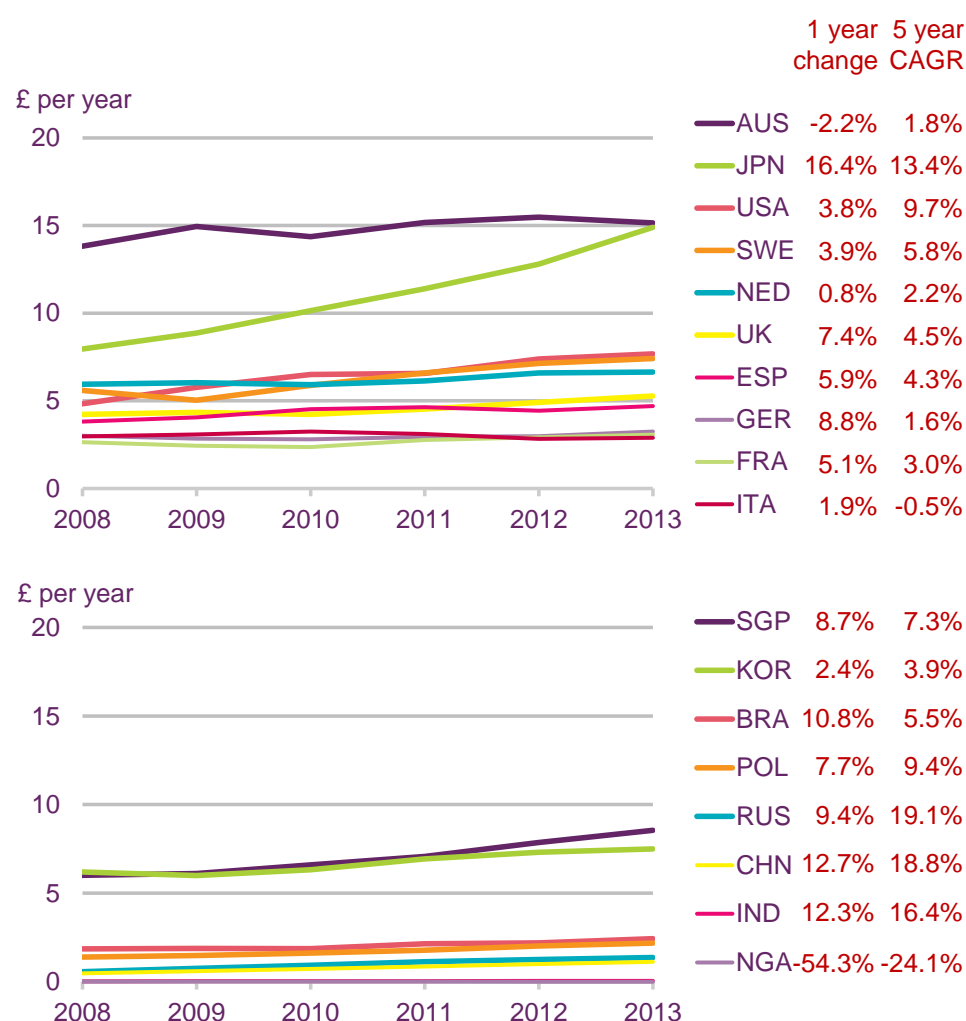
Source: IHS / industry data / Ofcom

Russia had the highest average annual increase in per-capita fixed broadband revenue between 2008 and 2013

Average per-capita monthly fixed broadband spend (which is calculated using the total population as a base, rather than broadband population or households) was highest in Australia at £15 per person in 2013, and lowest in Nigeria (where fixed broadband availability and take-up are both low) at less than one pence per person. In the UK it was £5 per person in 2013, the eighth highest average spend among our comparator countries (Figure 6.49).

Between 2008 and 2013, per-capita monthly expenditure on fixed broadband services increased in all of our comparator countries except Italy and Nigeria (where it fell by 0.5% and 24.1% respectively). Russia recorded the largest increase in average fixed broadband spend per person over this period, with an average annual growth rate of 19.1%, which was mainly due to rapid growth in the number of fixed broadband connections. The smallest average annual increase between 2008 and 2013 was in Germany at 1.6%, mainly because the German fixed broadband market was already comparatively mature in 2008, and due to reduced average revenue per connection. In the UK, the increase averaged by 4.5% a year during this period, as a result of growing fixed broadband take-up, and consumers migrating to faster services.

Figure 6.49 Average per-capita fixed broadband revenue: 2008 to 2013



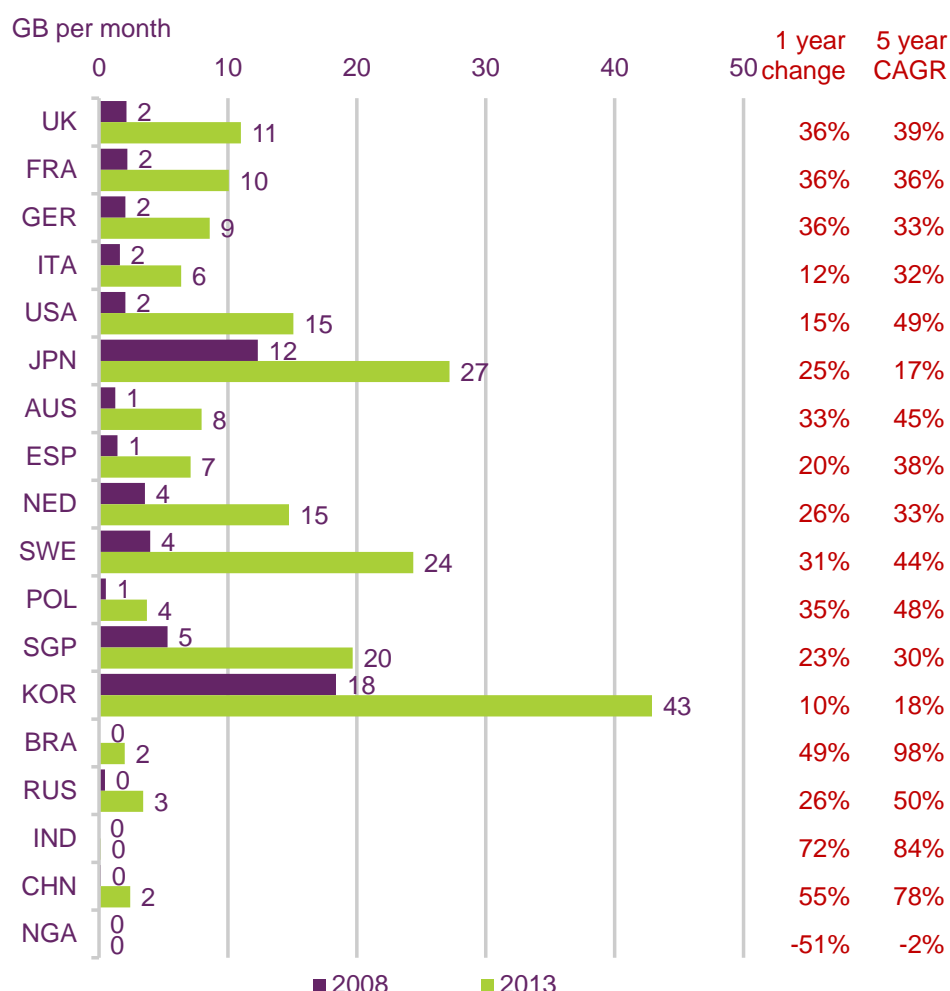
Source: IHS / industry data / Ofcom

Average monthly fixed broadband data volumes per person increased in all comparator countries between 2008 and 2013

South Korea had the highest average monthly per-capita fixed broadband data use in 2013, at 43GB per person, followed by Japan at 27GB per person, both of which were more than double the 11GB average monthly average in the UK during the year (Figure 6.50). The lowest levels of average monthly fixed broadband data use per person were found in Nigeria (at less than 0.1GB per person) and India (0.1GB per person), where lower average use is related to low fixed broadband availability and take-up.

There was a large increase in average fixed broadband data use per person in most comparator countries in the five years to 2013, in part driven by growing use of video-on-demand (VoD) services along with increasing connection speeds. Among our comparator countries, the average annual change in fixed broadband data use per person between 2008 and 2013 ranged from a 2% a year fall in Nigeria (where use is very low) to a 98% annual increase in Brazil (where average monthly fixed broadband data use per person was just 0.1GB per month in 2008). In the UK, where most public service broadcasters provide an online catch-up or VoD service, and commercial video streaming services such as Netflix and Amazon Instant Video have proved to be popular, average data use per person increased by an average of 39% a year in the five years to 2013.

Figure 6.50 Average monthly fixed broadband data volume per person: 2008 and 2013



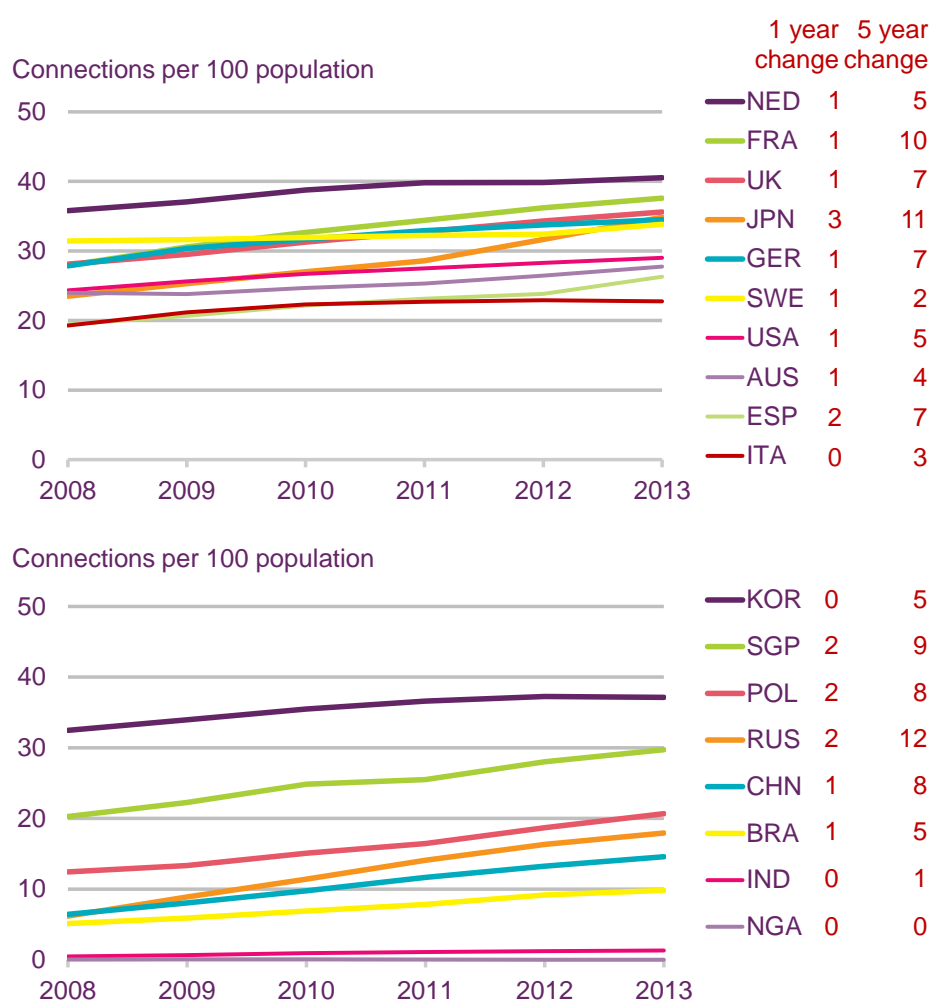
Source: IHS / industry data / Ofcom

Russia had the largest increase in the number of fixed broadband connections per 100 people in the five-year period to 2013

The number of fixed broadband connections ranged from less than one per 100 people in Nigeria to 41 per 100 people in the Netherlands among our 18 comparator countries in 2013 (Figure 6.51). The comparatively low take-up in Nigeria is a result of the low availability of fixed broadband services, while in the Netherlands fixed broadband take-up has been the highest among our comparator countries for some time, partly as a result of high cable coverage and take-up.

The UK had 36 fixed broadband connections per 100 people at the end of 2013, the fourth highest figure after the Netherlands, France and South Korea. Russia had the largest increase in the number of fixed broadband connections per 100 people among our comparator countries between 2008 and 2013, up by 12 connections per 100 people to 18 connections per 100 people. The increase was lowest in Nigeria, at less than one connection per 100 people (in the UK take-up increased by seven connections per 100 people over the period).

Figure 6.51 Fixed broadband connections per 100 population: 2008 to 2013



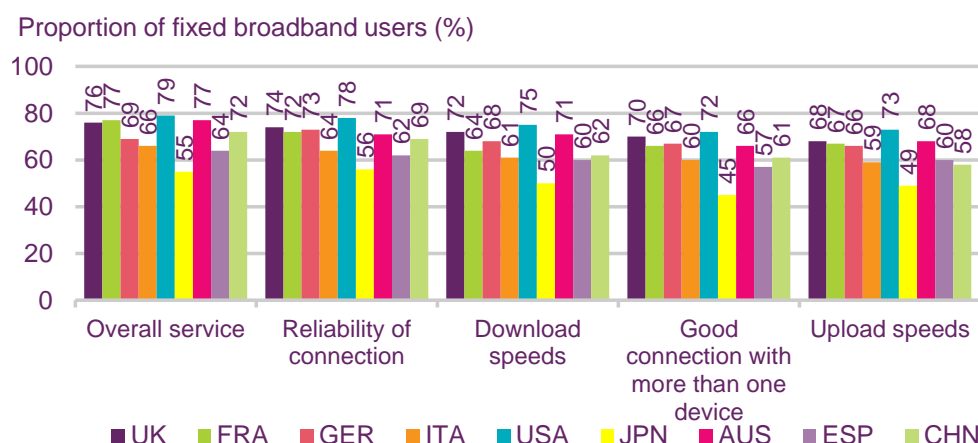
Source: IHS / industry data / Ofcom

Over three-quarters of UK fixed broadband users are satisfied with their service

Figure 6.52 shows the proportion of fixed broadband users in nine of our comparator countries who said that they were either 'very' or 'fairly' satisfied with various aspects of their service.

The US scored highest for all five of the aspects shown below; 79% of fixed broadband users were satisfied with their overall service, although this figure was at a similar level to France and Australia (both 77%) and the UK (76%). Japan scored lowest for all five aspects, with just 55% of users being satisfied with their service overall, and less than half of users being satisfied with the performance of their connection when using more than one device, and upload speeds.

Figure 6.52 Satisfaction with fixed broadband service



Source: Ofcom consumer research October 2014

Base: All respondents with fixed broadband, UK=861, FRA=885, GER=738, ITA=640, USA=638, JPN=664, AUS=727, ESP=785, CHN=843

Q.30 To what extent are you satisfied or dissatisfied with the following aspects of your current home broadband service?

6.3.4 Mobile voice and data services

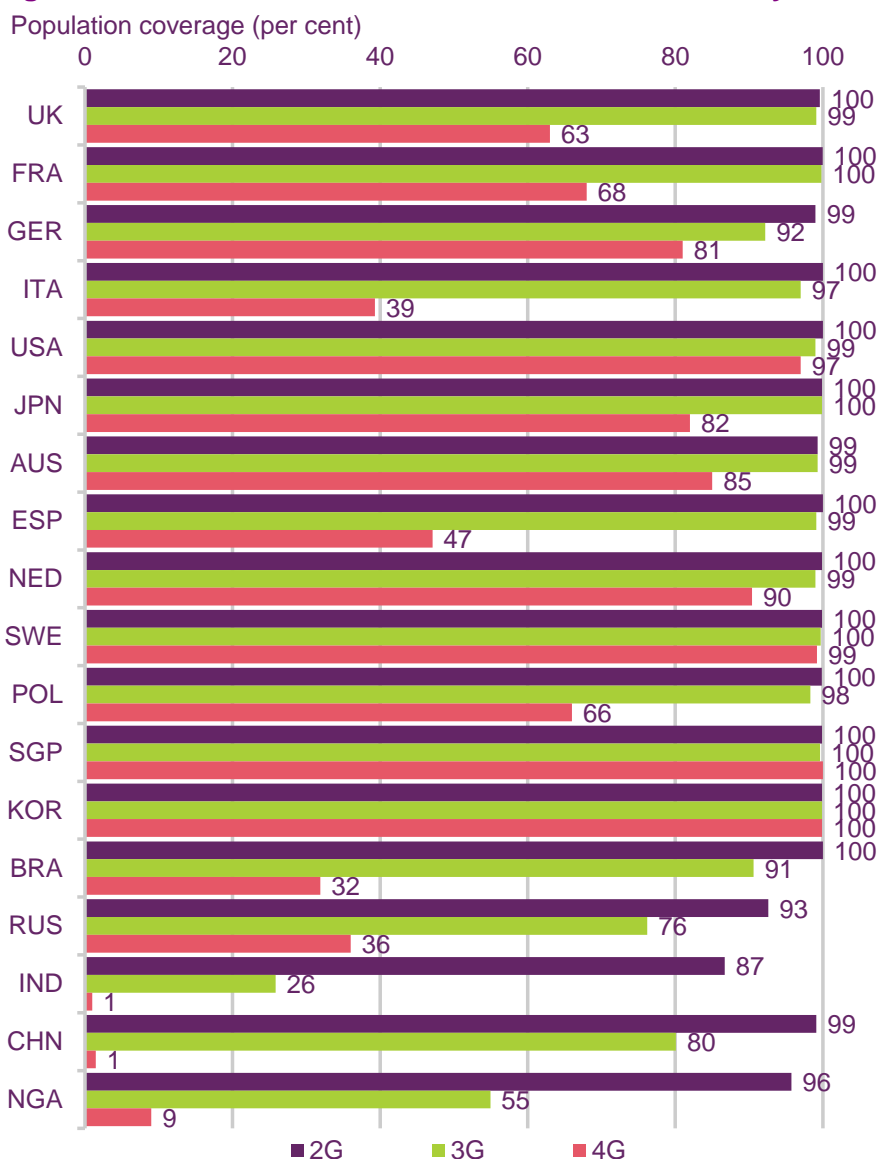
South Korea and Singapore had the highest 4G availability at the end of 2013

According to data provided by IHS, there were only three comparator countries where no mobile technology had 99% or higher population coverage in 2013: India, Russia and Nigeria, with 87%, 93% and 96% 2G mobile coverage at the end of the year (Figure 6.53).

Third-generation (3G) mobile population coverage was also high in most countries, and was 95% or higher in all of our countries except Germany (92%), Brazil (91%), China (80%), Russia (76%), Nigeria (55%) and India (26%), by the end of the year. 3G coverage is comparatively low in Germany because each 3G licence holder has an obligation to cover only 50% of the population, and there is no guidance regarding network overlap. In all the other countries studied, except Brazil, 3G population coverage was very low in 2008.

As 4G long term evolution (LTE) mobile services are still being deployed in many countries, the variation in population coverage was much larger than for 2G and 3G services, ranging from 1% availability in India and China to 100% in Singapore and South Korea (in the UK it was 63%). Further information on 4G services can be found in Section 1.4.

Figure 6.53 2G, 3G and LTE mobile network availability: end 2013



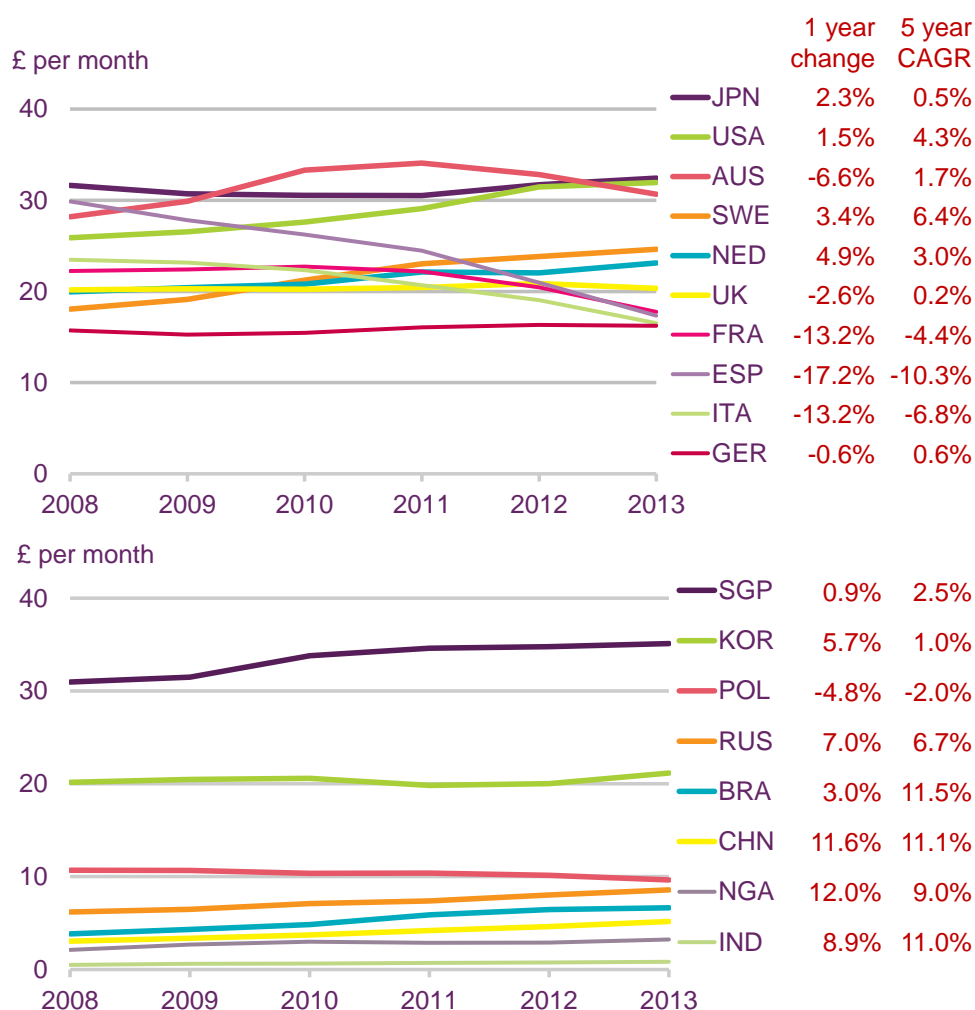
Source: IHS / industry data / Ofcom

Average per-capita mobile spend fell in over a third of our comparator countries in 2013

Per-capita spend on mobile services ranged from less than £1 per month in India to £35 per month in Singapore among our comparator countries in 2013 (in the UK it was £20, the eighth highest figure among our countries).

The UK was one of seven comparator countries where average monthly spend per person on mobile services fell in 2013 (Figure 6.54). This was mainly due to a decrease in out-of-bundle SMS messaging volumes and revenues (which were partially offset by increasing revenues from mobile internet services as a result of growing smartphone take-up). Among those countries where average mobile spend fell in 2013, the decline ranged from a 0.6% fall (to £16 per person per month in Germany), to a 17.2% fall (to £17 per person per month in Spain). In the UK, average spend fell by 2.6% during the year. The largest average annual increases in spend in the five years to 2013 were found in the BRIC countries (where spend was lowest in 2013).

Figure 6.54 Average per-capita monthly retail mobile revenue: 2008 to 2013



Source: IHS / industry data / Ofcom

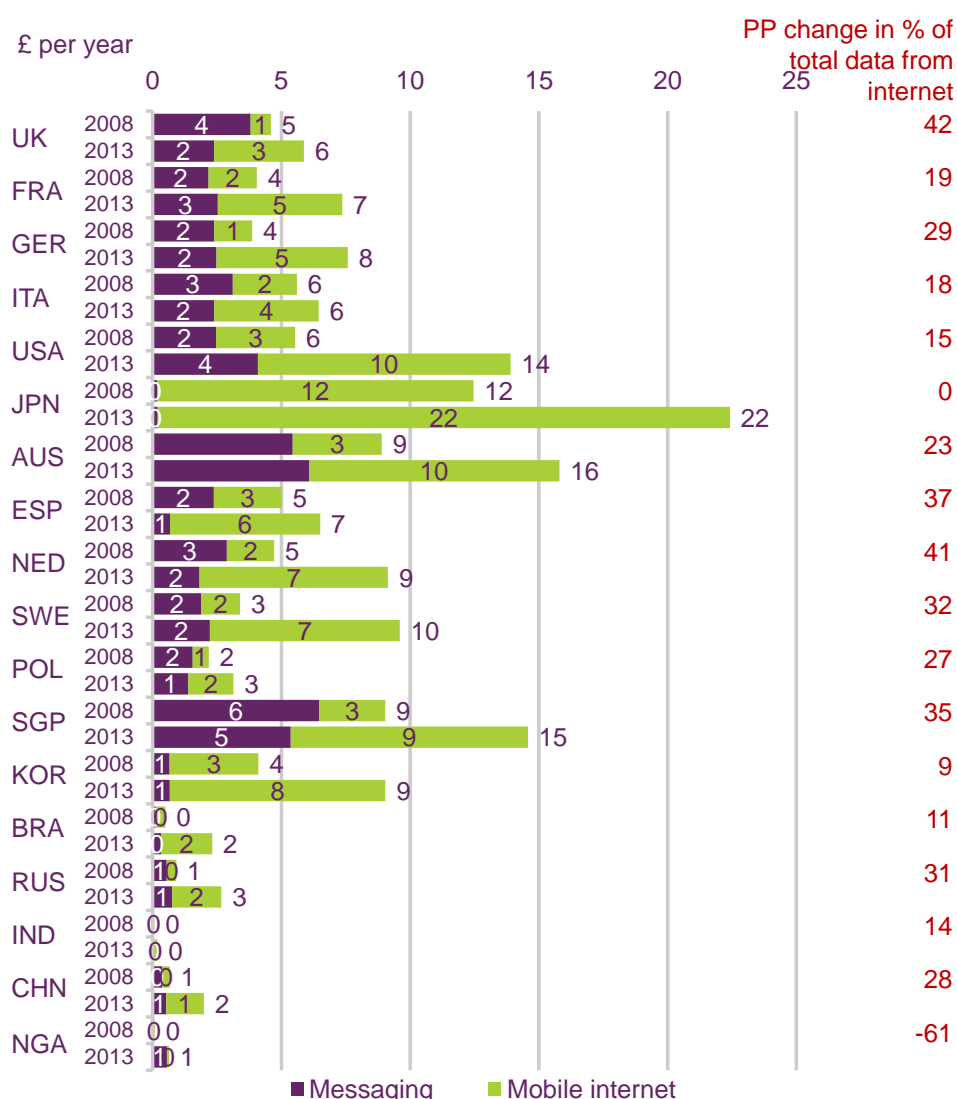
The UK had the largest increase in the proportion of mobile data revenue generated by internet services between 2008 and 2013

Average monthly spend per person on mobile data services (which includes spend on mobile messaging and other mobile data services, referred to here as 'mobile internet' services) increased in all of our comparator countries in the five years to 2013 (Figure 6.55). It is important to note that figures for the UK will be understated as they exclude revenues relating to SMS, and data allowances that are bundled in with monthly line rental fees.

The main driver for the increasing mobile data spend in most of our countries was a rise in mobile internet use, as a result of growing smartphone and mobile broadband take-up, although in six comparator countries (including the UK) these increases were offset by falling mobile messaging revenues. In 2013, the average per-capita spend on mobile internet services (which excludes SMS and MMS) ranged from eight pence per month in Nigeria, where 3G population coverage was just 55% at the end of the year (see Figure 6.53) to £22 per month in Japan (in the UK it was £3 per month).

The proportion of total mobile data spend that was generated by mobile internet services ranged from 13% in Nigeria to 99% in Japan in 2013 (in the UK it was 59%), while the change in this proportion over the previous five years ranged from a 61 percentage point decrease in Nigeria (where mobile messaging has grown at a faster rate than mobile internet due to regulation to reduce SMS costs and increased mobile subscription growth) to a 42 percentage point increase in the UK.

Figure 6.55 Per-capita mobile data average monthly revenue: 2008 and 2013



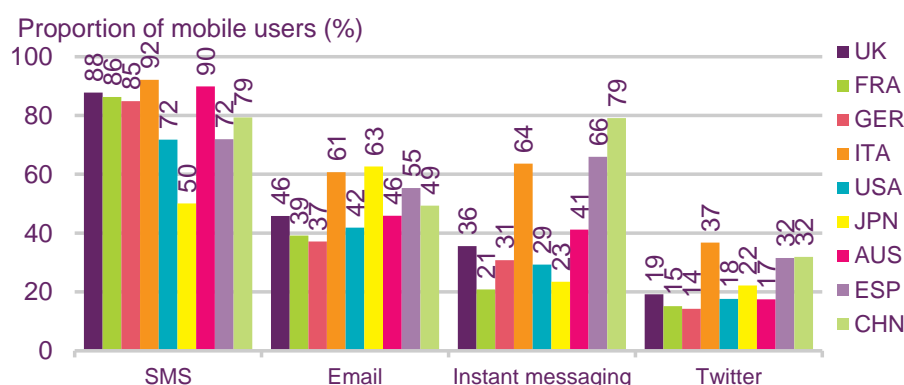
Source: IHS / industry data / Ofcom

Use of data services on mobile handsets is widespread as a result of growing smartphone take-up

Ofcom research conducted in nine of our comparator countries asked mobile users about the services they accessed on their mobile handsets (Figure 6.56). In all of the countries except Japan (50%) more than seven in ten mobile users said that they used SMS messaging. As well as in Japan, SMS use was comparatively low in the US and Spain (both 72%), while the figure in all other countries was around nine in ten (88% in the UK, for example).

Japan (63%) and Italy (61%) had the highest proportion of respondents claiming to use email on a mobile phone, while Germany (37%), France (39%), and the US (42%) were all at lower levels (in the UK the proportion was 46%). The percentage of mobile users claiming to use instant messaging services on their handsets was highest in China, at 79%, while in the UK it was less than half this, at 36%. The percentage of mobile users who said they posted messages on Twitter (tweeted) on their mobile phone ranged from 14% in Germany to 37% in Italy (in the UK it was 19%).

Figure 6.56 Use of data services on mobile phones



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010.

Q9b. Which, if any, of the following ways of communicating over the internet do you use each of your devices for?

