



International Communications Market Report

Research Document

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Introduction

Purpose of this report

This is the eighth year that 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.

The report compares the availability, take-up and use of services in the UK and 16 comparator countries - France, Germany, Italy, the US, Canada, Japan, Australia, Spain, the Netherlands, Sweden, Ireland, Poland, Brazil, Russia, India and China, although we focus on a smaller subset of comparator countries for some of our analysis.

We are publishing this report as part of our commitment to continuously research markets and to remain at the forefront of consumer, industry and technological understanding, as outlined in point 3.38 of our 2013/14 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 2013).²

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.

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 IDATE provided data that are drawn on mainly for the *TV and audio-visual* and *Telecoms and networks* chapters. IDATE 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 2013).

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, IDATE, Kantar Media, Mediamétrie, The Nielsen Company, Nomura Equity Research, PACT, PricewaterhouseCoopers, The Reuters

¹ <http://www.ofcom.org.uk/files/2013/03/annplan1314.pdf>

² <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/>

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 9,070 consumers in nine countries: the UK, Germany, France, Italy, Spain, the US, Japan, China and Australia. 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 2013*, which included face-to-face and telephone interviews. 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.

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 2012 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 2012, as provided by the International Monetary Fund (IMF).³ 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: comparative international pricing methodology). 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 (page 15)** 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 new consumer research, focusing on changing relationships with retailers, as more shopping now takes place online, and we examine how the audio-visual market is changing as consumers take up new ways of viewing video on demand (VoD). We also look at 4G mobile telecom awareness, availability and take-up, across a selection of our comparator countries.

³ <http://www.imf.org/external/index.htm>

- **Comparative international pricing (page 99)** compares the typical prices people pay, across our main comparator countries, for a range of ‘baskets’ of communications services.
- **Television and audio-visual (page 131)** 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 (page 175)** 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 (page 199)** examines the impact of the internet across our key comparator countries. This 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 the rapidly changing mobile advertising landscape.
- **Telecoms and networks (page 237)** 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 17 comparator countries. We provide an overview of the industry as a whole, and individual markets in more depth, including analysis of fixed voice, mobile voice and data services, and fixed-broadband services.
- **Post (page 309)** 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 2012 were £1,228bn, growing by 2.5% year on year (incorporating the telecoms, television, postal and radio sectors).** Telecoms industries saw the largest absolute increase in revenues in 2012, which grew by £22bn to £865bn. Proportionally, television revenues grew fastest among the communications industries, by 4.1% in 2012 to £252bn.
- **In the television and radio sectors, television subscriptions generated the largest and fastest-growing proportion of total revenues in 2012.** Television subscription revenues grew by 5.1% in 2012 to £127bn and at a compound annual rate of 5.7% p.a. between 2008 and 2012. Radio subscription revenues grew by 13.3% in 2011 to £2bn and at a compound annual rate of 7.8% between 2008 and 2012.
- **Fixed line connections continue to fall but remain most resilient in the UK.** The number of fixed line connections per 100 people continued to fall across all our comparator countries. The rate of decline was slowest in the UK where many customers continued to take a fixed line to receive fixed broadband services at home. The UK now has 53 fixed line connections per 100 people.
- **Mobile connections per 100 people continue to grow.** Mobile take up continued to exceed population size across all our comparator countries with the exception of China. However, in China the number of mobile connections per 100 people more than doubled in the last five years, up from 40 to 83.
- **Smartphone ownership is now commonplace among comparator countries.** Excluding Japan, which has a very high take up of advanced featurephones not readily available in other countries, the US was the only country to report a smartphone take-up level of less than 50% in our online survey. The majority of respondents in all other countries reported that they now use a smartphone. Take-up in the UK was 66%.
- **Fifteen per cent of UK fixed broadband connections were superfast at the end of 2012.** This was the fifth highest proportion among our comparator countries, after Japan (64%), the Netherlands (35%), Sweden (29%) and Australia (20%), and was the highest proportion among the EU5 countries.
- **People in the UK are the most frequent online shoppers. Almost three-quarters (73%) of the online population in the UK are buying goods for delivery over the internet on at least a monthly basis, and almost one quarter are shopping online at least weekly.** People in the UK are more likely to trust online retailers. More than eight in ten of respondents in the UK (83%) agreed that they trust online retailers to ship them the correct item and four in five (80%) agreed they trusted online retailers to advertise products accurately.
- **4G LTE mobile services had launched in most major economies by Q3 2013.** TeliaSonera in Sweden launched the first 4G LTE network in late 2009, while Spain became the last of the EU5 countries to benefit from 4G services in July 2013. EE launched the first UK 4G service in October 2012, after Ofcom allowed it to use some of its existing spectrum for 4G services, while O2 and Vodafone started to offer UK 4G services in August 2013 and Three's is due to launch in December 2013.

Key points: comparative international pricing

- **In the UK 77% of online respondents reported that they received a bundle of services from the same supplier as their broadband.** This was higher than in all of the other comparator countries.
- **Prices in the UK compared favourably to those in the other five countries covered by our price benchmarking work in 2013.** The lowest 'weighted average' single-service prices for three of the five baskets used in our analysis, and the lowest 'best-offer' prices for two baskets, were found in the UK.⁴
- **The UK was one of the two cheapest nations for all five of the households types used in our pricing analysis in terms of weighted average stand-alone prices, and for four of the households when looking at the lowest prices available.** Overall, across all five households and both of these pricing metrics, the UK ranked top among the six countries included in the analysis.
- **Italy also performed well, having the lowest 'best-offer' (including multi-play) prices for two baskets and the lowest 'weighted average' price for one basket.** Similarly, France had the lowest best-offer' (including multi-play) prices for one basket and the lowest 'weighted average' price for one basket.
- **Low basket prices in the UK were largely due to lower mobile prices.** The UK had four of the lowest 'weighted average' stand-alone prices and six of the lowest 'best-offer' prices for the eight mobile connections used in our analysis.
- **The UK also benefited from low fixed broadband and fixed voice prices.** The UK had the lowest 'weighted average' and 'best-offer' prices for all three of the fixed broadband connections used in our baskets, and the lowest 'weighted average' prices for three of our four fixed voice connections.
- **The main area where the UK did not perform well was HD premium pay-TV services (including a PVR).** UK single-service prices for these services were the highest among our comparator countries (we note, however, that it is difficult to produce like-for-like comparisons of TV services, as the number of channels included in each package and the quality of their content varies considerably).
- **Prices in the UK compared favourably to those in the other five countries in terms of the proportion of household spending required to purchase the 'cheapest combination of services.** At 2.3% of household spending, the UK was the lowest in the benchmark survey.

⁴ 'Weighted average' basket price refers to the sum of the weighted average single-service price of each service included in the basket, these averages being calculated as the average of the lowest price tariffs offered by the three largest operators which provide the service in each country, weighted by the market share of each service provider.

Key points: TV and audio-visual

- **Global TV revenues increased in 2012, by 4.1% year on year, to £252bn**, driven by an increase in both subscription and net advertising revenues (up 4.4% and 4.6% respectively). Despite the challenging economic conditions, global TV revenues have increased by 4.4% on a compound annual basis over the four years since 2008.
- **As in 2011, the BRIC countries – Brazil, Russia, India and China – experienced the largest year-on-year growth**, with their joint revenues increasing by £4bn, or 12.4%, in 2012, to £37bn.
- **The combined revenue of Europe and Canada experienced its first year-on-year contraction since Ofcom began reporting**, down by 0.9% in 2012 to £55bn. The UK experienced modest growth in television revenue in 2012, up by 1.4% or £0.2bn, while revenues for Italy, Spain, Ireland and the Netherlands all declined.
- **The UK leads the way in digital conversion and is one of only three countries to have 100% of all main TV sets receiving digital TV (DTV) in 2012**. In the UK, Spain and Italy, 100% of all main TV sets received DTV in 2012. Since Italy's digital switchover in 2012, the remaining 7% of analogue households have converted to receive DTV.
- **UK consumers continue to embrace value-added services, with HDTV and DVR penetration the highest among the European countries in our research**. Almost half (48%) of UK TV homes now have an HD service, 15pp above the average for all European ICMR countries (33%). The UK also has the highest ownership of digital video recorders (41% of households) among all countries included in our research.
- **UK consumers are the most likely to access TV content over the internet**, with over a third (36%) of internet users claiming to do this every week.
- **Consumers in the UK are most likely to watch catch-up TV on their smart TVs, mobile phones and tablets**. Over three-quarters (77%) of UK smart TV owners access catch-up TV on that device, while a third (34%) of tablet owners and one in ten (12%) smartphone owners use their devices to watch catch-up TV.
- **Online TV and video revenue in the UK has risen by 298% in three years, from £87m in 2009 to £345m in 2012**. However, the US is by far the largest online TV and video market among our comparator countries. Between 2009 and 2012 online TV and video revenue grew from a base of £1.2bn to £5.4bn.
- **The number of visitors to online VOD streaming websites increased substantially in the UK and the US in 2012**. According to comScore MMX data, unique visitors to the Netflix website in the UK increased by 79%; from 1.4 million in August 2012 to 2.5 million in August 2013. In the US, the number of unique visitors to Netflix reached nearly 30 million in August 2013 (up by 14% year on year).
- **Despite the increase in online TV, scheduled linear television remains popular, with viewing either up or unchanged in the majority of comparator countries**. At four hours per day, the UK has one of the highest levels of scheduled linear TV viewing among comparator countries, 19 minutes more than the average for all 17 ICMR countries.

Key points: radio and audio

- **Radio revenue has increased for the third consecutive year.** Radio revenues among the 17 comparator countries analysed in this report grew for the third consecutive year in 2012, increasing by 2.5% to reach £23.5bn.
- **Nine of our 17 comparator countries reported growth in revenue in 2012.** In the UK the value of the radio market grew by 2.8% to £1.2bn, due to growth in local advertising and sponsorship as well as an increase in licence fee revenues.
- **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 £420m.
- **Among countries with public radio licence fees, revenue growth is highest in the UK.** The UK is also the only one of our comparator countries where both advertising and public radio licence fee revenues increased, rising by 3.7% and 2.1% respectively.
- **Across all our comparator countries FM radio sets are the most widely owned type of radio set,** but the UK has the lowest claimed ownership at 69%. However, the UK is among the highest of our comparator countries for take-up of any radio set at 86% due to the high proportion of DAB radio set owners.
- **Take-up of DAB radio sets is highest in the UK** and claimed ownership of DAB radio sets among radio listeners in the UK increased by 8pp year-on-year. Almost half (48%) of radio listeners claim to own a DAB radio set. This is the highest take-up out of all our comparator countries.
- **Radio is still the primary method for consuming audio content, but not online.** In our European comparator countries, at least seven in ten online adults are regular radio listeners but respondents across almost all countries are more likely to use their household internet connection to listen to/download audio content than to listen to online radio. Listening to online radio is more popular in Germany, with three in ten (32%) doing so, more than in any other country.
- **Listening to their own music using a laptop/desktop or a tablet is the most popular audio activity on these devices among respondents in all countries.** Half (48%) of laptop/desktop owners in the UK listen to their own music on their computer while one third (36%) of tablet owners do so. These proportions are greater than those who listen to the radio using either device (29% and 24% respectively).
- **One fifth (21%) of those with a mobile phone in the UK use it to listen to the radio, but listening to 'music I own' is more popular.** Of all the countries that we surveyed, only mobile phone owners in Italy, Spain and China are more likely to use their mobile phone for this purpose.
- **Across all comparator countries, radio is most likely to be used to source regional/local news than any other type of news.** This is greatest in Germany, where 20% of respondents use the radio for this purpose, more than double the proportion of UK adults (9%).

Key points: internet and web-based content

- **More than a third of all advertising spend in the UK is online.** The UK remained the country where the greatest share of all advertising spend was on the internet, with 36% of advertising being attributed to the sector in 2012.
- **The UK had the greatest spend per head on mobile advertising,** rising by almost £5 per person to £8.04 in 2012. Japan had the second highest spend, at £7.50, while the US had the second highest absolute growth of £3.52, and the third highest spend at £6.74 per head.
- **Broadband households in the UK are most likely to have a fixed connection.** Among households with either a fixed broadband connection or a mobile broadband connection, households in the UK were the most likely to have a fixed connection (94%) and the second least likely overall to have a mobile connection (25%).
- **Seven in ten mobile users in the UK access the internet on their handset.** Three in four (75%) mobile users in Spain used their handset to access the internet in August 2013, the highest take-up of the mobile internet among the comparator countries analysed. The UK had the second highest take-up, with just over 71% of mobile users using the internet on their device.
- **Smartphone take-up was the highest in the UK and Spain.** Seventy-five per cent of mobile users owned a smartphone in Spain in August 2013. The UK had the second highest take-up, with seven in ten mobile users (71%) owning a smartphone, followed by the US (61%), and France, Germany and Italy (60%).
- **Social networks remain among the most searched-for terms online.** 'Facebook' was the most searched-for term on the web for 14 of our 17 comparator countries, while national social network 'VK' was among the most searched-for terms in Russia.
- **Mobile internet users in the US and the UK are the most active social networkers.** Two in five mobile internet users in the US (41%) and the UK (40%) used their handset to visit a social networking site almost every day in August 2013.
- **Two-thirds of laptop/desktop internet users in the UK visited YouTube in August 2013.** YouTube was most popular in the UK (66%) among laptop and desktop internet users, and least popular in Japan (53%).
- **Users in the UK and the US are the most likely to pay a subscription for TV, film, and music streaming services.** Of all respondents who accessed films weekly, more than half (57%) in the US and 45% in the UK paid a subscription fee for the service.

Key points: telecoms and networks

- **Total comparator country telecoms revenues increased by 0.4% in 2012.** Total revenues increased by £2bn to £607bn in 2012. Fixed voice revenues fell by 8.9% during the year, due to falling call volumes (down 15%) and line numbers (down 3.2%). Mobile voice revenues increased by 3.1% (as did mobile data revenues), by 10.4%, while fixed broadband revenues increased by 5.2%, as the number of connections grew by 8% during the year.
- **Fifteen per cent of UK fixed broadband connections were superfast at the end of 2012.** This was the fifth highest proportion among our comparator countries, after Japan (64%), the Netherlands (35%), Sweden (29%) and Australia (20%), and was the highest proportion among the EU5 countries.
- **Fourteen per cent of people in the UK with a home phone do not use landline services regularly.** This was the second largest proportion across the countries for which we had data, after Japan, where 24% of respondents had a landline but were not regular users of fixed voice services.
- **Fixed call volumes fell in all of our comparator countries except France in the five years to 2012.** Total fixed-line voice call volumes fell by an average annual rate of 5.5% to 1.5 trillion call minutes between 2007 and 2012. Fixed call volumes increased in France by an average annual rate of 1.3% over this period, while in the UK, volumes fell at an average annual rate of 7.3%, mainly due to fixed-to-mobile substitution.
- **UK mobile revenues increased by an average of 2.2% a year between 2007 and 2012, to £16bn.** In comparison, Sweden had the highest average annual growth rate over this period, at 7.5%. Across our comparator countries, total retail mobile revenues ranged from less than £1bn in Ireland to £112bn in the US in 2012.
- **The UK had the second lowest proportion of total telecoms revenue generated by data services in 2012, at 31%.** Japan had the highest proportion of total telecoms revenue generated by data services, at 55%, and was the only comparator country where data services generated more than half of total revenue.
- **Take-up of dedicated mobile broadband connections fell for the first time in the UK, Spain and Ireland in 2012.** The main driver of falling mobile broadband use with a dongle/datacard/data-only SIM is likely to be consumers accessing data services on smartphones, meaning that the drop in mobile broadband use with a dongle/datacard will be more than offset by rising use of data services on mobile handsets. We aim to report combined figures in future reports.
- **In the UK, 89% of superfast broadband users were happy with their overall service in September 2013.** This was the highest proportion among our comparator countries. In all of our comparator countries, superfast broadband users were more satisfied than non-superfast users with their overall service.

Key points: post

- **Despite the largest proportional price rises over the past three years, the UK is still one of the cheapest countries in which to send a standard sized domestic letter.** It costs 60p to send a First Class standard sized letter in the UK, the same price as in China. Among our European comparators, it is only cheaper to send a letter with the same dimensions in Ireland (49p) and Poland (46p).
- **Mail volumes across our comparator countries have declined by 16.7% since 2008.** The overall trend is driven by North America, which accounts for 58% of total volumes among our comparators, where volume decline was 21.3%. The rate of decline is less pronounced among our European comparators, where volumes have fallen by 16.6% over this period.
- **Revenue has also fallen, but at a slower rate than volumes.** Total mail revenues among our comparator countries fell by 10.7% between 2008 and 2012. The fastest decline was in North America, where mail revenue declined by 19.4%. This compares to a decline of 9.7% among our European comparators, and growth of 29.6% in the BRIC countries.
- **One in four (23%) of the online population in the UK had not sent an item in the past month.** This compares to 16% in France, and almost one-fifth in Germany (18%) and China (19%). In the US and Australia around three in ten had not sent anything in the past month, while people online in Spain and Italy were the least likely to have sent an item in the past 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 (84%) respondents in France had sent this type of mail, while seven in ten (69%) in the US had done so. Just under half of respondents in the UK had sent mail to businesses in the past month.
- **A higher proportion of online UK adults send invitations, greetings cards or postcards than in the other countries that we surveyed.** More than a third (35%) of respondents in the UK had sent this type of mail in the past month. Those in Germany were least likely to have sent greetings cards, with around a fifth (18%) doing so.
- **People in the UK receive more items of mail in a week than those in Italy, Australia and Spain.** The average number of items received in the UK was 6.8, on a par with Germany (6.4), but far less than the amount received by respondents in France, where the average figure was highest, at 12.5.
- **The UK is among the countries where most consumers had received a parcel in the past month.** Six in ten (61%) people claimed to have received parcels, on a par with France and Germany. Those in Italy and Spain were the least likely to have received a parcel in the past month.
- **Six in ten UK respondents claimed to be reliant on post as a way of communicating.** A high proportion of those in the UK, Italy, the US, and Australia claim to be reliant on post as a way of communicating, at around six in ten people. Consumers in Japan (19%) and Spain (28%) were the least likely to say that they were reliant on post as a means of communication.

Key summary metrics: 2012 data

		UK	FRA	GER	ITA	USA	CAN	JPN	AUS	ESP	NED	SWE	IRL	POL	BRA	RUS	IND	CHN
TV and audio-visual	TV industry revenue (£bn)	11.7	9.6	11.0	6.7	103.6	4.5	32.7	5.5	4.4	2.6	1.8	0.8	2.4	12.7	3.9	4.8	15.5
	Change in revenue (%, YOY)	+1	0	+2	-10	+4	+2	+4	+2	-8	-1	+4	-4	+6	+18	+10	+11	+9
	TV industry revenue per capita (£)	185	145	136	108	329	130	257	249	93	152	200	169	61	63	27	4	12
	Largest TV platform	Dsat	IPTV	Dsat	DTT	DCab	DCab	Dcab	DTT	DTT	Dcab	Acab	Dsat	Dsat	Dsat	Acab	Acab	Dcab
	Largest TV platform (% of homes)	47%	32%	41%	51%	40%	58%	32%	61%	71%	53%	32%	53%	46%	38%	34%	55%	34%
	TV viewing (mins/day) ²	241	230	222	255	293	238	n/a	186	246	196	164	203	243	216	238	n/a	164
	DTV take-up (%)	100	97	75	100	91	94	80	93	100	85	68	96	82	64	48	37	52
	Pay TV take-up (%)	54	64	64	33	87	95	66	31	24	99	95	73	80	30	69	85	59
Radio and audio	Radio industry revenue (£bn)	1.2	1.0	2.8	0.4	12.1	1.2	1.0	0.7	0.4	0.2	0.1	0.1	0.1	0.4	0.3	0.2	1.2
	Change in revenue (%, YOY)	+2.8	-0.5	-0.4	-8.2	+3.6	+3.1	-1.4	+0.5	-9.9	-1.9	+1.6	-4.2	-2.7	+6.7	+9.3	+17.3	+11.9
	Radio industry revenue per capita (£)	18.9	15.9	34.9	6.6	38.3	35.3	7.7	31.5	8.2	14.0	13.2	21.3	3.0	2.0	1.9	0.2	0.9
	% income from public licence fee	60.4	38.9	79.3	20.9	n/a	n/a	5.1	n/a	n/a	18.9	37.4	22.5	4.4	n/a	n/a	n/a	n/a
Internet	Online universe (m)	44.6	42.6	53.1	29.7	197.0	n/a	73.7	14.5	23.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Fixed broadband connections per 100 HH	80	84	69	53	75	85	76	68	65	91	66	66	39	31	49	6	43
	Internet access via a mobile phone(%)	57	46	47	63	44	n/a	58	55	69	n/a	n/a	n/a	n/a	n/a	n/a	n/a	86
Telecoms and networks	Telecoms services revenue (£bn)	28.1	27.7	32.8	21.1	190.8	22.6	92.4	17.1	16.2	8.1	4.5	2.3	5	31.7	18.9	10.1	77.6
	Telecoms services revenue per capita (£)	445	421	404	343	605	657	725	770	344	483	489	474	131	158	133	8	58
	Fixed lines per 100 population	53	27	48	26	44	51	30	46	40	23	55	35	14	22	30	3	21
	Monthly outbound fixed-line minutes per capita	135	140	183	104	124	-	37	50	108	106	140	105	28	72	-	-	10
	Mobile connections per 100 population	132	111	139	159	104	81	101	139	113	125	161	123	141	131	162	71	83
	Monthly outbound mobile minutes per capita	174	151	113	196	608	364	95	165	123	112	222	192	150	115	237	124	397
	Fixed broadband connections per 100 population	34	36	35	22	29	34	31	27	24	41	34	23	15	9	19	1	13
	3G/4G as % of all connections	54	45	30	43	61	56	100	57	70	39	89	74	31	20	25	3	21
	Domestic addressed mail revenue (£bn)	7.2	7.1	7.1	3.1	29.9	2.3	13.9	1.5	1.5	2.3	1.2	0.4	0.7	2.6	0.7	0.3	2.4
Post	Mail revenue per capita (£)	113.6	108.6	87.66	50.4	94.9	67.5	109.3	68.5	36.1	135.9	127.4	86.5	18.7	12.9	4.7	0.3	1.8
	Domestic mail volumes (billion items)	15.7	16.5	16.8	3.9	155.3	5.9	18.9	4.6	4.3	4.2	2.6	0.6	1.9	8.7	2.9	5.8	27.5
	Standard domestic stamp price (£)	0.60	1.26	1.18	1.71	0.96	0.85	1.11	0.79	0.73	1.46	1.12	0.49	0.46	0.55	0.78	0.30	0.60



The International Communications Market 2013

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 those 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 comparator countries
- **Online shopping** (Section 1.4): We have known for some time that online shopping is more popular in the UK than in many other comparator countries. In this section we examine online shopping habits across eight of our comparator countries and try to understand the key drivers in consumers' decision-making, when making online purchases of physical goods for delivery.
- **Growing awareness and take-up of 4G / LTE mobile services** (Section 1.5): The deployment of 4G LTE mobile networks has gathered pace internationally, and the Global Mobile Suppliers Association (GSA) reported that 213 mobile providers had launched LTE-based services in 81 countries by September 2013. This section offers both industry and consumer insights into the most recent mobile network technology.
- **Changes in consumption of audio-visual content** (Section 1.6): With the rapid take-up of smartphones, tablet computers and smart TV hardware, and the growth of video-on-demand services, consumers now have many options for viewing audio-visual content. Here we take a look at changing viewing habits, in and out of the home.
- **News consumption: the international context** (Section 1.7): We look into digital news consumption and summarise the key findings from the Reuters Institute Digital News Report, and present the findings of Ofcom's own consumer research which looks at which media platforms consumers use as their main source for different types of news.
- **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 revenues and expenditures 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'. These 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.

Key points

- The communications sector's total global revenues in 2012 were £1,228bn, growing by 2.5% year on year (incorporating the telecoms, television, postal and radio sectors). Telecoms industries had the largest absolute increase in revenue in 2012, up by £22bn to £865bn. Proportionally, television revenues grew fastest among the communications industries, by 4.1% in 2012 to £252bn.
- US telecoms revenues were £191bn in 2012, larger than the revenue of the entire communications sector in any other comparator country. Japan was the second-largest communications market by revenue, generating £140bn in 2012, while China was third largest at £97bn. UK communications revenues stood at £48bn in 2012.
- Global advertising expenditure continued to grow, rising by 4.6% in 2012 to £290bn, largely driven by the increasing popularity of internet advertising. While expenditure on internet advertising grew at a compound annual rate of 16.4% between 2008 and 2012, to £63bn, the comparable figure for newspaper advertising was -5.7% p.a., falling to £54bn, while for magazines it was -3.9% p.a., falling to £22bn.
- In the television and radio sectors, television subscriptions generated the largest and fastest-growing proportion of total revenues in 2012. Television subscription revenues grew by 5.1% in 2012, to £127bn, and at a compound annual rate of 5.7% p.a. between 2008 and 2012. Radio subscription revenues grew by 13.3% in 2011 to £2bn, and at a compound annual rate of 7.8% between 2008 and 2012.

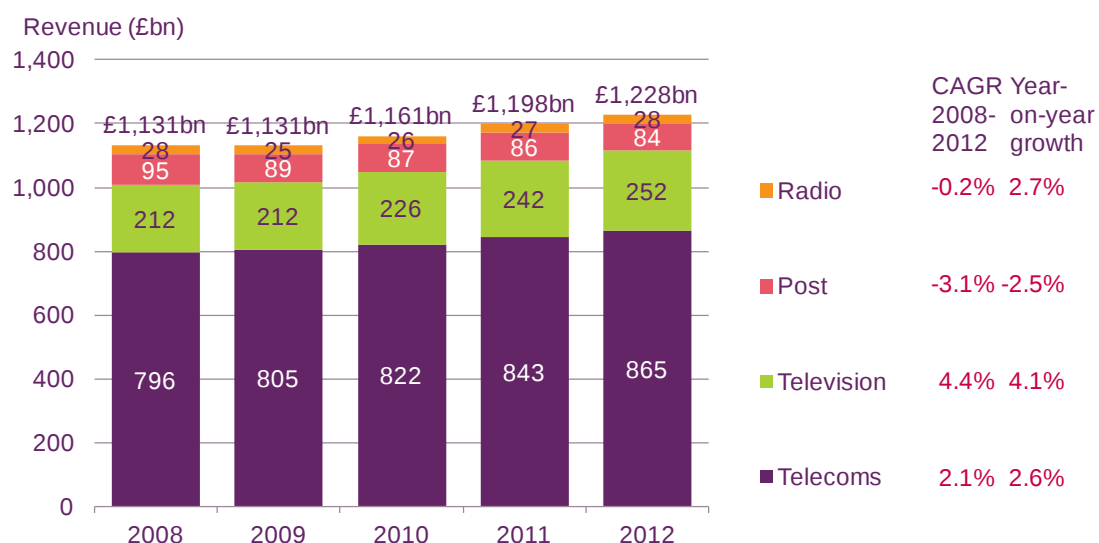
1.1.3 Communications sector revenues

The communications sector generated £1,228bn in revenues in 2012, an increase of 2.5% on 2011

Between 2008 and 2012, global communications industries' revenues grew at a compound annual rate of 2.1% p.a. Television and telecoms revenues drove this growth. Between 2008 and 2012, telecoms revenue grew by 2.1% p.a., and in 2012 generated £865bn worldwide, £22bn more than the previous year. Television revenues grew fastest during this period, by 4.4% p.a.; all told, the industry generated £40bn more revenue in 2012 than in 2008. In 2012, television revenues were up 4.1%, and telecoms revenues by 2.6%.

The radio industry is by some distance the smallest (by revenue) of the industries we examine in this report. Revenues in 2012 returned to 2008 levels, at £28bn. Postal revenues continued to decline, with a year-on-year contraction of 2.5% in the countries measured.

Figure 1.1 Global communications revenue



Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2013-2017 @ www.pwc.com/outlook for television and radio revenues, Wik Consult / Ofcom estimates for postal revenues. IDATE / industry data / Ofcom for telecoms revenues, which refer to retail revenues. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2012 average exchange rates in converting from local currency to GBP.

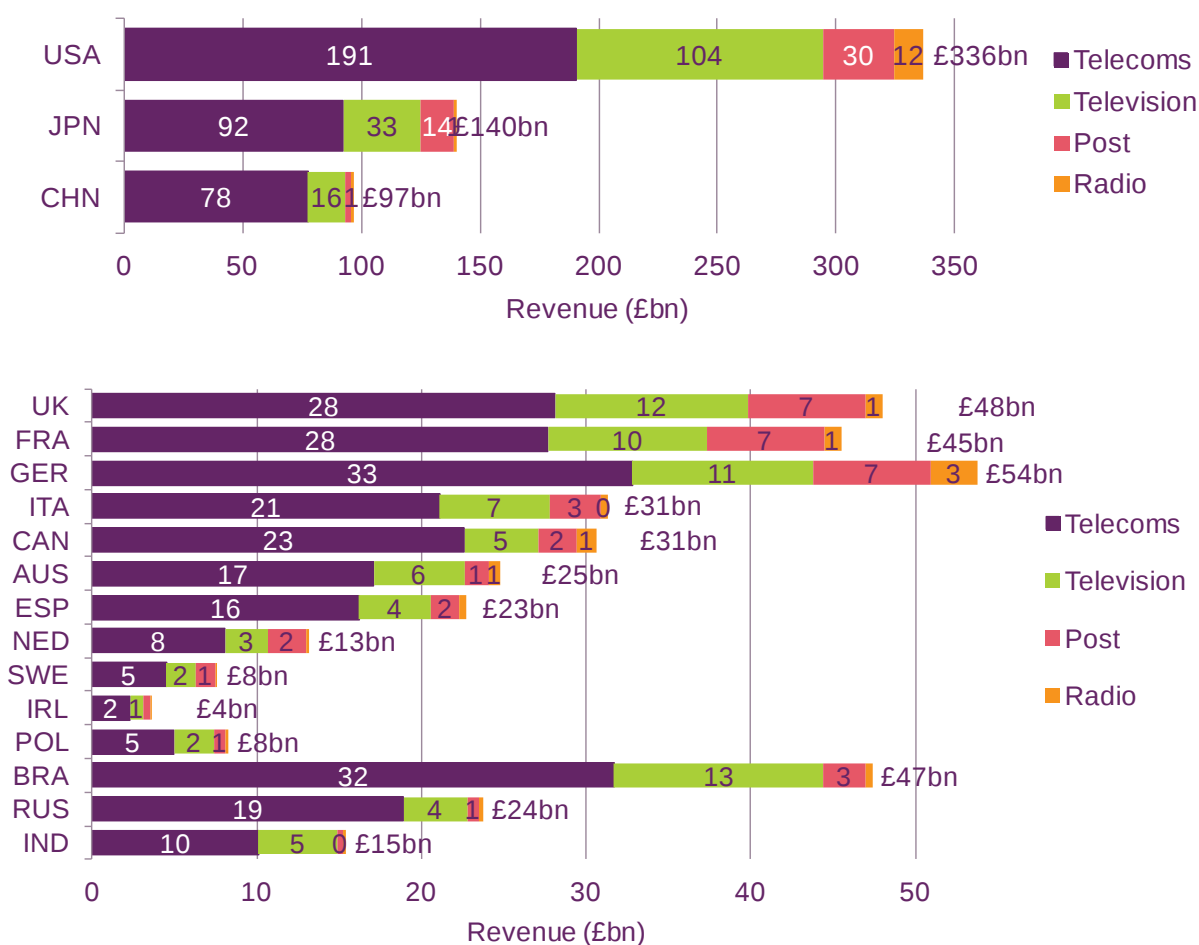
Note: Postal revenues are for our 17 comparator countries only.

The UK communications industries' revenues were the second highest in Europe.

In 2012, as in recent years, the three largest communications markets by revenue were in the US (£336bn), Japan (£140bn) and China (£97). At £191bn, 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 (£104bn), post (£30bn) and radio (12bn).

In Europe, total UK revenue of £48bn was second only to Germany (£53bn) and just ahead of France (£45bn). This was driven by UK television and postal sector revenues, which were the largest of our European comparator countries, at £12bn and £7.19bn respectively. The German telecoms sector was the largest national sector outside the US, Japan and China, generating £33bn in 2012.

Figure 1.2 Communications sector revenues: 2012

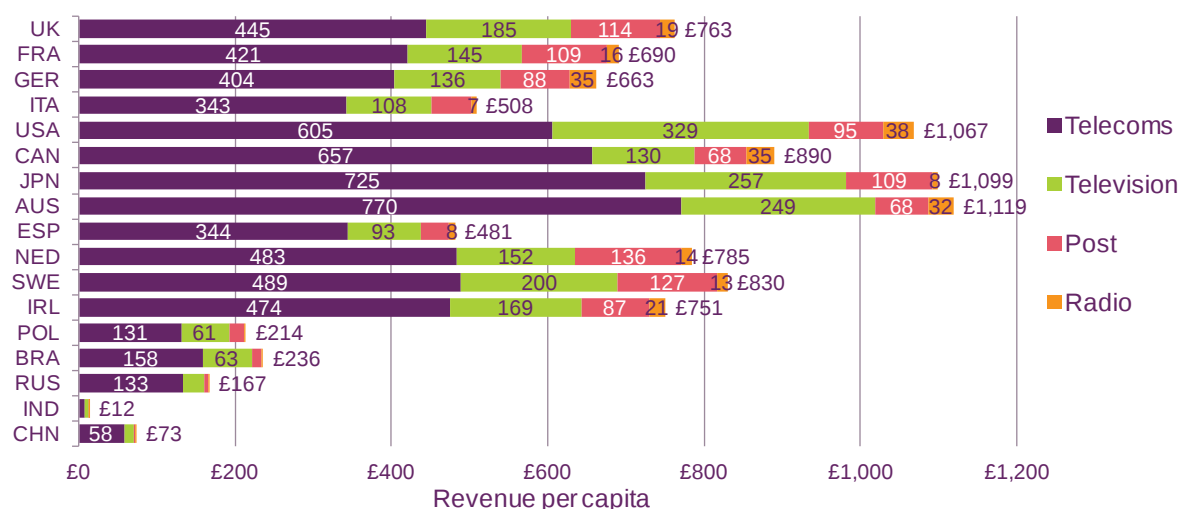


Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2013-2017 @ www.pwc.com/outlook for radio revenues, Wik Consult / Ofcom estimates for postal revenues. IDATE / industry data / Ofcom for television and telecoms revenues (telecoms revenues refer to retail revenues). Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2012 average exchange rates in converting from local currency to GBP.

UK communications revenue per head was the second highest in Europe in 2012

The UK generated £763 per head across our communications industries in 2013, second only to the Netherlands (£785) in Europe. These figures were considerably lower than the highest revenues per head in our comparator countries: Australia (£1,119), Japan (£1,099) and the US (£1,067).

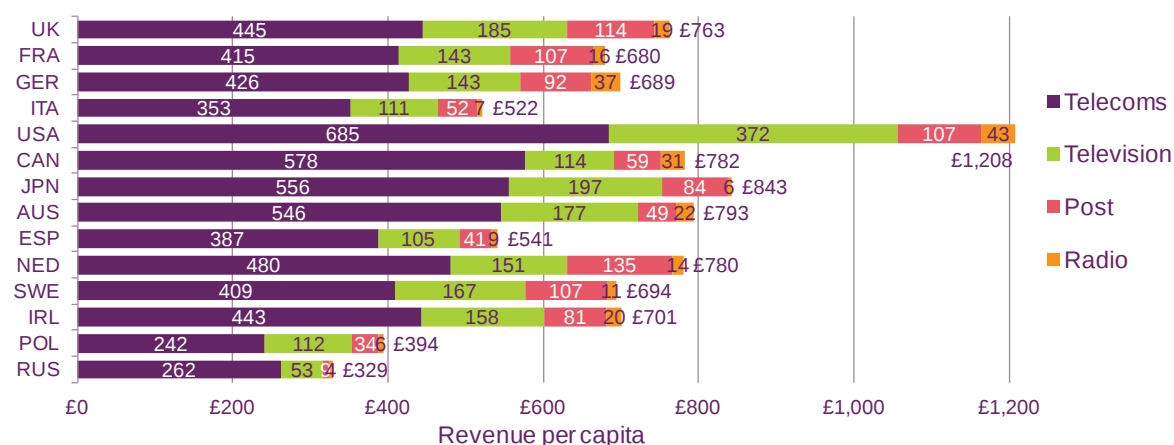
Figure 1.3 Communications sector revenue per head: 2012



Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2013-2017 @ www.pwc.com/outlook for radio revenues, Wik Consult / Ofcom estimates for postal revenue, IDATE / 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 2012 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 country. After adjustment, the UK retains the second-highest revenue per head in Europe, behind the Netherlands. Canadian, Japanese and Australian revenue per head fall back following this adjustment to stand slightly higher than our European comparator countries.

Figure 1.4 Communications revenues per head adjusted for comparative price levels



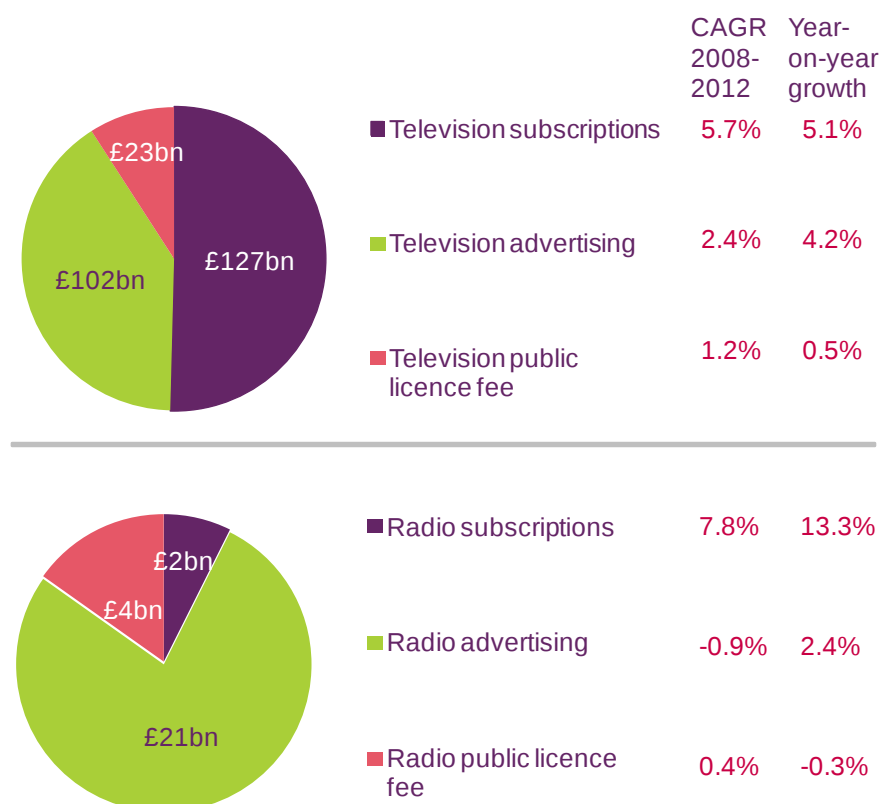
Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2013-2017 @ www.pwc.com/outlook for radio revenues, Wik Consult / Ofcom estimates for postal revenue, IDATE / industry data / Ofcom for television and telecoms revenues (telecoms revenues refer to retail revenues). Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2012 average exchange rates in converting from local currency to GBP and OECD 2012 (<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.

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

Figure 1.5 displays the proportions of television and radio revenues that came from subscription, advertising and public licence fees in 2012. Of the £252bn that the television industry generated in 2012, subscription revenues contributed the largest, and fastest-growing, proportion of total revenue, at £127bn. Year-on-year growth was 5.1%, a slowing of the compound annual growth rate (CAGR) of 5.7% p.a. across the previous five years. Television advertising revenues grew at a rate of 4.2% year on year, outperforming the five-year CAGR of 2.4%. Public funding remained relatively flat at £23bn.

Radio subscription has seen the fastest growth, both year on year and across the period 2008 to 2012. Subscription services are currently available in the US and Canada only from satellite radio broadcaster Sirius XM Radio. This growth was from a small base and 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 £21bn in 2012.