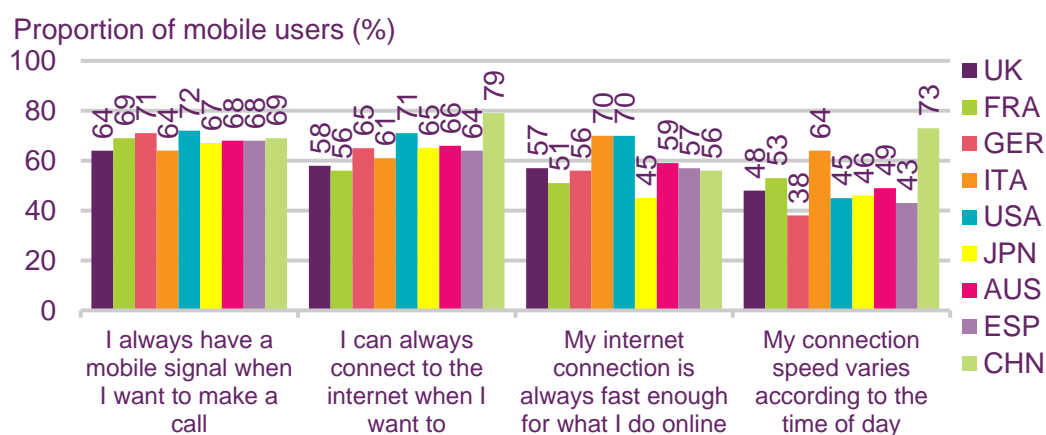
Q9e. Which, if any, of the following do you use your mobile phone or smartphone for?

Fifty-eight per cent of UK mobile users say they can access the internet whenever they want to.

Our consumer research asked mobile users about how easy they found it to connect to voice and data services over their mobile network. This showed that there was little variation in the proportion of mobile users who said that they always had a signal when they wanted to make an outgoing voice call, ranging from 64% in the UK and Italy to 72% in the US (Figure 6.57). China had the highest proportion of respondents who said that they could always access the internet on their mobile network when they wanted to (79%); however, as the research was undertaken online, it is likely that the results for China (where internet use tends to be concentrated in large cities) are not representative of the country as a whole.

Among the other countries in which the research took place, the proportion who said that they did not have difficulty accessing mobile data services ranged from 56% in France to 71% in the US (in the UK it was 58%). Italy and the US had the highest percentage of mobile users who said that their mobile internet connection was always fast enough (both 70%) while this proportion was lowest in Japan, at less than half (45%) of mobile users (in the UK the proportion was 57%). China also had the highest proportion of mobile users who said that the speed of their mobile data connection varied by time of day at 73%, followed by Italy (64%).

Figure 6.57 Mobile phone connectivity



Source: Ofcom consumer research October 2014

Base: All respondents with a mobile phone/ smartphone, UK=827, FRA=797, GER=861, ITA=890, USA=748, JPN=801, AUS=869, ESP=866, CHN=853

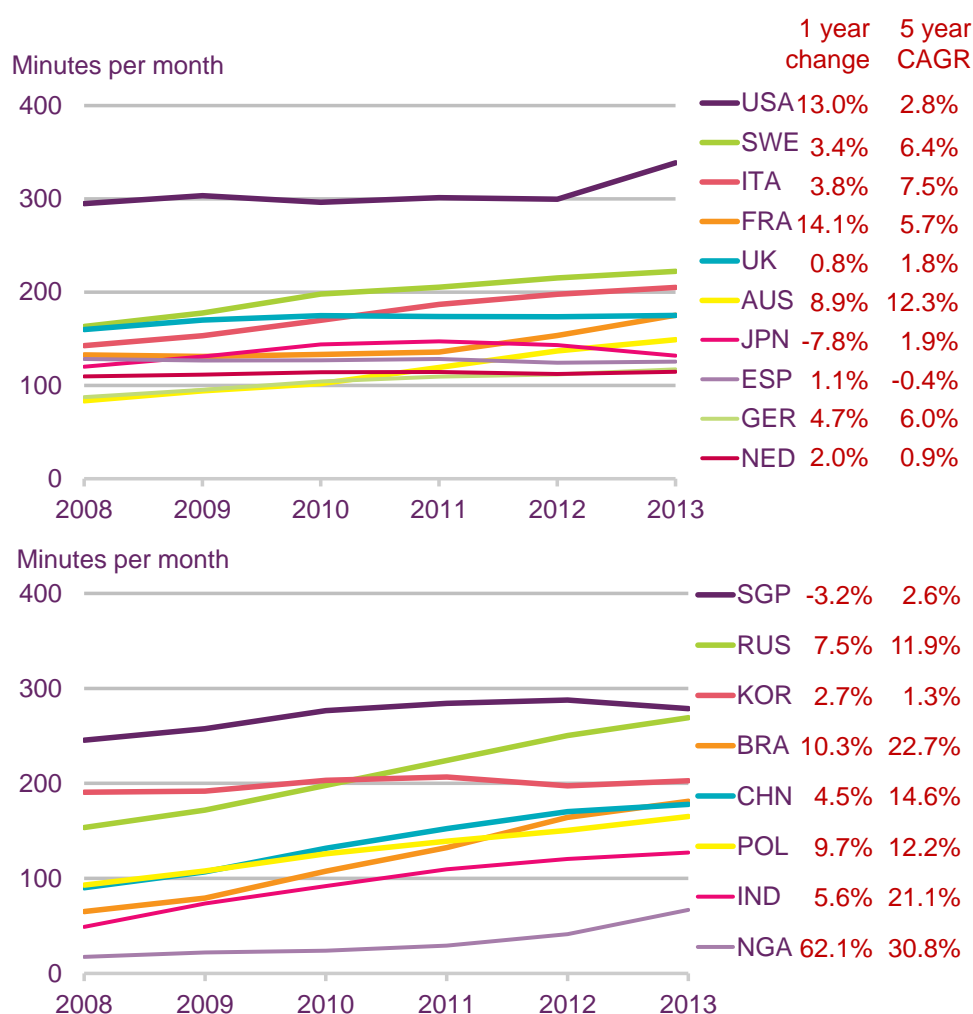
Q.10 Thinking about when you use your mobile phone, please select an answer to each of the following...

Average per-capita monthly mobile call minutes increased in most comparator countries in 2013

Average per-capita outgoing mobile voice call minutes ranged from 67 per month in Nigeria to 339 per month in the US (where there has been a shift towards unlimited voice and messaging plans) among our comparator countries in 2013 (Figure 6.58). In the UK, residents made an average of 175 minutes of outgoing mobile voice call minutes per month, the ninth lowest figure among our comparator countries.

Average per-capita call minutes fell in two of our countries in 2013: Japan (down by 7.8% to 132 minutes per month) and Singapore (down by 3.2% to 279 minutes). It is likely that the increasing use of non-voice communication on mobile devices (such as email and instant messaging) are contributing to these declines. Average use in the UK increased by one minute per person per month (0.8%) over the year. The largest increases in outgoing monthly mobile calls per person in the five years to 2013 were found in Poland, Australia, Nigeria and the BRIC countries, among which average annual growth rates ranged from 11.9% (in Russia) to 30.8% (in Nigeria).

Figure 6.58 Average per-capita monthly mobile voice call minutes: 2008 to 2013



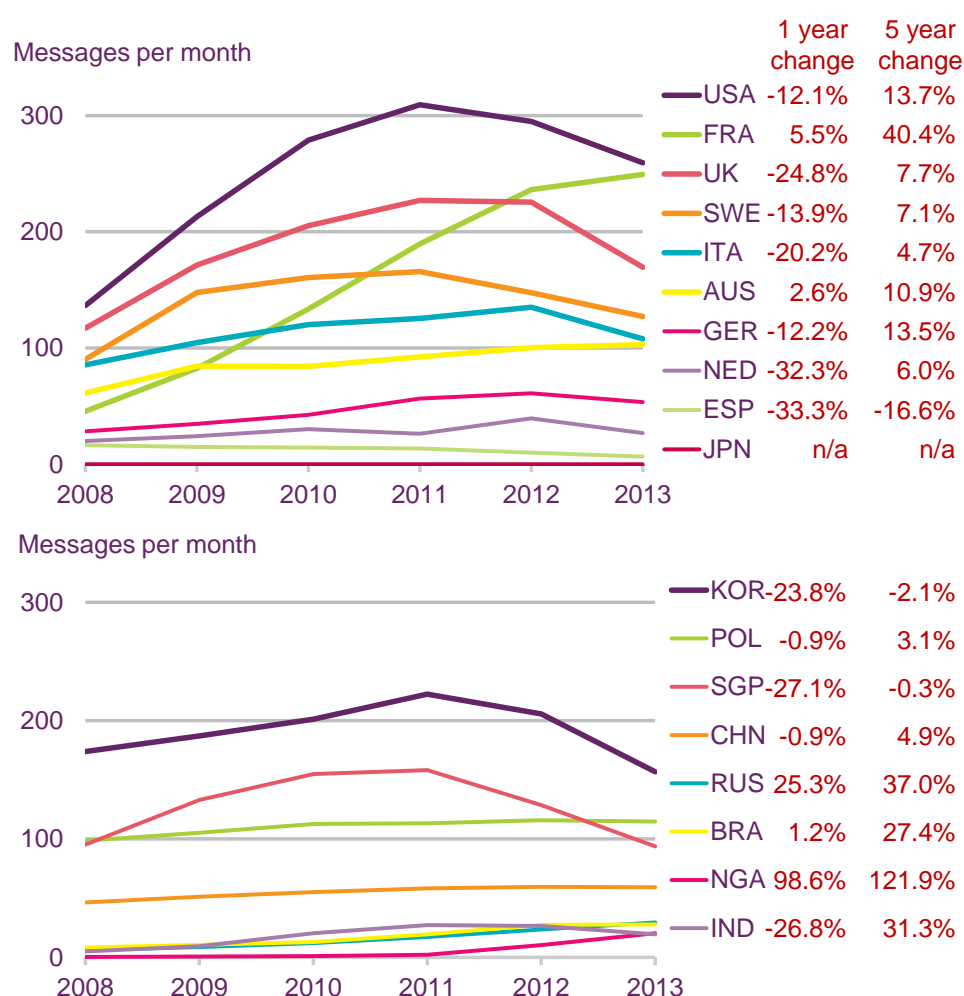
Source: IHS / industry data / Ofcom

People in the US and France had the highest average mobile messaging use in 2013

Average monthly mobile messaging use per person (which includes SMS and MMS messages) ranged from no messages per month in Japan (where email and instant messaging are used rather than traditional mobile messaging services) to 259 per month in the US (Figure 6.59). Average mobile messaging use per person fell in 12 of our comparator countries in 2013, including the UK. As smartphone take-up increases, more consumers have access to alternatives to SMS and MMS messaging (email, IM, over-the-top messaging services and those included on social networking sites), and consequently the use of traditional messaging services is starting to decline in many countries (see Figure 6.61).

Spain had the highest rate of decline in average mobile messaging use per person in 2013, down by a third (33.3%) over the year; however, this fall was only equivalent to three messages per person per month, as mobile messaging services are comparatively expensive in Spain, and average use is low. The largest decline in terms of average messages sent in 2013 was in the UK, where the fall was 56 messages per person per month (24.8%), down to 170 messages per month, the third highest usage level among our comparator countries. Conversely, France had the largest increase in average mobile messages sent per person during 2013, up by 13 messages per month (5.5%) to 249 per person.

Figure 6.59 Average number of monthly mobile messages per head: 2008 to 2013



Source: IHS / industry data / Ofcom

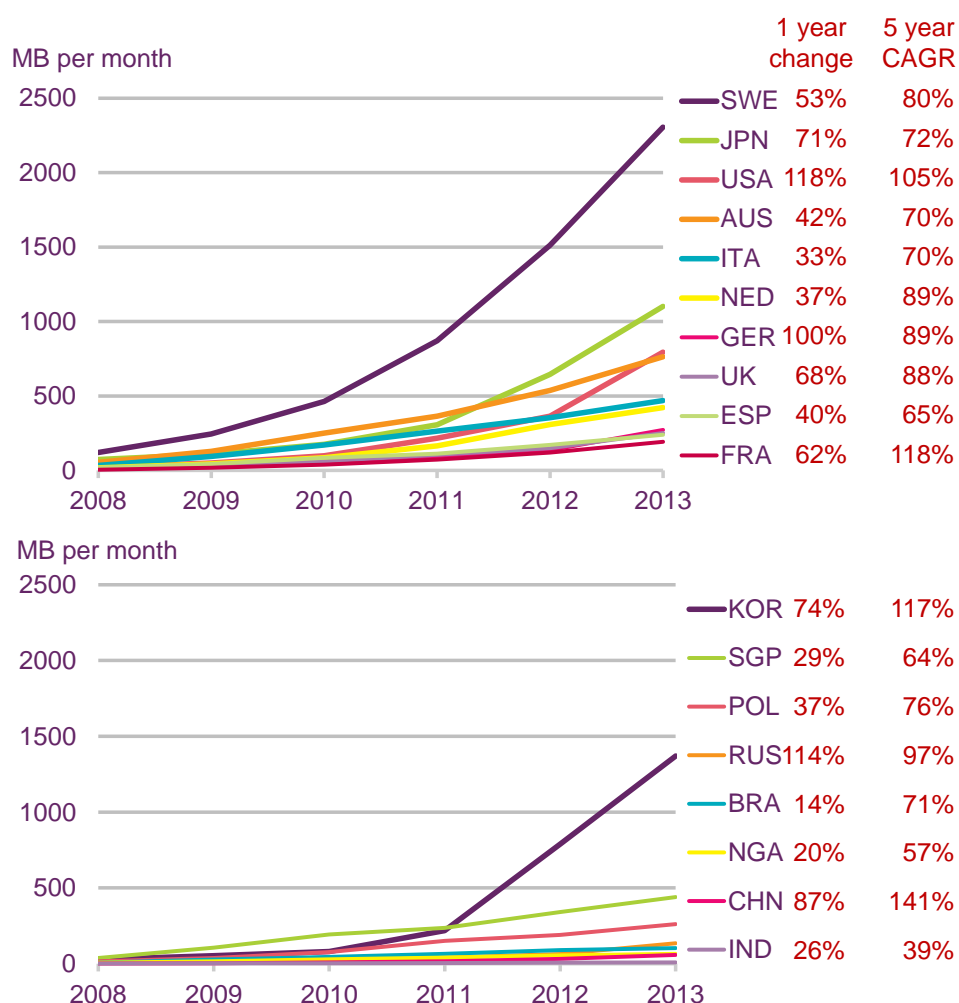
Note: Messaging includes SMS and MMS

The highest average per-capita mobile data use among our comparator countries was in Sweden in 2013

Average mobile data use per person ranged from 8MB per month in India to 2,305MB (i.e. 2.3GB) per month in Sweden among our comparator countries in 2013 (Figure 6.60). Italy had the highest average use among the EU5 countries in 2013, at 469MB per person per month. In the UK, average use was 251MB per person per month in 2013, the eighth lowest figure among our comparator countries, although it was only slightly lower than Germany (271MB per month) and was higher than in France and Spain (192MB and 239MB per month respectively).

Average data use increased in all of our comparator countries over both the one-year and five-year timeframes. In the five years to 2013 the average annual growth in mobile data volume per person ranged from 39% in India (where use was lowest in 2013) to 118% in France and 141% in China (which had the second lowest average monthly use in 2013, at 58MB per person). In 2013, the change in average mobile data use per person ranged from a 14% increase in Brazil to 118% growth in the US. In the UK, the increase in average per-capita mobile data use in 2013 was 68%, while the average annual increase between 2008 and 2013 was 88%.

Figure 6.60 Average per-capita monthly mobile data use: 2008 to 2013



Source: IHS / industry data / Ofcom

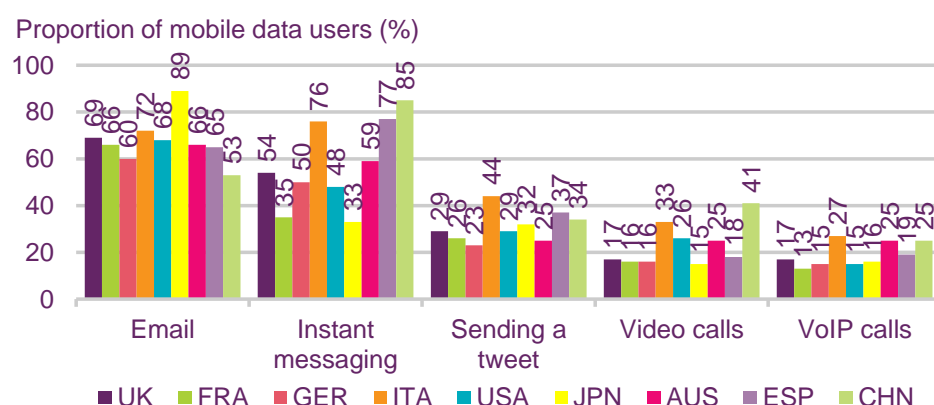
Mobile internet users in Japan have the highest use of email on their mobile handsets

Ofcom research conducted in October 2014 asked mobile internet users in nine of our comparator countries about the methods of communication (other than traditional voice calls and SMS/MMS messages) that they used on their mobile handsets (Figure 6.61). The proportion of mobile internet users who said that they used their mobile handset to send and receive email ranged from 53% in China to 89% in Japan; in the UK it was 69%. Claimed use of instant messaging services was highest in China, where 85% of mobile data users said they used their mobile phone for this¹¹². Among our other eight countries, this measure ranged from 33% in Japan to 77% in Spain (in the UK it was 54%).

China also had the highest claimed use of mobile video calling, at 41% (with the same caveats applying), while the highest claimed Twitter use on mobile handsets was in Italy (44%). In the UK 17% of mobile data users used VoIP on their handset (the same proportion that said they used it to make video calls), while 29% said that they accessed Twitter on their mobile phone.

¹¹² As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

Figure 6.61 Activities undertaken on a mobile phone



Source: Ofcom consumer research October 2014

Base: All respondents who access internet with a mobile phone/ smartphone, UK=540, FRA=469, GER=531, ITA=762, USA=443, JPN=566, AUS=579, ESP=742, CHN=808

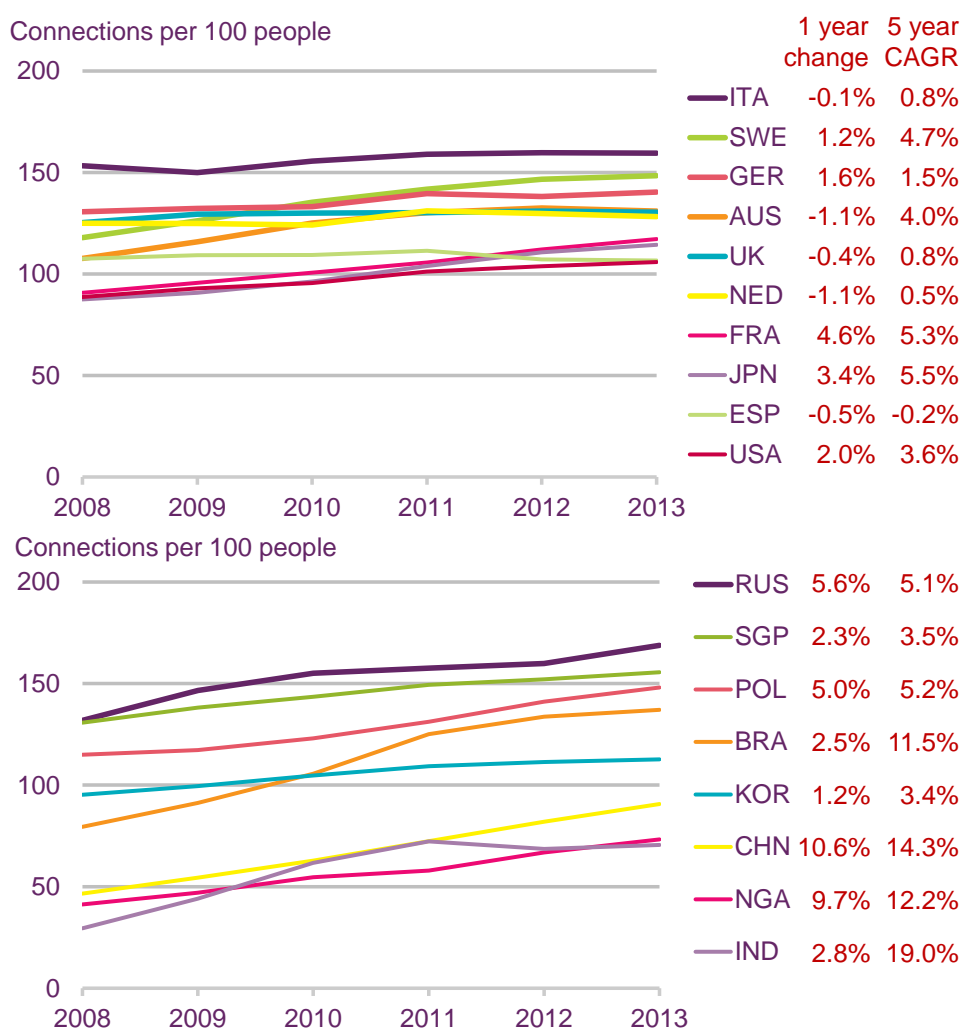
Q.9b Which, if any, of the following ways of communicating over the internet do you use each of your devices for?

Russia, Italy and Singapore had more than 1.5 mobile connections per person at the end of 2013

There were more mobile connections than people in all of our comparator countries except India, Nigeria and China at the end of 2013 (Figure 6.62). This is because many people have more than one mobile connection: for example, one handset for personal use and another provided by their employer; or a separate mobile handset and dedicated mobile data connection; or a number of different providers' SIM cards in order to take advantage of different call rates.

The highest number of per-capita mobile connections per person at the end of 2013 was in Russia, at 169 per 100 people, closely followed by Italy at 159 connections per 100. Italy was one of five comparator countries (along with the UK, Australia, Spain and the Netherlands) where the number of mobile connections per 100 people fell in 2013. In the UK there were 130 mobile connections per 100 people at the end of the year, a decline of less than one connection per 100 people compared to 2012.

Figure 6.62 Mobile connections per 100 people: 2008 to 2013



Source: IHS / industry data / Ofcom

Mobile data connections per 100 people increased in the UK and all comparator countries in 2013

Singapore had the highest take-up of mobile data services (including dedicated mobile broadband data services and access on mobile phone handsets) among our comparator countries at the end of 2013, with 153 connections per 100 people. This was twice the UK figure (77 connections per 100 people); the UK had the ninth highest number of connections per 100 people among our comparator countries. India, China and Nigeria had the lowest mobile data take-up among the comparative countries, with 18, 38 and 40 mobile data connections per 100 people respectively (Figure 6.63)

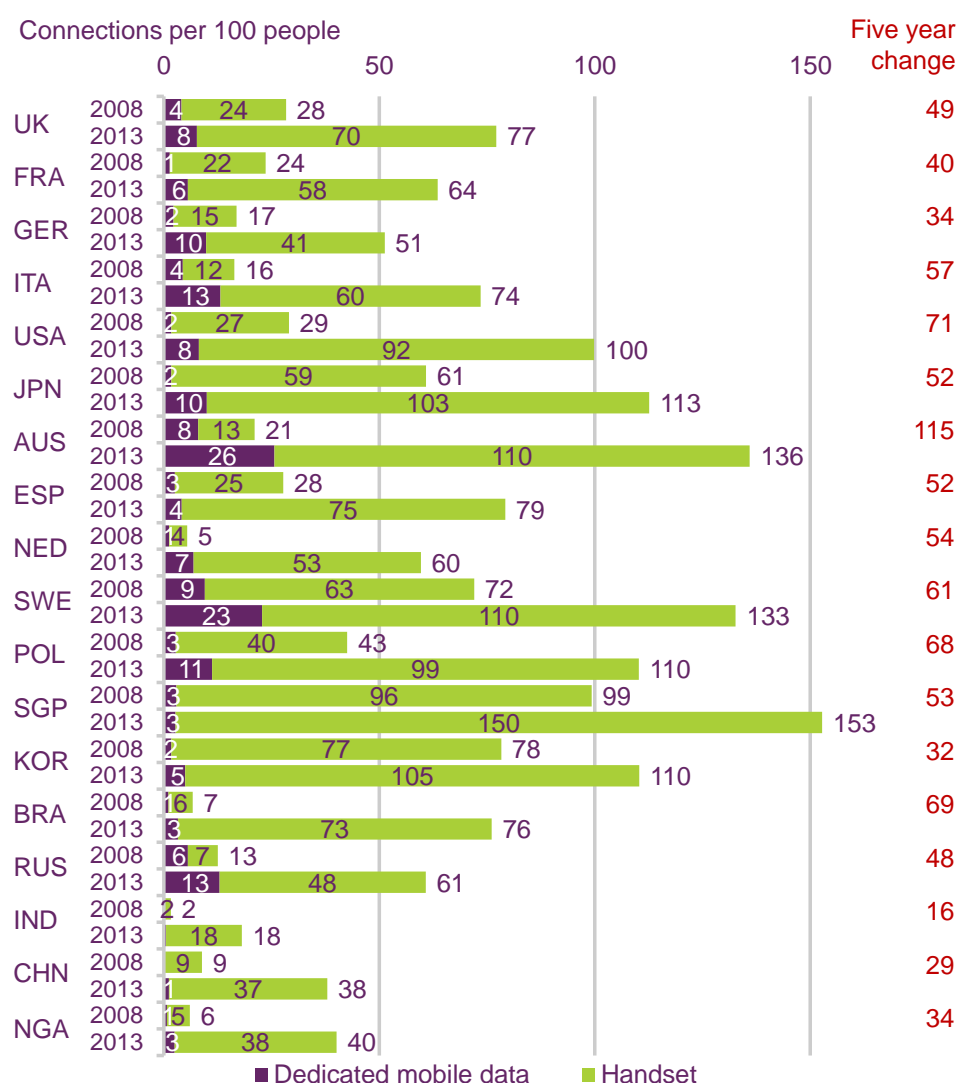
Australia had the largest increase in the number of mobile data connections per 100 people in the five years to 2013 (up by 115 connections per 100 people) followed by the US (up by 71 connections per 100 people) and Brazil (up by 69 connections per 100 people). The smallest increase was in India (up by 18 connections per 100 people). In the UK the increase over this period was 49 connections per 100 people, the eighth lowest growth among our comparator countries.

Australia also had the most dedicated mobile broadband connections per 100 people at the end of 2013, at 26 per 100 people, while take-up was also high in Sweden, where there were

23 connections per 100 people. It was lowest in India, where there was less than one connection per 100 people. The high mobile broadband take-up in Australia is partly related to the widespread availability of 4G LTE services (see Figure 6.53), while low mobile broadband take-up in India is because of the low levels of 3G and 4G availability, with access to mobile data networks being concentrated in metropolitan areas. In the UK there were eight dedicated mobile broadband connections per 100 people at the end of 2013.

Growing smartphone take-up resulted in rapid increases in the number of mobile handset data connections in most of our comparator countries in the five years to 2013, and at the end of this period the number of handset data connections per 100 people ranged from 18 in India to 150 in Singapore (in the UK there were 70 per 100 people, the ninth lowest figure among our countries).

Figure 6.63 Mobile data connections per 100 people: 2008 and 2013



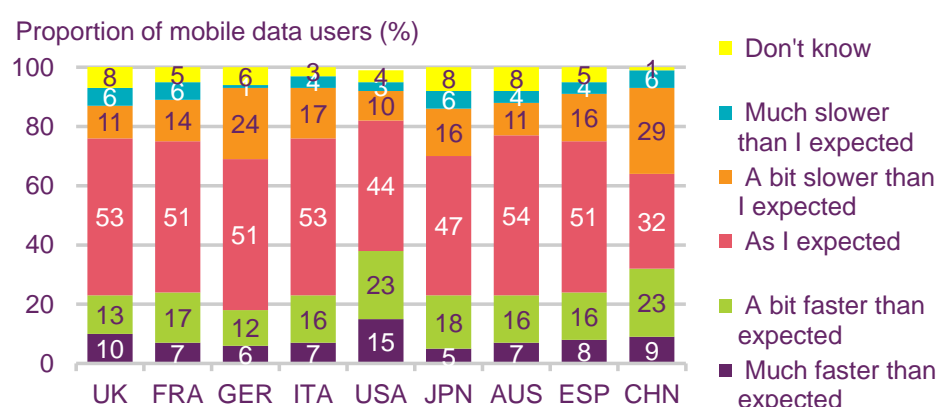
Source: IHS / industry data / Ofcom

Note: Messaging includes SMS and MMS

In the US, 38% of mobile data users' connection speeds exceeded their initial expectations

Our consumer research asked mobile data users about how far the speed of their mobile data connection met their initial expectations (Figure 6.64). Consumers in the US were most likely to say that their service was either 'a bit' or 'much' faster than expected; 38% of mobile data chose one of these responses. This may be related to comparatively high levels of 4G mobile take-up in the US (more information regarding 4G mobile services can be found in Section 1.4 of this report). This proportion was lowest in Germany, at 18% (in the UK it was 23%). The proportion of mobile data users who said that their service was either 'a bit' or 'much' slower than expected was highest in China (35%) across our comparator countries; in the UK it was around half this level, at 17%.

Figure 6.64 Performance of mobile internet connection compared to initial expectation



Source: Ofcom consumer research October 2014

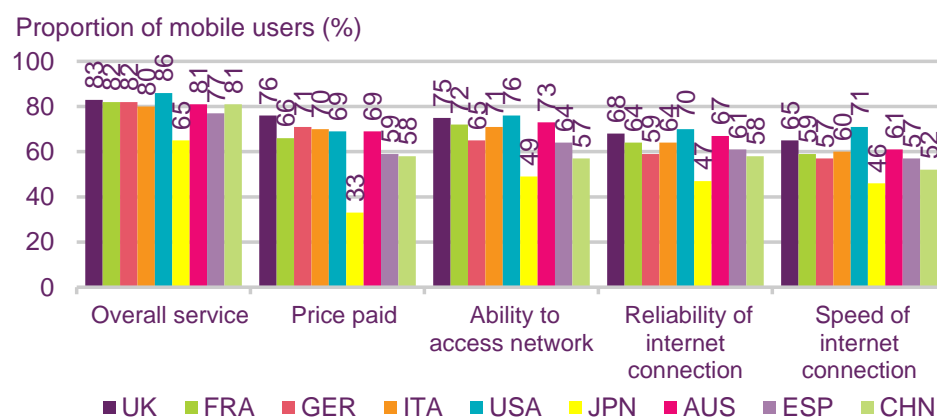
Base: All respondents with mobile broadband internet access or those who access the internet access via a mobile handset, UK=339, FRA=361, GER=383, ITA=662, USA=284, JPN=250, AUS=464, ESP=620, CHN=568

Q.26 How does the download speed of your current mobile internet connection compare with what you expected when you signed up for it?