Figure 1.5 Sources of global revenue for radio and television industries: 2012



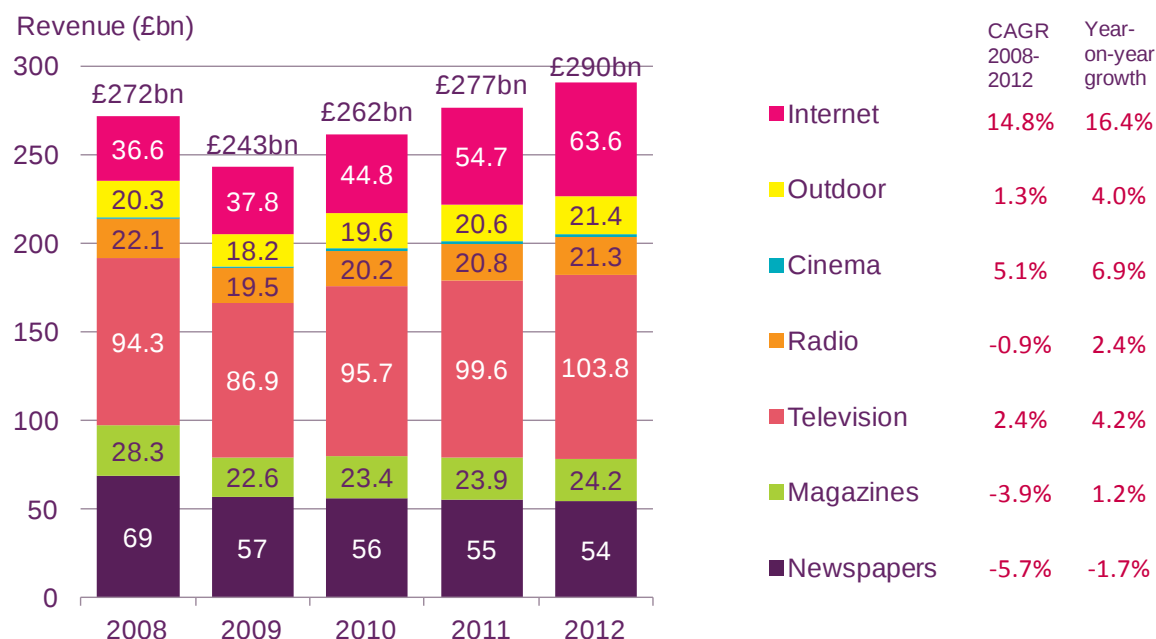
Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2013-2017 @ www.pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used IMF 2012 average exchange rate of \$1.580 in converting from US\$ to GBP

Global advertising expenditure grew to £290bn in 2012

In 2012 global advertising expenditure grew by 4.7% (£13bn) to £290bn. Expenditure on internet advertising grew fastest among the media depicted in Figure 1.6 a compound

annual rate of 14.8% p.a. between 2008 and 2012 to stand at £63.6bn in 2012. Over the same period, newspaper advertising fell at an annualised average of -5.7%. Magazine advertising picked up in 2012, with year-on-year growth of 1.2%, but the 2012 figure of £24.2bn remains lower than the 2008 equivalent: £28.3bn.

Figure 1.6 Global advertising expenditure, by medium



Source: Ofcom analysis based on data from PwC Global Entertainment and Media Outlook 2013-2017 @ www.pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012.

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 September 2013 (France, Italy, Germany, the US, Japan, Australia, Spain and China). The key findings are that:

- **Fixed-line connections continue to fall but remain most resilient in the UK.** The number of fixed-line connections per 100 people continued to fall across all our comparator countries. The rate of decline was slowest in the UK, where many customers need to take a fixed line to receive fixed broadband services at home. The UK now has 53 fixed-line connections per 100 people.
- **Mobile connections per 100 people continue to grow.** Mobile take-up continued to exceed population size across all our comparator countries, with the exception of China. However, in China the number of mobile connections per 100 people has more than doubled in the last five years, up from 40 to 83.
- **Fixed broadband connections remain highest in the northern European comparator countries.** France (36), Germany (35) and the UK (34) had the highest number of fixed broadband connections per 100 people in 2012. China, which has a large rural population but where much of the network is concentrated in urban areas, had the fewest (13).
- **In the UK, Italy and Spain, all TV platforms are now fully digital.** In 2012 the UK and Italy switched off their last analogue television broadcast signals.
- **The UK has the highest take-up of digital radio sets and digital video recorders (DVRs).** Among the reasons for high digital radio take-up in the UK may be the support broadcasters have shown for DAB technology, launching 'digital only' stations. In the UK, the BBC has a DAB multiplex network that covers 94.4% of households.
- **Smartphone ownership is now commonplace among comparator countries.** Excluding Japan, which has very high take-up of advanced featurephones not readily available in other countries, the US was the only country to report a smartphone take-up level of less than 50% in our online survey. The majority of respondents in all other countries reported that they now use a smartphone. Take-up in the UK was 66%.
- **Watching television remains the most popular communications activity.** Among comparator countries the variation was minimal, with a response rate of between 88% (the US and China) and 92% (the UK and Germany) claiming to watch television at least once a week.

1.2.2 Take-up and use of services and media activities

Penetration of fixed-line connections continues to fall across all our comparator countries

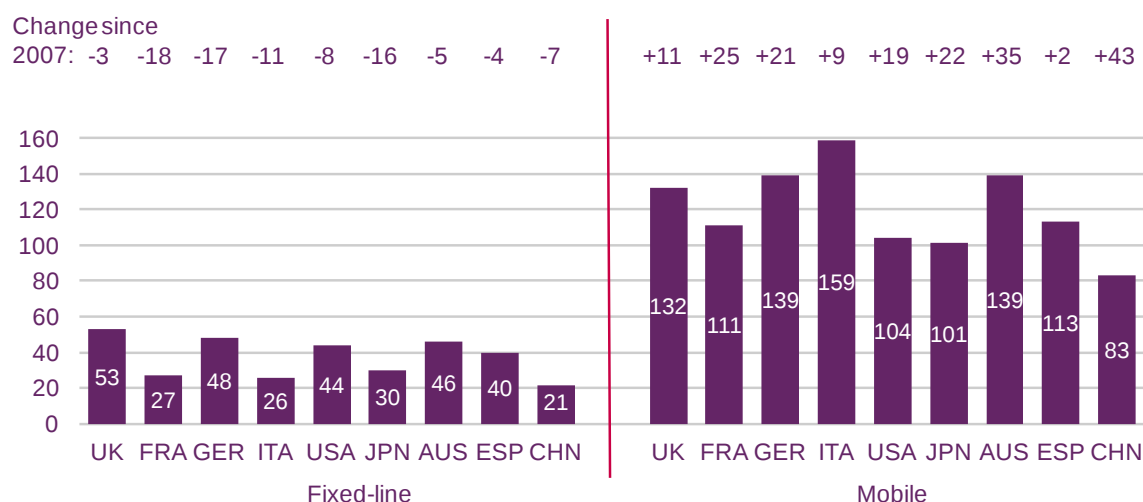
In all the countries where we carried out our consumer research, the number of fixed-line connections per 100 people fell between 2007 and 2012 (Figure 1.7). The rate of decline was slowest in the UK, down by three lines per 100 people since 2007. The number of connections per 100 people also remains highest in the UK among comparator countries.

The second highest level take-up was in Germany (48 lines per hundred people), closely followed by Australia (46) and the US (44). Take-up was lowest in China, where availability of fixed-line connections is low, and mobile is the predominant form of telephony. People in France and Italy are also less likely to have fixed-line connections. In France, consumers are able to choose a 'naked' DSL service, which enables them to use broadband services (including VoIP) without a fixed-line analogue telephone connection.

The relative resilience of fixed-line take-up in the UK may be due in part to the necessity of having a fixed-line telephone connection in order to receive DSL broadband.

With the exception of China, the number of mobile connections exceeds the number of people in all the countries surveyed. In all of the countries shown in Figure 1.7 the number of mobile connections per head of population grew between 2007 and 2012, with the largest growth occurring in China. Italy has the highest number of mobile connections (159 per 100 people), reflecting high levels of multiple pre-pay SIM ownership.

Figure 1.7 Fixed-line voice and mobile connections per 100 population: 2012



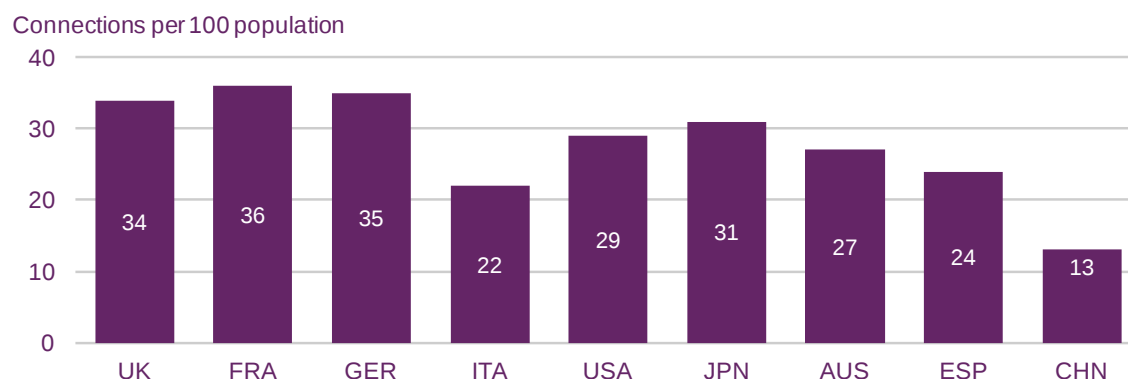
Source: IDATE / Industry data / Ofcom

Broadband connections per 100 population among the countries surveyed is highest in France at 36, Germany at 35 and the UK at 34

The number of broadband connections per 100 population is highest in France, at 36 subscriptions per 100 people. With 34 subscriptions per 100 people, the UK is only slightly behind (Figure 1.8).

Among the European countries, the number of broadband connections per 100 people was lowest in Italy (22 connections per 100 population). Among all the countries surveyed, the number of connections per 100 households was lowest in China, as coverage is focused on relatively small geographical areas in the highly-populated cities.

Figure 1.8 Fixed broadband connections per 100 population: 2012

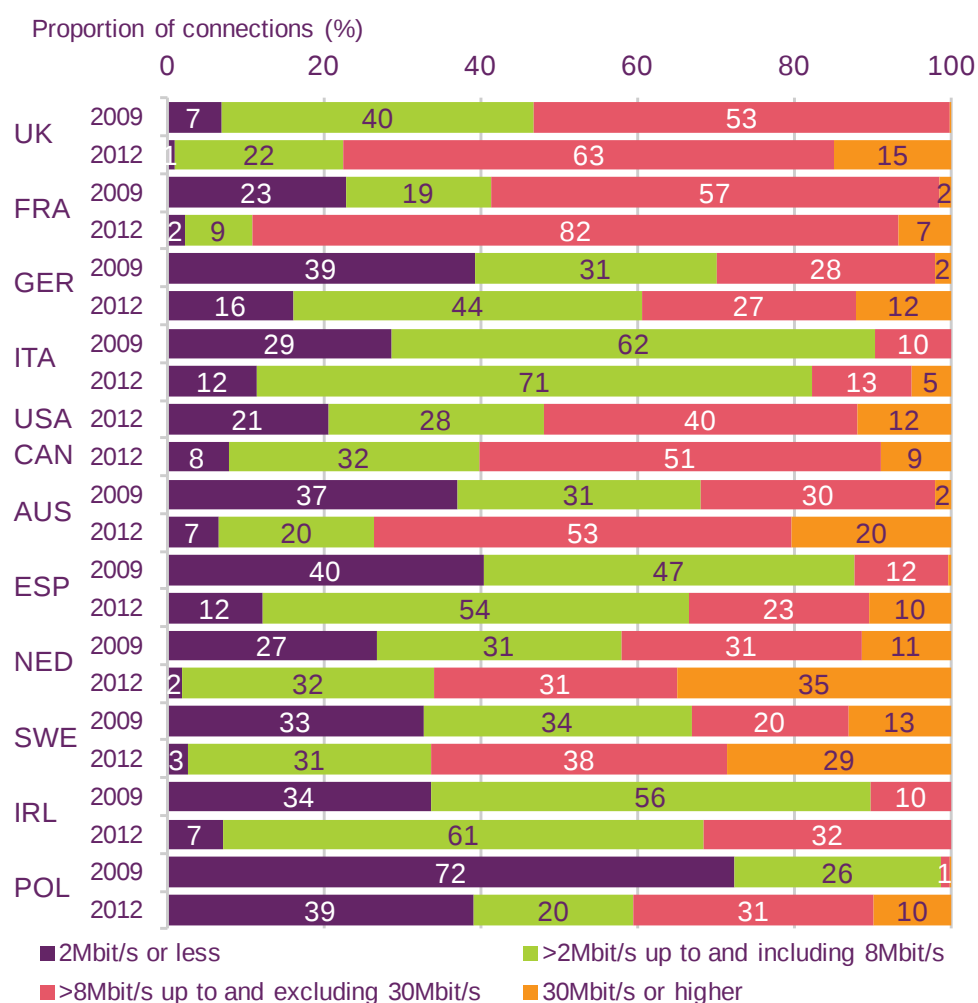


Source: IDATE / industry data / Ofcom. Note: Broadband connections include business connections

Fifteen per cent of UK fixed broadband connections were superfast at the end of 2012

The proportion of fixed broadband connections that were classed as being superfast (i.e. that had a headline speed of 30Mbit/s or higher) continued to grow in most of our comparator nations in 2012. The nations with the largest proportions of connections that were superfast at the end of 2012 were Japan (which is not shown in the chart below as a full split of fixed broadband connections by headline speed is not available, at 64%), the Netherlands (35%) and Sweden (29%), which all benefit from high levels of next generation access (NGA) availability. In the UK, 15% of connections were superfast at the end of 2012, the fifth highest proportion among the comparator countries for which we had data and the highest proportion among the EU5 countries.

Figure 1.9 Fixed broadband connections, by headline speed: 2009 and 2012

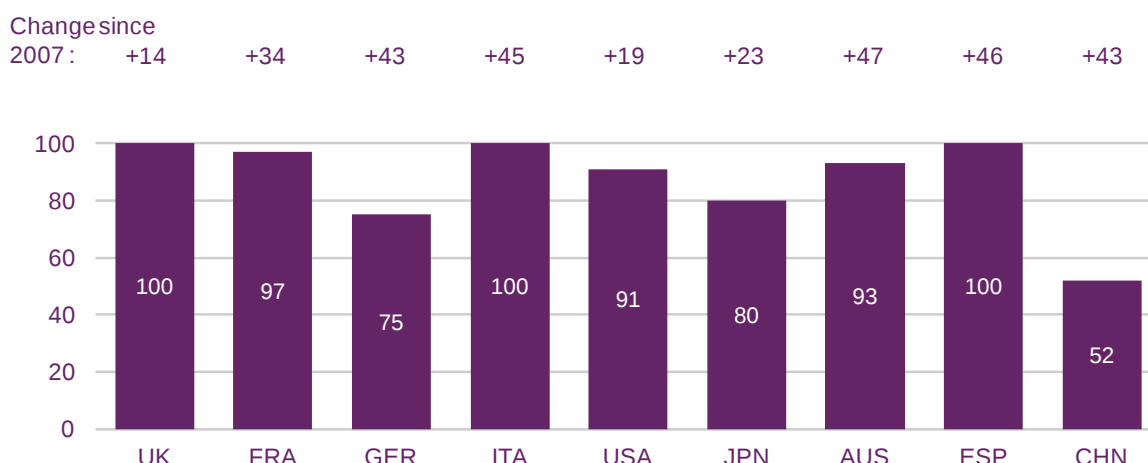


Source: IDATE / Ofcom / operator data

In 2012, the UK and Italy joined Spain in completing digital switchover

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. Italy also completed switchover in 2012. 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.

Figure 1.10 DTV homes per 100 TV households: 2012



Source: IDATE / industry data / Ofcom

1.2.3 Ownership and use of communications devices and media services

The population reached by our online survey is now more representative than in previous years of the national populations in each of our comparator countries. This is because more older people than in previous years are going online and so are able to respond to our survey. 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, urban, and exhibit the behaviour of early adopters. See *Appendix C: A perspective on China* for further details of our thinking on China.

The UK has significantly higher ownership of digital radios than any of our 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 direct comparisons cannot be made between them.

At 66%, UK smartphone take-up was in line with Australia and Italy (both 65%) and behind Spain (74%) and China (88%). Our survey reported smartphone take-up of 34% in Japan. This was the lowest of all the comparator countries; however, it does not reflect the more advanced nature of feature phones in Japan, where 92% of mobile phone owners claim to access emails through their device, 77% access the internet, and 41% are able to download apps.

Reported ownership of tablets has also increased significantly. According to our survey results, 42% of the UK online population claim to have a tablet computer in their home, behind China (58%), Spain (46%) and Australia (45%). Laptops remain the most popular device in the home. In all the countries we surveyed, at least 70% of respondents claimed to have one in their home; the highest take-up was reported in China (88%) and the UK was second with 83%.

People in the UK reported the largest take-up of digital radio sets, by some margin. . Almost four in ten respondents claimed to have a digital radio in their home, twice the number in any other country surveyed. Take-up in China was next highest at 20%, followed by Australia

(17%) and Italy (16%). 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. The UK also has the greatest availability of DAB digital radio; DAB transmissions cover 94.4% of households⁵. Some countries, such as the United States have alternatives to digital radio that partly explains the lower take up. See *Radio set ownership* in the radio and audio section for more details.

People in the UK reported the highest take-up of digital video recorders (DVRs) at 41% of those surveyed, closely followed by the US at 38% and Australia at 35%. France had the lowest reported level of ownership, at 17%.

Penetration of high definition TV sets (HDTV) in UK households is 68%; this is the highest in Europe and 11pp above the 57% average for all comparator countries. UK take-up is second only to Australia, where it is reported that 74% of homes now have an HDTV set. See *Household ownership of HD-ready TV sets and HD services* in the television and audio-visual section for more details.

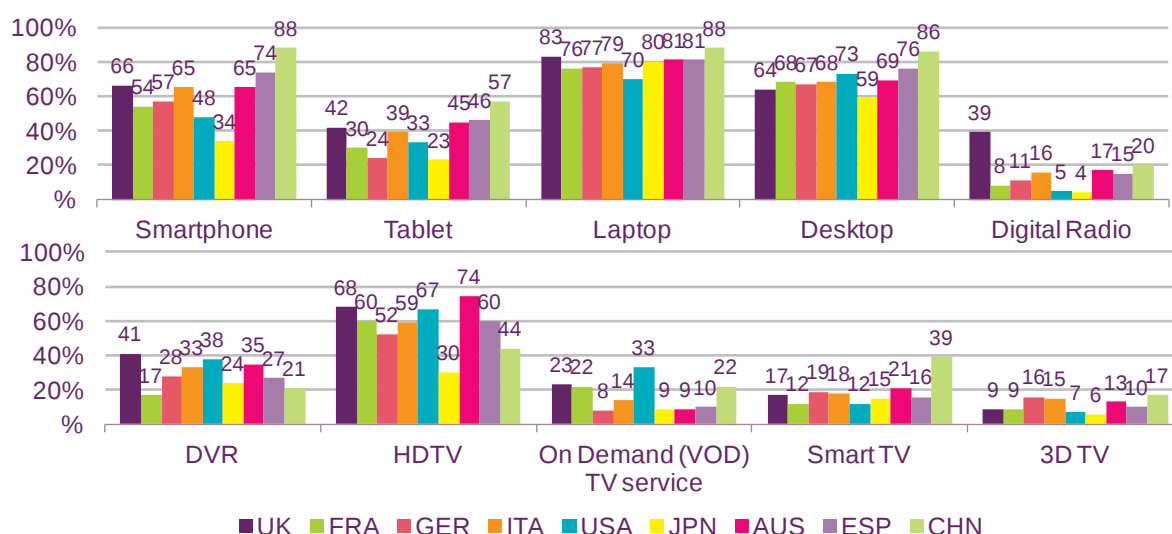
While claimed use of VoD services in the UK has risen by one percentage point, to 22% this year, a rise in line with most other countries, claimed use in Italy and Spain has dropped by one percentage point and two percentage points respectively; to 14% and 10%.

Ownership of smart TVs (those with built-in internet functionality) is greatest in Australia and Germany, with 21% and 19% of homes respectively having such devices. Smart TV ownership in the UK (17%) is comparable with that of Italy (18%); the lowest take-up in Europe is found in French households, at 9%.

Households in the UK and France are the least likely among the European comparator countries to have 3D-ready TVs, with a reported 9% take-up in these countries. Along with Spain (10%), Japan (6%) and the US (7%), these countries are below the 11% average for household take-up of this type of television. The highest European take-up of 3D TVs is reported in Germany (16%) and Italy (15%).

⁵ <http://stakeholders.ofcom.org.uk/market-data-research/other/radio-research/digital-radio-reports/digital-radio-2013/>

Figure 1.11 Ownership and personal use of devices



Source: Ofcom consumer research September 2013. Chart amended 24th March 2014 to show response to question 3a with regard to digital radio take up rather than 4a as previously shown. The change aligns digital radio with other household devices. Q4a refers to smartphones only. Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007. 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

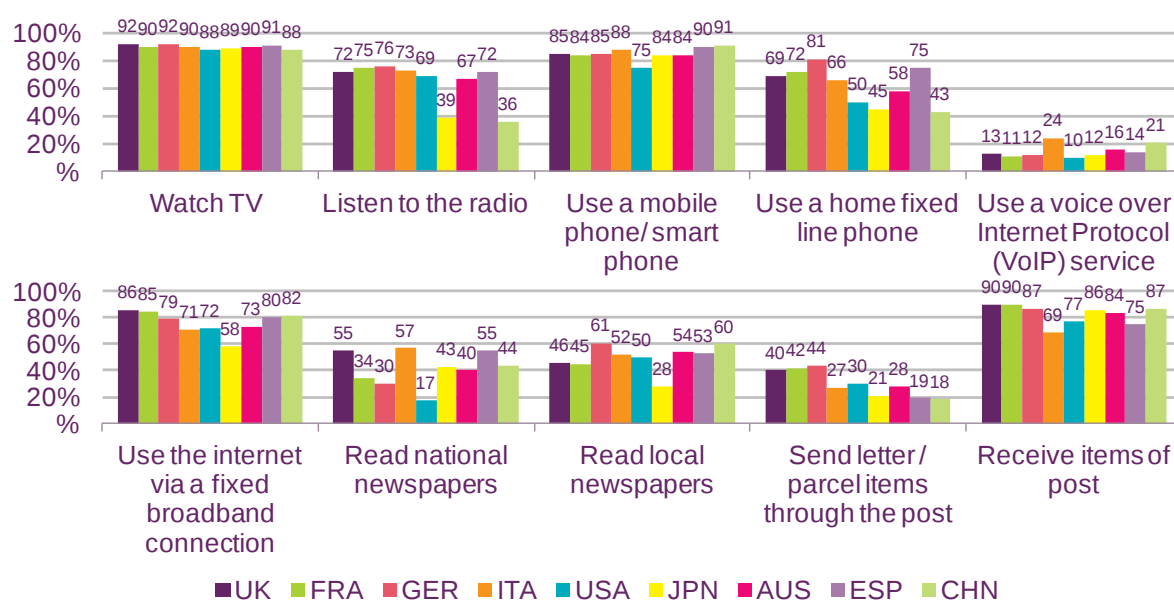
Figure 1.12 sets out the proportion of the population regularly engaging (i.e. weekly) in a selection of media and communications activities. In all countries, with the exception of China, watching television was the most popular activity. China was the only country where people were more likely to regularly engage with their mobile phone than with their television (91% versus 88%). China is also the country with the fewest respondents claiming to regularly use a fixed-line telephone.

In all countries, consumers receive post more frequently than they send it. We know from other research that this is due to the high proportion of mail which is generated by businesses and sent to consumers, including bills and statements, advertising, and the fulfilment of online and other distance shopping.

Among all of the countries surveyed, people in Italy are the least likely regularly to receive items of mail (69% of the population).

Industry data also show that online spending per head is lower in Italy than elsewhere. Please see Section 7 on Post for in-depth analysis of the postal industry across our comparator countries.

Figure 1.12 Regular use of selected communications services / media



Source: Ofcom consumer research September 2013 Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007. Q.5 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 of the report we look at how consumers in different countries purchase communications services, and how service prices vary between nations. We use the results of Ofcom's online consumer research, which was conducted specifically for this report, along with a subset of the results taken from section 2 of this report, where we benchmark communications service prices in the UK against those in France, Germany, Italy, Spain and the US.

In the national context, Ofcom is engaged in a range of projects focused on the cost, value and affordability of communications services, and details of this work will be published in the *Consumer Experience Report* in January 2014.

1.3.2 Key points

- When comparing the lowest available stand-alone prices, the UK was cheapest both for mobile phone and fixed broadband services: the lowest available UK mobile prices were 27% cheaper than those found in the next cheapest country, while fixed broadband prices were 33% cheaper.
- The UK had the second highest prices for pay TV, behind Spain. Although the second-lowest prices for basic pay-TV services were found in the UK, high premium pay-TV prices resulted in the UK having comparatively high overall pay-TV prices.
- In the UK 77% of online respondents reported that they received a bundle of services from the same supplier as their broadband. This was higher than in all of the other comparator countries.
- When examining a 'connected family' household, with high usage levels and multiple needs, the UK was the second cheapest after France (£77), at £80 in 2013. The UK was £18 less expensive than the third cheapest service, which was in Italy.
- The UK was one of the two cheapest nations for all five of the households types used in our pricing analysis in terms of weighted average stand-alone prices, and for four of the households when looking at the lowest prices available. Overall, across all five households and both of these pricing metrics, the UK ranked top among the six countries included in the analysis.
- Prices in the UK compared favourably to those in the other five countries in terms of the proportion of household spending required to purchase the 'cheapest combination of services. At 2.3% of household spending, the UK was the lowest in the benchmark survey.

1.3.3 Stand-alone pricing

The UK has the lowest mobile phone and fixed broadband prices, but the second highest pay-TV prices

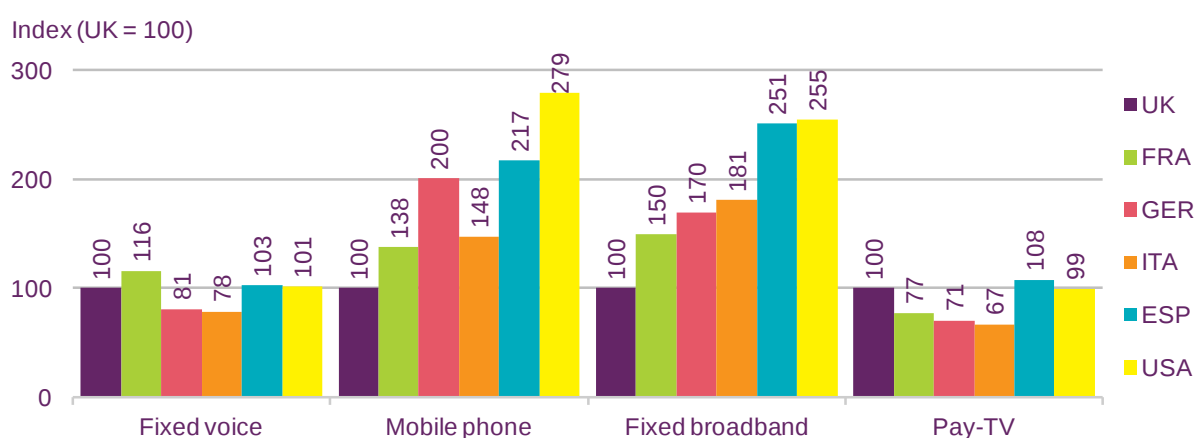
Figure 1.13 shows the price of stand-alone communications service prices across the EU5 countries and the US. It uses data from section 2 of this report, where we compare communications service prices in these countries using a methodology which is based on the use of fixed and mobile telecoms, and pay-TV services, by five 'typical' household types. We then calculate the lowest possible price available to fulfil the communications service

requirements of these households, using a pricing model provided by Teligen, which contains the residential tariffs offered by the largest providers in each country in July 2013.

The analysis in Figure 1.13 is based on the lowest stand-alone prices available to fulfil the overall requirements for the services shown below across our five households, and we have created an index for each service whereby the UK price is 100. Therefore a value of less than 100 indicates that prices are lower than in the UK, while a value over 100 means that they are more expensive. The main limitations of the analysis of stand-alone prices are that an increasing number of providers no longer offer stand-alone services, and in some cases relatively few stand-alone services are available (particularly in the case of fixed broadband services). Also, as the take-up of bundled services increases, stand-alone prices become relevant to fewer consumers.

In 2013, stand-alone fixed voice pricing in the UK was comparable to that in Spain and the US, and lower than in France, although it was more expensive than Germany and Italy. The UK had the cheapest mobile phone tariffs available; 27% cheaper than the next cheapest country, France, while mobile prices were highest in Germany, Spain and the US. The UK also had the lowest fixed broadband pricing across the countries included in our analysis; 33% cheaper than the next cheapest country, France (prices were highest in Spain and the US). Pay-TV prices in the UK were the second highest after Spain: while the UK had the second-lowest prices for each of the basic pay-TV services included in our analysis, the high price of the premium HD pay-TV service contributed to the UK having comparatively high overall TV prices (it is important to note the difficulty in comparing premium pay-TV packages, as prices are affected by the way in which channels are bundled).

Figure 1.13 Comparison of lowest available stand-alone pricing



Source: Ofcom, using data supplied by Teligen.

Note: Excludes the TV licence fee

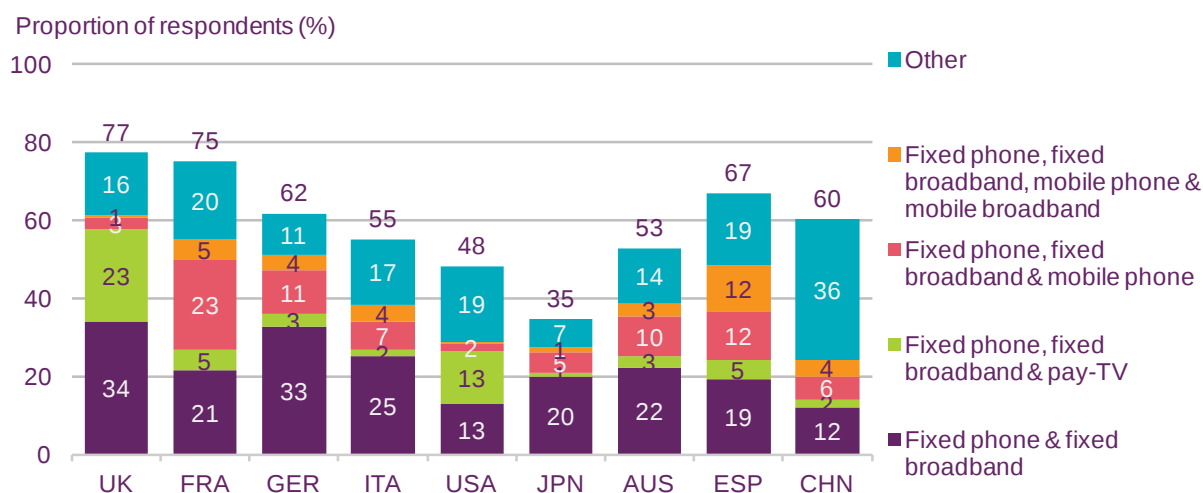
1.3.4 Bundling

The UK has high levels of communications service bundling

A benefit to consumers of bundling communications services is that bundle prices are typically lower than those available when purchasing the same combination of services on a stand-alone basis. There is also the convenience of receiving a single bill for multiple services. Ofcom research asked consumers in nine countries whether they bundled any other communications services with their fixed broadband connection (Figure 1.14). This research was undertaken online, so it is likely that the results will not reflect purchasing habits among the wider population of each country.

The proportion of respondents who said they purchased their fixed broadband service as part of a bundle was highest in the UK, at 77%, two percentage points higher than the next highest country, France. The high levels of take-up of bundled services in the UK indicate that a large proportion of UK consumers are likely to be able to take advantage of the benefits of bundling. Japan (35%) and the US (48%) were the only countries where less than half of respondents bought their fixed broadband as part of a bundle.

Figure 1.14 Proportion of consumers buying their fixed broadband service in conjunction with other communications services



Source: Ofcom consumer research September 2013.

Base: All respondents who have a bundle of services with their broadband.

Q.12 Do you receive any of the following from the same supplier as your broadband package?

1.3.5 Analysis of two household profiles

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

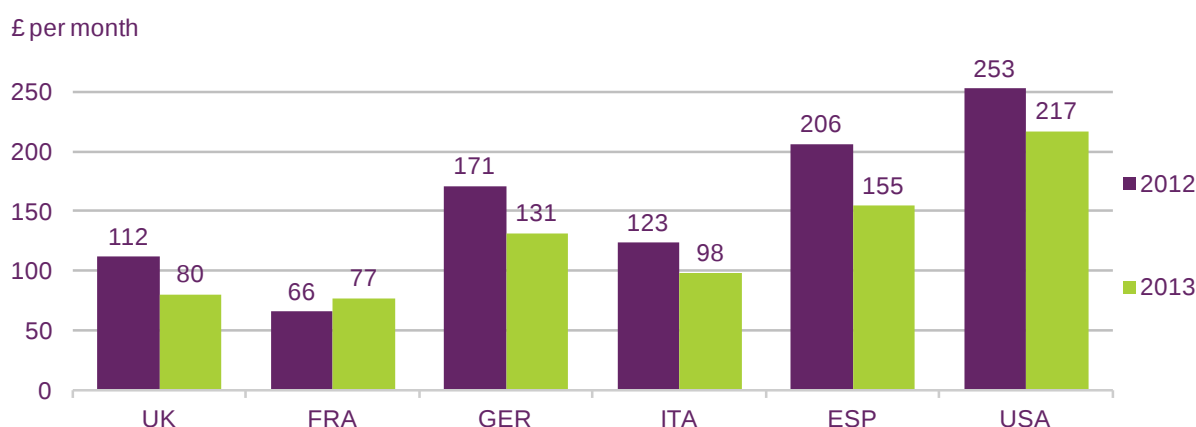
We now take a closer look at the lowest prices available (including bundles) for two of the household types that are included in the price comparisons in section 2 of this report:

- **The 'connected family' household**, consisting 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 more SMS messages 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.
- **The 'basic needs' household**, consisting of a retired low-income couple who have a fixed line and 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.

The cheapest UK price for the 'connected family' household (£80 per month) was the second lowest among the other countries included in our analysis in 2013, after France (£77 per month), and was £18 per month lower than the next cheapest country, Italy. The lowest available price for the UK 'connected family' household in 2013 was 28% cheaper than in 2012, largely as a result of falling mobile prices (the price of the mobile element of the

household's use fell by a third during the year), but also because of the launch of TalkTalk's new triple-play fixed voice, fixed broadband and pay-TV services, which uses the YouView TV platform and featured in the lowest-price combination of services for this household.

Figure 1.15 Lowest available pricing for the 'connected family' household



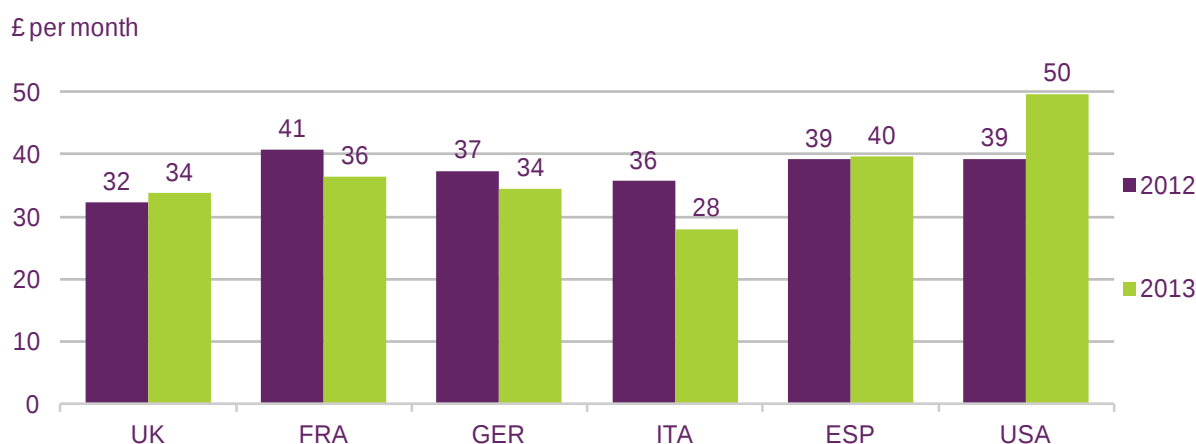
Source: Ofcom, using data supplied by Teligen

Note: Excludes the TV licence fee

The UK has the second lowest pricing available for the 'basic needs' household

The lowest available prices for the 'basic needs' household were similar across the majority of the comparator countries included in the analysis, and there was only an £8 a month difference between the four cheapest services in 2013. The UK had the second lowest available price in 2013, at £34 per month, after Italy (£28 per month), and increasing stand-alone fixed voice prices in the UK meant that (as was the case in Spain) the lowest-priced combination of services in 2013 included a bundled fixed broadband connection, even though the household's usage profile did not require one. Prices in Spain (£40) and the US (£50) were much higher by comparison.

Figure 1.16 Lowest available comparative pricing for the 'basic needs' household



Source: Ofcom, using data supplied by Teligen

Note: Excludes the TV licence fee

1.3.6 Comparison of international pricing

The UK had the lowest 'weighted average' prices for three out of five households and the lowest price available for two households in 2013

In addition to the lowest price available (including bundles) in each country, our pricing analysis looks at weighted average stand-alone prices (a weighted average of the lowest possible prices available using the three largest providers of each service's tariffs, weighted by their market shares). As shown in Figure 1.17, in 2013 the UK had the cheapest weighted average stand-alone prices for three households and the cheapest overall price for two households. With the exception of the 'sophisticated couple' household, the UK was always one of the two cheapest countries.⁶

Figure 1.17 Comparison of international pricing: 2013

	'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	34	51	34	76	54	129	80	148	127
FRA	41	36	66	45	77	70	153	77	136	116
GER	50	34	72	41	111	101	205	131	168	109
ITA	40	28	60	39	95	63	164	98	151	101
ESP	51	40	96	50	125	119	218	155	204	142
US	72	50	108	73	141	112	306	217	259	198

Source: Ofcom / Teligen

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

The UK ranks first in price across these five households

By averaging each country's rank for the five 'weighted average' prices and the five lowest prices available for the households shown above, we have created an overall price ranking for each of our six countries in 2012 and 2013. The UK was ranked first, ahead of Italy, in both 2012 and 2013, with the US coming out bottom for consecutive years.

Figure 1.18 Average overall rank based on 'weighted average' stand-alone and lowest available prices, available across all five households: 2012 and 2013

Rank	Country	Average rank 2012	Average rank 2013
1	UK	1.6	1.7
2	ITA	2.4	2.1
3	FRA	2.7	2.6
4	GER	3.8	3.7
5	ESP	5.0	5.0
6	USA	5.6	5.9

Source: Ofcom / Teligen

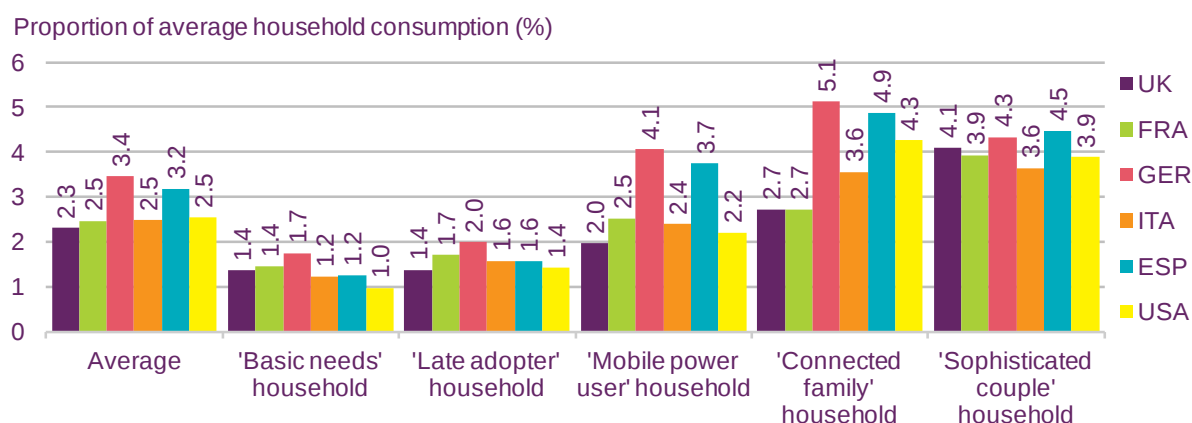
⁶ Further details of the 'sophisticated couple' households and the other household used in our international price benchmarking work can be found in Section 2 of this report.

1.3.7 Average cost of communications services as a proportion of household spend

Using OECD data relating to total household actual consumption⁷ of all goods and services (which includes expenditure incurred on behalf of households by government and non-public institutions) we are able to calculate the lowest price possible to fulfil the communications service requirements of each of the five households used in our pricing analysis as a proportion of average total household actual consumption (total household spending) in the six comparator countries included in our pricing analysis. The results of this analysis show that, across all five households, the average proportion of total household spending required to purchase the cheapest combination of services was lowest in the UK, at 2.3%⁸.

While our analysis shows that communications service prices in the US tended to be among the highest in our comparator countries in 2013, the US performed better by this measure, along with France and Italy (both 2.5%) having the joint third-lowest average proportion of household spending required to purchase the lowest combination of services. This was because it had the highest average household spend among our comparator countries. In Germany, the average proportion of household spend required to purchase the lowest combination of services across the five households was 3.4%, the highest of all of the comparator countries.

Figure 1.19 Lowest available prices as a proportion of average total household consumption



Source: Ofcom using data supplied by Teligent / OECD.

Note: Basket 5 in France includes 'up to' 10Mbit/s fixed broadband services as none of the providers included in our model offered a suitable stand-alone superfast service; calculated using 2011 OECD household actual consumption data.

⁷ This analysis uses 2011 OECD household actual consumption data, the most recent available (<http://www.oecd.org/>).