Eighty-three per cent of mobile users in the UK are satisfied with their service

Figure 6.65 below shows the proportion of mobile data users who were satisfied (either 'very' or 'fairly') with different aspects of their mobile service. Mobile data users in the US had comparatively high levels of satisfaction with their service (both overall at 86%, and across all service aspects, except for price paid). This is possibly related to the high levels of 4G take-up mentioned previously (see Section 1.4 for more details). Japan had the lowest satisfaction levels for all five of the measures below (this was also the case for fixed broadband services, as shown in Figure 6.52); satisfaction with price paid was particularly low compared to other countries, at 33%. The UK had comparatively high satisfaction levels with all of the service aspects asked about, with 83% for overall service and 76% for price.

Figure 6.65 Satisfaction with mobile service



Source: Ofcom consumer research October 2014

Base: All respondents with mobile broadband internet access or those who access the internet access via a mobile handset, UK=339, FRA=361, GER=383, ITA=662, USA=284, JPN=250, AUS=464, ESP=620, CHN=568

Q.25 To what extent are you satisfied or dissatisfied with the following aspects of your mobile phone service?



International Communications Market Report 2014

7 Post

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7.1 Key market developments in post

7.1.1 Introduction

This chapter includes an overview and country-level analyses of the mail markets and the use of mail in our comparator countries. It focuses on three topics: the key market developments in the sector, industry volumes and revenues, and consumer research into the use of post.

- The *Key market developments* section looks at parcel volume and revenue trends since 2008, as well as highlighting some of the findings of our consumer research into consumers' use of parcels.
- The *Postal industry* section looks at letter mail volume and revenue trends since 2008, and presents a comparison of consumer stamp prices in our comparator countries.
- The *Post and the residential consumer* section looks at consumer trends in sending and receiving mail, and consumers' perceived reliance on post as a method of communicating.

Figure 7.1 Industry metrics and summary

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGP	KOR	BRA	RUS	IND	CHI
Domestic addressed mail revenues (£bn)	7.5	7.1	7.2	3.1	30.0	11.7	1.4	1.5	2.2	1.1	0.8	0.1	16.0	2.3	0.6	0.4	1.5
Mail revenues per capita (£)	117.3	108.7	88.0	51.0	94.5	91.5	58.4	32.5	132.4	116.2	19.6	23.9	32.4	11.6	4.3	0.3	1.1
Domestic mail volumes (billion items)	14.8	15.4	16.1	3.6	153.2	18.5	4.5	4.1	3.8	2.6	1.8	0.7	4.4	8.4	3.5	5.4	26.9
Mail volumes per capita	230.4	234.6	196.1	59.4	483.4	145.5	193.4	87.1	228.8	265.9	47.1	120.5	89.9	41.9	24.5	4.3	19.8
Standard (C5) domestic stamp price (£)	0.62	1.40	1.23	1.78	1.03	0.92	0.86	0.78	1.63	1.18	0.48	0.26	n/a	0.5	0.78	0.27	0.62
Average number of items sent in a month	3.9	4.2	4.4	3.3	4.9	2.5	3.6	2.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.4

Source: WIK / Ofcom analysis / Ofcom consumer research October 2014

Note: Standard letter is based on C5 envelope, 229x162x5 <=100g

Values converted from the local currency unit to GBP (£1 = €1.177 / US\$1.563 / JPY¥152.606 / AUS\$1.619 / SEK10.183 / PLN4.941 / SGD\$1.956/ KRW₩ 1711.543/ BRL3.371/ RUB49.789/ INR91.588 / CNY¥ 9.685/ NGN₦ 242.685

Note: Average number of items sent in a month is based on the findings of our consumer research and includes residential consumers only

7.1.2 The growth of parcels, driven by the increase in online shopping, is compensating for some of the decline in letter mail

This section looks at parcel volume and revenue trends across the countries analysed in this report. We also highlight some of the findings of our consumer research into consumers' use of parcels, the methodology of which is detailed in Appendix A.

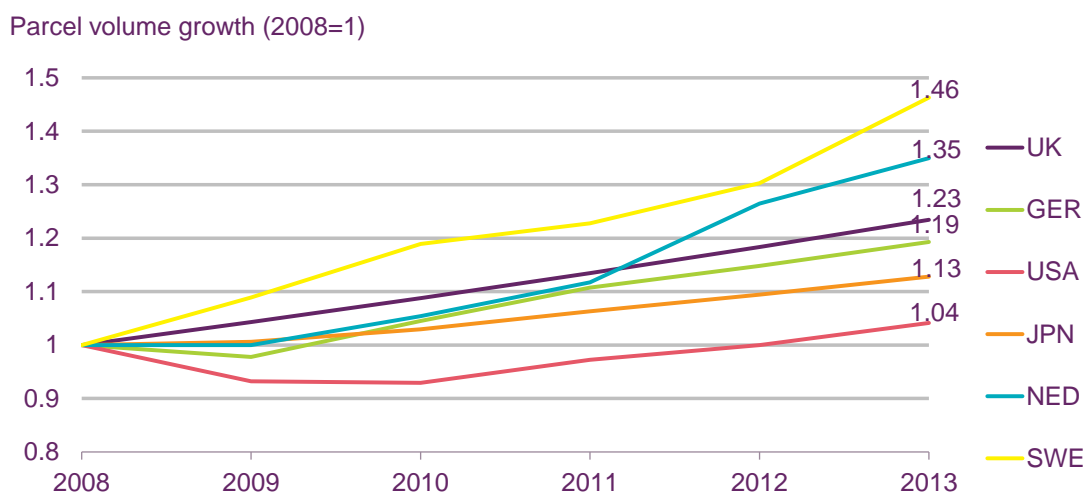
Although it has not been possible to collect robust and comparable data on mail volumes by type of mail for all of our comparator countries, information on the growth of the parcel market has been included for the countries where this information is available.

Comparable data were available for the UK, Germany, the US, Japan, the Netherlands and Sweden and for France in 2011 to 2013 only. We conducted consumer research in the UK, France, Germany, Italy, the US, Japan, Australia, Spain and China. These data are set out in the following section.

Parcel volumes have grown overall by 11.2% since 2008

Between 2008 and 2013, the total parcel market, among the countries where data was available, grew by 11.2% in volume. The largest increases were in Sweden (46.3%) and the Netherlands (35.0%). Parcel volume grew by 23.4% in the UK. The lowest parcel volume growth was in the US (4.1%), as shown in Figure 7.2.

Figure 7.2 Parcel volume growth: 2008-2013



Source: WIK / Ofcom analysis

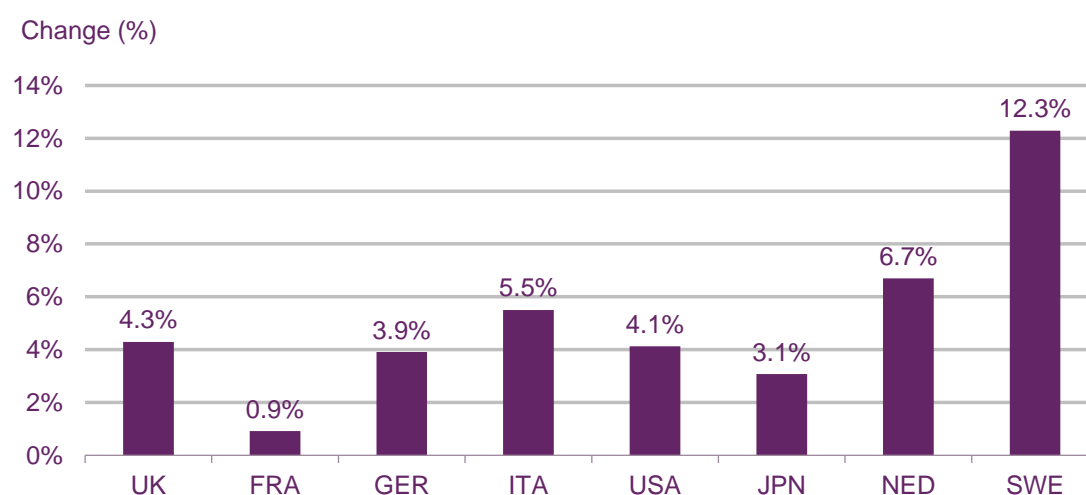
Sweden experienced by far the highest parcel volume growth rate in 2013, of all of our comparator countries

Sweden experienced by far the largest increase in parcel volume in 2013, up by 12.3% on 2012 levels. Outside Sweden, parcel volumes grew the most in the Netherlands (6.7%), while growth in the UK, Germany and the US was around 4%. The smallest growth in parcel volume in 2013 was in France, where parcels grew by just 0.9%.

The increase in parcel volumes across all of our comparator countries can be attributed, at least in part, to the increase in online shopping. For example, WIK estimates that business-to-consumer (B2C) e-commerce sales have grown by 18% within EU member states (which account for 90% of revenue for total e-commerce in Europe). B2C e-commerce sales have grown consistently throughout Europe, even during the recession, because the number of online shoppers is growing, there are more e-retailers, and consumers are doing online shopping more frequently.¹¹³

¹¹³ WIK-Consult, *Design and development of initiatives to support the growth of e-commerce via better functioning parcel delivery systems in Europe*, August 2014, http://ec.europa.eu/internal_market/post/doc/studies/20140828-wik-markt-support-e-commerce_final-report_en.pdf

Figure 7.3 Proportional change in parcel volume: 2012-2013



Source: WIK / Ofcom

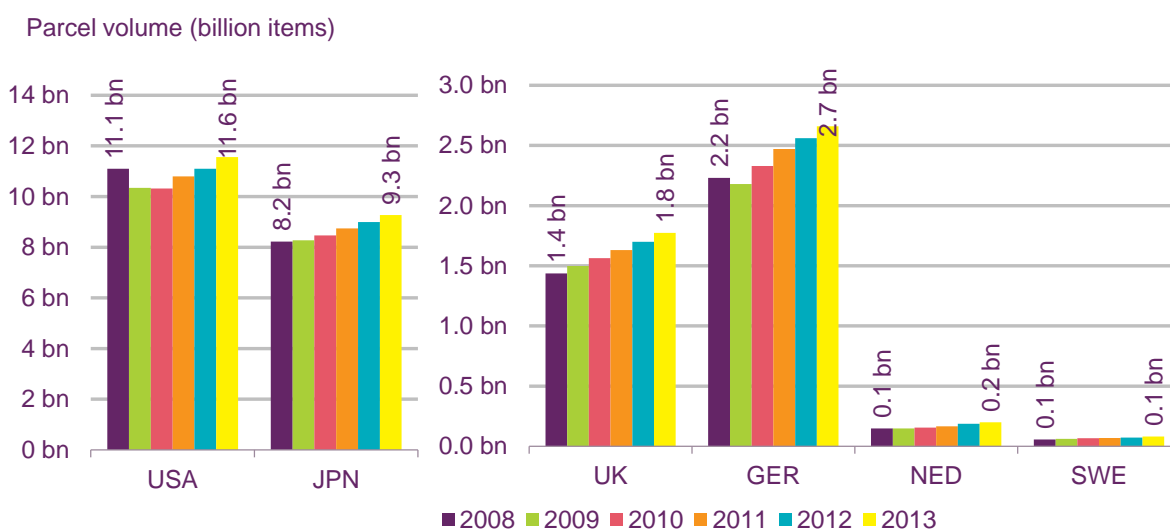
The US and Japan have the largest parcel sectors in terms of volume

Despite having some of the lowest parcel volume growth rates between 2008 and 2013 (shown in Figure 7.2 and Figure 7.3), the US and Japan have by far the largest parcel sectors, in terms of volume, among our comparator countries. In 2013, 11.6 and 9.3 billion parcels were sent in the US and Japan respectively. This compares to 2.7 billion in Germany and 1.8 billion in the UK, which have the highest parcel volumes among our European comparator countries (shown in Figure 7.4).

Again, the high parcel volumes in the UK and Germany, relative to the rest of our European comparator countries, can be partially attributed to the nature of online shopping in these countries. WIK-Consult estimates that the UK, France and Germany represent nearly 70% of EU e-commerce. The lead of the UK and Germany in the European parcel sector could be partially explained by the well-established online retail sector in these countries, compared to the more southern and eastern European member states.¹¹⁴

¹¹⁴ WIK-Consult, *Design and development of initiatives to support the growth of e-commerce via better functioning parcel delivery systems in Europe*, August 2014, http://ec.europa.eu/internal_market/post/doc/studies/20140828-wik-markt-support-e-commerce_final-report_en.pdf

Figure 7.4 Parcel volumes: 2008-2013

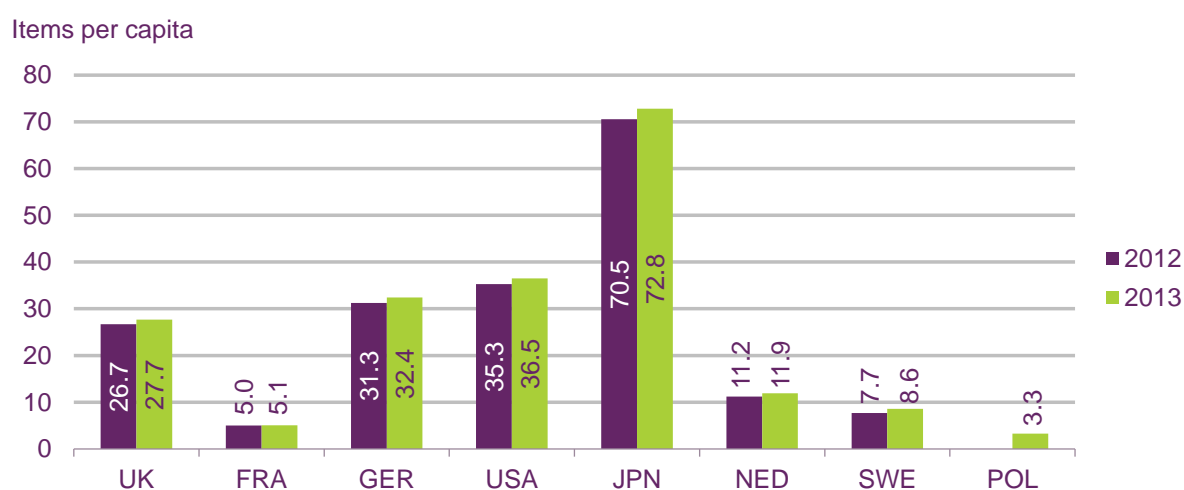


Source: WIK / Ofcom analysis

The US and Japan also have the highest parcel volumes when adjusting for population size

Parcel volume per head of population follows a pattern similar to total parcel volume (shown in Figure 7.4). While the US has the largest parcels sector in terms of volume, Japan's smaller population size means that it has a far higher number of parcels per head of population. In 2013 in Japan 72.8 parcels were sent per person. This compares to 36.5 in the US, which is slightly higher than Germany (32.4) and the UK (27.7). Poland had fewer parcels per head of population than any of the other countries (3.3). All of the comparator countries experienced a marginal increase in parcel volume per head of population in 2013.

Figure 7.5 Parcel volume per head of population



Source: WIK / Ofcom analysis

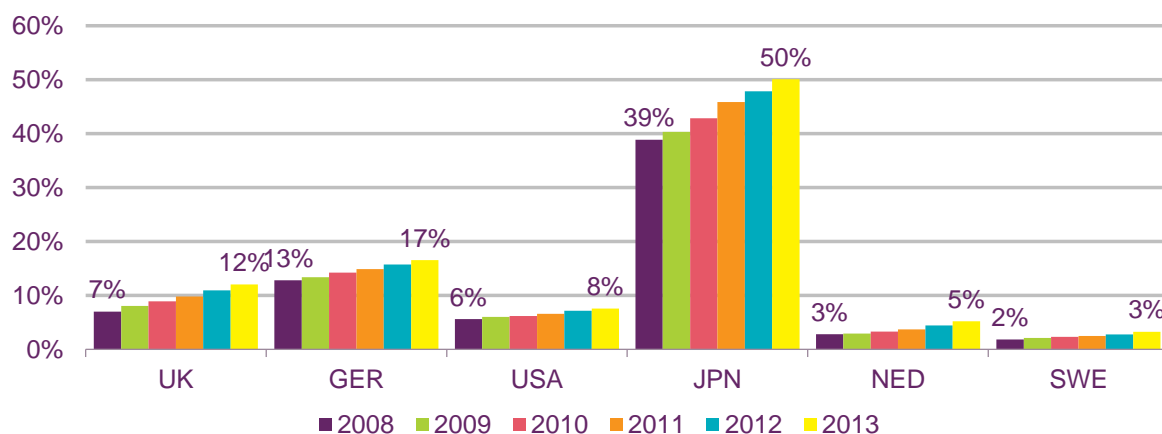
As letter volumes decline, parcels make up a greater proportion of total mail volumes

Of our European comparators, the UK was second only to Germany in the proportion of parcels in total mail. In line with the high number of parcels per head of population, the

proportion of parcels in the mix of mail in Japan was the highest of all of our comparator countries, with half of all mail made up of parcels. This is followed by Germany, where parcels make up 17% of total mail volumes. Parcels contribute to the smallest share of total mail in Sweden, where only 3% of total mail is made up of parcels.

Figure 7.6 Proportion of parcels in total mail: 2008-2013

Proportion of parcels in total mail volumes (%)



Source: WIK/ Ofcom analysis

7.1.3 The UK is among the countries where people are more likely to have received a parcel in the past week

More than six in ten consumers in the UK (61%), France (63%) and Germany (62%) reported receiving a parcel (any size) in the past week, the highest among the countries surveyed in our research. Those in Italy, the US and Spain were the least likely to have received a parcel; less than half of these respondents reported having received a parcel in the past week.

Forty-five per cent of consumers in France claimed to have received at least one small parcel in the past week, higher than in any other country surveyed. This was followed by the UK, where four in ten (39%) consumers had received one. People in Spain were least likely to say they had received a small parcel, with only 26% claiming to have done so.

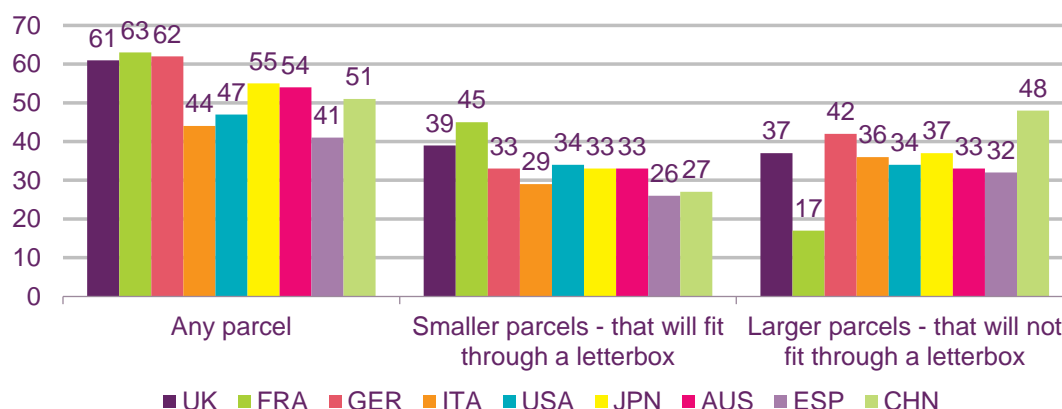
Thirty-seven per cent of UK consumers said that they had received a large parcel in the last week, second only to China, where almost half (48%) claimed to have done so.¹¹⁵ Respondents in France were the least likely (at 17%) to say they had received a large parcel.

In the majority of the countries surveyed, consumers were more likely to have received a large parcel, defined as a parcel that would not fit through the letterbox, than a small parcel.

¹¹⁵ As internet penetration is low in China (around 46%, and centred in the cities), the people responding to our online survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Further information on our online market research methodology is presented in Appendix A: Consumer research methodology and a perspective on the results of our market research in China can be found in Appendix C: A perspective on China.

Figure 7.7 Types of parcel received in the past week

All respondents who have received any parcel in the last month (%)



Source: Ofcom consumer research October 2014

Base: All respondents, UK=888, FRA=896, GER=883, ITA=767, USA=739, JPN=838, AUS=865, ESP=700, CHN=810

Q.16 which of these types of items would you say you have personally received through the post in the last week?

People in China and the US received the highest number of parcels in the past week

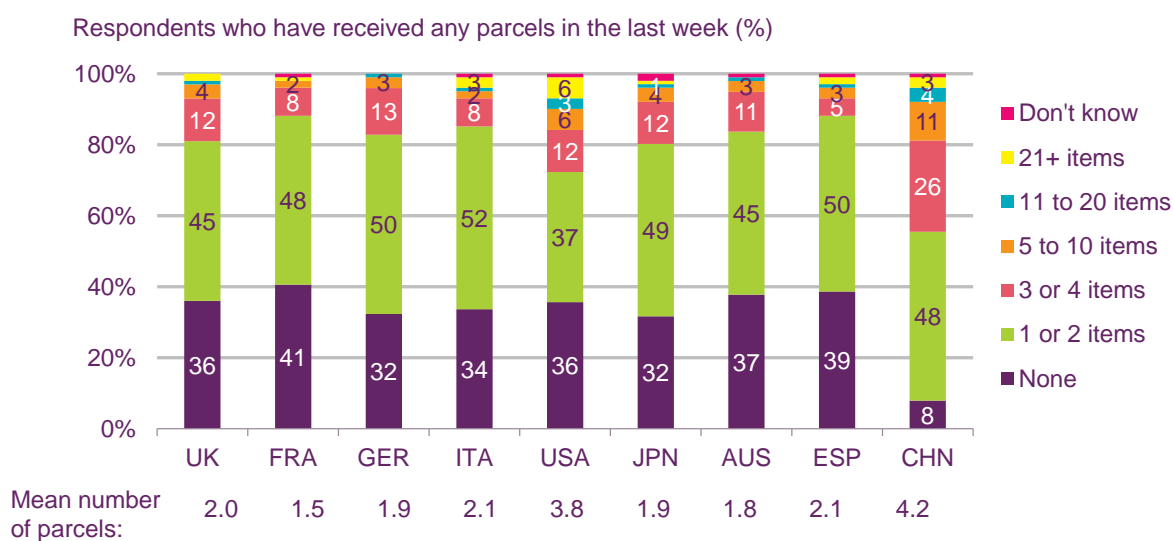
Although not directly comparable, respondents in China received by far the highest number of parcels in the past week than those in any of the other countries surveyed, claiming to receive 4.2 parcels. After China, people in the US received the highest number of parcels (3.8), followed by Spain and Italy (2.1 in both countries). This compares to an average of 2.0 parcels received in the past week by respondents in the UK. Those in France received the fewest parcels per week (1.5), similar to consumers in all of the other countries surveyed.

This claimed measure is not consistent with the volume-per-head metric, calculated from the industry data in Figure 7.5, particularly in regard to Japan, which has the highest number of parcels per head of population. The volume per head of population takes the total parcel volumes for the year and divides this by the population, while the consumer research asks respondents to recall the amount of parcels that they have received in the last week. This inconsistency may be because more parcels are sent to businesses than to consumers in Japan.

Respondents in France were the most likely to claim not to have received any parcels in the past week, with 41% claiming not to have done so, closely followed by Spain (39%) and Australia (37%). This compares to over a third (36%) of respondents in the UK and the US claiming not to have received a parcel in the past week.

In all of our comparator countries, respondents were most likely to say they had received one or two parcels in the past week.

Figure 7.8 Approximate number of parcels received per week



Source: Ofcom consumer research October 2014

Base: All respondents who have received any items of post in the last week, UK=888, FRA=896, GER=883, ITA=767, USA=739, JPN=838, AUS=865, ESP=700, CHN=810

Q.15 approximately how many of these items you received in the last week were parcels i.e. items that wouldn't easily fit through a standard household letterbox?

People in China and Germany are the most likely to send parcels

Although not directly comparable, respondents in China were the most likely to have sent a parcel, of any size, among all the comparator countries. Six in ten (59%) consumers in Germany and just over half (53%) in Australia reported sending a parcel in the past month, the highest among the countries surveyed in our research. People in France and the US were the least likely to have sent a parcel of any size: less than 40% reported having sent a parcel in the past month.

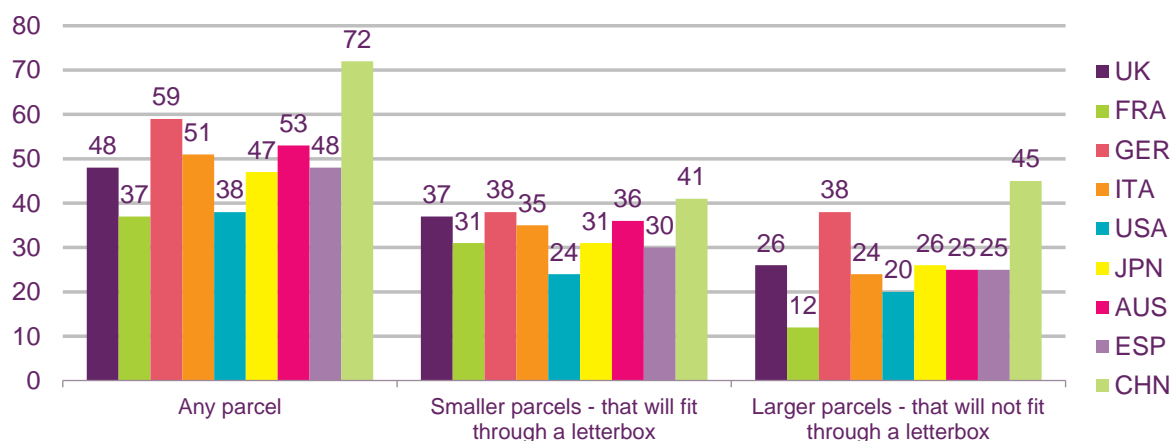
Apart from China, people in Germany were the most likely to have sent a small parcel in the past month (38%), closely followed by the UK, where 37% of respondents claimed to have done so. People in the US were the least likely to have sent a small parcel in the past month, with almost a quarter claiming to do so (24%).

Once again, China (45%) and Germany (38%) were the countries where people were most likely to say they had sent a large parcel in the past month. All the other comparator countries, except France and the US, were roughly level: about a quarter of respondents claimed to have sent a large parcel in the past month. People in France (12%) and the US (20%) were the least likely to have sent a large parcel in the past month. among all the countries surveyed.

Excluding China, in all the countries surveyed, consumers were more likely to have sent a small parcel than a large parcel. In Germany were equally likely to have sent a small parcel as a large parcel.

Figure 7.9 Types of parcels sent in past month

All respondents who have sent any parcel in the last month



Source: Ofcom consumer research October 2014

Base: All respondents who have sent any items of post in the last month, UK=684, FRA=795, GER=785, ITA=577, USA=618, JPN=527, AUS=623, ESP=401, CHN=613

Q.13 Which of these types of mail would you say you have personally sent in the last month by post?

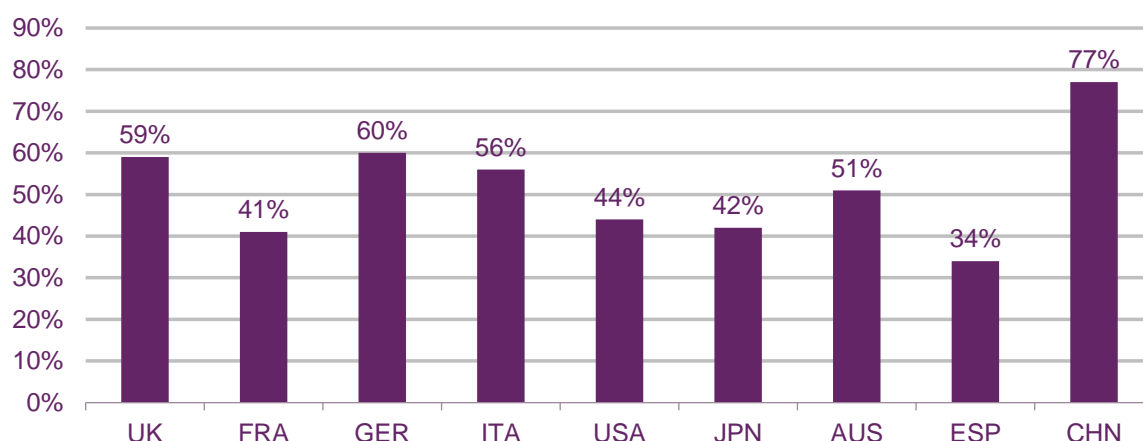
7.1.4 Online shoppers are more likely than those who don't shop online to have sent or received a parcel

We have already said that the increasing volume of parcels is at least partly due to the growth in online shopping. This section looks at the results of some of our consumer research into online shoppers' use of parcels.

Excluding China, people in Germany, the UK and Italy were the most likely to claim to shop online (60%, 59% and 56% respectively). Respondents in Spain were the least likely to shop online, with only 34% claiming to have done so.

Figure 7.10 Use of online shopping at least once per week

All respondents (%)



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q.8 Which, if any, of the following activities do you use your internet connection for at least once a week?

Figure 7.12 showed that weekly online shoppers were more likely to have sent a parcel than those who do not shop online weekly; similarly, Figure 7.11 shows that online shoppers are also more likely to have received a parcel in the last week. While two-thirds (60%) of online shoppers in the UK claimed to have received a parcel in the past week, less than half (35%) of non-online shoppers did the same. In comparison, 61% of online shoppers in Germany claimed to have received a parcel in the past week, while only 40% of non-online shoppers said they had done so.

Overall, online shoppers in France and the UK were the most likely to have received a parcel in the past week, with 36% and 35% respectively claiming to have done so. This compares to a third of respondents in Germany (34%), Japan (34%) and Australia (33%). Online shoppers in Spain (22%) were the least likely to have received a parcel in the past week.