⁸ In Ofcom's 2013 Communications Market Report

(http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/UK_5.pdf) we estimate that average household telecoms spend represented 3.8% of total average household spend in the UK in 2012. This is significantly different to the 2.3% shown above for a number of reasons, including:

- The average household expenditure figure used to calculate the 3.8% figure in the 2013 UK Communications Market Report is based on household purchases, whereas the household actual consumption (household spending) data used to calculate the data in Figure 1.19 above also includes expenditures incurred by general government and non-public institutions serving households on behalf of households;
- The data in Figure 1.19 above is based on the five baskets used in our pricing analysis, when telecoms use across the UK will include a much larger number of usage profiles; and most consumers will not be on the lowest possible tariff/s for their usage profile, meaning that they will be paying more than the lowest possible price for their services.

1.4 UK online spending continues to grow

1.4.1 Introduction

In recent years, we have found that the UK is the country where online shopping is most popular, with the highest spend per head of all of our comparator countries. The use of communications services forms an integral part of the functionality of online retail activity. We have therefore undertaken some research to explore this in greater detail and determine the reasons for the UK's propensity towards online shopping. Some of the areas which were of interest to us included whether the postal service in the UK was perceived to be more efficient or more trustworthy than in other countries, or if people in the UK were more comfortable using the internet for online purchasing and had more confidence in online security.

Note on the research – online methodology, sample size. As our online research can only reach people in well-connected, urban areas in China, who tend to be affluent early adopters and not reflective of Chinese society as a whole, we have excluded these results from the analysis in this section. Further details can be found in the research methodology in Appendix A: Consumer research methodology.

1.4.2 Key points

- **People in the UK are the most frequent online shoppers.** Almost three-quarters (73%) of the online population in the UK are buying goods for delivery over the internet on at least a monthly basis, and almost one quarter are shopping online at least weekly.
- **People in the UK were most likely to say that the amount of online shopping they do has increased over the past two years.** Although the proportion of online respondents claiming to do more online shopping was high in all of the countries that we surveyed, the net increase in the UK was higher than in any other comparator country.
- **People in the UK and Germany are more likely to trust online retailers.** More than eight in ten of respondents in the UK and Germany (83% and 82% respectively) agreed that they trust online retailers to ship them the correct item. Consumers in these two countries returned similarly high figures when asked if they trusted online retailers to advertise products accurately (80% in the UK, and 81% in Germany).
- **A high proportion of online shoppers in all of our comparator countries cited free delivery as a motivating factor in their choice of delivery method.** However, a fifth (18%) of respondents in Germany said that the delivery company used by the retailer would affect their choice of delivery method, far higher than in the UK, where only 9% said that the operator used would influence their choice.
- **Six in ten (57%) people in the UK said that delivery concerns had stopped them buying an item online.** Those in Germany and the US were less likely to have had concerns that prevented them buying. The figure was higher in Japan, where almost three-quarters (72%) had decided not to make a purchase due to delivery concerns.
- **Those in the UK and Germany were least likely to agree that delivery charges are too high.** Only four in ten (40%) of respondents in the UK agreed that delivery charges were too high and only 32% agreed in Germany. By comparison, over half of those in Italy (52%) and Spain (53%) agreed that delivery charges were too high.

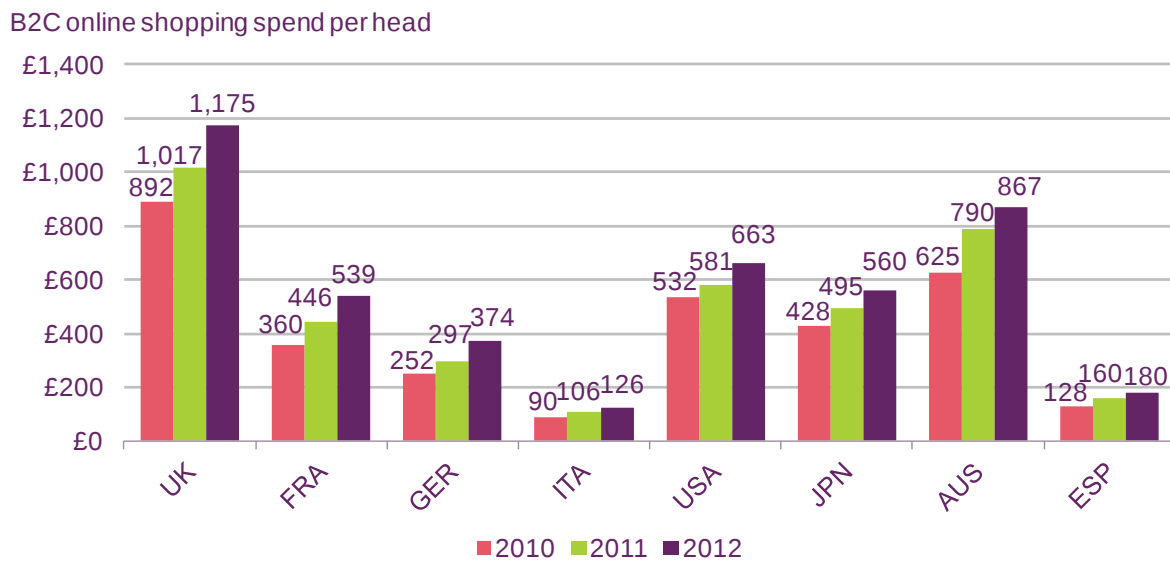
1.4.3 Purchasing online

The UK has the highest spend per head on online shopping

The UK spent £74.3bn online in 2012; second only to the US out of the countries compared in this section. Adjusting spend for population size shows that the UK had the highest spend per head of all the comparator countries, at £1,175 in 2012. This is £307 higher than the second highest country (Australia) and £615 higher than the average spend per head figure of all the comparator countries: £560. The UK's spend per head was up by 16% from its 2011 figure of £1,017, and the UK has had the highest spend per head over the past three years.

Italy and Spain spent the least online per head in 2012, with figures of £126 and £180 respectively.

Figure 1.20 Business to consumer online shopping, spend per head



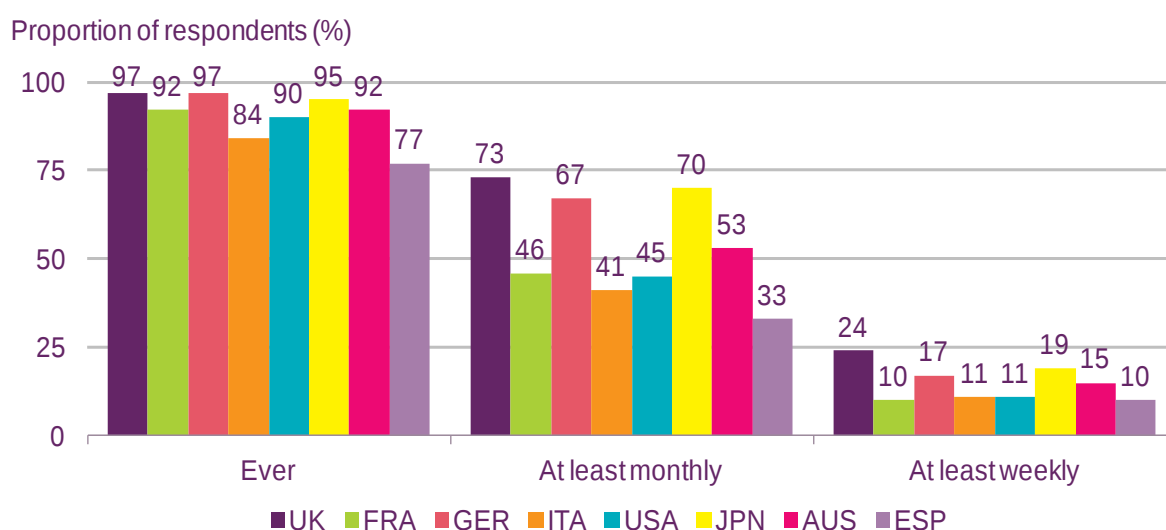
Source: IMRG X-border Training Guide 2013. Population figures obtained from IDATE / Industry Data / Ofcom

People in the UK are the most frequent online shoppers

While people in each of the countries that we surveyed had some experience of online shopping, it is those in the UK who are buying items online most frequently, as might be expected from the high spend per head detailed in Figure 1.20.

Almost three-quarters (73%) of the online population in the UK are buying goods for delivery over the internet on at least a monthly basis, and almost one quarter (24%) are shopping online at least weekly. Those in Germany and Japan were almost as likely as those in the UK to shop online at least monthly, while those in Spain were least likely to shop online, regardless of frequency.

Figure 1.21 Frequency of online shopping



Source: Ofcom research, September 2013

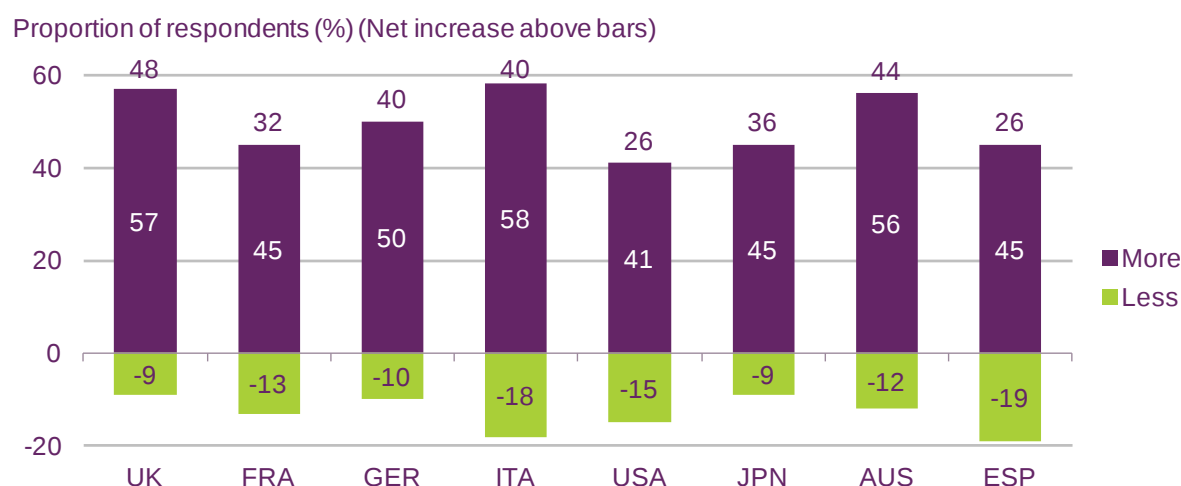
Q01: How often if at all, do you purchase items online for delivery? Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

Those in the UK most likely to say that the amount of online shopping they do has increased over the past two years

Figure 1.22 shows the perceived change in online shopping over the past two years. We asked people how much online shopping they engaged in, compared to two years ago. More than half of those in the UK, Italy and Australia stated that they now shopped online more than they did two years ago. Although the proportion of respondents claiming to do more online shopping was high in all of the countries that we surveyed, the net increase (the proportion of people who said they do more online shopping now minus the proportion that said they do less) in the UK was larger than in any other of the countries surveyed.

Almost one-fifth of those in Italy and Spain said that they were shopping online less now than they did two years ago. Although this section discusses a range of concerns which people in these countries may have with online shopping, including online security, concerns about safe delivery of their goods, and trust in online retailers, this may also be related to the lower levels of consumer spending as a whole in these countries in recent years.

Figure 1.22 Perceived Increase in shopping online over the past two years



Source: Ofcom research, September 2013

Q02: How much online shopping do you do now compared to two years ago? Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

1.4.4 Motivations to shop online

Price and ease are the two most popular reasons to shop online

When asked, 'Why do you choose to shop online rather than in store?' the responses indicated that price and ease were the most popular factors in the majority of the comparator countries. In the UK 59% of all respondents cited 'it saves me money' as a reason to shop online and 58% indicated it was 'easier'.

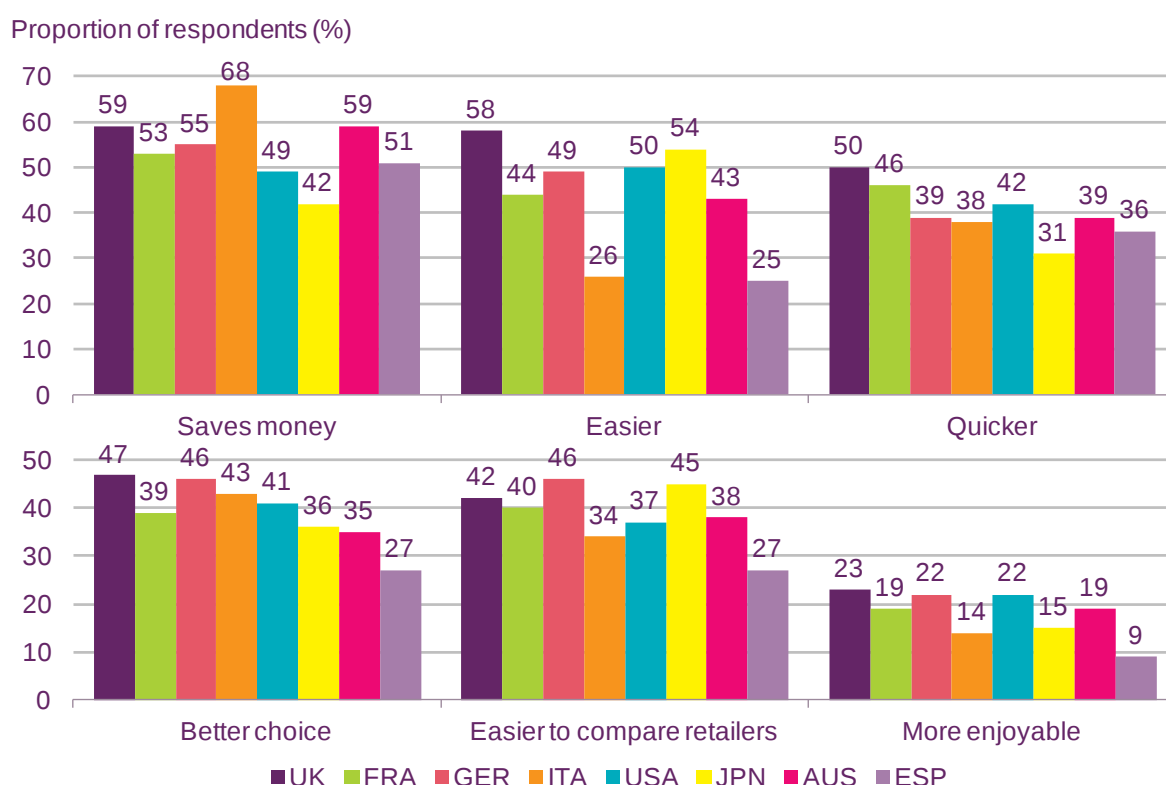
The answer: 'saves me money' was a consistently popular answer and was ranked in the two most popular reasons to shop online in seven of the comparator countries, and as the number-one reason in six countries. The answer that it was 'easier' was ranked in the top two most popular answers in five of the eight countries. In France 46% of people indicated that 'quicker' was a bigger factor in their choice to shop online than 'easier'. In Italy, online shoppers felt that a 'better choice of items' online was important; 43% of all respondents chose this as an answer, making it the second most-selected reason in that country.

Although most countries felt that it was generally 'easier' to shop online rather than in store, in both Italy and Spain this was not the case; only around a quarter of people (26% and 25% respectively) selected this as a reason to shop online, making it the second least popular reason to shop online in these countries.

In Japan 45% of people indicated that it was 'easier to compare different retailers' online than it would be in store, which was the second most popular reason selected, after 'easier'.

Respondents in the UK were either the most likely, or among the most likely, to select any of the reasons to shop online, which indicates that more online shoppers in the UK considered all of these options important, than shoppers in other countries.

Figure 1.23 Popular reasons to shop online: all respondents who ever shop online



Source: Ofcom research, September 2013

Q.O4 Why do you choose to shop online rather than in store? Base: all respondents who ever shop online (UK=971, FRA=923, GER=976, ITA=845, USA=903, JPN=959, AUS=932, ESP=784)

When examining the answers from respondents who shopped 'less often than monthly', 'saves money' was again the most commonly selected response, and was either the first or second most popular reason in each of the comparator countries. Shopping online because it was 'easier' was in the top two answers in five of the eight countries.

A similar overall pattern was seen among those who shopped online 'less often than monthly' as among 'all respondents'.

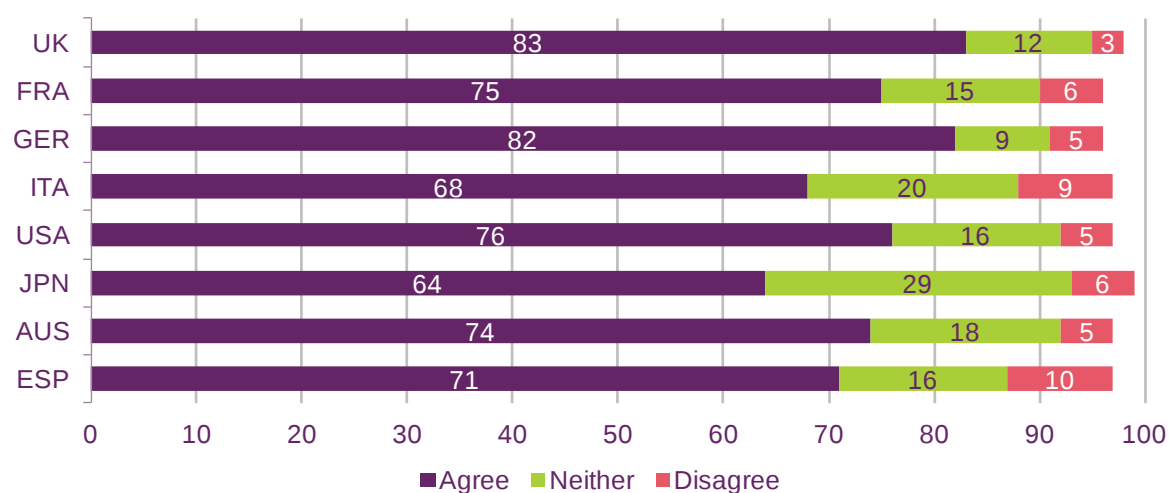
People in the UK and Germany are more likely than those in Italy and Spain to trust online retailers

More than eight in ten (83%) respondents in the UK agreed that they trust online retailers to ship them the correct item. This was the strongest score among the comparator countries, although 82% of respondents in Germany also agreed with this statement. People in Japan had the lowest proportion, with only 64% of respondents trusting online retailers to send them the correct item.

Italy and Spain were among the countries with the highest proportion of respondents who disagreed that they trusted online retailers to ship them the correct item. One in ten (10%) in Italy and just under one in ten (9%) in Spain disagreed with this statement.

Figure 1.24 Trust in online retailers: shipping the correct item

Proportion of respondents (%)



Source: Ofcom research, September 2013

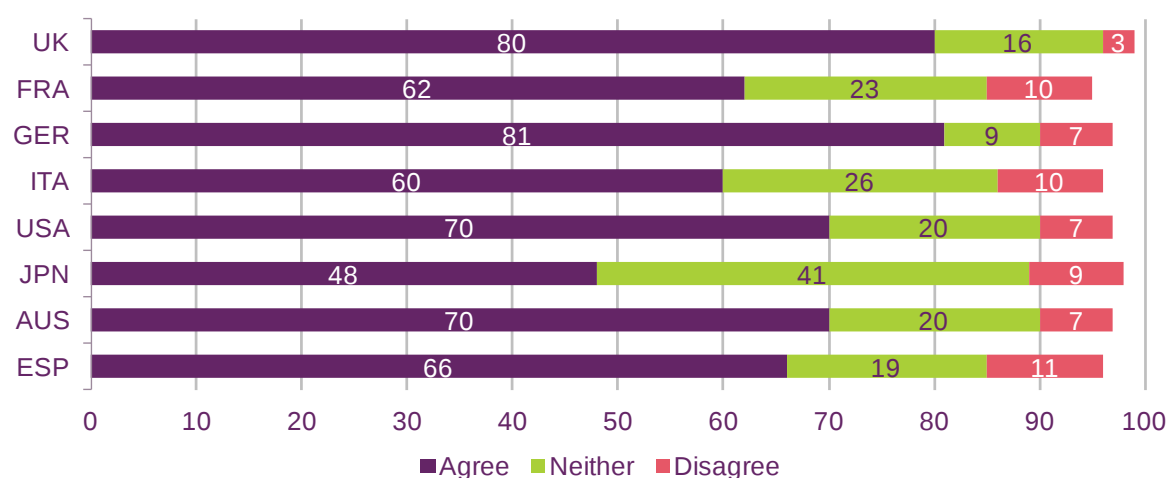
QO10 To what extent do you agree or disagree with the following statements? [I generally trust online retailers to ship the correct item to me] Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

Eight in ten (80%) people in the UK agreed that they trusted online retailers to advertise their products accurately on their websites; only in Germany did a greater percentage (81%) agree with this. Respondents in Japan again displayed the least amount of agreement; less than half (48%) had confidence in retailers advertising their products accurately on their websites.

Conversely, as well as showing relatively low levels of agreement with this statement, France, Italy and Spain also showed slightly higher levels of disagreement; around one in ten either slightly, or strongly disagreed.

Figure 1.25 Trust in online retailers: advertising products accurately

Proportion of respondents %



Source: Ofcom research, September 2013

QO10 To what extent do you agree or disagree with the following statements? [I generally trust online retailers to advertise their products accurately on their websites] Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

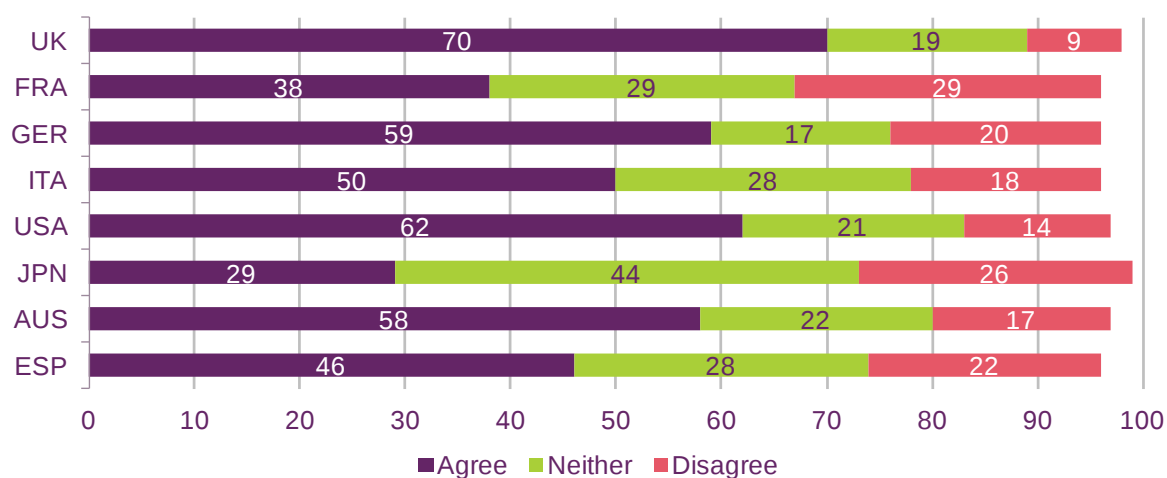
People in the UK are more likely to feel secure about shopping online

Almost three-quarters of people in the UK (70%) agreed that they felt 'secure when paying for products online', which may also explain the larger appetite for online shopping in the UK. US respondents also felt confident in online shopping security, with 62% agreeing. Respondents in Japan showed the least amount of agreement; only 29% had confidence in paying for products online and 26% disagreed with this statement.

Despite having a relatively low level of agreement (38%), France also showed a slightly higher level of disagreement with this statement (29%).

Figure 1.26 Feeling secure in online shopping: paying for products online

Proportion of respondents %



Source: Ofcom research, September 2013

QO10 To what extent do you agree or disagree with the following statements? [I feel secure when paying for products online] Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

1.4.5 Delivery

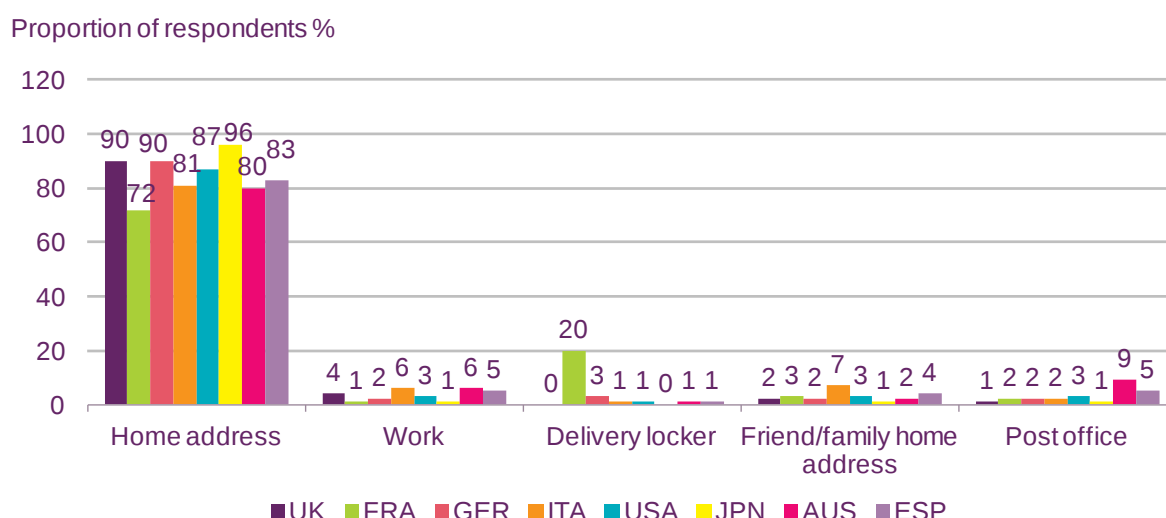
Most people who shop online get their items delivered to their home address

In the UK, 90% of people get their online shopping items delivered to their home address. This is similar across all the comparator countries, with at least 80% of respondents in seven of the eight countries opting to have items delivered to their home address.

In France this figure is noticeably lower; 72% of people prefer home delivery. Here 20% have their items delivered to a delivery locker; the incumbent postal provider in France, La Poste, has installed electronic lockers where people can both send and collect their items. Although delivery lockers are available in other countries, and a number of providers have been installing them in the UK, the only country where respondents claimed widespread use was France.

In Australia and Spain, people were more likely to have items delivered to the post office (9% and 5% respectively) and in Italy 7% of online shoppers opted to have their online purchases delivered to a friend or family members address.

Figure 1.27 Delivery preferences



Source: Ofcom research, September 2013. QO5 When shopping online where do you usually get the items delivered to? Base: all respondents who ever shop online (UK=971, FRA=923, GER=976, ITA=845, USA=903, JPN=959, AUS=932, ESP=784)

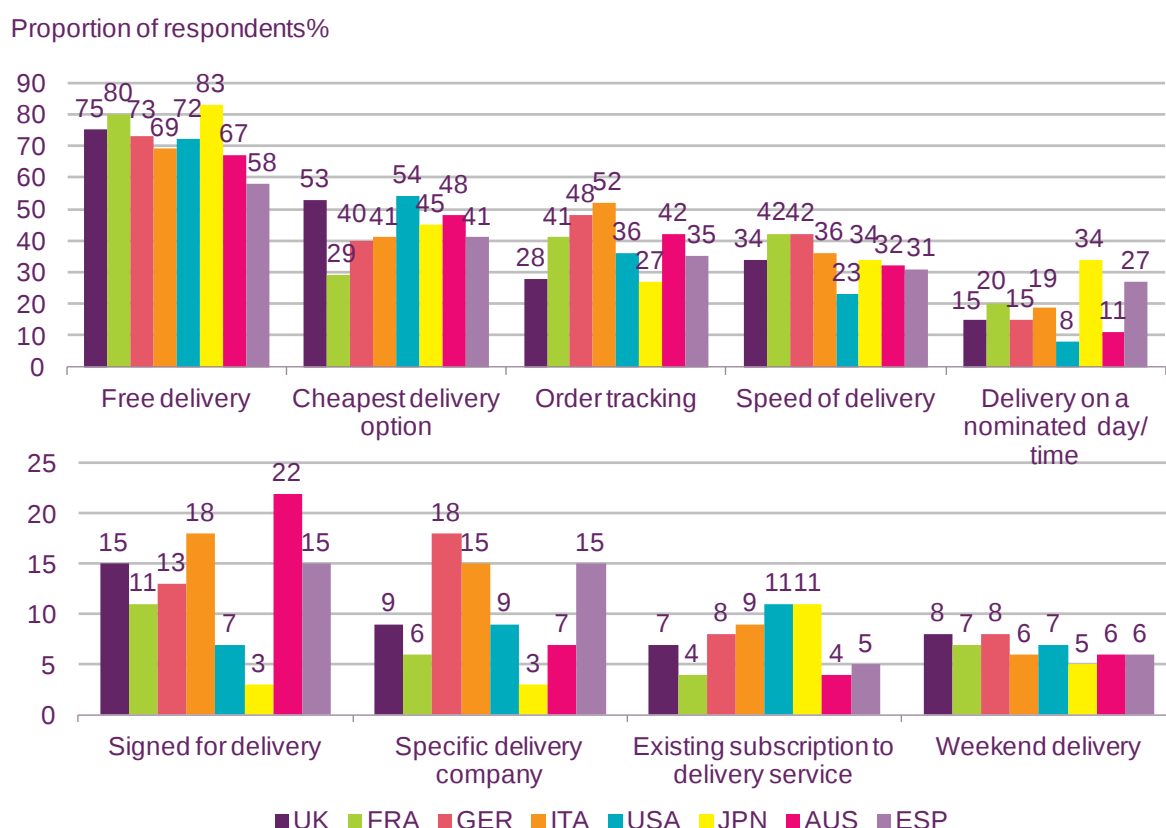
A high proportion of online shoppers in all of our comparator countries cited free delivery as a motivating factor in their choice of delivery method

While all countries considered 'free delivery' as the biggest influence on their choice of delivery method, not all had 'cheapest delivery option' as the second most influential factor. In the UK, three-quarters (75%) of respondents cited 'free delivery' as a factor when deciding on a delivery option and over half (53%) indicated that having the 'cheapest delivery option' would also influence their decision, making this the second most popular reason. In France only a third (29%) said the 'cheapest delivery option' would be a motivating factor, while 41% considered 'order tracking' a motivating factor and 42% said 'speed of delivery' would also influence their choice. This perhaps reaffirms the low levels of confidence in this country about feeling secure in online shopping, as shown in Figure 1.26 only 38% felt secure about purchasing products online. In Italy also, 52% indicated that 'order tracking' would have an influence on the delivery option they chose; the second most popular reason in that country.

In Germany, just under half (48%) of respondents said that being able to track their order would be a motivating factor in the delivery option they chose. Eighteen per cent also indicated that the delivery company used by the retailer would affect their choice of delivery method.

People in Italy and Spain also indicated a higher preference towards choosing a specific delivery company, with 15% selecting this as a reason in these countries. This is far higher than in the UK, where only 9% said that the operator used would affect their choice of delivery method. When compared to other countries, respondents from Spain generally seemed to place more importance on reasons which focused around trust, and the security of the delivery, over other factors such as 'free delivery' or the 'cheapest delivery option'. This perhaps highlights the fact that security enhancements are more of a concern for consumers in Spain than in the UK, where people feel more secure about the delivery process and therefore paying less is the primary focus.

Figure 1.28 Factors influencing choice of delivery option



Source: Ofcom research, September 2013

QO6 Which of the following factors influence your decision on which delivery method you choose?

Base: all respondents who ever shop online (UK=971, FRA=923, GER=976, ITA=845, USA=903, JPN=959, AUS=932, ESP=784)

Over half (53%) of those in the UK who abandoned their basket before checking out cited 'delivery costs too high' as their main reason

According to the latest eCustomerServiceIndex (eCSI) results from eDigitalResearch and IMRG⁹, more than three-quarters (77%) of online shoppers have abandoned their basket upon proceeding to the checkout page of a retail website. When asked why they had abandoned at this point, over half (53%) of the 2,000 consumers surveyed cited 'delivery costs being too high' as the main reason. This indicates that many shoppers were made aware of the price of delivery only when they reached the payment stage, and also suggests that many online shoppers in the UK feel that some retailers charge too much for delivery. The survey also revealed that 44% of respondents changed their mind, and 39% wanted longer to think about the purchase. Other reasons cited were items being out of stock (21%), limited information upon which to make a purchase decision (12%), security concerns, limited payment options, and unclear returns policies (all 8%).

Of those who abandoned at the checkout because they felt delivery costs were too high, 65% went on to search further online to see if similar products were available from another

⁹ IMRG Press Releases. 'Why do online shoppers abandon at the checkout?' 1st November 2013.

Note: The eCustomerServiceIndex (eCSI) survey of 2,000 online shoppers was conducted between 18th and 22nd October 2013 using a nationally representative sample from a consumer omnibus panel.

retailer. This underlines the points revealed by the data in Figure 1.28, which emphasise the importance which UK shoppers place on the cheapest delivery option.

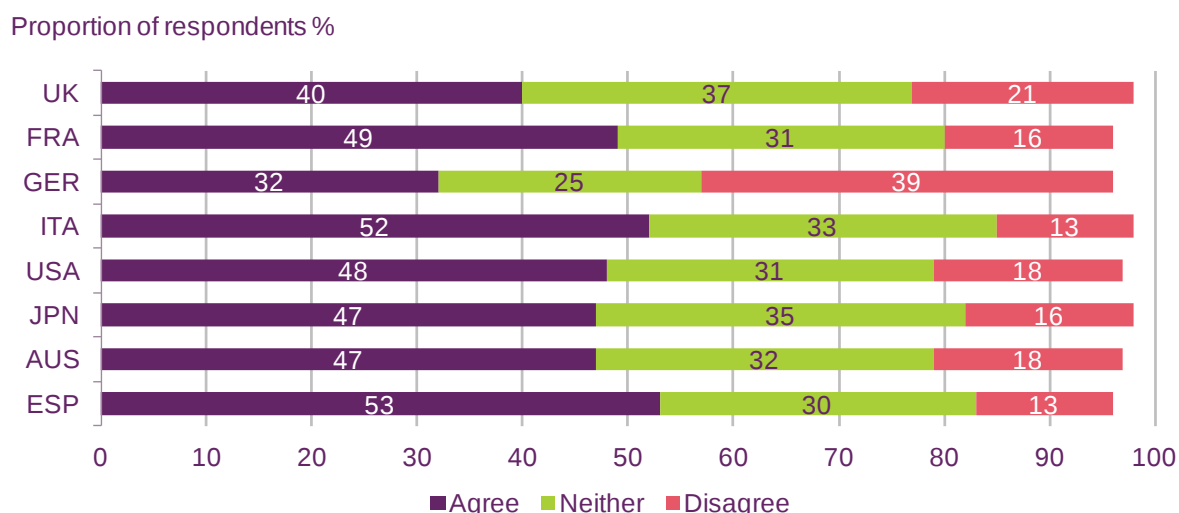
Over half (54%) of those surveyed felt that retailers should make users aware of delivery costs on their homepage, rather than at a subsequent stage. This indicates that respondents felt that making delivery costs clearer should be a key area to focus for retailers if they want to reduce the rate of basket abandonments.

Online shoppers in the UK and Germany are the most likely to think that delivery charges are appropriate

Four in ten (40%) of respondents in the UK agreed that delivery charges were too high. This was the second lowest figure: in Germany only 32% agreed with this statement. It is noticeable, however, that 37% in the UK also held no opinion on this statement; more than in any of the other countries surveyed.

In comparison, over half of all respondents in Italy (52%) and Spain (53%) agreed that delivery charges were too high, with only 13% disagreeing with this statement.

Figure 1.29 Proportion of people agreeing that 'online delivery charges are too high'



Source: Ofcom research, September 2013

QO10 To what extent do you agree or disagree with the following statements? [Online delivery charges are too high] Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

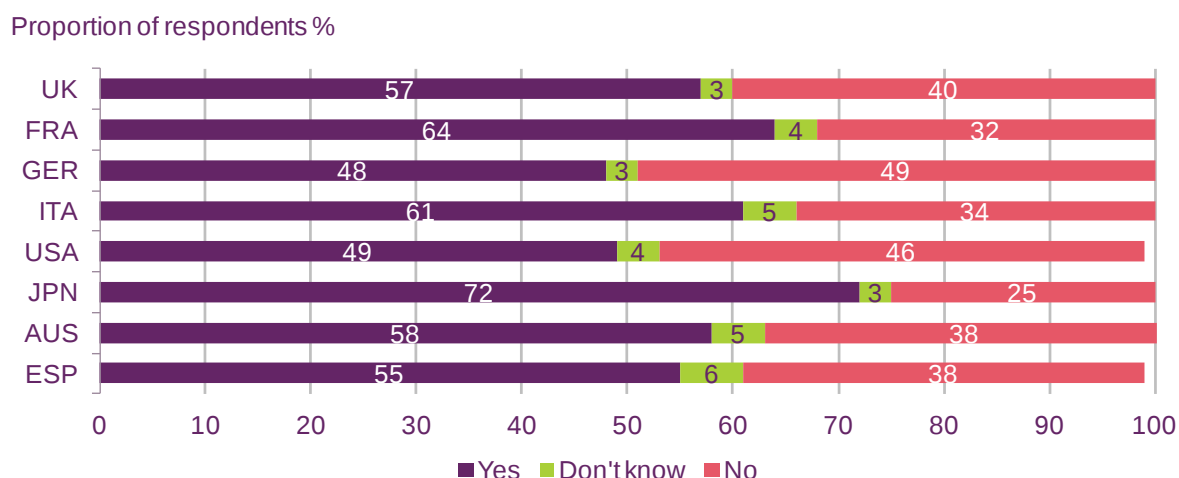
1.4.6 Factors preventing online shopping

People in Germany have the fewest concerns with delivery

Almost half (49%) of all respondents in Germany, when asked 'have delivery concerns ever prevented you from buying items online' answered 'no'; slightly higher than the US with 46%. In the UK this figure stood at 40%.

In six of the eight comparator countries, over half of all respondents indicated they had concerns about delivery which had prevented them from buying online. In the UK 57% indicated this; a higher proportion than in Spain (55%), the US (49%) and Germany (48%). People in Japan demonstrated the strongest degree of concern with regard to delivery issues, when contemplating shopping online, with 72% agreeing with this statement. France and Italy also showed high concern, with 64% and 61% respectively.

Figure 1.30 Proportion of people who had concerns with delivery which prevented them from shopping online



Source: Ofcom research, September 2013

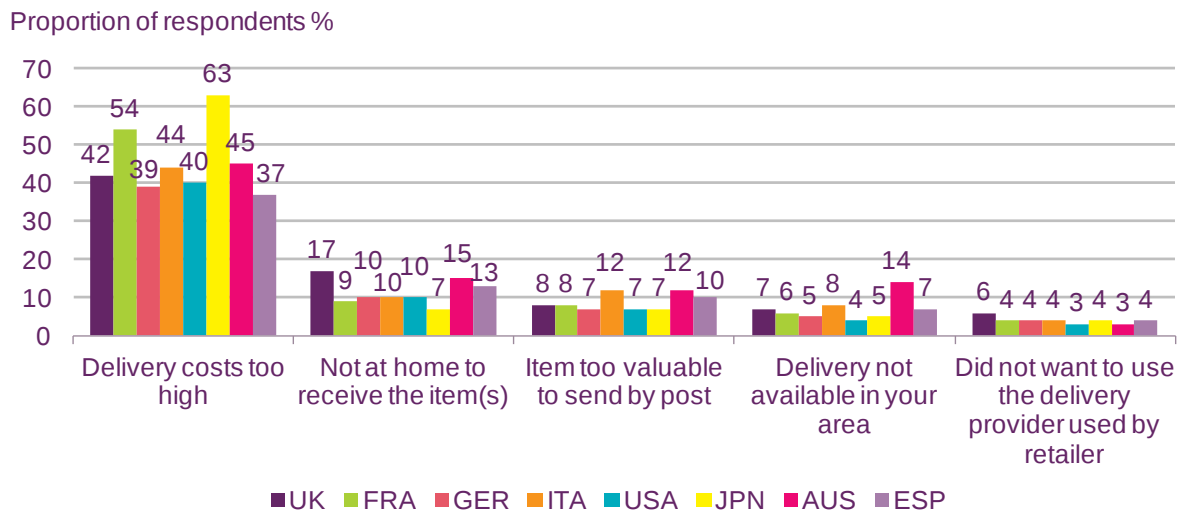
QO7 Have delivery concerns ever prevented you from buying items online? If yes, which of the following reasons prevented you from shopping online? Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

Of those who said that delivery concerns had ever prevented them from buying items online, most cited high delivery costs as the main reason. This figure was highest in Japan, at 63%. In the UK this number was among the lowest, at 42%, which when examined alongside Figure 1.29, reaffirms that this is an issue about which people in the UK do not feel as strongly as those in many of the comparator countries.

As displayed in Figure 1.27, 90% of UK respondents advised that they preferred to have their items delivered to their home address. Figure 1.31 shows that of the countries compared, UK respondents appeared to have the greatest concern about not being at home to receive their item(s), with 17% stating this as a reason. This may indicate that some people in the UK do not see many other viable options with regard to delivery.

Australia had the highest number of respondents who said that delivery was not available in their area. This is probably because many people live in remote areas where there are fewer delivery options.