Figure 7.11 Proportion of online shoppers and non-online shoppers who had received a parcel in the past week

Proportion of respondents (%)



Source: Ofcom consumer research October 2014

Base: All who shop online at least once a week / don't shop online at least once a week, UK=597/414, FRA=428/599, GER=603/403, ITA=559/447, USA=451/549, JPN=423/580, AUS=505/495, ESP=343/659, CHN=784/226

Q.16 Which of these types of mail would you say you have personally received in the last week by post? - NET: Parcels

Q8 Which, if any, of the following activities do you use your internet connection for AT LEAST ONCE A WEEK? Online shopping

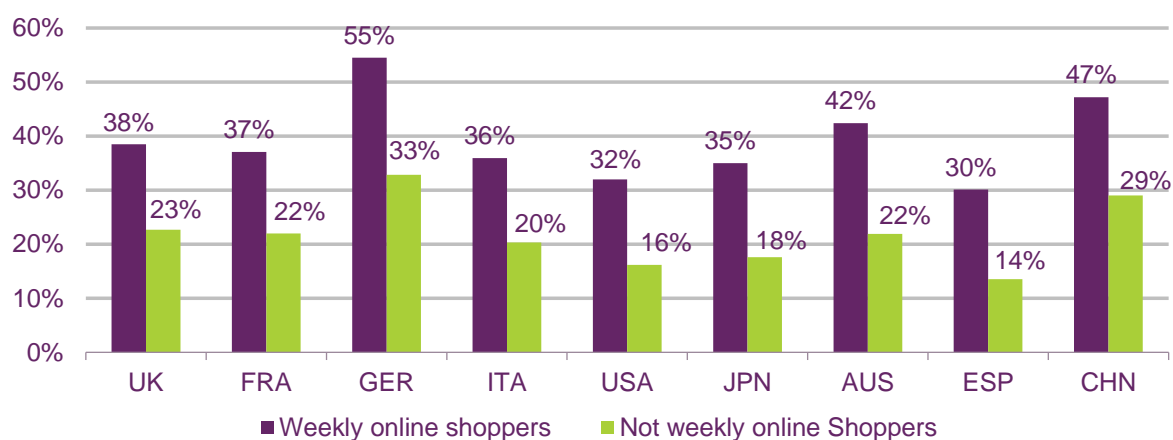
Online shoppers are more likely than those who don't shop online to have sent a parcel in the past month

In all of our comparator countries, weekly online shoppers were more likely to have sent a parcel in the past month than those who did not shop online. In the UK, while 38% of weekly online shoppers claimed to have sent a parcel in the past month, only 23% of those who do not shop online claimed to have done so. Similarly, while 55% of weekly online shoppers in Germany claimed to have sent a parcel in the past month, only 33% of those not shopping online did the same. A similar pattern is repeated among all of our comparator countries.

The pattern of online shoppers who had sent a parcel in the past month is broadly similar to the percentage of respondents who claim to shop on the internet at least once a week (shown in Figure 7.10). Excluding China, people in Germany were the most likely to have sent a parcel in the past month, with over half (55%) of online shoppers claiming to have done so. Online shoppers in the US were the least likely to have done this, at just 16%.

Figure 7.12 Proportion of online shoppers and non-online shoppers who have sent a parcel in the past month

Proportion of respondents (%)



Source: Ofcom consumer research October 2014

Base: All who shop online at least once a week / don't shop online at least once a week, UK=597/414, FRA=428/599, GER=603/403, ITA=559/447, USA=451/549, JPN=423/580, AUS=505/495, ESP=343/659, CHN=784/226

Q.13 Which of these types of mail would you say you have personally sent in the last month by post?
- NET: Parcels

Q8 Which, if any, of the following activities do you use your internet connection for AT LEAST ONCE A WEEK? – Online shopping

7.2 The postal industry

7.2.1 Introduction

This section examines letter mail volume and revenue trends, and presents a comparison of consumer stamp prices across the countries analysed in this report. We also look at the proportion of direct mail to total mail volumes. The main findings include:

- **Mail volume across our comparator countries has declined by 18.6% overall since 2008.** The largest decline was in Italy (38.3%), followed by Spain (28.4%) and the UK (28.2%). The only country to experience an increase in mail volume was China, where volume is up by 9.1% since 2008.
- **Overall mail revenue has also fallen, but at a slower rate than volume.** Italy has experienced the largest decline in letter mail revenue since 2008 (29.1%), followed by Spain (22.3%) and the US (21%). The majority of the BRIC and Asia Pacific countries have experienced an increase in mail revenues.
- **For the first time, all of our comparator countries experienced a year-on-year decline in mail volume in 2013, by 2.4% overall across all the countries.** The Netherlands and Italy had the largest declines, at 9.6% and 8.2% respectively.
- **Revenues increased for the first time since 2008, growing by 0.6% overall across all the countries.** This increase was driven largely by the increase in mail revenue across all of the BRIC and Asia Pacific countries, except Australia.
- **The UK is still one of the cheapest countries in which to send a standard-size domestic letter.** It costs 62p to send a First Class standard letter in the UK. Among our European comparators, only in Poland (48p) is it cheaper to send this type of letter.
- **The price of sending a standard-size letter increased in six of our comparator countries in the year to 2014.** The largest proportional increase was in Australia, where the price of a First Class stamp increased by 16.7% in 2014; from 74p in 2013 to 86p in 2014.
- **Among our comparator countries which offer Second Class equivalent products, South Korea is the cheapest,** for almost all sizes of letter using Second Class postage. France and Sweden are consistently among the most expensive countries to send Second Class letters of all sizes.
- **Direct mail (i.e. addressed advertising mail) accounts for almost half (48%) of total mail in the US.** This compares to 34% in Germany and 28% in the UK.

7.2.2 Mail revenues and volumes across our comparator countries

Ofcom commissioned WIK-Consult to provide a range of metrics for the postal industry in our comparator countries. For the majority of the volume and revenue metrics, we have concentrated on addressed letter mail as much as possible. However, differences between countries mean that in some cases the categories of mail that are included are not exact equivalents.¹¹⁶ Where information is available only for the financial year, we have used

¹¹⁶ Letter mail volume and revenue can include any of the following: domestic correspondence (incl. addressed advertising mail), domestic publications (magazines and periodicals), cross-border inbound letter mail (incl. publications), cross-border outbound letter mail (incl. publications) and unaddressed advertising mail

estimates to provide a calendar year figure. Finally, in the few cases where data are not available, we have used market estimates based on long-term trends.

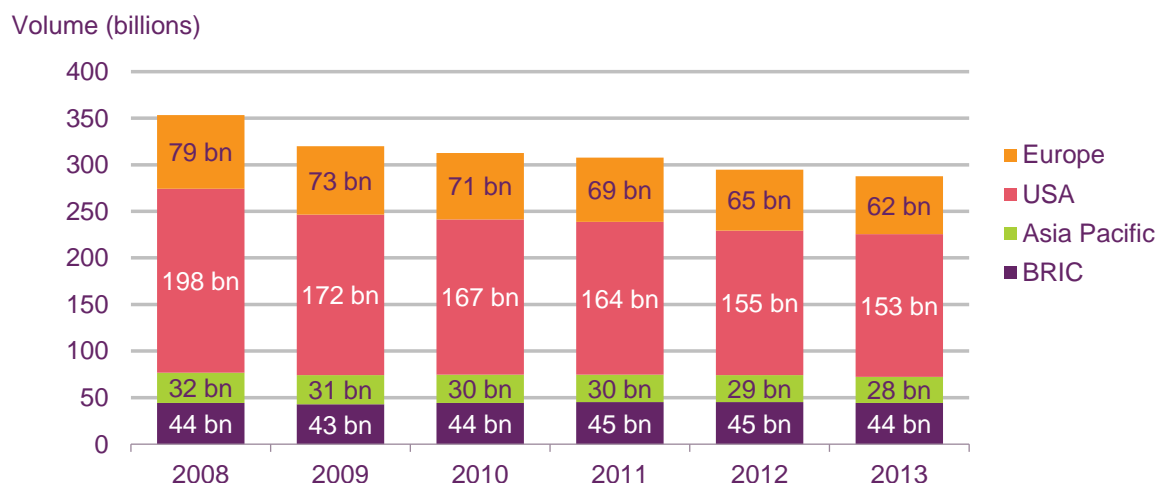
Mail volumes across our comparator countries have declined by 18.6% since 2008

Across our comparator countries, mail volumes have fallen by 18.6% since 2008. The overall trend is driven by the US, which accounts for 53.3% of total mail volumes among our comparators and has experienced a volume decline of 22.5%. The rate of decline is slightly less pronounced among our European comparators, which account for 21.6% of total mail volumes and have experienced a decline of 21.3% over the period.

The Asia Pacific countries experienced a decline of 13.3%, while mail volume was relatively more stable across BRIC countries, declining by just 0.3% since 2008.

On a country-by-country basis, the UK experienced one of the largest declines in mail volume. Since 2008 the UK has seen letter mail volume decline by 28.2%, on a par with Spain (28.4%), but less than Italy (38.3%). The only country to experience an increase in mail volume over the same period was China (9.1%).

Figure 7.13 Total mail volumes in our comparator countries: 2008-2013



Source: WIK / Ofcom analysis

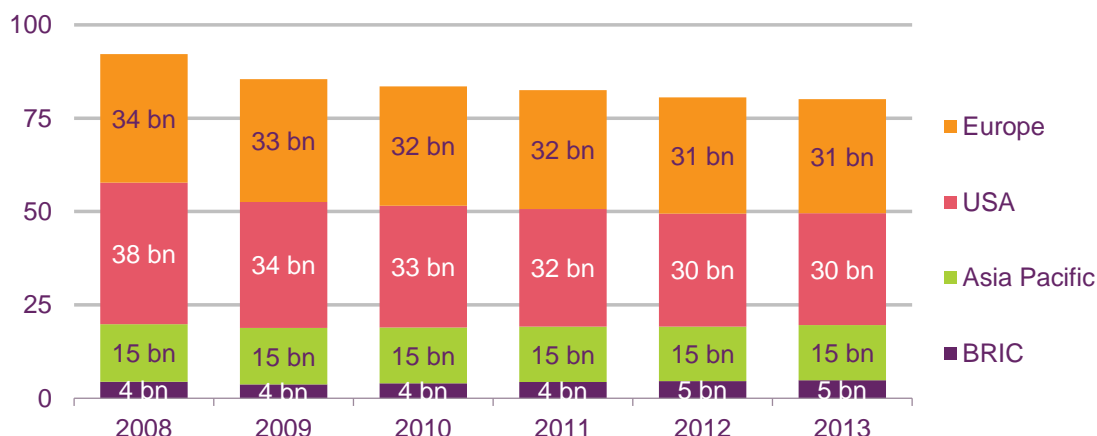
Taken as a whole, mail revenue across our comparator countries has fallen, but many countries are seeing an increase

Total mail revenues among our comparator countries fell by 13.1% between 2008 and 2013. The fastest decline was in the US, where mail revenue dropped by 21.0%. This compares to a decline of 11.3% among our European comparators, and 4.2% among the Asia Pacific countries. Revenues increased by 9% over the same period in the BRIC countries. Since 2012, mail revenue has increased in all our BRIC and Asia Pacific comparator countries except Australia and Japan.

Although the US accounts for 53.3% of the aggregated volume of all the comparator countries, it accounts for just 37.4% of total revenue. This is due to the lower cost of postage in the US, as shown in the domestic prices in section 7.2.5. Our European comparator countries account for the largest proportion of total revenue (38.2%).

Figure 7.14 Total mail revenues in our comparator countries: 2008-2013

Revenue (£ billion)



WIK / Ofcom analysis

Values converted from the local currency unit to GBP (£1 = €1.177 / US\$1.563 / JPY¥152.606 / AUS\$1.619 / SEK10.183 / PLN4.941 / SGD\$1.956 / KRW₩1711.543 / BRL3.371 / RUB49.789 / INR91.588 / CNY¥9.685)

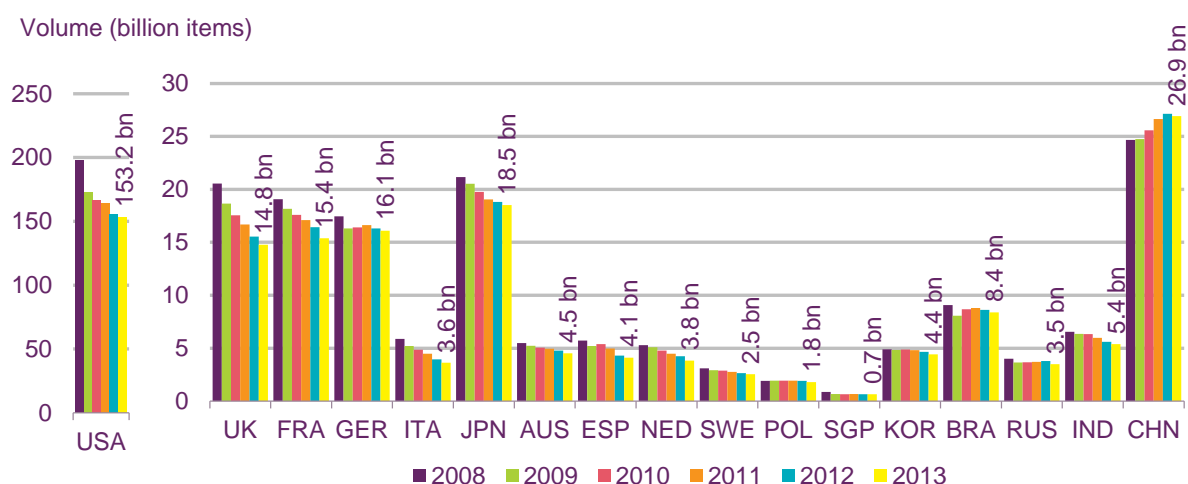
7.2.3 Mail volumes in our comparator countries

For the first time, all of our comparator countries experienced a year-on-year decline in mail volume in 2013

As shown in Figure 7.13 and Figure 7.15, volumes continued to fall in 2013 across all our comparator countries by an average of 2.4% year on year. This is the first time since 2008 (the earliest year for which we have records) that all our comparator countries experienced a decline on the previous year. This is partly due to the structural decline in the mail market, which is now a long-term trend as growth in broadband take-up encourages the use of digital communications rather than traditional mail. The only country to experience an increase since 2008 is China, where mail volumes have increased by 9.1%. All of the rest of our comparator countries saw their mail volume fall over the same period.

As patterns of mail volume growth tend to follow economic conditions, the largest year-on-year declines happened between 2008 and 2009 in most of our comparator countries; total mail volumes decreased by 9.5%. Although there has been little or no growth in volume since then, the rate of decline in the majority of our comparator countries has slowed.

Figure 7.15 Mail volumes: 2008-2013

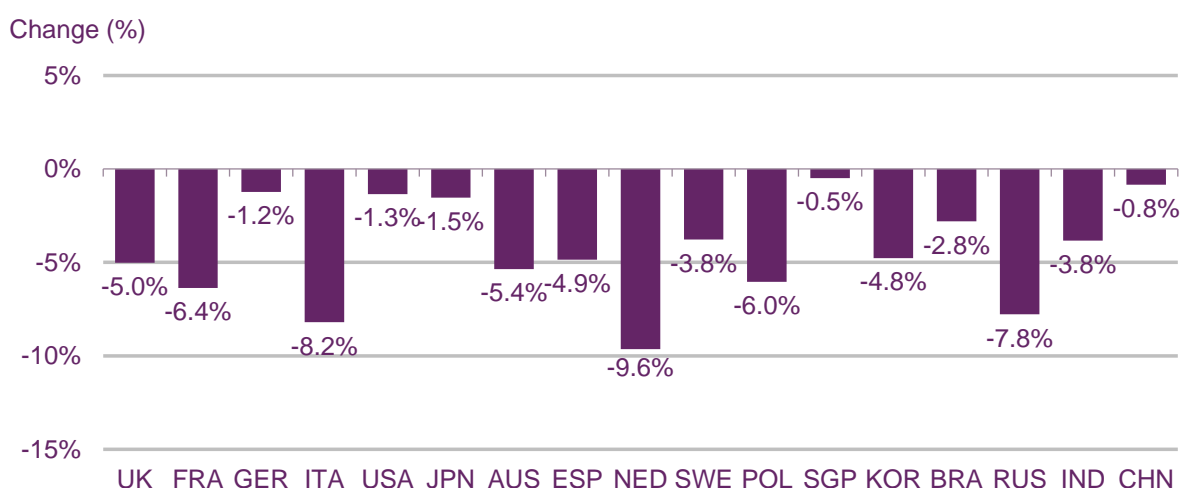


Source: WIK / Ofcom analysis

The Netherlands had the largest decline in mail volume in 2013, followed by Italy and Russia

The Netherlands experienced the largest decline in mail volume, falling by 9.6%, followed by Italy (8.2%) and Russia (7.8%). Mail volume in the UK fell by 5.0%, slightly less than in France and Poland, where mail volumes declined by 6.4% and 6.0% respectively. Germany had the smallest decline among all of our European comparator countries (1.2%), and mail volume fell least overall in Singapore (0.5%).

Figure 7.16 Proportional change in mail volume: 2012-2013

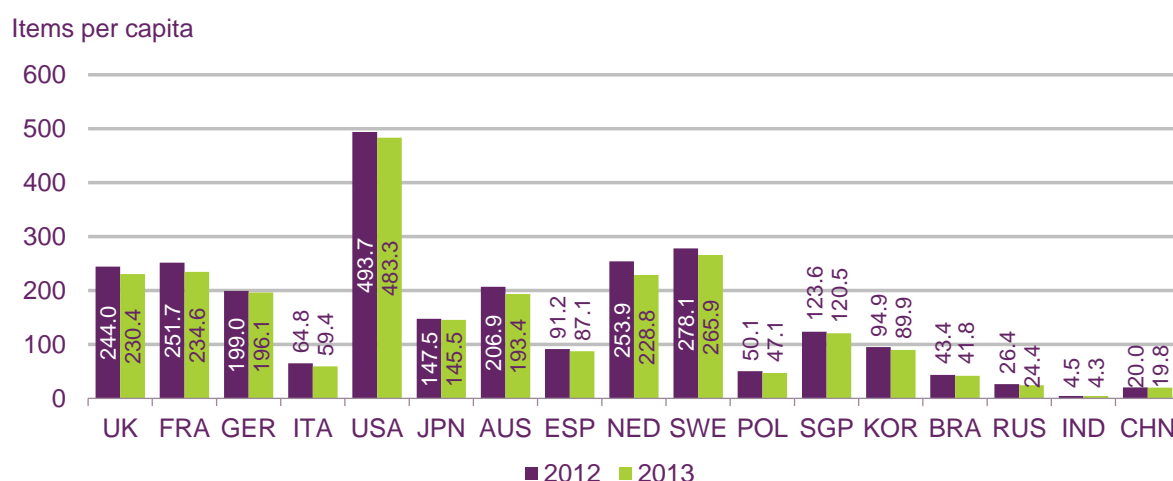


Source: WIK / Ofcom analysis

Mail volume per head of population is highest in the US

Volume per head of population in the US was 483.3 in 2013, down slightly from 493.7 the previous year, but still far higher than in any other country. This was followed by Sweden at 265.9 items per head, then France at 234.6 items. The comparable figure for the UK was 230.4, slightly higher than the Netherlands (228.8). The lowest volumes per head of population were in the BRIC countries, while Poland had the lowest among our European comparator countries (47.1).

Figure 7.17 Volume per head of population



Source: WIK / Ofcom analysis

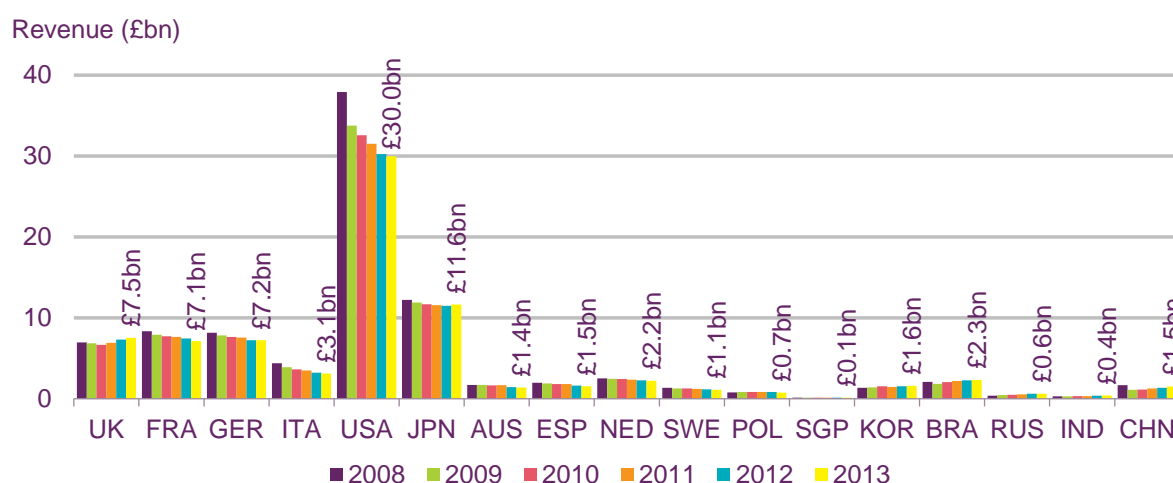
7.2.4 Mail revenues in our comparator countries

Revenues increased for the first time since 2008, growing by 0.6% across all of our comparator countries in 2013

Despite the long-term trend of falling revenues, as shown in Figure 7.14, revenues increased across our comparator countries by 0.6% in 2013, for the first time since 2008. This increase was driven largely by an increase in mail revenue across all of our BRIC and Asia Pacific comparator countries, except Australia, over the period.

Across the European comparators, the UK has the largest mail sector in terms of revenue, just ahead of France and Germany. The US has the largest mail revenue of all our comparators. Among BRIC and Asia Pacific countries, Japan has the largest mail sector, followed by Brazil.

Figure 7.18 Revenue: 2008-2013



Source: WIK / Ofcom analysis

Values converted from the local currency unit to GBP (£1 = €1.177 / US\$1.563 / JPY¥152.606 / AUS\$1.619 / SEK10.183 / PLN4.941 / SGD\$1.956 / KRW₩1711.543 / BRL3.371 / RUB49.789 / INR91.588 / CNY¥9.685)

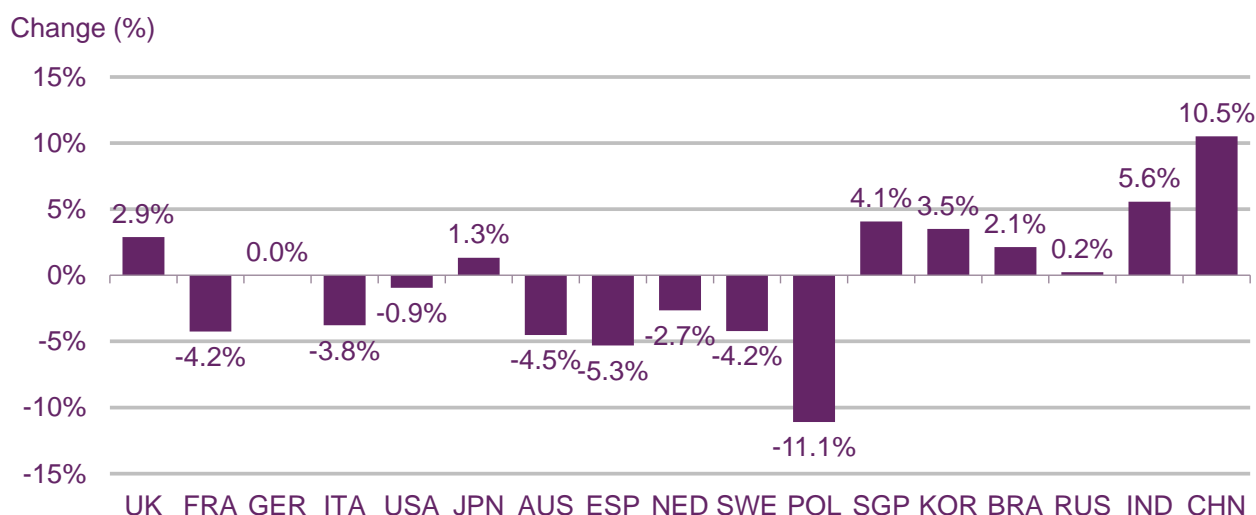
The UK was the only European country where revenue increased in 2013

The UK was the only European country to experience an increase in revenue in 2013, up by 2.9% on the year, driven by price increases by Royal Mail in 2013 and a continued change in the mix of mail due to online shopping.

All of our BRIC and Asia Pacific comparator countries (except Australia) experienced an increase in mail revenue. The largest increase was in China, up by 10.5% in 2013, followed by India (5.6%) and Singapore (4.1%). Economic growth in China has led to increased mail volume and revenue, while the growth in Russia is partly due to price rises.

Poland had the greatest decline in mail revenue in 2013 (11.1%), followed by Spain (5.3%). While it was stable in Germany, it fell across the rest of our European comparator countries. The US and Australia also saw their revenues decrease over the same period, down by 0.9% and 4.5% respectively. The decline in mail revenue is partly due to falling volumes.

Figure 7.19 Proportional change in mail revenue: 2012-2013



Source: WIK / Ofcom analysis

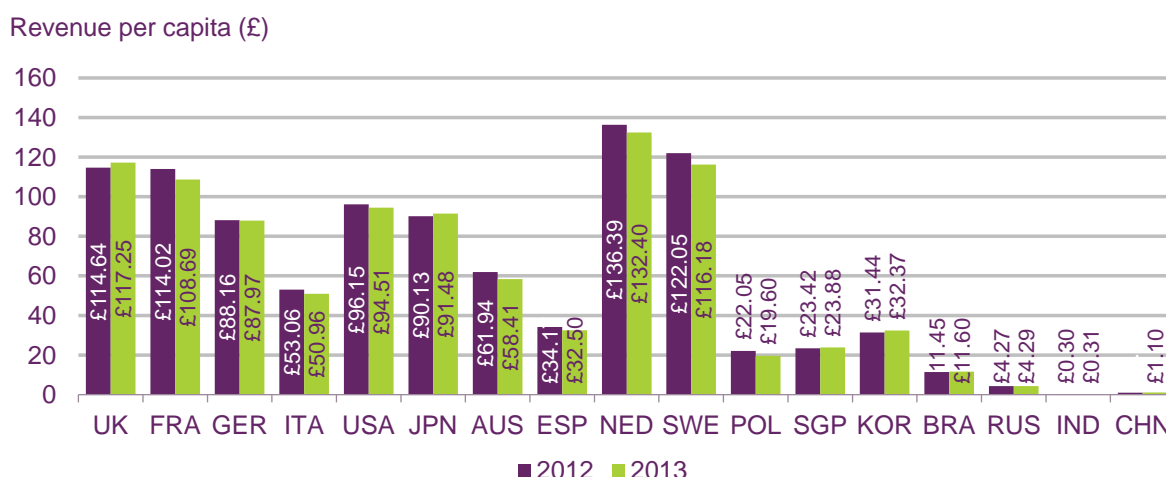
Note: Figures are nominal

Adjusting for population size, the Netherlands has the largest mail sector in terms of value

While the mail sector in the US is the largest in the world, in terms of both volume and revenue, the Netherlands has the greatest revenue per head of population. In 2013 revenue per head of population was £132.40 in the Netherlands, followed by the UK at £117.25 and Sweden at £116.18. Within Europe, the lowest revenue per head of population was in Poland (£19.60), while the lowest revenue per head of population overall was in India (£0.31).

Figure 7.20 shows that revenue per head of population is higher in the majority of our European comparator countries than it is in the US, despite the higher total mail volumes in the US (Figure 7.18). As shown in our analysis in section 7.2.5, it is cheaper to send mail in the US than in these countries, which goes some way to explaining this difference. The disparity between the high volume per head and lower revenue per head in the US also suggests that the mix of mail in the US includes a higher proportion of lower-priced and pre-sorted bulk business mail.

Figure 7.20 Revenue per head of population



Source: WIK / Ofcom analysis

Values converted from the local currency unit to GBP (£1 = €1.177 / US\$1.563 / JPY¥152.606 / AUS\$1.619 / SEK10.183 / PLN4.941 / SGD\$1.956 / KRW₩ 1711.543 / BRL3.371 / RUB49.789 / INR91.588 / CNY¥ 9.685

7.2.5 Single piece stamp prices in our comparator countries

This section looks at domestic stamp prices across the countries analysed in this report. In each case, we have considered the fastest letter mail product, which most commonly has a next day (D+1) delivery target, although as Figure 7.21 shows, there is some variance by country. The products that we have looked at are all single-piece, domestic tariffs, available to all consumers. In line with other currency conversions in this report, prices have been converted into GBP using the International Monetary Fund average exchange rates for 2013. The prices of the products are compared as they were published on the operators' websites on 31 August 2014, and have not been adjusted for purchasing power parity. Where we look at previous years' prices, these are the prices on 31 December of each year.

Figure 7.21 Delivery specifications for the fastest letter mail product

UK	FRA	GER	ITA	USA	JPN	AUS	ESP	NED	SWE	POL	SGA	BRA	RUS	IND	CHN
D+1	D+1	D+1	D+1	D+3	Variable	Variable	D+3	D+1	D+1	D+1	D+1	D+2-5	Variable	Variable	Variable

Source: WIK

Note: Delivery targets in Japan, Australia, Brazil, Russia, India and China are dependent on the point of origin and destination.

We have looked at the prices for three mailings with different characteristics, based on typical envelope sizes. These are:

- **a small letter** – based on a DL envelope, 110mm by 220mm by 5mm, weighing 20g or less;
- **a standard letter** – based on a C5 envelope, 229mm by 162mm by 5mm, weighing 100g or less;¹¹⁷ and
- **a large letter** – based on a C4 envelope, 324mm by 224mm by 25mm, weighing 101-150g.

¹¹⁷ Most greetings cards in the UK are no larger than a C5 envelope

In those countries where a Second Class product is available, we have also looked at those prices. However, these products are available to consumers only in the UK, France, Sweden, Poland, South Korea and Russia.