Figure 1.31 Delivery concerns that prevent online shopping



Source: Ofcom research, September 2013

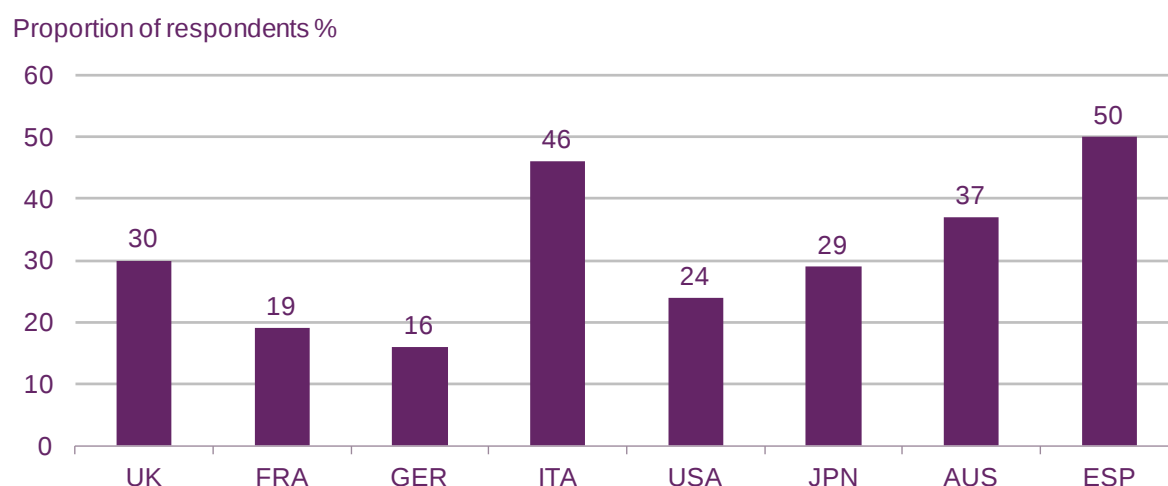
QO7 Have delivery concerns ever prevented you from buying items online? If yes, which of the following reasons prevented you from shopping online? Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

People in Italy and Spain have the greatest concern about their items not arriving

The percentage of respondents in Spain and Italy who agreed with the statement: 'If ordering online I would be concerned my goods wouldn't arrive' was significantly high in comparison with the other comparator countries, with 50% and 46% respectively indicating a substantial lack of confidence that goods ordered online would arrive. By comparison, people in Germany expressed the least concern; only 16% indicating a lack of confidence in the postal system in delivering their goods. This figure was also low (19%) in France.

In the UK, more respondents were confident (41%), than were not confident (30%) that their goods would be delivered. Fewer people in the UK had concerns about their goods not arriving than in Italy, Spain and Australia. Respondents in France, Germany, the US and Japan also had high levels of trust in the postal service to deliver their items.

Figure 1.32 Proportion of people concerned that online orders might not arrive



Source: Ofcom research, September 2013

QO10 To what extent do you agree or disagree with the following statements? [If ordering online I would be concerned that my goods wouldn't arrive] Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

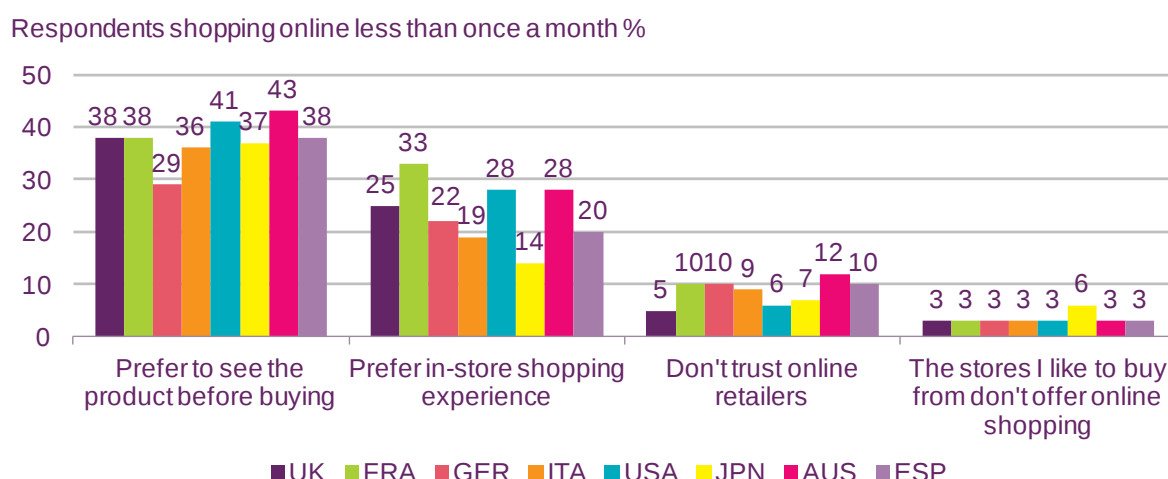
People who shop online less often prefer to see the product before they buy

People who shop online less often said they preferred to see products in a store before they bought them. Although percentages varied between countries, this was the most-selected reason for not shopping online more, across all the comparator countries.

In the UK 38% preferred to see the product before purchasing, and 25% preferred the experience of shopping in a store. There was also a slightly higher level of trust in online retailers from UK respondents, with only 5% citing this as a reason they didn't shop online more often.

Only 29% of respondents in Germany preferred to see the product before purchasing. This reaffirms the trend seen in Figure 1.25; 81% agreed that they generally trusted online retailers to advertise their products accurately on their website.

Figure 1.33 Reasons people don't shop online more: retail preferences



Source: Ofcom research, September 2013

Q.9 For which, if any, of the following reasons, do you not shop online more often? Base: All respondents who shop online less than once a month (UK=271, FRA=541, GER=331, ITA=588, USA=555, JPN=302, AUS=467, ESP=668)

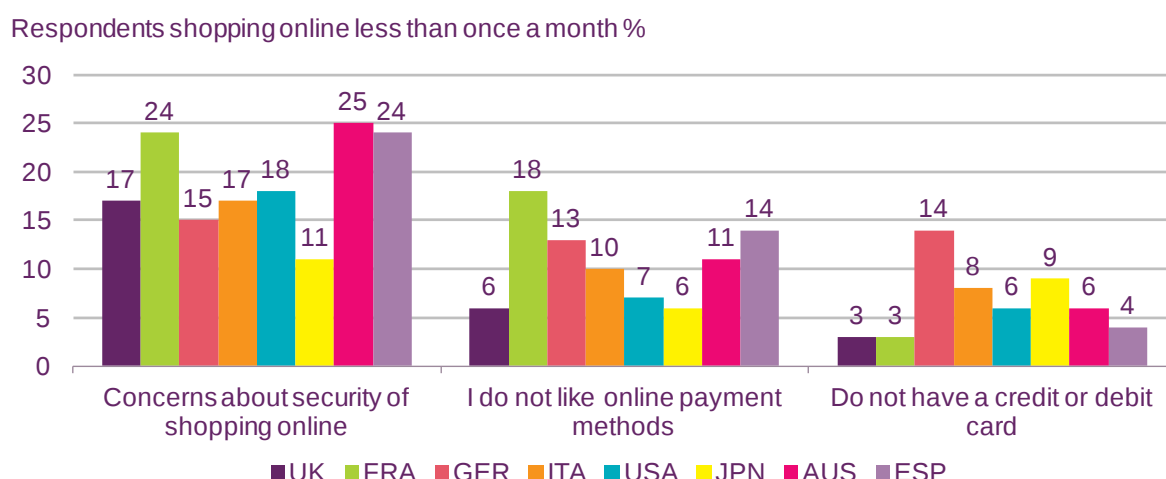
People in the UK have fewer concerns about paying for shopping online

Some people who shop online less than once a month, and who say they don't do it more for reasons connected with payment, have concerns about online security. Less than a fifth (17%) of respondents in the UK had this concern, however; significantly less than in Australia (25%), Spain (24%) and France (24%).

Only 6% of people in the UK cited: 'I do not like online payment methods' as a reason they didn't shop online more often, which, along with Japan, was the lowest proportion among the comparator countries.

Fourteen per cent of respondents in Germany indicated that the reason they do not shop online more often was that they did not own a credit or debit card. This was the highest proportion of all the comparator countries.

Figure 1.34 Reasons people don't shop online more: payment issues



Source: Ofcom research, September 2013

Q.9 For which, if any, of the following reasons, do you not shop online more often? Base: All respondents who shop online less than once a month (UK=271, FRA=541, GER=331, ITA=588, USA=555, JPN=302, AUS=467, ESP=668)

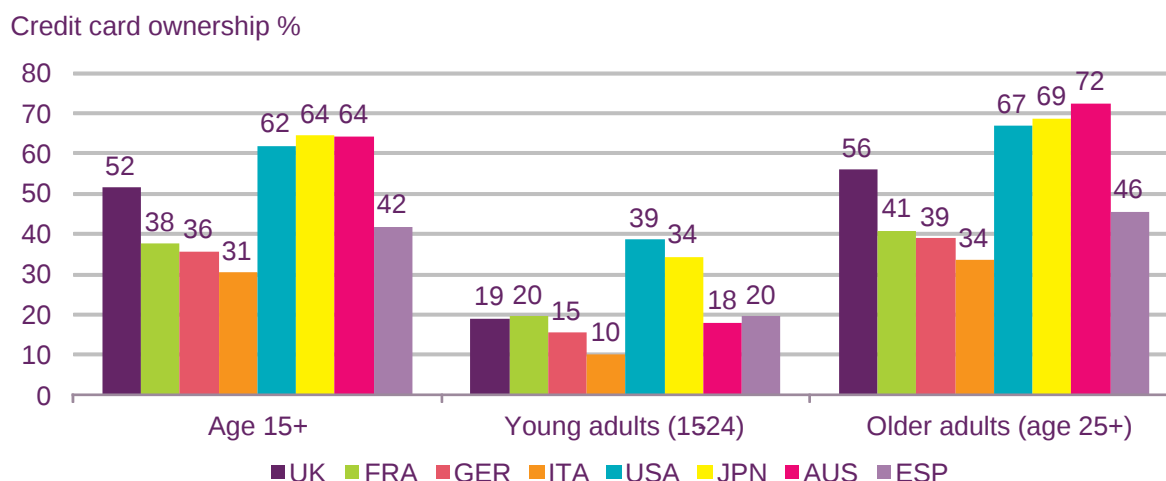
Credit card ownership in the UK is the highest in Europe

The percentage of all people (over 15) who own a credit card in Australia and Japan is 64%, a slightly higher figure than in the US, which has 62% ownership. Among adults over 25, Australia's credit card ownership stands at nearly three-quarters (72%).

Credit card ownership in the UK is a slightly lower (52%) although this is 10% higher than the next European country, Spain, with 42% ownership. But among young adults (15-24) this figure is comparable to other European countries.

In Germany credit card ownership is much lower than in the UK, at 36% take-up for adults over 15; only Italy has fewer people who own a credit card (Figure 1.35) The more limited payment methods may explain why European countries other than the UK have a slightly greater proportion of respondents who cite reasons relating to payment as factors that inhibit their online shopping.

Figure 1.35 Credit card ownership: 2011



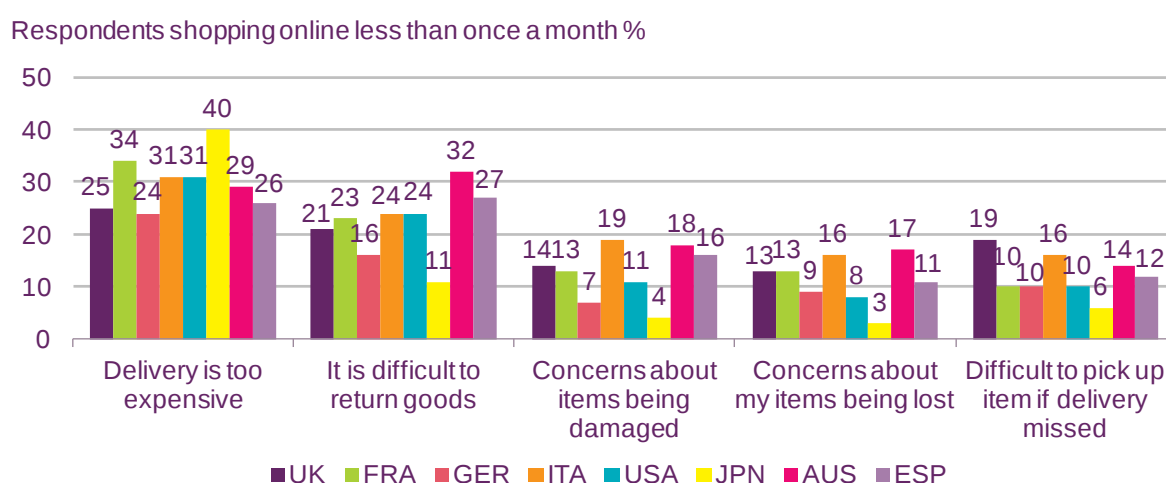
Source: Global Findex (Global Financial Inclusion Database)

People in the UK have more problems collecting an item if a delivery is missed

As shown in Figure 1.36, fewer people in the UK and Germany than in the other comparator countries agreed that delivery charges were too high. This pattern is repeated among those who shop less often; in the UK and Germany a lower percentage of people cited 'it is difficult to return goods' as a reason they didn't shop online more, at 21% and 16% respectively. This is in contrast to Australia, where 32% chose this as a reason. Respondents in the UK also expressed fewer concerns related to their items being lost or damaged.

A higher percentage of UK respondents (19%) than in any of the comparator countries said they did not shop online more often because of concerns about collecting their item if they missed the delivery.

Figure 1.36 Reasons people don't shop online more: delivery issues



Source: Ofcom research, September 2013

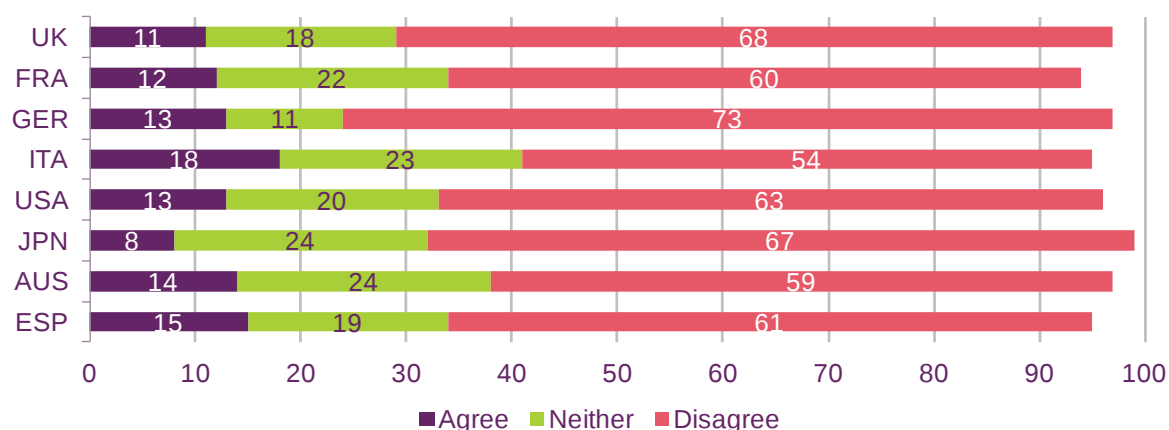
Q.9 For which, if any, of the following reasons, do you not shop online more often? Base: all respondents who shop online less than once a month (UK=271, FRA=541, GER=331, ITA=588, USA=555, JPN=302, AUS=467, ESP=668)

People in Italy are more likely to have had a bad experience shopping online

Italy had the highest proportion of respondents who had experienced a bad online shopping experience, at 18%. Only around one in ten (11%) respondents in the UK agreed with this statement; only Japan was lower, with 8%. Overall, however, most people disagreed with this statement and over half in all comparator countries, said they had not experienced anything which would put them off shopping online again.

Figure 1.37 People who had had a bad online shopping experience

Proportion of respondents %



Source: Ofcom research, September 2013

QO10 To what extent do you agree or disagree with the following statements? [I have had a bad experience shopping online and it has put me off] Base: all respondents (UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020)

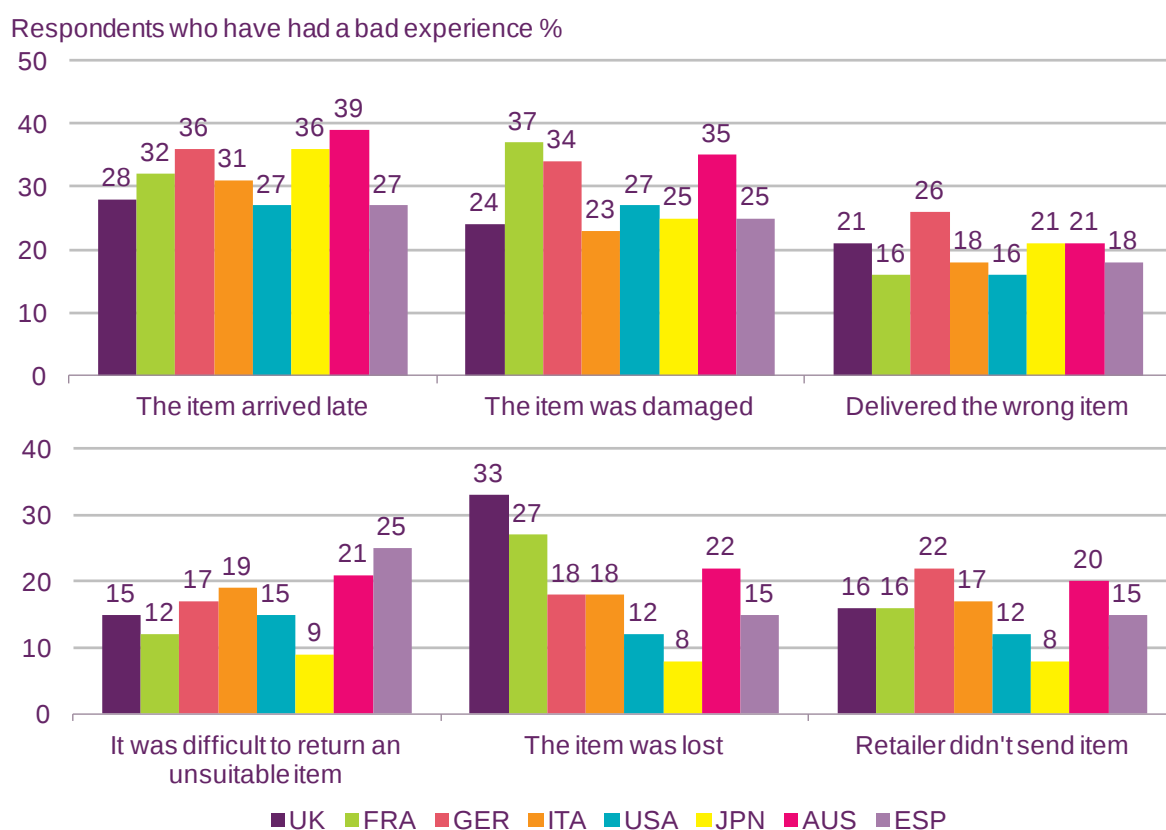
In the UK, lost items were responsible for most bad online shopping experiences

Of those UK respondents who had had a bad online shopping experience, 33% cited 'lost items' as the type of bad experience. This was a higher percentage than in all the comparator countries. This choice of response was also high in France (27%), but in other European countries was significantly lower: Germany (18%), Italy (18%) and Spain (15%).

The UK generally experienced fewer problems than the other comparator countries in relation to reasons such as late delivery (28%) and damaged items (24%), whereas considerably more people in France and Germany had experienced problems in these areas. In Australia 39% of respondents had experienced problems with late delivery.

One in four (26%) of those who had had bad online shopping experiences in Germany had had the wrong item delivered to them; the highest of the comparator countries, while people in Spain largely felt that it was difficult to return an item, and this was enough to put them off shopping online in the future; 25% selected this as a reason.