The UK is the most expensive country in which to send a small letter, but among the cheapest in which to send a standard-size or large letter

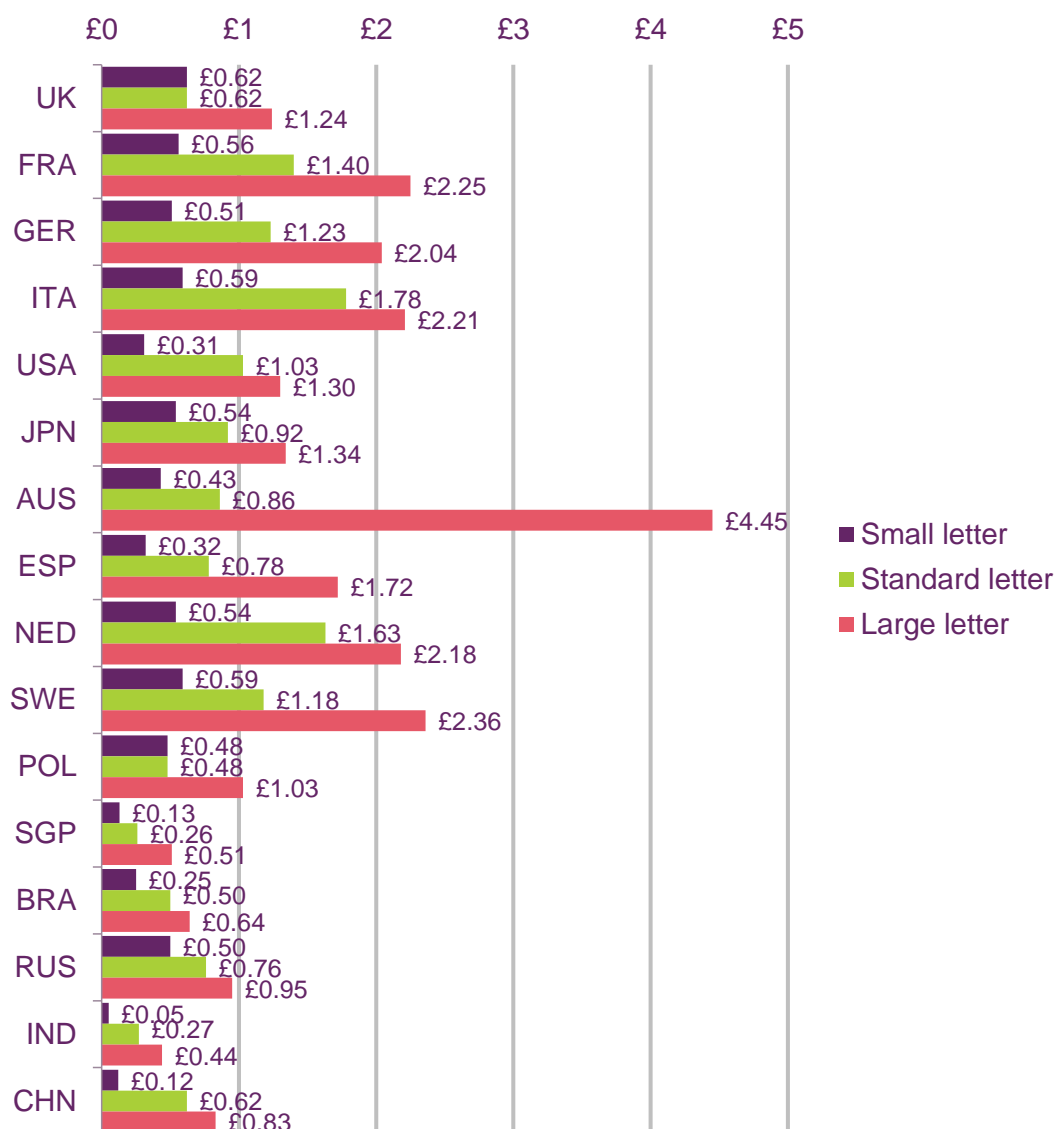
At 62p, the UK is the most expensive country in which to send a small letter, followed by Italy and Sweden (59p). The cheapest country in which to send a small letter is India, where it costs 5p, followed by China (12p). Outside the BRIC and the Asia Pacific countries, the US has the lowest price for sending a small letter (31p), closely followed by Spain (32p). As shown in Figure 7.21, both of these countries have a D+3 delivery standard for their fastest available letter product.

However, when it comes to sending a standard or large letter, the UK is among the cheapest in Europe. It costs 62p to send a First Class standard-size letter in the UK, and the only country in Europe where this is cheaper is Poland (48p). In the majority of our European comparator countries, it costs more than £1 to send a standard letter. The most expensive country is the Italy (£1.78), where the price increased by 40% in 2013. Singapore is the cheapest country to send a standard letter overall (26p), followed closely by India (27p).

In Europe, Poland is the cheapest country to send a large domestic letter (£1.03), followed by the UK (£1.24). The lowest price overall is India (44p), followed by Singapore (51p). The most expensive country to send a large letter is Australia (£4.45). This is because the maximum thickness of a large letter in Australia is 20mm, and as this analysis is based on the prices for letters which are up to 25mm thick, this price represents the 'small parcel' price offered by Australia Post. Excluding Australia, Sweden is the most expensive country in which to send a large letter (£2.36).

The reason why the UK is more expensive for a small letter, and cheaper for a standard-sized letter, is that different tariff structures are used in each country. Most postal operators in Europe have a lower price for small letters and postcards weighing 20g or less, and a higher price for items which weigh more than 20g or are larger than a DL envelope. In the UK there is no separate price for a small letter; the price is the same for a small or a standard-size letter.

Figure 7.22 Published stamp prices for small (DL), standard (C5) and large (C4) domestic letters: August 2014



Source: WIK / Ofcom analysis

Values converted from the local currency unit to GBP (£1 = €1.177 / US\$1.563 / JPY¥152.606 / AUS\$1.619 / SEK10.183 / PLN4.941 / SGD\$1.956 / KRW₩ 1711.543 / BRL3.371 / RUB49.789 / INR91.588 / CNY¥ 9.685)

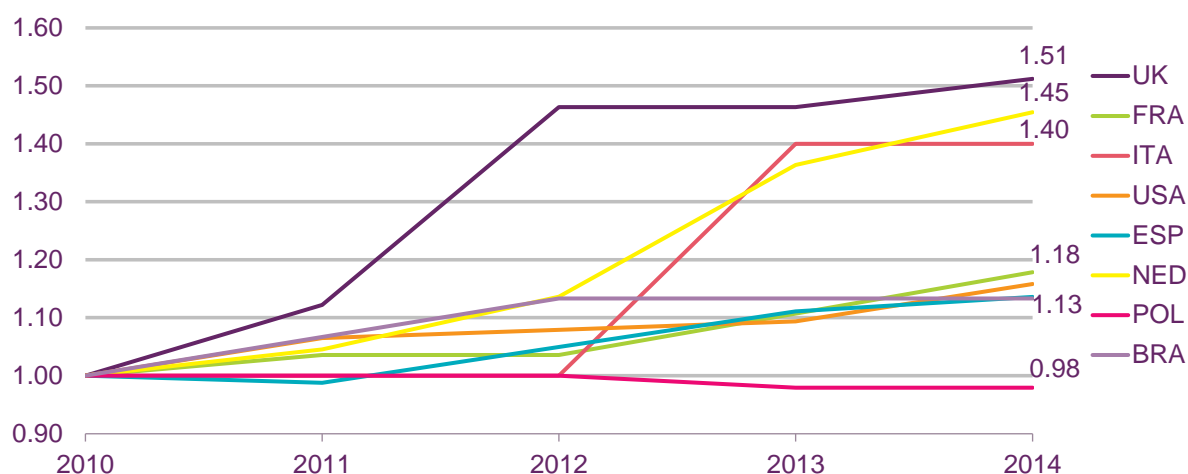
The price of sending a standard letter has risen in six of our comparator countries since 2013

Figure 7.23 shows the nominal trend since 2010 in the price of sending a standard letter. Current and previous years are indexed to 2010 prices in each of the comparator countries where prices have increased.

The highest proportional increase has been in the UK, where the price of a First Class stamp is 51% more expensive than in 2010. Prices in the UK have risen every year except 2013. In the Netherlands, the price for a standard letter has increased each year since 2010, and is now 45% higher than it was then. Similarly, the price of sending a standard-sized letter in Italy is now 40% higher than it was in 2010.

The largest year-on-year increase was in Australia: up by 16.7% since 2013 (from 74p to 86p).

Figure 7.23 Increase in stamp price for the fastest available standard-size (C5) letter since 2010



Source: WIK / Ofcom analysis.

Note: Figures are nominal.

Among our comparator countries that offer Second Class equivalent products, South Korea is the cheapest in which to send all sizes of letter

Not all of our comparator countries offer a lower-priced product with a slower delivery standard in the same way that Second Class is available in the UK. Alongside the UK, this choice is available to consumers in France, Sweden, Poland, South Korea and Russia. These are almost all D+3 products, with the exception of France and Russia, as shown in Figure 7.24.

Figure 7.24 Delivery specifications for Second Class equivalent letter products

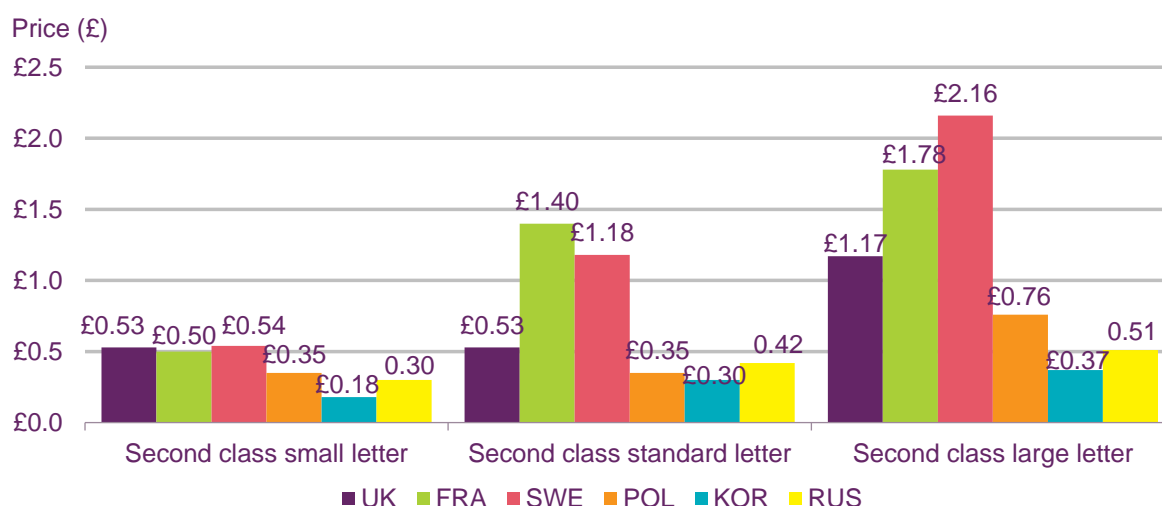
UK	FRA	SWE	POL	KOR	RUS
D+3	D+3-4	D+3	D+3	D+3	Variable

Source: WIK

Note: Delivery targets in Russia are dependent on the point of origin and destination.

As Figure 7.25 shows, South Korea is the cheapest country in which to send all sizes of Second Class domestic letters, while France, Sweden and the UK are consistently among the most expensive.

Figure 7.25 Stamp prices for Second Class domestic letters



Source: WIK / Ofcom analysis

Note: Small letter is based on DL envelope, 110x220x5 <=20g; Standard letter is based on C5 envelope, 229x162x5 <=100g; Large letter is based on C4 envelope, 324*224*25 101g-150g
 Values converted from the local currency unit to GBP (£1 = €1.177 / US\$1.563 / JPY¥152.606 / AUS\$1.619 / SEK10.183 / PLN4.941 / SGD\$1.956/ KRW₩ 1711.543/ BRL3.371/ RUB49.789/ INR91.588 / CNY¥ 9.685

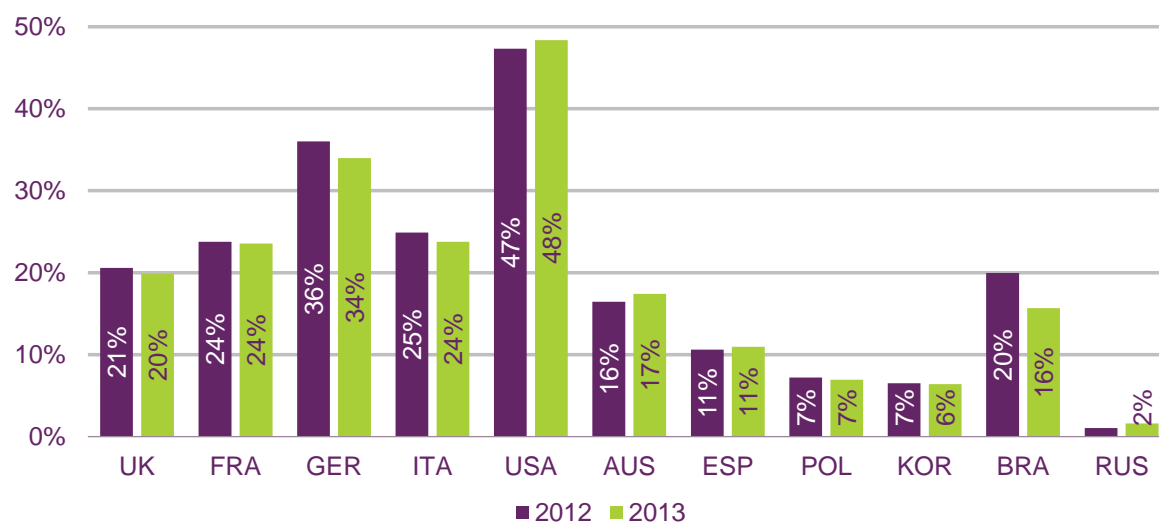
7.2.6 Direct mail

Figure 7.26 shows the proportion of direct mail in total mail volumes across our comparator countries where data were available. The importance of direct mail to total volumes is most striking in the US, where 48% of total mail in 2013 was direct mail. Direct mail accounts for 34% of total mail in Germany, the second highest among our comparator countries, followed by Italy, where 24% of total mail volumes are direct mail. Comparatively, direct mail accounted for 28% of total mail in the UK. The smallest proportion of direct mail in total mail volume was in Russia, where only 2% of total mail was made up of direct mail.

Despite contributing to only 2% of total mail, direct mail in Russia has increased by 42.2% since 2012. It also increased in the US and Australia, although only slightly (0.8% and 0.1% respectively). The majority of our other comparator countries experienced a decline of direct mail volumes, most notably in Brazil (-23.7%).

Figure 7.26 Proportion of direct mail in total mail: 2013

Proportion of direct mail in total mail volumes (%)



Source: WIK / Ofcom analysis

7.3 Post and the residential consumer

7.3.1 Introduction

This section presents the findings of our consumer research, the methodology of which is detailed in Appendix A. The questions cover sending and receiving post, the types of mail sent and received, and respondents' perceived reliance on post as a way of communicating. The key findings in this section are:

- **Almost two-thirds (64%) of the online population in the UK had sent an item of post in the past month.** This compares to 76% in France and Germany. People online in Spain and Japan were the least likely to have sent an item in the past month, with over half (55%) of people in Spain claiming not to have sent anything.
- **The average number of items of post sent per month has declined since 2012 in the majority of our comparator countries.** The largest declines were seen in China and Spain, while Japan and Australia experienced marginal increases in the average number of items sent. People in the US sent the highest number of items per month.
- **People in France and the US were the most likely to send mail to businesses, such as formal letters or payment for bills.** More than eight in ten (81%) respondents in France had sent this type of mail, while seven in ten (68%) in the US had done so.
- **People in the UK were more likely to have sent personal invitations, greetings cards or postcards in the past month than those in any of the other countries surveyed.** A third (33%) of respondents in the UK had sent this type of mail in the past month. People in France (50%) and the US (59%) are more likely to have paid a bill by post in the past month.
- **The UK is among the countries where people receive a high number of items of mail in a week.** The average number of items received in the UK was 6.3, on a par with Germany (5.9), but less than in France (8.0) and the US (9.3). People in Spain received the fewest items of mail per week (3.4).
- **People in Spain were the most likely to have received no post at all in the past week.** One in five (26%) respondents in Spain claimed to have received no post in the past week, compared to 21% in Italy and 18% in the US. Only 9% of people in the UK said they had received no post in the past week.
- **In all of the countries surveyed, people were more likely to have received business mail than personal mail.** In almost all our comparator countries, over half the respondents had received mail from businesses in the past month.
- **In almost all our comparator countries, more than half the respondents rely on post as a way of communicating.** Six in ten (62%) respondents in Australia claim to be reliant on post, compared to 56% in the UK and just over half in the rest of our European comparator countries (except Spain) and the US. In China, 46% of respondents claim to be reliant on post, while those in Japan (19%) and Spain (26%) are least likely to say this.

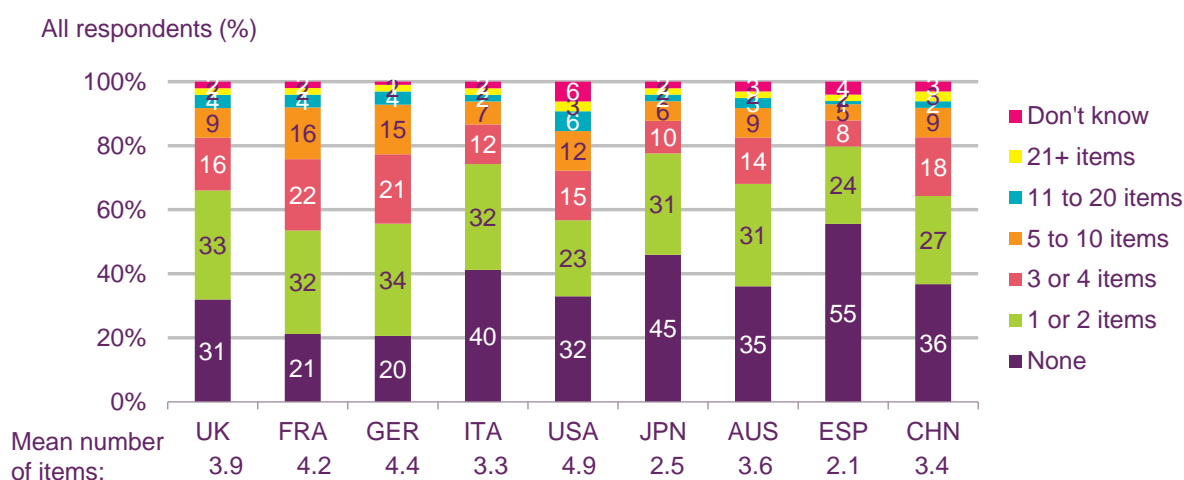
7.3.2 Mail sent

Almost two-thirds (64%) of the online population in the UK had sent an item of post in the past month.

Almost two-thirds (64%) of the online population in the UK had sent an item of post in the past month. The countries where people were the most likely to have sent an item of post in the past month were France and Germany, where 76% of people in both countries claimed to have done so.

Almost a third (31%) of the online population in the UK claimed not to have sent any items by post in the past month, similar to the US (32%) and slightly less than Australia (35%) and China (36%). Respondents in Spain were the least likely to have sent an item of post in the past month; 55% of respondents claimed not to have done so, followed by Japan (45%) and Italy (40%).

Figure 7.27 Approximate number of items of post sent per month



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

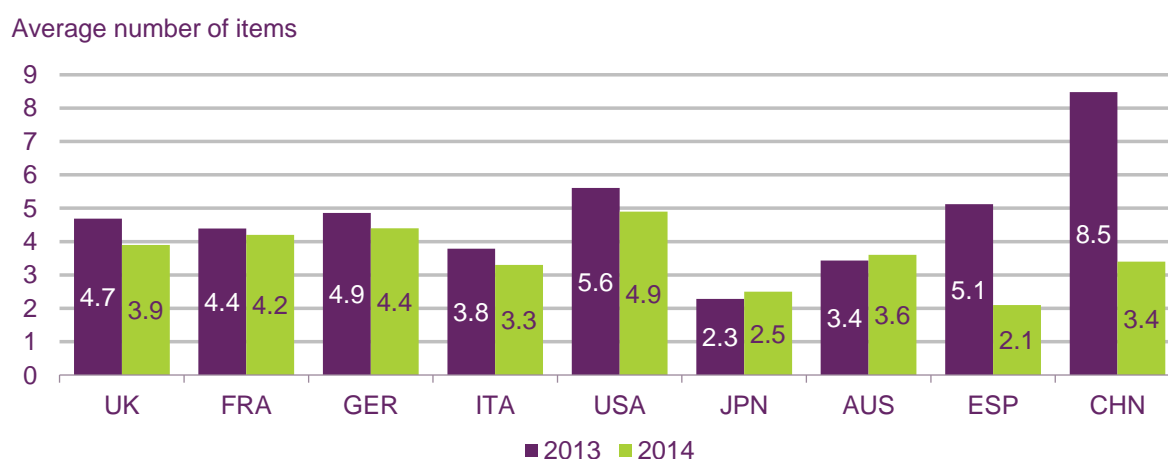
Q.12 Approximately how many items of post - including letters, cards and parcels - have you personally sent in the last month?

The average number of items sent in a month has declined in the majority of our comparator countries since 2013

With the exception of Japan and Australia, the average number of items sent per month has declined across all of our comparator countries since 2013, largely in line with the decline in total mail volumes (Figure 7.16). The largest declines were in China and Spain, where people claimed to have sent 5.1, and 3.0, fewer items of post per month respectively. Japan and Australia experienced a marginal increase of 0.2 items per month.

The country in which consumers sent the highest average number of items of post per month was the US (4.9). The average number of items sent each month in the UK was 3.9, broadly similar to France (4.2), Germany (4.4) and Australia (3.6). Respondents in Spain and Japan sent the lowest average number of items (2.1 and 2.5 respectively).

Figure 7.28 Average number of items of post sent per month



Source: Ofcom consumer research October 2014, September 2013, September 2012
Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010
Q.12 Approximately how many items of post - including letters, cards and parcels - have you personally sent in the last month?

7.3.3 Types of items sent in the past month

People in France and the US are the most likely to send mail to businesses, while those in the UK are more likely to send personal mail

Figure 7.29 illustrates the type of items that consumers had sent in the past month. It shows that consumers in the UK, US and Japan were the most likely to have sent personal letters, with 52%, 49% and 48% claiming to have done so.

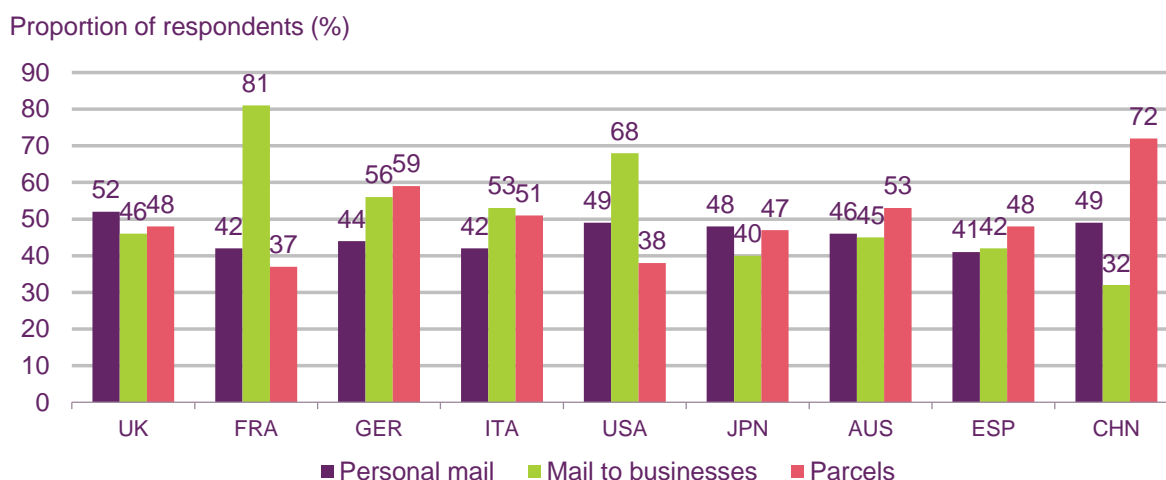
About eight in ten (81%) respondents in France claimed to have sent mail to businesses, while almost seven in ten (68%) of those in the US had done so. Just under half of those in the UK (46%) had sent mail to businesses in the past month. Those in China were the least likely to have done this, with around a third (32%) doing so in the past month.

People in China were the most likely to have sent a parcel (72%).¹¹⁸ Excluding China, Germany was the country where the most people claimed to have sent a parcel in the past month, at 59%.

In France, Italy and the US, people were more likely to have sent mail to businesses than to have sent personal mail or parcels.

¹¹⁸ However, internet penetration is low in China (around 46%, and centred in the cities). Therefore, the people responding to our survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. China is therefore not wholly comparable to our other comparator countries.

Figure 7.29 Categories of post sent in the past month: personal mail, mail to businesses, and parcels



Source: Ofcom consumer research October 2014

Base: All respondents who have sent any items of post in the last month, UK=684, FRA=795, GER=785, ITA=577, USA=618, JPN=527, AUS=623, ESP=401, CHN=613

Q.13 Which of these types of mail would you say you have personally sent in the last month by post?

A higher proportion of online UK adults send invitations, greetings cards or postcards than in the other countries that we surveyed

The proportion of personal mail sent by consumers, shown in Figure 7.29, is broken down by type in Figure 7.30, and includes personal letters, invitations and formal letters to organisations. A third (33%) of respondents in the UK had sent invitations in the past month. This is most closely followed by Italy and the US, where 24% of respondents claimed to have sent greetings cards. Those in Spain were the least likely to have sent invitations, with around one in ten (11%) claiming have done so in the past month.

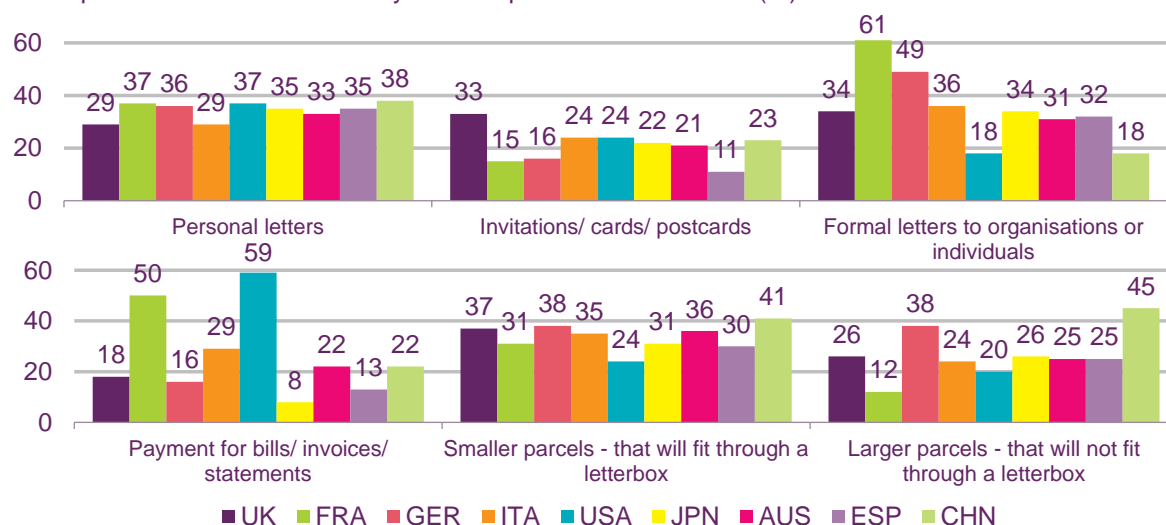
Among all of our comparator countries, a consistently high proportion of people had sent personal letters. The UK and Italy were the only countries in which less than a third of respondents claimed to have sent personal letters the past month (29% in both). Other than China (which is not directly comparable) people in the UK (37%), Germany (38%) and Australia (36%) were the most likely to have sent a small parcel, while those in Germany (38%) were the most likely to have sent a large parcel in the past month.

People in France were by far the most likely to send formal letters to organisations or individuals, with 61% of people claiming to have done so in the past month, followed by Germany (49%) and Italy (36%). People in the US were the least likely to send formal letters (18%).

The proportion of mail sent to businesses by consumers (Figure 7.29) is split by type in Figure 7.30. This shows that people in France and the US are far more likely than those in any other country to have paid a bill through the post in the past month. Half of all respondents in France, and six in ten (59%) in the US, had done this, compared to 18% in the UK and less than one in ten in Japan (8%).

Figure 7.30 Types of items sent in the past month

All respondents who have sent any items of post in the last month (%)



Source: Ofcom consumer research October 2014

Base: All respondents who have sent any items of post in the last month, UK=684, FRA=795, GER=785, ITA=577, USA=618, JPN=527, AUS=623, ESP=401, CHN=613

Q.13 Which of these types of mail would you say you have personally sent in the last month by post?

7.3.4 Mail received

The UK is among the countries where people receive a high number of items of mail per week

The average number of items received by people in the UK was 6.3, exceeded only in the US (9.3) and France (8.0). This compares to 5.9 in Germany, while Japan, Australia and China were all close to 5.0. People in Spain received the fewest items of mail per week (3.4).¹¹⁹

The average number of items received has remained relatively stable, year on year, in the majority of our comparator countries. There are three exceptions: France, where people claim to be receiving an average of 4.5 fewer items than in 2013, Japan, where people claim to receive 3.7 fewer items and China, where people claim to receive 4.4 fewer items.

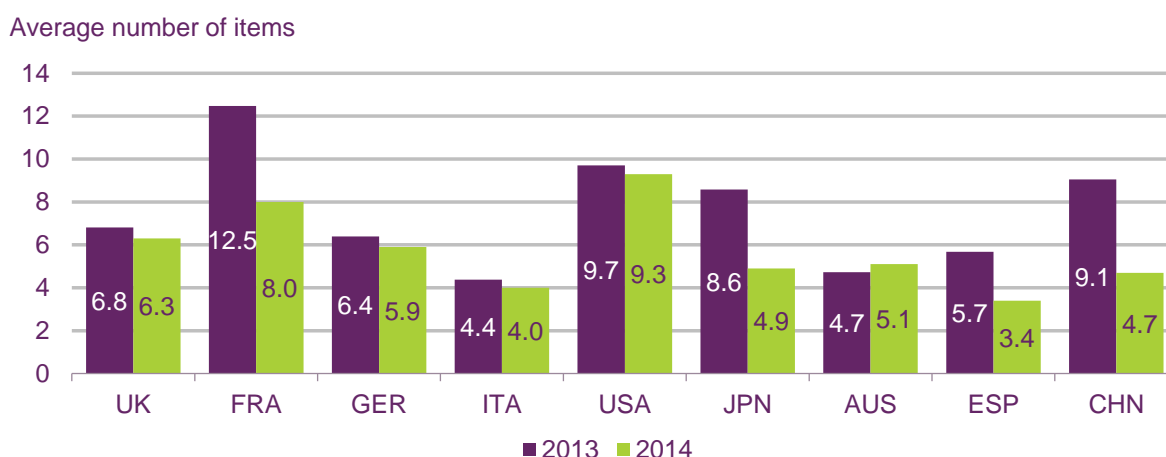
This claimed measure is not consistent with the volume-per-head metric, calculated from the industry data in Figure 7.17, particularly in regard to China. This might be due to our online research methodology; in China the findings are representative of early adopters in urban areas, rather than the whole population (see Appendix A).

Figure 7.17 shows that volume per head of population is by far the highest in the US, whereas the number of items received in the past week in the US is not much higher than in our other comparator countries, especially France. This might be because the volume per head of population takes the total volumes for the year and divides this by the population, while the consumer research asks respondents to recall the amount of mail that they have received in the past week. When asking consumers to recall the amount of mail that they have received, items sent to businesses are not included. While we asked specifically about

¹¹⁹ The measure for mail received (in section 7.3.4 and section 7.3.5), is for the *past week* whereas the measure for mail sent (in section 7.3.2 and section 7.3.3), is for the *past month*.

addressed mail, it is possible that consumers in France included unaddressed mail or newspapers, which are not included in our industry figures.

Figure 7.31 Number of items received in the past week



Source: Ofcom consumer research October 2014, September 2013

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

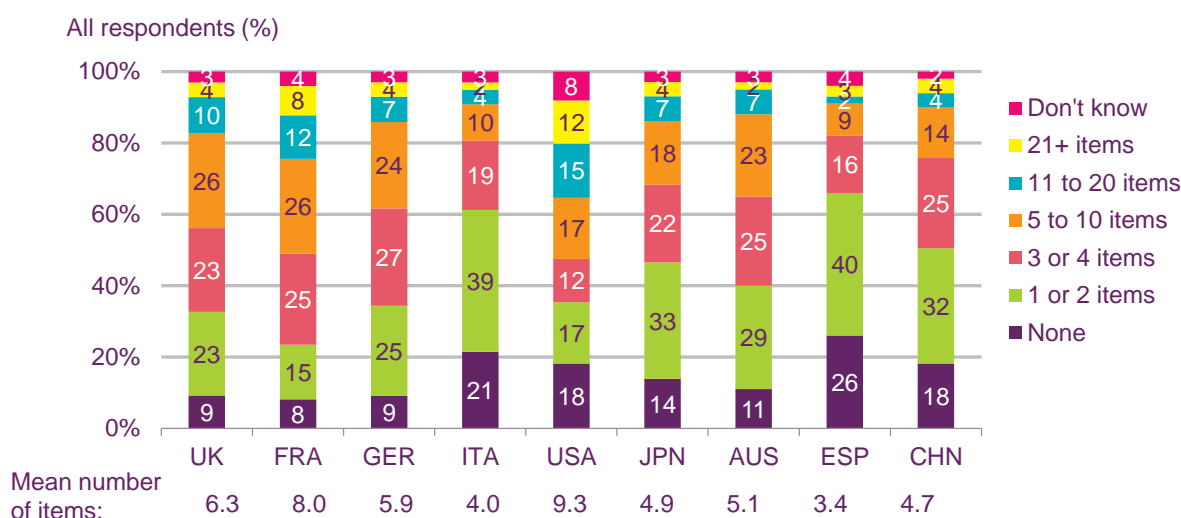
Q.14 Approximately how many items of post - including letters, cards and parcels - have you personally received in the last week

More than a quarter (26%) of respondents in Spain had received no post in the past week

People in Spain were the most likely to have received no post at all in the past week, with a quarter (26%) of respondents saying that they had not received a single item. This is most closely followed by Italy, where two in ten (21%) consumers said they had received no post in the past week. People in Spain and Italy were also the most likely to have received only one or two items a week: 40% and 39% respectively. In the UK, 23% had received one or two items in the past week.

The high average number of items received in the US (Figure 7.31) is due to the significant proportion of people who receive over 11 items of post a week; 27% of respondents in the US had received over 11 items. This may also explain the high average number of items received in France, where 20% of respondents claimed to receive more than 11 items of post. Similarly, while people in Spain received the fewest items of post in the past week (3.4), it also had the lowest proportion of people receiving more than 11 items (5%).

Figure 7.32 Approximate number of items of post received in the past week



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q.14 Approximately how many items of post - including letters, cards and parcels - have you personally received in the last week?

7.3.5 Types of mail items received

In most of our comparator countries, people are more likely to receive mail from businesses than from other people

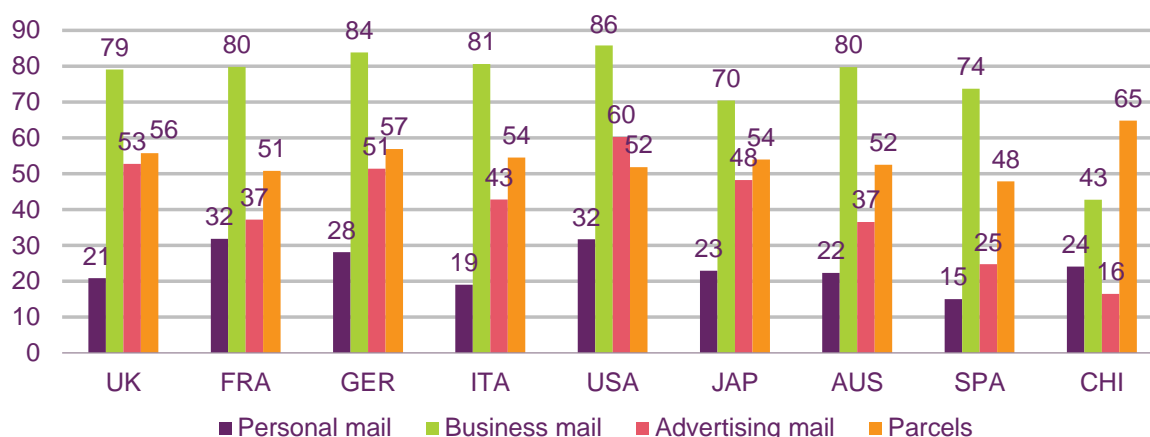
Across all of the countries that we surveyed, except China, people were more likely to have received mail from businesses than personal mail. In almost all of the countries, more than four in five respondents had received mail from businesses. This was particularly high in the US and Germany, where 86% and 84% of people had received business-originated mail.

People in the US were the most likely to have received advertising mail, with around three in five (60%) claiming to have done so. The US was also the only country surveyed where people were more likely to have received advertising than parcels. Apart from China, respondents in Spain were the least likely to have received advertising mail; 25% claimed to have done so.

Consumers in China, Germany and the UK were the most likely to have received a parcel in the past week, while those in France and the US were the most likely to have received personal mail.

Figure 7.33 Categories of items received in the past week

All who received any post in the last week (%)



Source: Ofcom consumer research September 2014

Base: All respondents who received at least one item of post in the last week, UK=888, FRA=896, GER=883, ITA=767, USA=739, JPN=838, AUS=865, ESP=700, CHN=810

Q16 Which of these types of items would you say you have personally received through the post in the last week? Please think about items that are addressed to you personally rather than items like leaflets or anything else that may come through your letterbox.

People in the US and the UK are the most likely to have received direct mail in the past week

As shown in Figure 7.34, people in the US and the UK were the most likely to have received any type of advertising mail in the past week. Almost half of our respondents in the US had received direct mail, the highest of all the countries we surveyed. People in the UK were the next most likely to have received this type of mail, with four in ten (38%) saying that they had done so. Those least likely to have received direct mail were consumers in Spain and China (8%).

This claimed measure is not consistent with the proportion of direct mail to total mail, calculated from the industry data (Figure 7.26). Although more of the total volume of mail in Germany, France and Italy than in the UK is accounted for by direct mail, fewer respondents in these countries claim to have received direct mail in the past week. This may be because a higher proportion of direct mail in Germany, France and Italy is sent to businesses, while our research is conducted among residential consumers.

Transactional mail, such as bills, invoices and statements was the most common type of mail to have been received in almost all of the countries that we surveyed. Seven in ten had received this type of mail in the US, compared to 65% in Australia and 56% in the UK.

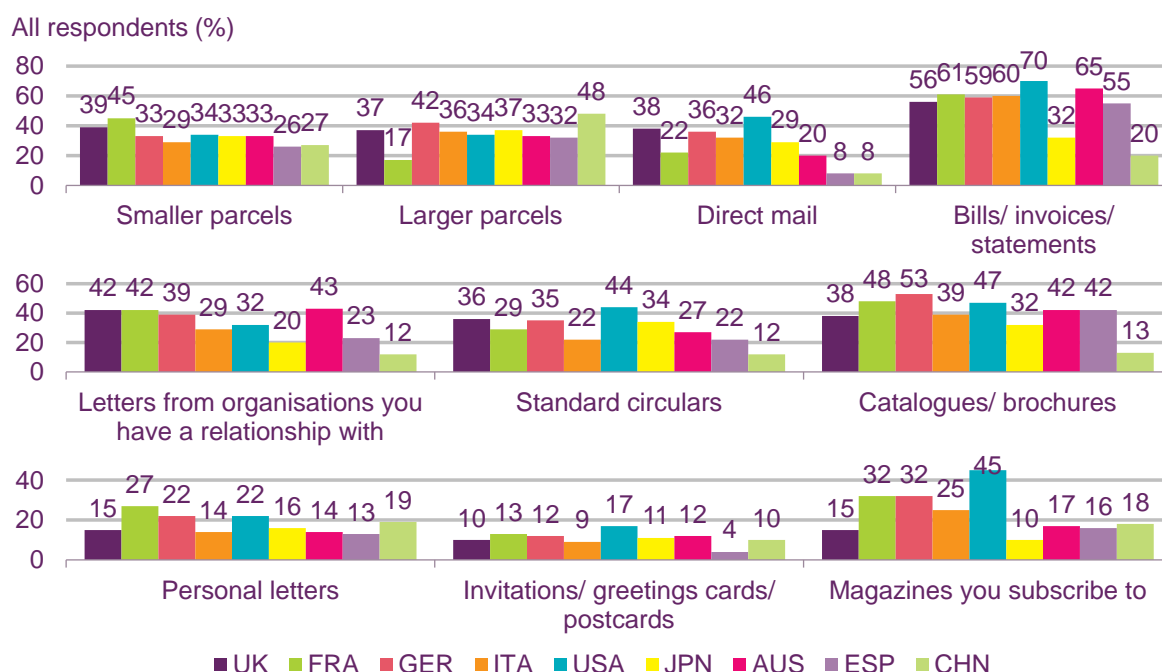
People in France were more likely than those in any other country to have received personal letters, with 27% saying that they had received a personal letter in the past week. Those in the UK were among the least likely to have received a personal letter, at 15%. People in France were also more likely to have received a small parcel in the past week, while those in China were the most likely to have received a large parcel.

Consumers in the US were the most likely to have received a magazine that they subscribe to in the past week, of all the countries surveyed (45%), followed by consumers in France and Germany (32%). The consumers least likely to have received magazines are those in

Japan (10%) and the UK (15%). People in the US are also more likely to have received a standard circular in the past week than any of the other countries surveyed (44%).

Invitations, greetings cards and postcards were the least common type of mail to have been received, in all of the countries that we surveyed.

Figure 7.34 Types of mail received in the past week



Source: Ofcom consumer research October 2014

Base: All respondents, UK=888, FRA=896, GER=883, ITA=767, USA=739, JPN=838, AUS=865, ESP=700, CHN=810

Q.16 Which of these types of items would you say you have personally received through the post in the last month?

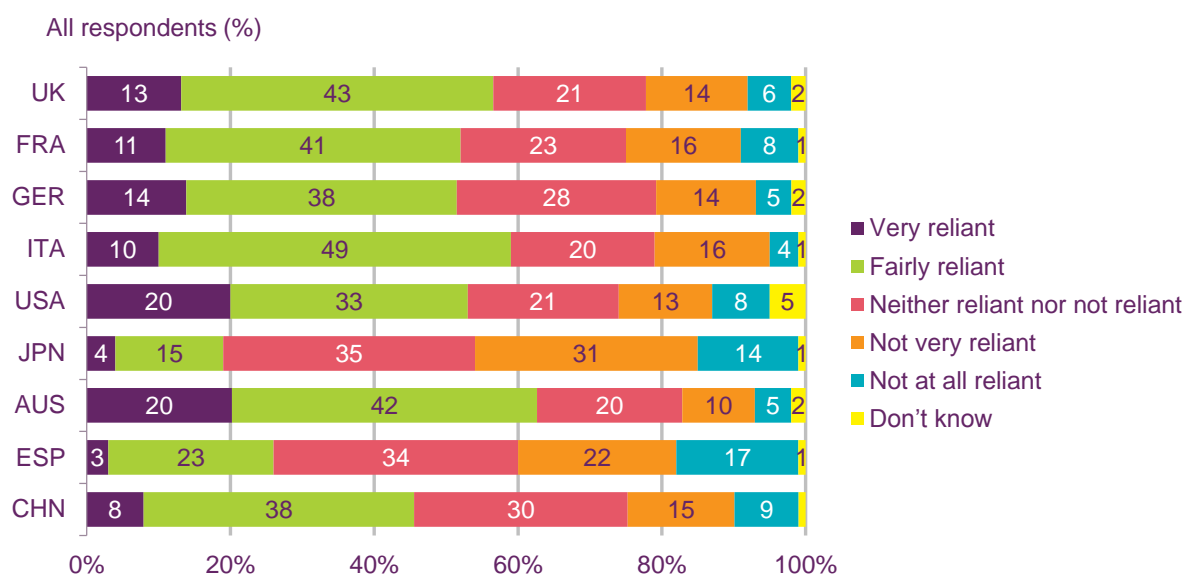
7.3.6 Reliance on post

In most of our comparator countries, over half of respondents said they relied on post as a way of communicating

A high proportion of respondents in the majority of the comparator countries surveyed claimed to be reliant on post as a way of communicating. In Australia, around six in ten people (62%) said they were, compared to just over half of respondents in our European comparator countries and the US (except Spain, where 26% claimed to be reliant on post). Fifty-six per cent of respondents in the UK claimed to rely on post.

Consumers in Japan (19%) and Spain (26%) were the least likely to say that they were reliant on post as a means of communication.

Figure 7.35 Reliance on post as a way of communicating



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q.17 How reliant would you say you are on post as a way of communicating?



The Communications Market 2014

Appendix A – Consumer research methodology

Appendix A: Consumer research methodology

Introduction

This section describes the methodology used for the 2014 international communications behaviour research, which was carried out by Populus, an independent market research agency, on behalf of Ofcom.

The survey covered the communications behaviour of internet users in nine markets: the UK, France, Germany, Italy, the US, Japan, Australia, Spain and China. As in previous years, the research looked at the ownership and use of communications services and devices such as TV, mobile, fixed landline and the internet. In addition, it explored the changing nature of communication, and use of connected devices, postal services, online shopping, mobile payments, and take up of 4G and Superfast Broadband in the various markets.

The 2014 research comprised 9,065 interviews completed in October 2014. Seven previous waves of the research have been undertaken (2013, 2012, 2011, 2010, 2008, 2007 and 2006) and a number of key issues have been tracked across all waves.

Research methodology

Overview

The international communications behaviour research is conducted using an international online consumer access panel. In 2014, as in previous years, the research panel employed was managed by Toluna. The numbers of active panel members in each market are shown in Figure 8.1. A total of 9,065 interviews with internet users were completed – with at least 1,000 in each market. Age and gender quotas in each market were set in line with those employed in earlier waves to ensure historical consistency.

The study was carried out among adults aged over 18. The online population reached by Toluna's research panel is now more representative of the national populations in each of the countries surveyed. One exception to this is China, where we believe internet take-up is relatively low, so although the members of the online panel represent the online population, they are perhaps more likely to be affluent and urban and exhibit the behaviour of early adopters.

Data for setting quotas for the different online panels came from a range of data sources. Where possible, data from the respective countries' statistical departments was used. This related to Spain (National Statistics Institute), Japan (Japanese Statistical Yearbook 2014), China (Chinese Statistical Yearbook 2013) and Australia (Household Use of Information Technology). For two countries, data were obtained from centres of research – France (Centre de Recherche pour L'Etude et L'Observations des conditions de Vie: La diffusion des technologies de l'information et de la communication dans la société) and USA (The Pew Research Centre). The German quotas came from a survey undertaken by the two largest broadcast companies – ARD/ZDF Onlinestudie 2014 and Spain from Audioweb.

Members of Toluna's access panel were screened to meet age and gender requirements. Respondents were invited to participate using a random online sampling approach to ensure a representative sample. The following methods were used:

- Email invitation via random sampling from the panel, within qualifying age bands.

- Real-time sampling, allowing visitors to the Toluna website to access the screeners and participate (if they qualified).

Toluna sampled its panel by selecting email addresses randomly within the market and demographic quotas required, taking account of predicted response rates by target demographic, and country, to avoid over-contacting panellists and to ensure that a bias was not introduced in the responses. The sample itself was then automatically randomised for potentially-qualifying individuals. A twenty-five minute self-completion web-based survey was completed by all respondents in each market.

Quotas

1,000 interviews per market were completed to match previous waves.

The quotas had been set in the previous waves to reflect the age and gender profile of internet users in each market of consumers. The same quotas were set this year. The data are weighted using proportions comparable to previous waves.

Figure 8.1 Achieved sample, by nation and demographics

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	CHN
Unweighted total	1011	1027	1006	1006	1000	1003	1000	1002	1010
Weighted total	1000	1000	1000	1000	1000	1000	1000	1000	1000
Male	480	490	530	530	480	550	500	510	560
Female	520	510	470	470	520	450	500	490	440
18-24 yrs	140	150	110	140	150	110	140	130	270
25-34 yrs	210	170	160	230	180	200	230	240	310
35-44 yrs	220	180	180	280	180	240	210	270	240
45-54 yrs	170	170	200	220	190	190	190	210	110
55-64 yrs	134	218	247	95	100	184	126	113	55
65+ yrs	126	112	103	35	200	76	104	37	15

Statistical significance

Demographic quotas were employed to match internet use in each market. Results were tabulated and significance testing (at 95% confidence) was applied. The data were weighted using proportions comparable to previous waves.

Access panel

The 2014 survey used Toluna's access panel. The panel includes the following number of members in each of the relevant markets:

Figure 8.2 Toluna panel member volumes

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP	CHN
Members	427,000	196,000	173,000	228,000	1,546,000	278,000	148,000	271,500	1,211,000

Panel members were recruited from a variety of sources, using a 'double opt-in' procedure. The process was as follows:

- Step 1 - A prospective panellist completes a panel registration form, which includes contact and demographic information (first opt-in).
- Step 2 - An automatic email is sent to the prospect, requesting verification of their panel registration by clicking a link that confirms their log-in details.
- Step 3 - Once the prospect has clicked the link (second opt-in), he or she is officially a panellist and is presented with an opportunity to complete additional profiling. Another automatic email is sent that includes the panellist's account log-in information for future reference by the panellist.

Members complete no more than two surveys per month. For this survey all panellists completing the survey were paid a small incentive payment for their time.



The Communications Market 2014

Appendix B – Comparative international pricing methodology

Appendix B: comparative international pricing methodology

Introduction and objectives

For the 2014 international price benchmarking we used the same methodology as that deployed in previous reports, although some updates were made to the household usage profiles to ensure that they more accurately reflected current use of communications services in the comparator countries.

We have used a bespoke model commissioned from telecoms pricing consultancy Teligen, which Teligen has populated with specifically-sourced tariff data for fixed-line voice, mobile phone, fixed broadband, mobile broadband, television and 'multi-play' (i.e. tariffs incorporating more than one service such as 'triple-play' fixed voice, broadband and television tariffs) services in the UK, France, Germany, Italy, Spain and the US.

The key objectives were as follows:

- to identify and compare the pricing that is available for consumers buying fixed-line voice services, pre-pay and post-pay mobile services, broadband internet and TV services;
- to identify and compare the pricing that is available by purchasing communications services within 'bundled' tariffs (for example, 'triple-play' services which typically offer a single bill for the delivery of fixed-line voice, broadband and television services);
- to compare pricing across a wide range of service usage scenarios, from the requirements of those with basic needs to those of consumers with more sophisticated consumption;
- to incorporate the cost of hardware such as set-top boxes or mobile handsets in order to reflect the real prices that consumers pay, and to compare like-with-like by allowing for equipment subsidies when they are included within propositions from service providers; and
- to represent average or typical use as accurately as possible across the five countries in order to avoid biases associated with comparing pricing based on usage characteristics that are more typical of one country than another.

Basic methodology

Further detail is provided below, but the basic principles are as follows.

We constructed five 'typical' household types, which collectively may be seen as representative of the average population across our countries, and defined a basket of communications services (fixed-line voice, mobile, broadband, TV) appropriate for each household type.

A wide range of components were included within the household usage profiles to ensure as accurate as possible a representation of the real prices consumers pay. For example:

- Fixed voice minutes were distributed by whether they were to fixed or mobile lines, by call distance (local, regional, national and international, including a range of

international destinations), and time of day (day, evening, weekend). Non-geographic calls were excluded from the analysis.

- Mobile calls (and messaging) were split between on-net and off-net, and voicemail was included.
- Call set-up and per-minute charging were incorporated, and a range of call lengths were used (distributed around a defined mean based on averages across 30 OECD countries).
- Incoming calls were included, in recognition of the different pricing mechanism in the US.
- The fixed broadband component was defined both by minimum headline speed and by minimum data and time online requirements (in recognition that in some markets some broadband service providers charge by time spent online, in addition to, or in place of data-based charging).
- The mobile broadband component was defined in the same way as the fixed broadband component, although there were no minimum connection speed criteria (as services are seldom marketed in this way).

The television element included the licence fee (where applicable), a digital receiver and, for some household usage profiles, a digital video recorder (DVR). Because of difficulties in comparing programming bundles, two tiers of pay-TV were considered: the most basic service available above the channels available on free-to-air TV; and a premium service defined by a top-price film/entertainment package and the best package of top-tier football matches.

The average monthly use across all of the household usage profiles was adjusted to ensure that it was aligned with average use across the households.

Mobile handsets, broadband routers, mobile broadband modems, digital set-top boxes and DVRs are included within the household usage profiles (and amortised over an appropriate period in order to attribute a monthly cost). This is necessary because this equipment is often inseparable from the service price, as operators frequently include subsidised or 'free' equipment (for example a mobile handset or a WiFi router) within the monthly subscription. For similar reasons, connection and/or installation costs are included.

In July 2013 and July 2014, details of every tariff and every tariff combination (including bundled services) were collected from the largest three operators in each country by retail market share (and from more than three operators, if this was required to ensure that a minimum of 80% of the overall market was represented). Multi-play tariffs (i.e. those which incorporate more than one service) were also collected. Only those tariffs available on the websites of the operators were included (i.e. excluding bespoke tariffs which are offered only to certain customers).

Across the six countries, the tariff data in 2014 consisted of:

- 644 fixed voice tariffs;
- 530 fixed broadband tariffs;
- 3,935 mobile tariffs;

- 575 mobile broadband tariffs;
- 295 television tariffs; and
- 5,393 multi-play bundle tariff options.

Our model identifies the tariffs that offer the lowest price for meeting the requirements of each household.

All sales taxes and surcharges have also been included, in order to reflect the prices that consumers actually pay (although we do not account for differences in other areas of personal taxation policy within each country).

All prices are converted back to UK currency using a purchasing power parity (PPP) adjustment based on OECD comparative price levels and exchange rates as of 1 July 2014.

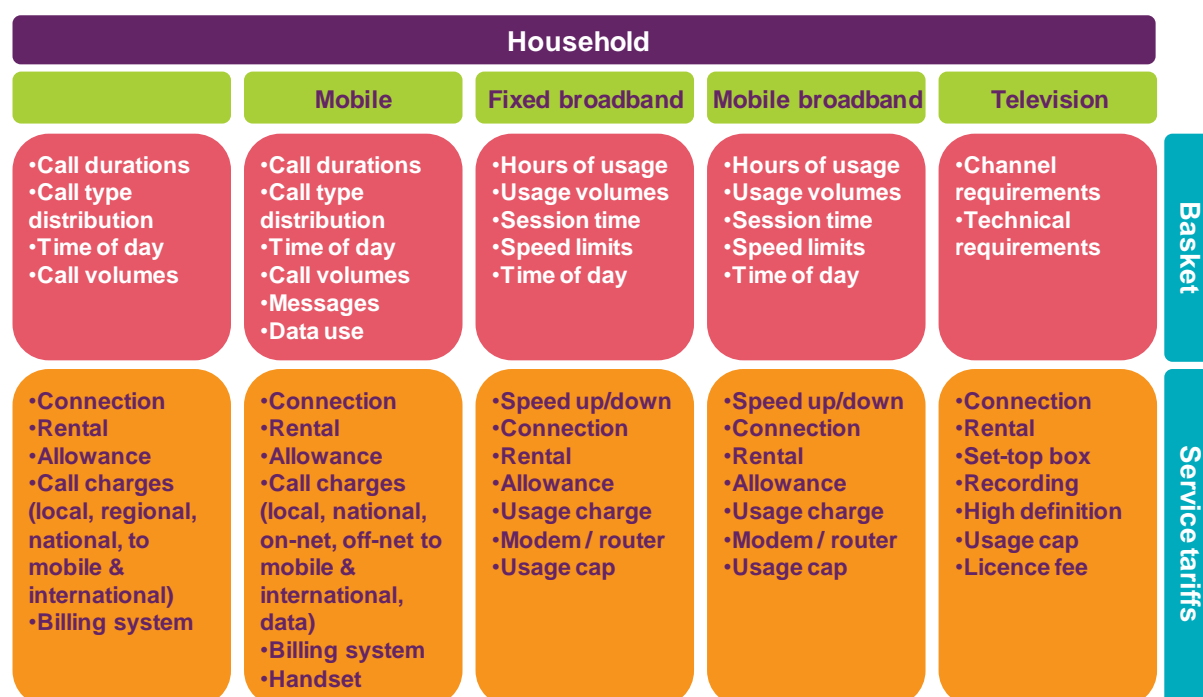
In order to provide both an illustration of representative prices for the individual services in each country, and an illustration of the best value that consumers could get for their full 'basket' of services, we have provided two types of analysis for each household usage profile:

- the first, which we call 'average stand-alone' pricing, illustrates the price of each individual service as defined by the average of the lowest price tariff from each of the three largest operators for each service in each country, weighted by the market share of the service provider in order to ensure fair representation; and
- the second, which we call 'lowest available' pricing, identifies the lowest price a consumer could pay for this basket of services, including, where appropriate, by purchasing 'bundled' services.

Principles of the model

The model developed for Ofcom by Teligen uses individual consumption baskets for each of the services in the pricing analysis, combined in a structure that allows the definition of household usage profiles of any combination of services.

Figure 9.1 Components of the pricing comparison model



Source: Teligen

Each household definition may include any of the four services, with any combination of basket parameters, describing the use of each service within the household. For the mobile service the system allows definitions of multiple users, for each member of the household.

The tariff information contains all charges and elements that will typically be part of a service offering. Some costs have been excluded as beyond the scope of the current analysis:

- PC/laptop/s for use with the broadband service
- Television set/s
- Recording equipment beyond those built into digital decoders
- Fixed telephone handset/s

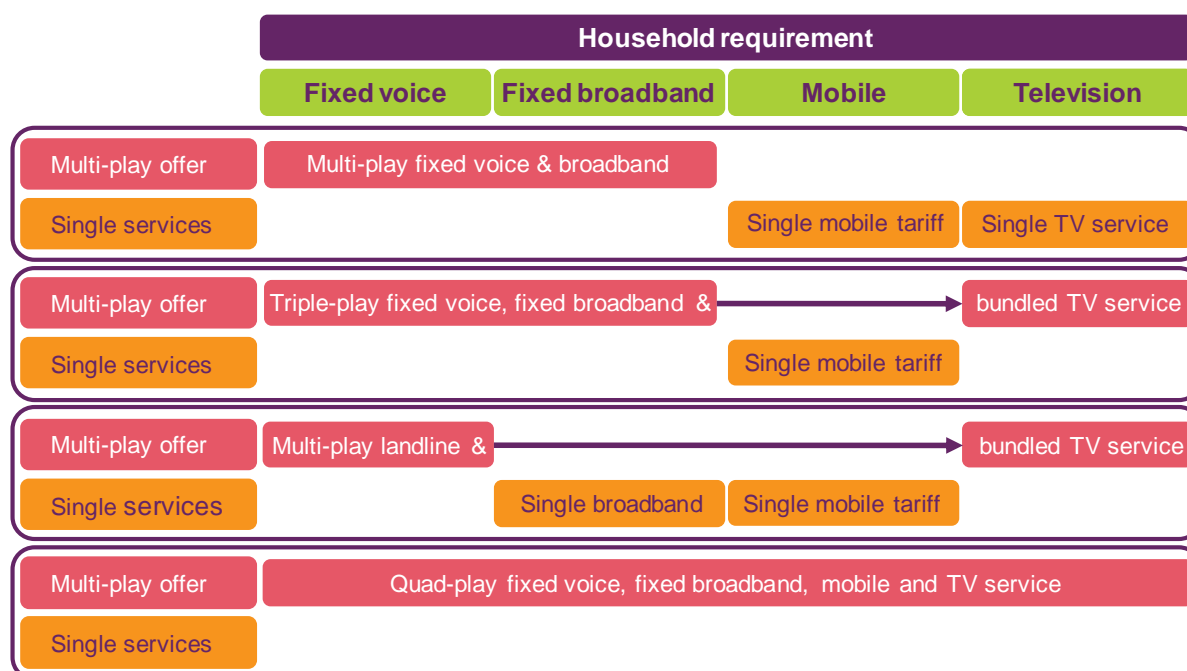
However, mobile handsets, modems/routers and set-top boxes/TV receivers are included as they are an integral part of the service offerings, and are often subsidised by operators to recoup the value of the hardware throughout the course of a contract.

Multi-play service offerings

An important part of the analysis is the inclusion of the 'multi-play' service offers available in each of the study countries, whereby more than one service is purchased from a stand-alone provider, often at a substantial discount compared with purchasing the services separately.

As the household definition determines which services are required by the household, and as this may or may not correspond with the multi-play offerings available, it is necessary to combine the multi-play offerings with the available stand-alone tariffs in each market. Where the multi-play offer does not cover the household requirement for a particular service, a suitable stand-alone tariff is used to fill the gap. In such cases the best possible tariff (the cheapest single offer that can fulfil the usage requirements) is used.

Figure 9.2 Examples of combinations of multi-play and stand-alone offers



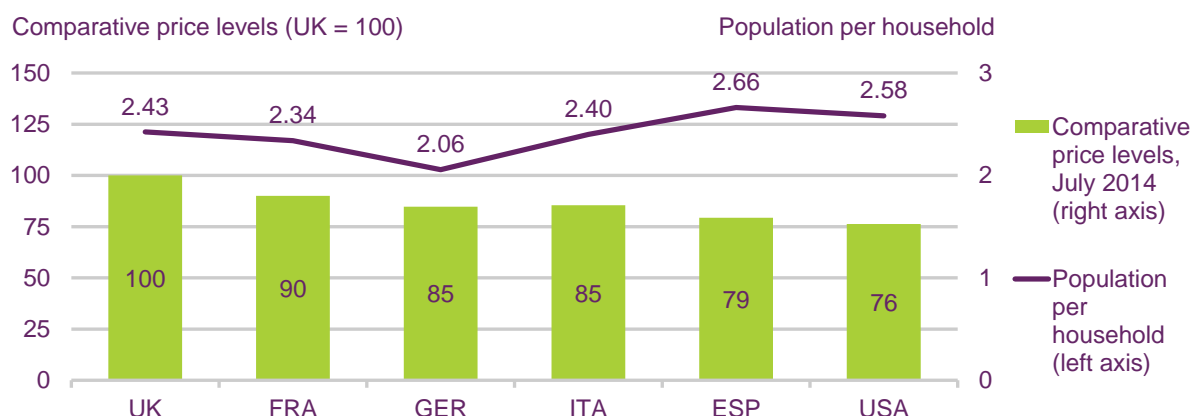
Source: Teligen

Geographic scope

We made pricing comparisons between six countries – the UK, France, Germany, Italy, Spain and the US. These countries have broadly similar socio-demographic, economic and communications-use characteristics. High-level parameters such as population per household and comparative price levels (which is a proxy for cost of living) suggest that fair comparison can be made more easily, as relative prices are not substantially influenced by differences in economic development.

Because of the existence of local markets in the US, we have used tariffs available in the state of Illinois. This was chosen as being reasonably representative of the US as a whole in terms of its relative wealth and rural-urban split (it incorporates the city of Chicago as well as large agricultural regions). Nevertheless, US pricing should not be viewed as being representative of the whole country.

Figure 9.3 Demographic characteristics and relative price levels across countries



Source: OECD / IMF / US census bureau

Tariff data

For practical reasons, it was not possible to incorporate every tariff from all of the operators in every country. Instead, we set a requirement that the analysis included the three largest operators by retail market share for each service and represented at least 80% of the retail market. Therefore, in markets where the three largest operators had collective market share of over 80%, we limited our analysis to tariffs from these three operators; otherwise we included the fourth and fifth largest operators to ensure that we represented a minimum of 80% of the market. All the operators included by these criteria were also considered for 'multi-play' offers. While this methodology excludes smaller operators, which may offer the lowest prices for some services, we believe that using the prices of the largest operators is appropriate, both because they are the best reflection of the general consumer experience and because they are in large part defined by the competitive environment in which they operate.

Research was undertaken in July 2008, July 2009, July 2010, July 2011, July 2012, July 2013 and July 2014, and only those tariffs detailed on the websites of the operators were included. Special offers and promotions (for example, reduced line rental for a number of months, or 'free' installation or hardware) were included, but only if they were available to all new customers and were available for the whole month.

Household types

For this study we make reference to five hypothetical 'typical' households, and have defined their requirements for communications services. These household types are designed to be collectively broadly representative of the overall population of the five countries; although in order to provide comparison across the full range, from very basic to advanced communications-service users, we have created significant variation in the contents of the baskets of communications services.

The details of the household usage profile composition are provided in Section 2 above.

Figure 9.4 Household types

'Typical household type'		Fixed voice	Mobile voice	Mobile messaging	Mobile data	Fixed line broadband	Mobile broadband	Television
1	A low use household with basic needs	Low use	Low use	None	None	None	None	Free-to-air
2	A broadband household with basic needs	Medium use	Low use	Low use	Low use	Low use	None	Free-to-air
3	A mobile 'power user'	None	High use	High use	High use	None	High use	Basic pay-TV with PVR
4	A family household with multiple needs	High use	Medium use	High use	Medium use	High use	None	Basic pay-TV with HD & PVR
5	An affluent two person household	Low use	High use	Medium use	Medium use	Medium use superfast	None	Premium pay-TV with HD & PVR

Source: Ofcom

Fixed-line voice services

Fixed-line tariff information

The fixed voice service is assumed to be a home-based fixed telephony service. A household is assumed to have no more than one fixed-line service.

Single fixed-voice services are normally offered on a dedicated analogue line (PSTN services). In the context of multi-play, the fixed voice service may be delivered as a VoIP telephony service over a broadband connection, and these are included in our analysis. From a user point of view, these services are exchangeable, but from a technical point of view they are very different. As connection and line rental charges are covered by the broadband service, the multi-play fixed voice services can have zero or very small fixed charges over and above the broadband charges.

Typically, fixed-voice tariffs incorporate some or all of the following types of charging:

- Connection charge and takeover charge.
- Monthly rental charge, plus the monthly charge for any additional options taken.
- Allowances in terms of minutes included per month, or a value deducted from use each month. These allowances are mapped onto the different types of calls and times of day.
- Billing system information.
- Call charges for day, evening and weekend:
 - Local calls
 - Regional calls
 - National calls
 - Calls to mobiles (for each network, weighted)
 - International calls to ten destinations

As such, calls to non-geographic numbers are excluded from the analysis.

The billing system information is used to determine the price elements included in a typical call. Seven types of billing are possible.

Figure 9.5 Types of billing for fixed voice calls

Calculation types	
1	Per second
2	Per unit
3	Per minute
4	Per second with allowance
5	Per second with initial minute
6	Per second capped
7	Per minute capped

Source: Teligen

Each tariff is handled individually, and will have the most appropriate call cost calculation system applied.

Fixed voice basket

The fixed voice basket defines the use per month for the household, and calculates the monthly cost of using the fixed voice service. The basket elements are listed below, with values for each of the five households. The cost of customers' equipment was amortised over a five-year period.

Figure 9.6 Components of the fixed voice baskets

	Basket 1	Basket 2	Basket 3	Basket 4	Basket 5	Units
Call durations						
Local	4	4	n/a	4	4	Mins
Regional	6	6	n/a	6	6	Mins
National	6	6	n/a	6	6	Mins
Fixed to mobile	2	2	n/a	2	2	Mins
International	6	6	n/a	6	6	Mins
Destination weights						
Local	67	70	n/a	68	67	%
Regional	10	8	n/a	9	10	%
National	16	13	n/a	14	16	%
Fixed to mobile	7	7	n/a	7	7	%
International	0	2	n/a	2	0	%
Time of day weights						
Day	58.3	58.3	n/a	59.2	58.3	%
Evening	24.5	24.5	n/a	24.9	24.5	%
Weekend	17.2	17.2	n/a	15.9	17.2	%
Depreciation	5	5	5	5	5	years

Source: Teligen

Note: All fixed call types are calculated with five different durations, below and above the number of minutes indicated.

International calls are weighted according to the table below, considering each originating country and each destination country.

Figure 9.7 Fixed voice international call destinations for comparator countries

		Call to									
		CAN	FRA	GER	ITA	JPN	RUS	SAF	ESP	UK	USA
Call from	CAN		2.2%	2.1%	1.7%	1.0%		0.3%		6.5%	86.2%
	FRA	2.8%		25.2%	19.0%	1.4%			13.7%	24.7%	13.2%
	GER	2.7%	21.6%		20.0%	1.7%	2.3%	0.8%	8.6%	20.4%	22.0%
	ITA	3.4%	26.5%	30.3%		1.0%			7.0%	15.6%	16.2%
	JPN	4.4%	5.0%	6.8%	2.5%		1.6%		1.1%	11.5%	67.1%
	RUS	2.2%	8.8%	35.1%	11.8%	2.0%			3.4%	10.6%	26.1%
	SAF	4.4%	5.0%	13.9%	4.4%	1.8%				46.7%	23.7%
	ESP	0.8%	27.6%	23.8%	11.2%	0.7%	0.7%	0.2%		24.0%	10.9%
	UK	6.2%	18.1%	19.5%	8.7%	2.8%		2.7%	8.0%		34.0%
	USA	47.9%	5.6%	12.2%	4.6%	8.7%	1.3%	0.8%	2.2%	16.7%	

Source: Teligen

Note: Vertical axis is "from", and horizontal is "to".

Basket logic

Once the cost of using each fixed voice package is calculated, the cheapest package per provider and per country is identified. These are the packages that are considered in the household cost scenarios.

The packages that are part of a multi-play offering are identified separately from the single packages.

Fixed voice data issues

Fixed voice services are covered with both direct and indirect services. Any line installation or monthly rental charges incurred by those using indirect services are included in the service costs.

Some providers offer a wide range of add-on options for their tariff packages, with possible cost reductions. Where relevant, these have been incorporated in order to identify the lowest prices available for a basket of services.

Mobile services

Mobile tariff information

The mobile service is assumed to be a personal service; a household may have several users with individual usage profiles and requirements. VoIP over mobile networks' services were excluded from the analysis.

- Typically, the mobile tariffs will use some or all of the following charge categories: Connection charge.
- Monthly rental charge, plus the monthly charge for any additional options taken.
- Allowances in terms of call minutes and/or messages included per month, or a value deducted from usage each month. These allowances are mapped onto the different types of calls and times of day.
- Billing system information.
- Call charges for day, evening and weekend:
 - Local calls
 - National calls
 - On-net calls to mobiles
 - Off-net calls to mobiles (for each network, weighted)
 - Voicemail calls
 - International calls to ten destinations
 - Data use

Messages. The billing system information is used to determine the price elements included in a typical call. Seven types of billing are possible:

Figure 9.8 Types of billing for mobile voice calls

Calculation types	
1	Per second
2	Per unit
3	Per minute
4	Per second with allowance
5	Per second with initial minute
6	Per second capped
7	Per minute capped

Source: Teligen

Each tariff is handled individually, and will have the most appropriate call calculation system applied.

Mobile basket

The mobile basket defines the use per month for the user, and calculates the monthly cost of using the mobile service. The basket elements are listed below, with values for some of the typical user types. Mobile handsets were assumed to have a three-year lifetime.

Figure 9.9 Components of the mobile baskets

	Basket 1	Basket 2	Basket 3	Basket 4				Basket 5		
	Users 1&2	Users 1&2	User 1	User 1	User 2	User 3	User 4	User 1	User 2	
Call durations										
Local	1.5	1.5	1.7	1.8	1.8	1.5	1.5	1.7	1.8	Mins
National	1.5	1.5	1.7	1.8	1.8	1.5	1.5	1.7	1.8	Mins
On-net	1.6	1.6	1.9	1.9	1.9	1.6	1.6	1.9	1.9	Mins
Off-net	1.4	1.4	1.8	1.7	1.7	1.4	1.4	1.8	1.7	Mins
Voicemail	-	-	1	1	1	1	1	1	1	Mins
International	2	2	2	2	2	2	2	2	2	Mins
Destination weight										
Local	16	16	8	11	13	20	20	13	20	%
National	8	8	5	6	7	10	10	7	10	%
On-net	38	38	37	33	34	30	30	29	30	%
Off-net	38	38	37	33	34	30	30	29	30	%
Voicemail	0	0	7	7	12	10	10	8	10	%
International	0	0	6	10	0	0	0	14	0	%
Time of day weight										
Day	48	48	60	50	50	48	48	60	50	%
Evening	25	25	19	24	24	25	25	19	24	%
Weekend	27	27	21	26	26	27	27	21	26	%

Source: Teligen

Notes: All mobile call types are calculated with five different durations, below and above the number of minutes indicated.

International calls are weighted according to the table below, considering each originating country and each destination country.

Figure 9.10 Mobile voice international call destinations for comparator countries

		Call to									
		CAN	FRA	GER	ITA	JPN	RUS	SAF	ESP	UK	USA
Call from	CAN		2.2%	2.1%	1.7%	1.0%		0.3%		6.5%	86.2%
	FRA	2.8%		25.2%	19.0%	1.4%			13.7%	24.7%	13.2%
	GER	2.7%	21.6%		20.0%	1.7%	2.3%	0.8%	8.6%	20.4%	22.0%
	ITA	3.4%	26.5%	30.3%		1.0%			7.0%	15.6%	16.2%
	JPN	4.4%	5.0%	6.8%	2.5%		1.6%		1.1%	11.5%	67.1%
	RUS	2.2%	8.8%	35.1%	11.8%	2.0%			3.4%	10.6%	26.1%
	SAF	4.4%	5.0%	13.9%	4.4%	1.8%				46.7%	23.7%
	ESP	0.8%	27.6%	23.8%	11.2%	0.7%	0.7%	0.2%		24.0%	10.9%
	UK	6.2%	18.1%	19.5%	8.7%	2.8%		2.7%	8.0%		34.0%
	USA	47.9%	5.6%	12.2%	4.6%	8.7%	1.3%	0.8%	2.2%	16.7%	

Source: Teligen

Note: Vertical axis is “from”, and horizontal is “to”.

The internet traffic is defined both as megabytes of download volume and minutes of use, as tariffs may be charged according to either of these two methods.

Handsets are defined in three categories:

- Basic - 2.5G or basic 3G, above 2MP camera, + MP3 player / FM radio
- Mid-range - 3G smartphone
- High-end – 3G/4G smartphone.

Basket logic

Once the cost of using each mobile package is calculated, the following checks take place:

- Does the package include a handset, or can a suitable handset be included with the package? If not, the cost of a suitable handset, amortised over three years, will be added to the package’s monthly usage cost.
- If the basket assumes an amount of data traffic, the package must also be able to offer this. If not, the package will not be considered. In such instances the handset must be compatible with data services.

Then the cheapest package per provider and per country is identified. These are the packages that will be considered in the household cost scenarios. The packages that are part of a multi-play offering will be identified separately from the single packages.

Mobile service data issues

Although the model allows for pre-pay and post-pay services to be considered separately, we have not defined whether the mobile phone component in a basket is pre-pay or post-pay. We believe this enables better international comparison, given the very different pre-pay/post-pay splits in different countries (for example, around 90% of Italian mobile connections are pre-pay, while around 90% of US mobile connections are post-pay). However, a consequence of this is that the analysis does not recognise the different characteristics of the services; for example, a pre-pay mobile may be the only option

available to consumers with a poor credit rating, and may also offer advantages to those who vary their use month by month.

Allowances or free minutes/message/data volumes are included in the tariffs, and are treated as close to the billing system principles as possible (e.g. per-minute or per-second charging). The deduction of minutes and messages will follow the traffic weights defined by the basket profiles.

Broadband services

Broadband tariff information

The broadband services covered may be on any platform typical for home use, the most common ones being DSL, cable and fibre. Mobile broadband is included as a separate requirement to fixed broadband for one household basket. Tariffs are categorised by headline speed.

Typically, broadband tariffs use some or all of the following charge categories:

- Connection charge.
- Installation charge, for either self install or engineer install (the cheapest solution is used).
- Purchase price for modem and possibly router.
- Any specific connection charges paid to the incumbent operator.
- Monthly rental for broadband service.
- Possibly, a monthly price for modem and router rental.
- Any specific rental charges paid to the incumbent operator:
 - Usage time allowance
 - Usage time limit
 - Usage time charge (per minute or hour beyond allowance)
 - Usage data volume allowance
 - Usage data volume limit
 - Usage data volume charge (per MB or GB beyond allowance)
 - Maximum cost per month

Broadband basket

The broadband basket is relatively simple, and basically calculates the monthly cost of using a broadband service in a home environment. The basket parameters are generally given per month. The values below are related to the five defined households.

Figure 9.11 Components of the broadband baskets

	Basket 1	Basket 2	Basket 3	Basket 4	Basket 5
Type of service	n/a	Fixed	Mobile	Fixed	Fixed
Usage time (hours/month)	n/a	100	160	300	500
Usage volume (GB/month)	n/a	20	5	60	90
Session duration (mins)	n/a	20	20	20	20
Minimum speed (Mbit/s)	n/a	4	n/a	10	30
Usage/day (%)	n/a	30	30	30	30
Usage/evening (%)	n/a	40	40	40	40
Usage/weekend (%)	n/a	30	30	30	30
Depreciation (years)	n/a	3	1	3	3

Source: Teligen

The 'up to' advertised 'speed of each tariff package is checked against the usage volume, and if the speed is too low to accommodate the traffic indicated, the tariff is excluded from the analysis.

The speed of each tariff package is checked against the speed range required by the basket, and if the speed is outside this range the tariff is excluded from the analysis.

If the tariff package has a penalty for excess use whereby the speed delivered is 'throttled', the tariff is excluded from the analysis once this penalty takes effect.

The resulting cost is presented as connection/set-up cost, rental and use.

- The monthly connection/set-up cost is the sum of all one-off charges (including any discount/promotions), amortised over three years.
- The rental cost is the sum of all monthly charges.
- The usage cost is calculated from any per-minute or per-MB charges. The session durations and usage volumes of the baskets are used for this calculation, along with any time or volume allowances.

Basket logic

Once the cost of using each package is calculated, the following checks take place:

- If the package uses a limiting mechanism that will take effect when the allowance is exceeded, the status of this limit has to be checked. If it turns out that the package is not able to accommodate the traffic defined in the basket within this allowance, and that download speed will be limited as a result, the package cannot be considered.
- If the download speed of the package is outside the range defined by the basket, the package will not be considered.

- The basket will define whether a fixed or wireless package is used, and this will also be checked.
- The resulting total monthly cost of the remaining packages will be compared, and the cheapest package from each provider and also for each country will be identified.

Broadband data issues

Broadband services of different types are covered: ADSL, cable and FTTx as well as wireless.

The bitrates used are the headline 'up to' speeds published by the provider, not considering any speed reductions caused by local circumstances. Only the download speed is considered, although the upload speed is also covered.

Where available, the prices for both self-installation and engineer installation are covered. However, in some cases only one of these may be available. The cheapest option is always used.

It is common to have special offers with reduced rental for the first few months. This is included wherever it applies, given that the promotional offer is valid in the month of tariff data collection (July 2013 and July 2014). The monthly rental is then averaged over the depreciation period of three years.

The research shows that some providers will only offer broadband services bundled with other services, as a multi-play package. Hence there will not always be stand-alone offers for all providers listed.

Television services

Television tariff information

Television services are probably where there is most variance between the countries in terms of services' description and quality. In this benchmarking study the television services covered fall into three categories:

- Basic service with a range of free-to-air channels.
- Basic pay-TV service, with a basic set of channels beyond the free-to-air channels.
- Premium service, based on the provider's top-of-the-range offering, including top league football/NFL matches and a top-price film/entertainment package.

Two additional parameters will be considered:

- Whether or not a digital recording (DVR) facility is included in the set-top box.
- Whether or not high definition (HD) services are included.

The basket definitions below will show how these parameters are defined for each of the households.

Television services will cover the most relevant offerings from each provider based on the two broad definitions above. Typically, television tariffs will use some or all of the following charge categories:

- Connection charge.
- One-off charges for the set-top box (STB) and digital video recorder (DVR).
- Monthly rental for basic television service.
- Monthly rental for additional channel packages.
- Monthly rental for hardware (STB, DVR).
- Licence fee.

The cost of the TV set is excluded from the analysis.

Television basket

The television basket is relatively simple, and calculates the monthly cost of having the relevant channel package, together with the cost of installation and/or equipment amortised over three years. The basket parameters are generally given per month. The values below are related to the five defined households.

Figure 9.12 Components of the television baskets

	Basket 1	Basket 2	Basket 3	Basket 4	Basket 5
Free-to-air or pay-TV	Free-to-air	Free-to-air	Pay-TV	Pay-TV	Pay-TV
HD capable	No	No	No	Yes	Yes
DVR included	No	No	Yes	Yes	Yes
Football channels	No	No	No	No	Yes
Movie channels	No	No	No	No	Yes
Depreciation	3	3	3	3	3

Source: Teligen

Basket logic

Once the charges for using each television package are calculated, the following checks take place:

- Is the number of channels offered in the package equal to or above the minimum number of channels defined in the basket?
- Is HD capability required by the basket and offered by the package?
- Are a top price film/entertainment package and top-level football / NFL required by the basket and offered by the package?

If any of these are answered with a “no” the package will not be considered.

The cheapest package is identified for each provider and for each country, and these are used in the household cost assessment.

Television data issues

The television data have been limited to packages offering channels that are within the basket definition, largely resulting in three categories of offers:

- Basic ‘free-to-air’ packages over a digital transmission network
- Basic pay-TV access with no special programme requirements
- HD premium pay-TV access, including premium channels with a top-price film/entertainment package and top-level football/NFL matches. This option also requires hardware with a DVR capability.

A vast number of optional offers exist, and it is not feasible to cover them all.

Purchasing power parity adjustment

All prices have been converted back to UK currency, using a purchasing power parity (PPP) adjustment based on OECD comparative price levels in July 2014 and exchange rates as at 1 July 2014.

Comparative price levels represent the number of specified monetary units necessary to buy the same representative basket of consumer goods and services, relative to any specified country (in this case, the UK), and enable a comparison of relative consumer pricing for any product or service.

In addition, in order to ensure that the changes we identify within countries have been driven by changes in the market, rather than simply by changes in the currency exchange rate, we have used the exchange rate used for 2014 and applied it to 2013 data.

Figure 9.13 Purchasing power parity conversion rates

Country	Currency	Exchange rate August 2013 to July 2014 (£)	Comparative price level (July 2014)	PPP adjusted rate (£)
UK	GBP (£)	1.00	100.00	100.00
FRA	EUR (€)	1.25	90.08	112.44
GER	EUR (€)	1.25	84.73	105.77
ITA	EUR (€)	1.25	85.50	106.72
ESP	EUR (€)	1.25	79.39	99.10
USA	USD (\$)	1.71	76.34	130.18

Source: Teligen using OECD data

Analysis

Having identified the lowest prices for each single service from each of the three largest operators in each country, and the lowest-price ‘bundled’ services appropriate to meet the needs of all, or part of, each basket, we performed two types of analysis, which are detailed in the write-up of the findings:

- The ‘average stand-alone’ pricing available for each of the components in every basket (fixed-line voice, broadband, post-pay mobile, pre-pay mobile, pay-TV). This was calculated as the average of the lowest-price tariffs from three operators for

each service in each country, weighted by the market share of the service provider in order to ensure fair representation.

- The 'lowest available' pricing available for the overall basket. This identifies the lowest price that a consumer could pay for this basket of services, including, where appropriate, by purchasing 'bundled' services. This was calculated by identifying the lowest price from any tariff for each component of every basket, together with the lowest-price bundled services suitable for the basket, and identifying the overall lowest price available.

We believe both types of analysis are important for providing an overall understanding of comparative pricing.

Stand-alone pricing provides a useful comparison of the relative costs of communications services, and, because it is an average weighted by market share, it also provides a good indication of the prices that many consumers are actually paying. However, an important limitation is that stand-alone offers are sometimes not available from leading suppliers. For example, in the UK, TalkTalk only offers broadband together with its fixed-voice service.

We believe the inclusion of 'bundles' within 'lowest available' pricing is also essential to understand the pricing of communications services, which are increasingly being delivered as multi-service propositions (examples in the UK include TalkTalk and Sky's triple-play offers which provide TV, fixed voice and fixed broadband, and Virgin's quad-play offer which includes TV, fixed voice, fixed broadband and mobile.) However, a limitation is that 'bundled' service offerings are typically not available to all consumers, as they are generally geographically confined to areas where premises are connected either to a cable network or to an unbundled telephone exchange. And although focusing on the 'lowest available' provides insight into the lowest prices available to some customers, it is not as good a reflection of the prices that consumers are actually paying as the weighted average analysis that is possible when looking at stand-alone pricing.

Limitations

One of our key learnings in four years of constructing international price comparison models is that it is a very problematic exercise, which requires assumptions to be made and imposes 'like-for-like' comparison on markets which are very different. In future years, we will look to continue to improve our methodology, and we welcome feedback at: market.intelligence@ofcom.org.uk.

We highlight the following limitations to the analysis:

- The analysis assumes a systematic and rational consumer who has a full understanding of his or her usage requirements and is prepared to shop around and undertake some often quite complex calculations to identify the tariff which offers the best value. In reality, few consumers act in this way and will be on the lowest-cost combination of services for their usage profile, but we believe the assumption is necessary in order to provide effective international comparisons.
- In looking only at tariffs offered by the largest operators in each country, lower prices which might be available from smaller operators seeking to disrupt markets are not included, purely for practical reasons. Nevertheless, we believe that using the prices of the largest operators is appropriate, both because they are the best reflection of the general consumer experience and because their pricing both defines and is defined by the competitive environment in which they operate.

- Although we have been as comprehensive as possible, tariffs are often highly complicated and there are some components that we have been unable to incorporate into our model; for example, benefits that are available only to certain types of consumers, such as BT Basic which offers lower-price line rental to consumers on income support, and differing levels of customer service.
- In order to calculate the weighted average, we have used market share calculations based on operators' retail customers. Market share calculations are based on the overall subscriber base, not the subscriber base for the particular tariff (for which figures are not available).
- Pay-TV services are a component of three of the baskets we examine. However, it has not been possible to compare like-for-like subscriptions, principally because of differences in the composition of basic and premium channels across the six countries. As a consequence, quantitative comparison of international TV pricing is arguably less meaningful than for telecoms services. This is also an issue in the pricing of 'triple-play' services, where there is a wide variation in the types of TV content.
- For television services in some countries there are only two operators with nationwide coverage and/or significant market share (or only one, for some premium TV offerings). In these instances, we have identified the best-value tariff from each of them and calculated a blended average based on their market shares.
- To avoid 'skewing' the average stand-alone pricing analysis, tariffs which are over 100% higher than that offered by the lowest-price provider are excluded from the weighted average (the aim here is to exclude tariffs which are clearly not targeted at the usage profile we are analysing).
- Some services are not available nationwide. This is particularly true for services which are available only where local exchanges have been unbundled, and for IPTV, which requires a high-speed broadband connection, but is also true for cable TV and all types of broadband.
- We do not define whether the mobile phone component in a household usage profile is pre-pay or post-pay. We believe this enables better international comparison, given the very different pre-pay / post-pay splits in different countries (for example, over 80% of mobile connections in Italy are pre-pay, while over 80% of mobile connections in the US are post-pay). However, a consequence of this is that the analysis does not recognise the different characteristics of the services; for example, a pre-pay mobile may be the only option available to consumers with a poor credit rating and may also offer advantages to those who vary their use month by month.
- Representative pricing in the US as a whole is difficult, due to large regional variations as a result of local incumbent telco operators and cable operators offering localised prices for fixed-line services. We use only those tariffs available within the state of Illinois, chosen because it is broadly representative of the US as a whole in terms of its relative wealth and rural-urban split (it incorporates the city of Chicago as well as large agricultural regions). Nevertheless, US pricing should not be viewed as representative of the whole country.
- In order to ensure that the changes we identify within countries have been driven by changes in the market rather than simply by changes in the currency exchange rate, we have used the same PPP-adjusted exchange rate in 2014 and applied it to 2013 data. This means that there may be some distortions in the relative positions of countries compared to the findings in the 2013 report. The prices quoted are in nominal terms.



The Communications Market 2014

Appendix C – A perspective on China

Appendix C: A perspective on China

Introduction

For the *International Communications Market Report*, Ofcom commissioned online research to identify consumer consumption and attitudes in nine countries: the UK, France, Germany, Italy, the US, Japan, Australia, Spain and China. Some of the data from China contained notable differences compared with the other eight countries. In the *TV and audio-visual*, *Radio and audio*, *Internet and web-based content*, *Telecoms* and *Post* chapters of this report, we explain those differences in the context of the respective communications sector.

The *Market in Context* chapter of the ICMR is different in that it presents cross-sector themes. In order to try to explain these differences and reduce repetition within the chapter, we have produced this perspective on China. The aim of the perspective is to bring together our thinking on some of the reasons for the differences in the China data. Here we compare China with the US, the largest communications market, and with the UK.

The differences can be summarised as being of two types, with each covered below:

- Differences in sampling in China, compared with other markets, itself partly a result of demographic, economic and infrastructure reasons.
- Differences in consumer behaviour, lifestyle and attitudes.

China as a country and a communications market

Demographic and economic factors

China is the world's most populous country, with 1,355,692,576¹²⁰ people. The population of China is therefore very diverse – there are 56 recognised ethnic groups¹²¹ and 14 main languages, with many more dialects spoken.¹²² China is large and geographically diverse, with 34 provinces, autonomous regions and municipalities. Almost half (46%) of China's population live in rural areas.¹²³

Household income also varies by region. PPP-adjusted GDP per capita¹²⁴ is \$9,800 (£6269.35) for China as a whole, but this covers a large disparity. Annual income is around 2.5 times higher for citizens in urban areas than in rural areas, and China is ranked 27th highest out of 136 countries using the Gini index,¹²⁵ compared with the US in 41st and the UK

¹²⁰ <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html>

¹²¹ <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html> [accessed 24 November 2014]

¹²² <http://www.omniglot.com/chinese/spoken.htm> [accessed 24 November 2014]

¹²³ http://www.stats.gov.cn/english/PressRelease/201402/t20140224_515103.html [accessed 24 November 2014]

¹²⁴ GDP, or gross domestic product, measure the value of products and services produced by a country in a given year, and is a measure of the income of a country. Adjusted for purchasing power parity. <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html> [accessed 24 November 2014]

¹²⁵ <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2172rank.html> [accessed 24 November 2014]

in 104th. A higher ranking equates to a more unequal distribution of income. Across the country as a whole, 6.1% of the population are below the poverty line.¹²⁶

Service availability and take-up

According to the ITU only 46% of the Chinese population uses the internet however between 2009 and 2013, the number of broadband subscribers has increased by 86%.¹²⁷

The divide between richer and poorer citizens is partly reflected in the availability of communications services. In areas of lower income, there is less incentive for operators to invest in communications infrastructure. This lack of infrastructure is often compounded by the fact that areas of lower income, such as some mountainous and desert-like western provinces, are often more rural and therefore more expensive to provide the communications service to. This acts as a further inhibitor to infrastructure investment.

Fixed network infrastructure in China therefore varies considerably by region. In the large cities, the major operators (including China Telecom, China Unicom and China Mobile) are rolling out fibre-optic broadband. However, the majority of broadband connections are much slower, and are based on DSL.¹²⁸ In some rural regions, broadband is not available to all citizens.

Correspondingly, China's take-up of broadband is low: there are only 15 fixed broadband connections for every 100 head of population in China (compared to 29 connections per 100 in the US and 36 connections per 100 in the UK)¹²⁹.

It is worth noting that China's consumers are particularly mobile-centric, compared to other countries. There were 1.2 billion mobile connections in China at the end of 2013, a compound annual growth rate of 14.8% for the period 2008-2012. Ninety per cent of phone calls by volume originate from a mobile in China. This contrasts heavily with the more fixed-oriented nature of the UK, where 56% of phone calls by volume originate from a mobile.¹³⁰

Our research methodology in China

Because of the large and diverse population, conducting survey research¹³¹ in China is extremely challenging and our research results have some limitations. For example, our questionnaire was translated into Chinese Mandarin, so approximately 30% of the population (those who do not speak Mandarin¹³²) are likely to have been excluded.

We conducted research in China among internet users only. When making comparisons with findings in other nations it is important to note that, because internet penetration is relatively low in China, comparisons with other nations should not be treated as like-for-like.

¹²⁶ <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html> [accessed 24 November 2014]

¹²⁷ (2013) <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

¹²⁸ DSL refers to a Digital subscriber line.

¹²⁹ This is discussed in more detail in the Telecoms and Networks chapter.

¹³⁰ Includes incoming mobile calls. This is discussed in more detail in the Telecoms and Networks chapter.

¹³¹ More details on our consumer research, including demographics, can be found in Appendix A: Consumer research methodology

¹³² <http://www.businessweek.com/articles/2014-09-23/say-that-in-mandarin-please> date of publication 23 September 2014 [accessed 24 November 2014]

Internet users in China are predominantly urban-based with higher incomes¹³³ and are likely to be early adopters of technology. Eighty-one per cent of our consumer research base in China was under 45 years of age. Unlike the data collected from other nations, the respondents in our sample in China are not 'typical' of the wider population.

Because of this, some of the findings from China appear quite different from the other nations we have researched, as highlighted in the examples below.

Our research results in China

We now consider two charts – one from the Market in Context chapter that contain consumer research – to illustrate some of the differences between the consumer research in China, the UK and the US.

Example one: device ownership

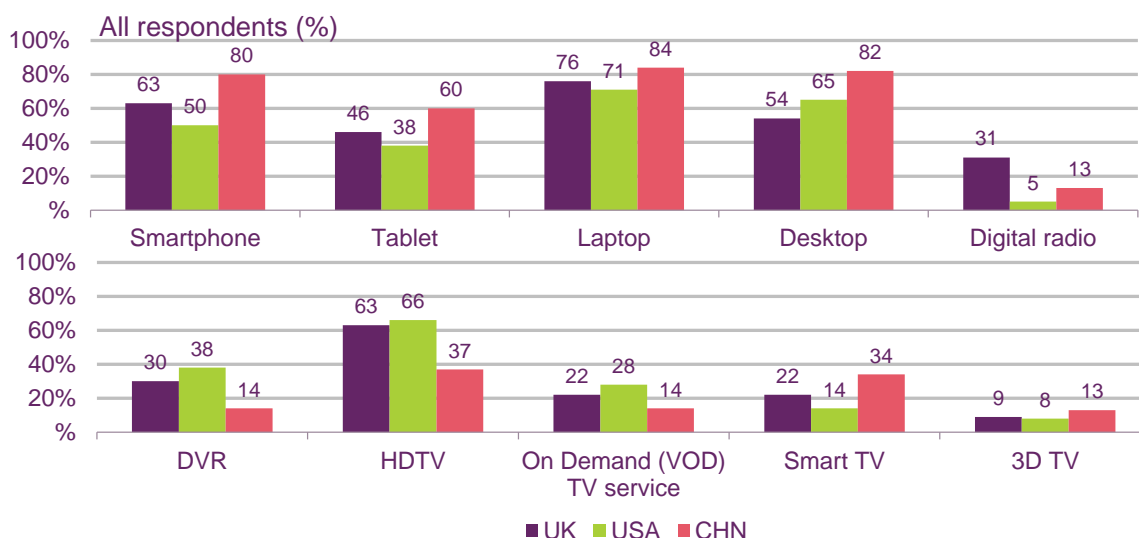
Figure 10.1 shows that the proportions of laptop (84%), desktop (82%) smartphone (80%), tablet computer (60%), smart TV (34%) and 3D TV (13%) take-up are all higher in China than in the UK or the US. However, given that internet penetration in the UK and the US is higher than in China, if the data were re-based on *all* consumers, it would show that take-up levels of these devices in China were substantially lower (if we assume that ownership of these devices is negligible among those who do not have an internet connection).

The consumer research may reflect a voracious appetite for the latest consumer devices among the young, urban, wealthier segments of China's population. The fastest-growing market for Apple - the manufacturer of the iPhone smartphone and the iPad table, is China.¹³⁴ Take-up of communications devices among internet users in the UK, the US and China

¹³³ China Internet Network Information Centre, *Statistical Report on Internet Development in China*, July 2014, <http://www1.cnnic.cn/IDR/ReportDownloads/201411/P020141102574314897888.pdf> [accessed 18 November 2014]

¹³⁴ <http://appleinsider.com/articles/14/01/27/apples-china-revenue-hit-over-84b-in-q1-up-29-from-2013> date of publication 27 January 2014 [accessed 24 November 2014]

Figure 10.1 Take-up of communications devices among internet users in the UK, the US and China



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, USA=1000 and CHN=1010

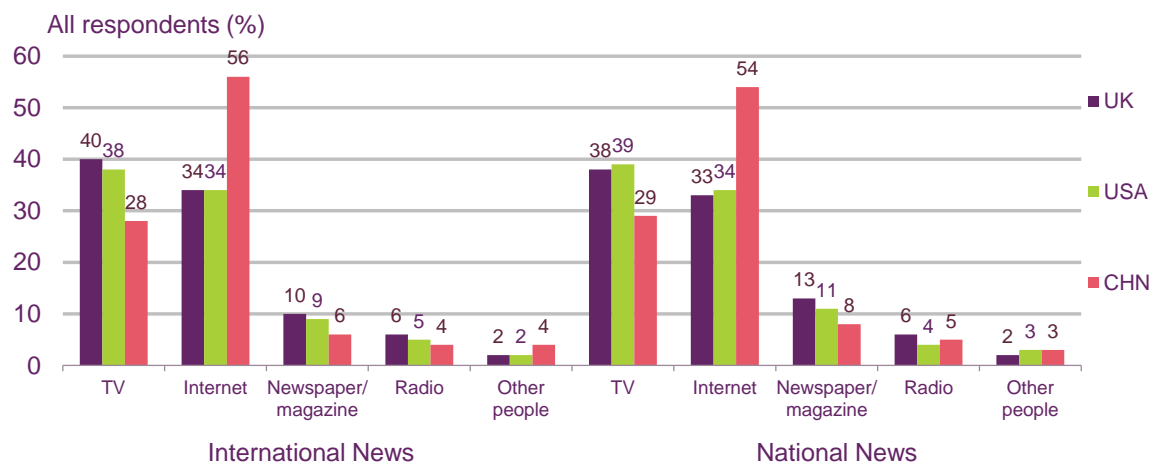
Q3a. Which of the following devices do you have in your home? (Tablet, Laptop, Desktop, Digital radio, DVR, HDTV, smart TV, 3D TV) Q3b. Which of the following services do you have in your home (Video on demand (VoD Service) Q.4a Which of the following devices do you personally use? (Smartphone, on demand (VoD TV service))

Example two: consumption of news by platform

A similar observation can be made about the claimed main source of news in China (Figure 10.2). According to our consumer research, the internet seems to be a more important source in China than it is in the UK or the US, and television appears to be less important. Again, this could be related to the make-up of the sample, with a higher proportion of younger people and technology enthusiasts likely to be present in the sample. There is also some evidence¹³⁵ of a greater preference to consume news online in China: four of the top five news websites in China are online-only entities, rather than newspapers, broadcasters or news agencies that have diversified online. In the US, three online-only entities appear in the top five news websites, and only one in the top five in the UK. Reflecting the fact that most UK respondents to our survey said that TV was their main source of news, the BBC is the most-used news website in the UK.

¹³⁵ *International Online News Consumption*, Communications Chambers, January 2012

Figure 10.2 Claimed main source of news, by platform



Source: Ofcom consumer research October 2014

Base: All respondents, UK=1011, FRA=1027, GER=1006, ITA=1006, USA=1000, JPN=1003, AUS=1000, ESP=1002, CHN=1010

Q.11 Which, if any, is your main source for the following information? International News/ National News



The International Communications Market 2014

Glossary and Table of Figures

Glossary

2.5G In mobile telephony, 2.5G protocols extend 2G systems to provide additional features such as packet-switched connections (GPRS) and higher-speed data communications.

2G Second generation of mobile telephony systems. Uses digital transmission to support voice, low-speed data communications, and short messaging services.

3.5G Refers to evolutionary upgrades to 3G services, starting in 2005-2006, that provide significantly enhanced performance. High Speed Downlink Packet Access is expected to become the most popular 3.5G technology (see HSDPA).

3DTV Three-dimensional television. A television viewing system whereby a 3D effect is created for the viewer. The 3D image is generated using red and blue colour tints on two overlaid images intended for left and right eye. Some forms of 3D TV can involve the viewer wearing glasses (stereoscopic) but more advanced systems do not require glasses (auto-stereoscopic).

3G LTE See LTE

3G Third generation of mobile systems. Provides high-speed data transmission and supports multimedia applications such as full-motion video, video-conferencing and internet access, alongside conventional voice services.

4G The fourth generation of mobile phone mobile communication technology standards, which provides faster mobile data speeds than the 3G standards that it succeeds.

802.11 see Wireless LANs (WiFi)

Access Allowing other companies operating in the postal market, or other users of postal services, to use Royal Mail's facilities for the partial provision of a postal service.

Access network An electronic communications network which connects end-users to a service provider; running from the end-user's premises to a local access node and supporting the provision of access-based services. It is sometimes referred to as the 'local loop' or 'last mile'.

Active audience – the total number of people who visited any website or used any internet connected application at least once in a given month.

ADSL Asymmetric digital subscriber line. A digital technology that allows the use of a standard telephone line to provide high-speed data communications. Allows higher speeds in one direction (towards the customer) than the other.

ADSL2+ A technology which extends the maximum theoretical downstream data speed of ADSL from 8Mbit/s to 24Mbit/s

ADSL Max BT's range of commercial ADSL services.

ADS-RSLs Audio distribution systems restricted service licences. These licences are issued for broadcast radio services using spectrum outside the 'traditional' broadcast bands (i.e. FM and AM). Typically offering commentary and other information for attendees within a stadium or venue on specially-designed radio receivers for sale at the event (as they do not use standard broadcast frequencies).

Alternative operator Refers to service providers, usually in telecoms, other than the incumbent (or established) operator/s (see incumbent operator/s).

AM Amplitude modulation. Type of modulation produced by varying the strength of a radio signal. This type of modulation is used by broadcasters in three frequency bands: medium frequency (MF, also known as medium wave (MW)); low frequency (LF, also known as long wave (LW)), and high frequency ((HF, also known as short wave (SW)). The term AM is also used to refer to the medium frequency band (see MF, below).

ARPU Average revenue per user. A measurement used by pay-television or mobile companies to indicate the average monthly revenue earned from a subscriber.

ASO Analogue Switch Off. The process of switching off analogue television or radio broadcasting signals in line with Digital Switchover.

Asynchronous Transfer Mode (ATM) A networking technology designed to handle high data volumes and low-latency content such as real-time voice and video.

ATT Analogue terrestrial television. The television broadcast standard that all television industries launched with. Most countries in this study are planning to phase out ATT in the next ten years.

BARB Broadcasters Audience Research Board. The pan-industry body that measures television viewing.

Bit-rates The rate at which digital information is carried within a specified communication channel.

BitTorrent A peer-to-peer file sharing protocol which uses 'trackers' on websites to index content and is used by a number of BitTorrent clients to download and upload content.

Blog Short for weblog. A weblog is a journal (or newsletter) that is frequently updated and intended for general public consumption. Blogs generally represent the personality of the author or the website.

Bluetooth Wireless standard for short-range radio communications between a variety of devices such as PCs, headsets, printers, mobile phones, and PDAs.

Broadband A service or connection generally defined as being 'always on' and providing a bandwidth greater than narrowband.

Bulk mail High volumes of mail sent in one posting, typically of the same format and weight and often sorted to a predetermined level before being handed to the operator

CAGR Compound Annual Growth Rate. The average annual growth rate over a specified period of time. It is used to indicate the investment yield at the end of a specified period of time. The mathematical formula used to calculate CAGR = $(\text{present value}/\text{base value})^{(1/\text{#of years})} - 1$

Catch-up TV Usually refers to a services that allow consumers to watch or listen to content on a non-linear basis after the initial broadcast.

Communications Act Communications Act 2003, which came into force in July 2003.

‘Connected’ TV A television that is broadband-enabled to allow viewers to access internet content.

Contention ratio An indication of the number of customers who share the capacity available in an ISP’s broadband network. Figures of 50:1 for residential broadband connections and 20:1 for business are typical).

CPS Carrier pre-selection. The facility offered to customers which allows them to opt for certain defined classes of call to be carried by an operator, selected in advance and with whom they have a contract. CPS does not require the customer to dial a routing prefix or use a dialler box.

DAB Digital audio broadcasting. A set of internationally-accepted standards for the technology by which terrestrial digital radio multiplex services are broadcast in the UK.

Data packet In networking, the smallest unit of information transmitted as a discrete entity from one node on the network to another.

DCMS Department for Culture, Media and Sport

Delivery office A facility serving a defined geographical area where postal packets are prepared for final delivery

Digital audience The active audience across laptop/desktop computers and mobile phones.

Digital Britain The government report, published in June 2009, outlining a ‘strategic vision for ensuring that the UK is at the leading edge of the global digital economy’.

Digital switchover The process of switching over the analogue television or radio broadcasting system to digital.

Direct mail Addressed advertising mail

DMB Digital mobile broadcasting. A variant of the DAB digital radio standard for mobile TV services, and an alternative to DVB-H (see DVB, below).

Dongle A physical device, attached to a PC's USB port, which adds hardware capabilities.

Downstream access Access to Royal Mail’s postal network at an inward mail centre or at any point in the postal chain after that.

Downstream The activities of inward sortation and delivery.

DRM Digital rights management. The technology that controls access and use of digital content.

DSL Digital subscriber line. A family of technologies generally referred to as DSL, or xDSL, capable of transforming ordinary phone lines (also known as 'twisted copper pairs') into high-speed digital lines, capable of supporting advanced services such as fast internet access and video on demand. ADSL, HDSL (high data rate digital subscriber line) and VDSL (very high data rate digital subscriber line) are all variants of xDSL).

DSO See Digital switchover

DTR See DVR

DTT Digital terrestrial television. The television technology that carries the Freeview service.

DVB Digital Video Broadcasting. A set of internationally-accepted open standards for digital broadcasting, including standards for distribution by satellite, cable, radio and hand-held devices (the latter known as DVB-H). The DVB Project develops the standards.

DVB-T2. The latest digital terrestrial transmission technology developed by DVB. The technology is being used to facilitate the introduction of HDTV on DTT in the UK. DVB-S2 (satellite) and DVB-C2 (cable) are also available.

DVD Digital versatile disc. A high-capacity CD-size disc for carrying audio-visual content. Initially available as read-only, but recordable formats are now available.

DVR Digital video recorder (also known as 'personal video recorder' and 'digital television recorder'). A digital TV set-top box including a hard disk drive which allows the user to record, pause and rewind live TV.

End-to-end Operators other than Royal Mail that provide a full postal service from collection to delivery

EPG Electronic programme guide. A programme schedule, typically broadcast alongside digital television or radio services, to provide information on the content and scheduling of current and future programmes.

E-reader An electronic, portable device capable of downloading and displaying text such as digital books or newspapers.

E-retail Distance shopping, using online services to order and pay for goods

EST Electronic sell through. For the purposes of this report electronic sell-through is audio visual content that is purchased and a copy permanently kept, ie not rented.

Feature phone A low-end mobile phone that has less computing ability than a smartphone, but more capability than the most basic handsets.

Fibre-to-the-building A form of fibre-optic communication delivery in which an optical fibre is run directly onto the customer's premises.

Fibre-to-the-cabinet Access network consisting of optical fibre extending from the access node to the street cabinet. The street cabinet is usually located only a few hundred metres from the subscriber premises. The remaining segment of the access network from the cabinet to the customer is usually a copper pair but could use another technology, such as wireless.

Fibre-to-the-home A form of fibre optic communication delivery in which the optical signal reaches the end user's living or office space.

Fibre-to-the-premise A form of fibre-optic communication delivery in which an optical fibre is run directly onto the customer's premises.

First-run acquisitions A ready-made programme bought by a broadcaster from another rights holder and broadcast for the first time in the UK during the reference year.

First-run originations Programmes commissioned by or for a licensed public service channel with a view to their first showing on television in the United Kingdom in the reference year.

FM Frequency modulation. Type of modulation produced by varying the frequency of a radio carrier in response to the signal to be transmitted. This is the type of modulation used by broadcasters in part of the VHF (Very High Frequency) band, known as VHF Band 2.

Format The type of programme service broadcast by radio stations. Also, the part of a radio station's licence which describes the programme service.

Frame relay A wide area network technology which is used to provide a continuous, dedicated connection between sites without the need for a leased line.

Free-to-air Broadcast content that people can watch or listen to without having to pay a subscription.

Fulfilment mail Requested goods including tickets, brochures, packets and parcels

GDP Gross Domestic Product.

GPRS General packet radio service, a packet data service provided over 2.5G mobile networks.

GPS The GPS (global positioning system) is a 'constellation' of 24 well-spaced satellites that orbit the Earth and make it possible for people with ground receivers to pinpoint their geographic location.

GSM Global standard for mobile telephony, the standard used for 2G mobile systems.

HDTV High-definition television. A technology that provides viewers with better quality, high-resolution pictures.

Headline connection speed The theoretical maximum data speed that can be achieved by a given broadband. A number of factors, such as the quality and length of the physical line from the exchange to the customer, mean that a given customer may not experience this headline speed in practice.

HSPA Jointly, downlink and uplink mobile broadband technologies are referred to as HSPA (High Speed Packet Access) services.

Hyper-local website An online news or content services pertaining to a town, village, single postcode or other small geographically-defined community.

IDTV Integrated digital television set. A television set that includes a digital tuner (as well as analogue) and therefore does not require an additional set-top box to receive digital television. IDTVs are most commonly capable of receiving DTT but also digital satellite (Freesat).

Incumbent operator/s An incumbent operator usually refers to a market's established provider/s and in the case of the UK fixed market this is BT and Kingston Communications.

International roaming A service offered by mobile operators that allows customers to use their phone abroad. The home operator has agreements with foreign operators that allow customers to make and receive calls, send and pick up text messages, and use some of the

other mobile services (such as access to voicemail or topping-up credit on pre-pay phones). The exact services available and the charges for their use vary between operators.

Internet A global network of networks, using a common set of standards (e.g. internet protocol), accessed by users with a computer via a service provider.

Internet-enabled mobile phone A mobile phone which allows its user to access the internet via in-built access technology such as GPRS or WCDMA.

Internet-enabled TV An umbrella term covering any television set connected to the internet via a third-party device, such as a set-top box, a games console or a laptop/PC.

Internet property A full domain (i.e. felmont.com), pages (i.e. sports.felmont.com/tennis), applications or online services under common ownership or majority ownership for a single legal entity.

IP (internet protocol) The packet data protocol used for routing and carrying messages across the internet and similar networks.

IPTV Internet protocol television. The term used for television and/or video signals that are delivered to subscribers or viewers using internet protocol (IP), the technology that is also used to access the internet. Typically used in the context of streamed linear and on-demand content, but also sometimes for downloaded video clips.

ISDN Integrated services digital networks. A standard developed to cover a range of voice, data, and image services intended to provide end-to-end, simultaneous handling of voice and data on a single link and network.

ISP Internet service provider. A company that provides access to the internet.

ITC Independent Television Commission, one of the regulators replaced by Ofcom in 2003

ITV All references to ITV1 should be read as including STV, UTV and Channel Television.

ITV licensees ITV Broadcasting Limited, STV, UTV and Channel Television.

LAN (Local area network) A network for communication between computers covering a local area, like a home or an office.

Large letter This refers to Royal Mail's definition Large Letter. A Large Letter is any item larger than a Letter and up to 353mm in length, 250mm in width and 25mm in thickness, with a maximum weight of 750g.

L-Band A range of frequencies within which an allocation has been made in much of the world for broadcasting (1452 to 1492 MHz), generally by satellite, but in Europe for terrestrial digital sound broadcasting in the range 1452 to 1480 MHz. Some DAB digital radio receivers can tune to this range.

Leased line A transmission facility which is leased by an end user from a public carrier, and which is dedicated to that user's traffic.

LLU (local loop unbundling) LLU is the process where the incumbent operators (in the UK it is BT and Kingston Communications) make their local network (the lines that run from customers premises to the telephone exchange) available to other communications providers. The process requires the competitor to deploy its own equipment in the

incumbent's local exchange and to establish a backhaul connection between this equipment and its core network.

Local loop The access network connection between the customer's premises and the local PSTN exchange, usually a loop comprised of two copper wires.

L-RSL See also S-RSLs – Long Term Restricted Service Licences. L-RSLs are a means of providing a radio service for a non-resident population within a defined establishment such as hospital patients and staff, students on a campus, or army personnel. They are available on demand, provided they meet the licensing criteria and that a suitable frequency is available. Licences are renewable after the initial five-year term.

LTE (Long-term evolution). Part of the development of 4G mobile systems that started with 2G and 3G networks.

Machine to machine (M2M) – wired and wireless technologies that allow systems to communicate with each other.

Mail centre A facility serving a geographical area used for the sortation of postal packets

Micro-blogging short form blogging, where posts are typically small elements of content such as short sentences, individual images or video links.

MMS Multimedia Messaging Service. The next generation of mobile messaging services, adding photos, pictures and audio to text messages.

MNO Mobile Network Operator, a provider which owns a cellular mobile network.

Mobile broadband Various types of wireless high-speed internet access through a portable modem, telephone or other device.

Modem sync speed The data rate at which a broadband network negotiates with a modem and the maximum data rate that a particular broadband service can support.

MP3 (MPEG-1 Audio Layer-3) A standard technology and format for compressing a sound sequence into a very small file (about one-twelfth the size of the original file) while preserving the original level of sound quality when it is played.

MP3 player A device that is able to store and play back MP3 files.

MPEG Moving Picture Experts Group. A set of international standards for compression and transmission of digital audio-visual content. Most digital television services in the UK use MPEG2, but MPEG4 offers greater efficiency and is likely to be used for new services including TV over DSL and high-definition TV.

Multichannel In the UK, this refers to the provision or receipt of television services other than the main five channels (BBC One and Two, ITV1, Channel 4/S4C, Five) plus local analogue services. 'Multichannel homes' comprise all those with digital terrestrial TV, satellite TV, digital cable or analogue cable, or TV over broadband. Also used as a noun to refer to a channel only available on digital platforms (or analogue cable).

Multiplex A device that sends multiple signals or streams of information on a carrier at the same time in the form of a single, complex signal. The separate signals are then recovered at the receiving end.

MVNO An organisation which provides mobile telephony services to its customers, but does not have allocation of spectrum or its own wireless network.

MW See MF and AM above.

Narrowband A service or connection providing data speeds up to 128kbit/s, such as via an analogue telephone line, or via ISD.

Near video on demand (NVoD), a service based on a linear schedule that is regularly repeated on multiple channels, usually at 15-minute intervals, so that viewers are never more than 15 minutes away from the start of the next transmission.

Net neutrality The principle that all traffic on the internet should be treated equally, regardless of content, site or platform.

Next-generation access networks (NGA) New or upgraded access networks that will allow substantial improvements in broadband speeds and quality of service compared to today's services. This can be based on a number of technologies including cable, fixed wireless and mobile. Most often used to refer to networks using fibre optic technology.

Next-generation core networks (NGN) Internet protocol-based core networks which can support a variety of existing and new services, typically replacing multiple, single service legacy networks

Non-linear Content that is delivered 'on demand' as opposed to linear, broadcast content.

Of tel Office of Telecommunications, whose functions transferred to Ofcom on 29 December 2003.

'Over-the-top' video Refers to audio-visual content delivered on the 'open' internet rather than over a managed IPTV architecture.

Pact Producers Alliance for Cinema and Television, the UK trade association for independent film, television, animation and interactive media companies.

Pay-per-view A service offering single viewings of a specific film, programme or event, provided to consumers for a one-off fee.

PDA Personal Digital Assistant.

Peak time The period during which: a radio station broadcasts its breakfast show and, on weekdays only, also its afternoon drive-time show; a television station broadcasts its early- and mid-evening schedule, typically used by Ofcom to refer to the period between 18:00 and 22:30 each day (including weekends).

Peer-to-peer (P2P) distribution The process of directly transferring information, services or products between users or devices that operate on the same hierarchical level.

Pipeline Stages involved in the production and distribution process of a good or service from the initiation of the process to the delivery of the final product. In postal services the pipeline refers to the stages from collection to delivery of a postal item.

Podcasting A way for digital audio files to be published on the internet, and then downloaded onto computers and transferred to portable digital audio players.

Postal packets A letter, parcel, packet or other article transmissible by post

PSB Public service broadcasting, or public service broadcaster. The Communications Act in the UK defines the PSBs as including the BBC, ITV1 (including GMTV1), Channel 4, Five and S4C.

PSTN Public switched telephone network. The network that manages circuit-switched fixed-line telephone systems.

Publications Regularly produced publications such as periodicals and magazines

‘Pull’ VoD A video-on-demand system where content is delivered in real time to the viewers. The approach is usually favoured on platforms that have a high-speed return path, such as cable or IPTV

‘Push’ VoD A video-on-demand system where content is downloaded to the hard disk of a set-top box rather than streamed in real time via a wired network. The approach is usually favoured on platforms that do not have a high-speed return path, such as satellite or terrestrial.

PVR See DVR

RAJAR Radio Joint Audience Research – the pan-industry body which measures radio listening.

Registered items A service of conveying postal packets from one place to another by post which provides for the registration of the packets in connection with their conveyance by post and for the payment of an amount determined by the person providing the service in the event of the theft or loss or damage to the packets

Repeats All programmes not meeting the definition of first-run origination or first-run acquisition.

Royal Mail Wholesale A business unit within Royal Mail Group that negotiates with any postal operator or user who applies for access to Royal Mail Group’s postal network.

RSL Restricted service licence. A radio licence serving a single site (e.g. a hospital or university campus) or serving a wider area on a temporary basis (e.g. for festivals and events).

Service bundling (or multi-play) A marketing term describing the packaging together of different communications services by organisations that traditionally only offered one or two of those services.

Service provider A provider of electronic communications services to third parties, whether over its own network or otherwise.

Share (radio) Proportion of total listener hours, expressed as a percentage, attributable to one station within that station’s total survey area.

Share (TV) Proportion of total TV viewing to a particular channel over a specified time, expressed as a percentage of total hours of viewing.

SIM (Subscriber Identity Module) A SIM or SIM card is a small flat electronic chip that identifies a mobile customer and the mobile operator. A mobile phone must have a SIM card inserted before it can be used.

SIM-only A mobile contract that is sold without a handset.

Simulcasting The broadcasting of a television or radio programme service on more than one transmission technology (e.g. FM and MW, DAB and FM, analogue and digital terrestrial television, digital terrestrial and satellite).

Smart TV A stand-alone television set with inbuilt internet functionality.

Smartphone A mobile phone that offers more advanced computing ability and connectivity than a contemporary basic 'feature phone'.

SME Small to medium-sized enterprise. A company with fewer than 250 employees.

SMS Short Messaging Service, usually used to refer to mobile text messaging (see text message below).

Social networking site (SNS) A website that allows users to join communities and interact with friends or to others that share common interests.

S-RSLs Short-term restricted service licences (S-RSLs) are issued for temporary local radio stations which usually serve a very localised coverage area, such as an education campus, a sports event, or a music or religious festival site. These licences are also used for temporary trials of community stations, sometimes to gauge interest before applying for a five-year community licence.

Streaming content Audio or video files sent in compressed form over the internet and consumed by the user as they arrive. Streaming is different to downloading, where content is saved on the user's hard disk before the user accesses it.

Superfast broadband Sometimes known as next-generation broadband, super-fast broadband delivers headline download speeds of at least 30Mbit/s.

Tablet computer A mobile computer which is included within a single panel with a touchscreen.

Telecommunications, or 'telecoms' Conveyance over distance of speech, music and other sounds, visual images or signals by electric, magnetic or electro-magnetic means.

Text message A short text-only communication sent between mobile devices.

Time-shifting The broadcasting of a television service on more than one channel with a specified delay (typically an hour), to provide more than one opportunity for viewers to watch the service. Alternatively, the recording of programmes by viewers (using DVRs, recordable DVDs or VCRs) to watch at another time.

Transactional mail Business mail usually sent on a regular scheduled basis, often used in financial transactions, including statements, invoices and credit card bills

Transmitter A device which amplifies an electrical signal at a frequency to be converted, by means of an aerial, into an electromagnetic wave (or radio wave). The term is commonly used to include other, attached devices, which impose a more simple signal onto the frequency, which is then sent as a radio wave. The term is sometimes also used to include the cable and aerial system referred to above, and indeed the whole electrical, electronic and physical system at the site of the transmitter.

TSA Total survey area. The coverage area within which a radio station's audience is measured by RAJAR.

TV over DSL/TV over broadband A technology that allows viewers to access TV content – either in a linear programme schedule, or on demand – using internet protocol via broadband services, either on a PC or (via a set-top box) on a TV set.

TVWF Television Without Frontiers. A range of provisions designed to achieve coordination of the legal, regulatory and administrative frameworks of European Union member states with respect to television broadcasting, adopted by the European Council in 1989 and amended in 1997. TVWF was replaced by the Audio Visual Media Services (AVMS) Directive in December 2007.

UKOM UK Online Measurement. A media industry measurement of UK consumers' online activity, specified by UKOM Ltd and delivered by comScore.

UKPIL UK Parcels, International and Letters is a division of Royal Mail Group which comprises parcels, international and media & unaddressed mail services

UMA Unlicensed Mobile Access, a technology that provides roaming between GSM and 802.11 WiFi

UMTS Universal mobile telecommunications system. The 3G mobile technologies most commonly used in the UK and Europe.

Unaddressed mail Also known as door-to-door and door drops, unaddressed mail is advertising mail with no specified recipient, usually distributed to all households within a targeted geographical area

Unbundled A local exchange that has been subject to local loop unbundling (LLU).

Unique audience The number of different people visiting a website or using an application.

Usage caps Monthly limits on the amount of data which broadband users can download, imposed by some ISPs.

UWB Ultra-wideband A technology developed to transfer large amounts of data wirelessly over short distances, typically less than ten metres.

VCR Video cassette recorder.

VHF Very High Frequency The part of the spectrum between 30 MHz and 300 MHz. FM radio is broadcast on part of this band (87.6 MHz to 107.9 MHz) and DAB digital radio is broadcast on another (Band III: 217.5 MHz to 230 MHz in the UK, and over a wider range, but shared with TV services, elsewhere in Europe).

VoD Video-on-demand A service or technology that enables TV viewers to watch programmes or films whenever they choose to, not restricted by a linear schedule (also see 'push' VoD and 'pull' VoD).

VoIP Voice over Internet Protocol. A technology that allows users to send calls using internet protocol, using either the public internet or private IP networks.

WAP Wireless application protocol.

Web 2.0 A perceived 'second generation' of web-based communities and hosted services - such as social networking sites and wikis, which facilitate collaboration and sharing between users.

Widget Widgets are small chunks of code embedded on desktops, web pages, mobile phones and TVs to enable content to be distributed.

WiFi hotspot A public location which provides access to the internet using WiFi technology.

WiMAX A wireless MAN (metropolitan area network) technology, based on the 802.16 standard. Available for both fixed and mobile data applications.

Wireless LAN or WiFi (Wireless fidelity) Short-range wireless technologies using any type of 802.11 standard such as 802.11b or 802.11a. These technologies allow an over-the-air connection between a wireless client and a base station, or between two wireless clients.

WLR (Wholesale line rental) A regulatory instrument requiring the operator of local access lines to make this service available to competing providers at a wholesale price.

XHTML (Extensible HTML) A mark-up language for Web pages from the W3C. XHTML combines HTML and XML into a single format (HTML 4.0 and XML 1.0).

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