Figure 1.38 Bad experiences with shopping online



Source: Ofcom research, September 2013

Q.O11 Which of the following describe the bad experience you had with online shopping? Base: All respondents who have had a bad experience shopping online which has put them off doing it again (UK=112, FRA=119, GER=131, ITA=183, USA=130, JPN=75, AUS=139, ESP=154)

1.5 4G LTE services

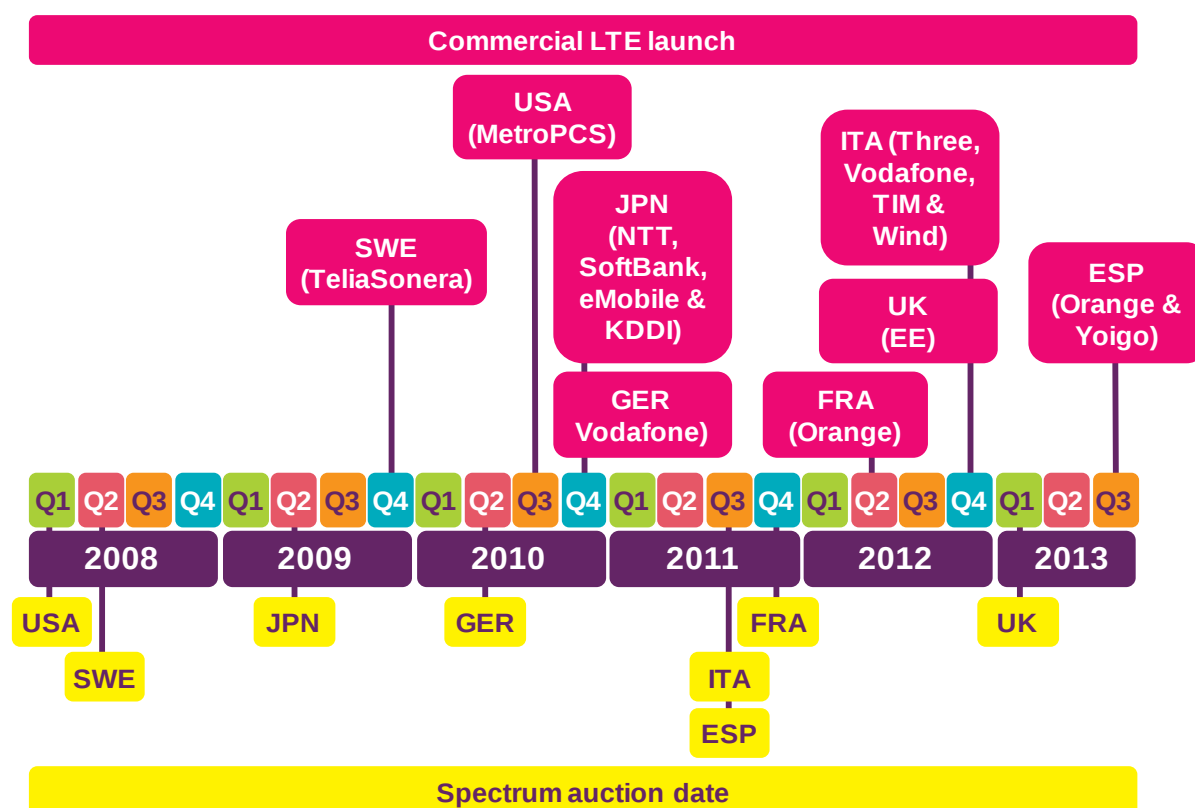
1.5.1 LTE roll-out and consumer attitudes towards 4G mobile services

4G LTE mobile services had launched in most major economies by Q3 2013

The deployment of Long Term Evolution (LTE) 4G mobile networks has gathered pace internationally, and the Global mobile Suppliers Association (GSA) has reported that 213 mobile providers had launched LTE-based services in 81 countries by September 2013, with 113 of these networks having been launched in the previous year.¹⁰ LTE mobile services should provide a range of benefits to consumers, including download speeds which are higher than those over 3G networks (the theoretical maximum speed for current LTE services is around 100Mbit/s¹¹ compared to 42Mbit/s for 3G,¹² although actual speeds for both are lower).

Figure 1.39 shows the spectrum auction dates and commercial launches of LTE networks in a number of our comparator countries, with TeliaSonera launching the first 4G LTE network in late 2009. Spain became the last of the EU5 countries to benefit from 4G services in July 2013, when Orange and Yoigo launched their commercial services. EE launched the first UK 4G service in October 2012 (prior to the auction of UK 4G mobile spectrum in 2013) after Ofcom allowed it to use some of its existing spectrum for 4G services.

Figure 1.39 LTE spectrum auction and initial commercial launch dates, by country



Source: Ofcom

¹⁰ http://www.gsacom.com/news/gsa_387.php

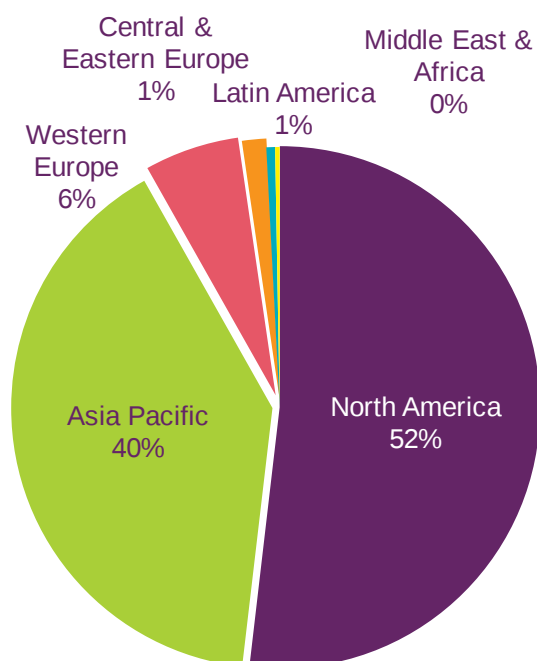
¹¹ Where 20MHz of FDD spectrum is used

¹² Where dual-carrier HSPA technologies are used in 10MHz of FDD spectrum

North America accounted for over half of 4G connections in 2012

Cisco estimates that, worldwide, there were 60 million 4G connections by the end of 2012, equivalent to 0.9% of all mobile connections (Figure 1.40). Over half of these (31.3 million, or 52% of the total) were in North America, while a further 24.1 million (40% of the total) were in the Asia Pacific region. Just 6% of connections (3.5 million) were in Western Europe, while Central and Eastern Europe, Latin America and the Middle East and Africa each had fewer than one million 4G connections, and collectively accounted for just over 2% of the total. Cisco predicts strong growth in 4G, estimating that there will be a total of 992 million worldwide 4G connections by 2017, representing 10% of total mobile connections, and that in North America and Western Europe the proportion of total connections that are 4G will be 31% and 18% respectively.

Figure 1.40 4G connections, by region: 2012



Source: Cisco VNI Mobile Forecast, 2013.

http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

4G take-up was low in most comparator countries at the end of 2012

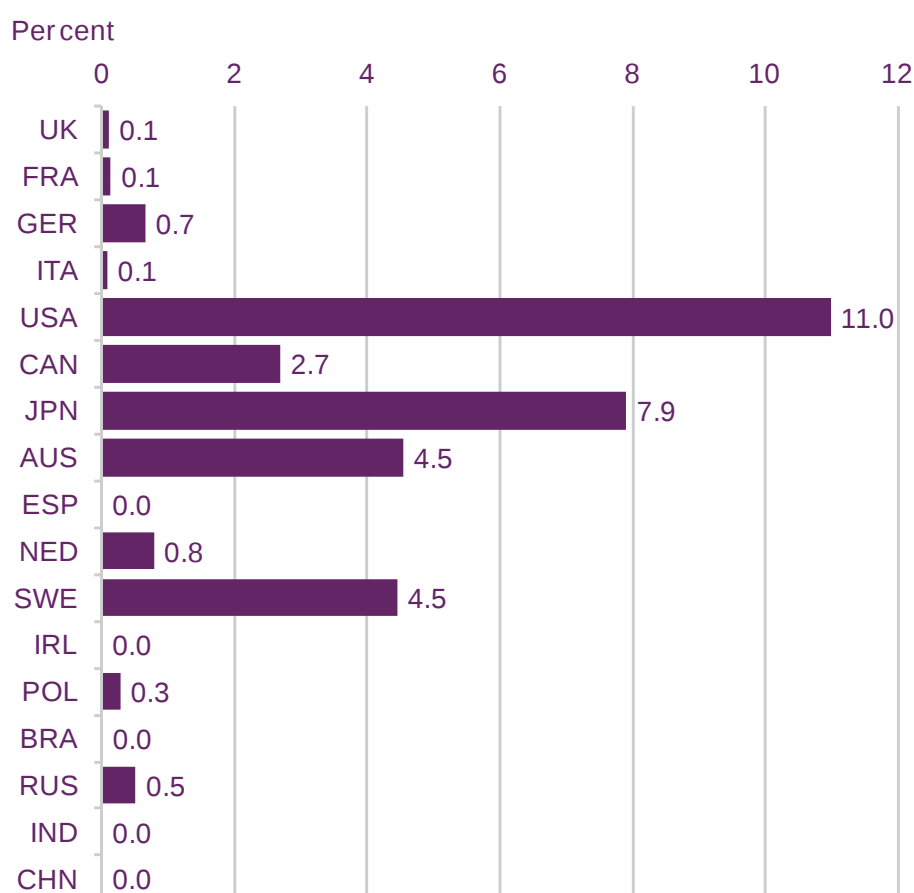
By the end of 2012, less than 1% of mobile connections were 4G in most of the comparator countries for which figures were available, according to data provided by IDATE (Figure 1.41). The five exceptions were Canada (where 2.7% of connections were 4G), Sweden and Australia (both 4.5%), Japan (7.9%) and the US (11.0%), where commercial 4G services were all well-established by 2012, having launched in each of these countries before 2011 (with the exception of Australia, where Telstra launched its 4G network in September 2011).

It is notable that the proportion of mobile connections that were 4G in Germany (where 4G services also launched in 2010) was lower than in either the US and Japan, at 0.9% in 2012. This is because the LTE roll-out was initially limited to areas with little or no fixed-broadband connectivity, in order to meet obligations associated with the spectrum licences, and because consumer awareness of 4G is low as the mobile network providers have not pushed these services (see Figure 1.43). In the UK, just 0.1% of all mobile connections were

4G at the end of 2012; however, this was largely because EE had launched its 4G network only a few months previously, and take-up since then has grown significantly (O2 and Vodafone launched their UK 4G services at the end of August 2013, while in October 2013 EE announced that it had about 1.2 million UK 4G subscribers).¹³ The UK's fourth mobile network provider, Three, has announced that it will launch its 4G network in December 2013.¹⁴

We expect that the proportion of mobile connections that are 4G will increase rapidly in both the UK and our other comparator countries over the next few years, as continued LTE network deployment increases the availability of 4G, and consumers upgrade to these services.

Figure 1.41 4G as a proportion of total mobile subscriptions: 2012



Source: IDATE

The faster speeds provided by 4G networks are likely to result in higher average mobile data use

The faster mobile data speeds which 4G LTE provides allow consumers to undertake online activities which were previously only possible over a fixed-line broadband connection, such as streaming video content. These bandwidth-hungry services consume data at a much faster rate than other online activities, and Cisco estimates that in 2012 the average monthly data use on a 4G smartphone was 1.3GB, almost four times the 342MB average across all

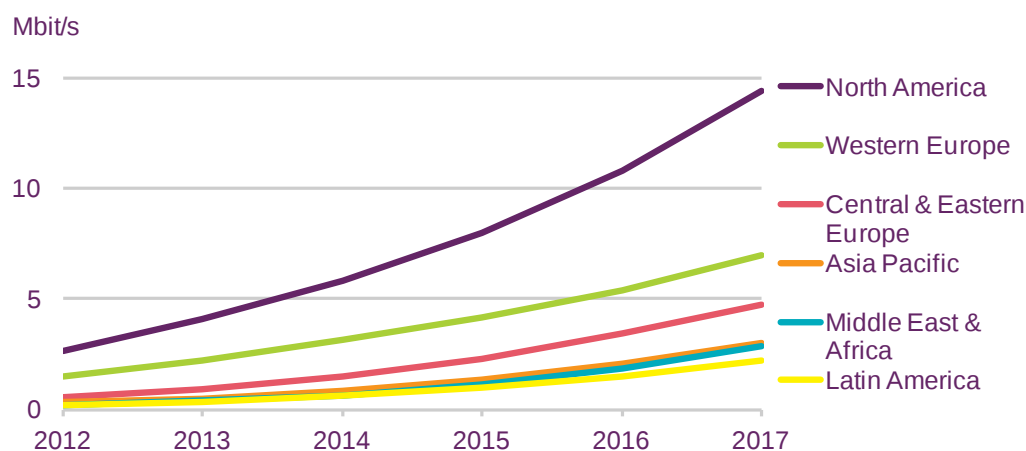
¹³ <https://explore.ee.co.uk/our-company/newsroom/ee-results-for-the-third-quarter-to-30-september-2013>

¹⁴ http://www.three.co.uk/Discover/Built_for_internetting?site=d

smartphones.¹⁵ It is therefore likely that growing take-up of 4G services will result in increases both in average mobile data connection speeds and in average mobile data use: Cisco forecasts that 31% of mobile connections in North America will be 4G by 2017, and the average mobile data connection speed in the region will have risen to 14.4Mbit/s, while in Western Europe, 18% of mobile connections will be 4G by 2017 and the average mobile data connection speed will be 7.0Mbit/s.¹⁶

Cisco's *Visual Networking Index* also estimates that while 4G mobile connections accounted for 0.9% of all mobile connections in 2012, they accounted for 14% of mobile data volumes during that year, and by 2017 (when 10% of mobile connections will be 4G) almost half of all mobile data volumes (45%) will be transmitted over 4G networks. Similarly, it forecasts that average monthly 4G smartphone data use will have tripled from 1.3GB to 5.1GB by 2017, while the average across all smartphones will have grown from 342MB to 2.7GB.

Figure 1.42 Estimated average mobile data speeds, by region: 2012 to 2017



Source: Cisco VNI Mobile Forecast, 2013.

http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

Consumer awareness of 4G services is highest in the UK, France and the US

In order to ascertain consumer awareness and attitudes to 4G mobile services, Ofcom undertook consumer research in nine of our comparator countries in September/October 2013. In line with the data shown in Figure 1.41, this suggested that take-up of 4G services was highest in the US, Australia and Japan, where the proportions of respondents who said that they were already 4G users were 27%, 16% and 13% respectively (Figure 1.43). These figures are significantly higher than the take-up data shown in Figure 1.41 with the difference likely to be due to increasing 4G take-up in the intervening period, and a sampling bias associated with the research having been undertaken online.

There were marked differences in levels of consumer awareness of 4G mobile services across our comparator countries, with awareness being highest in the UK, France and the US (where over 85% of respondents already took, or were aware of, 4G services) and lowest in Italy, Germany and Japan. Low levels of awareness in Germany and Japan were

¹⁵ Cisco Visual Networking Index:

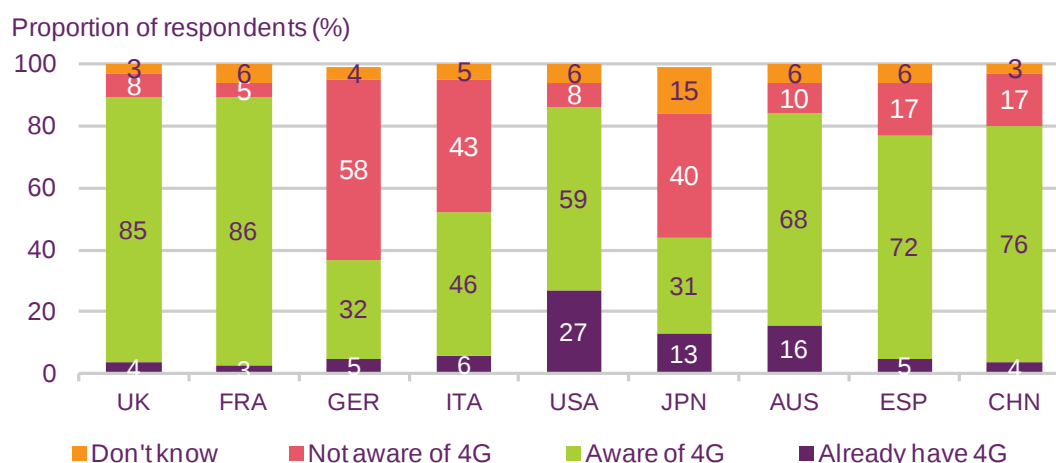
http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

¹⁶ Cisco Visual Networking Index:

http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

something of a surprise, given that 4G has been available for some time in both countries, and this may be either because 4G network providers do not promote these services to consumers, or because they do not market them using the terminology '4G'.

Figure 1.43 Awareness and take-up of 4G mobile services



Source: Ofcom research, September 2013

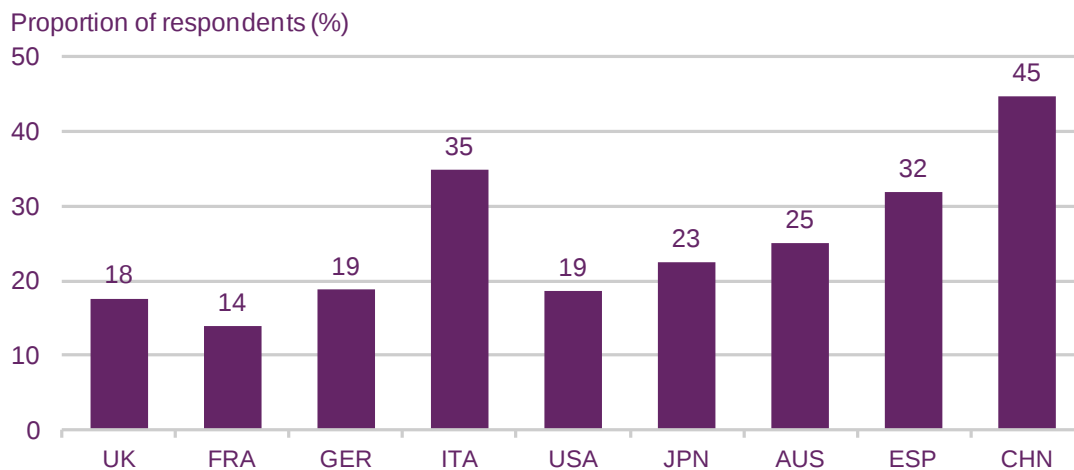
Base size: All respondents: UK (1000), FRA (1007), GER (1010), ITA (1010), USA (1004), JPN (1005), AUS (1007), ESP (1020) CHN (1007)

Question: 4G is a new service and it enables faster mobile internet access. Which of the following statements best describes your awareness and use of 4G?

Over a third of people in Italy and China who were aware of 4G and did not already have it said that they were likely to upgrade in the next year

We asked consumers who were aware of 4G but did not yet take a 4G service whether or not it was likely they would upgrade to 4G in the future (Figure 1.44). Interest in 4G services was highest in Italy (which has comparatively high levels of mobile use and the highest number of mobile connections per person among these nine countries) and China (where the survey sample is skewed towards urban consumers, and is therefore not representative of the population as a whole). The proportions of respondents who said that it was likely that they would upgrade to 4G in the following year were 35% in Italy and 45% in China. In the UK, 18% of respondents who had heard of 4G but did not already take it said that it was likely they would to upgrade to 4G; this was the second lowest proportion among our comparator countries, after France (14%).

Figure 1.44 Likelihood to purchase 4G mobile services in the next year



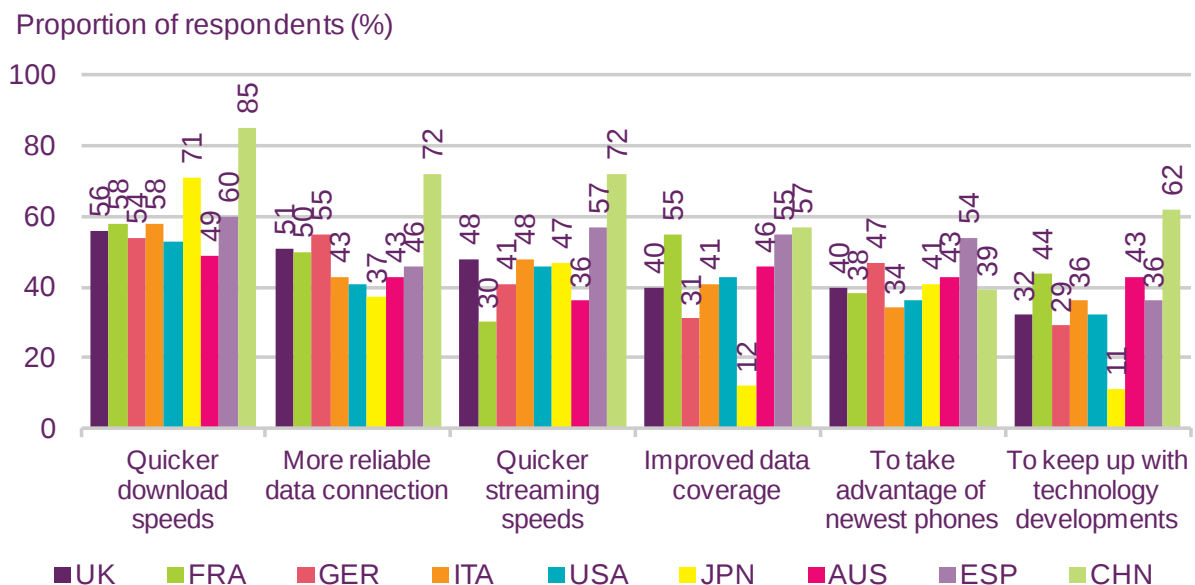
Source: Ofcom research, September 2013

Base: All respondents who were aware of 4G but do not already take 4G services: UK (850), FRA (866), GER (323), ITA (465), USA (592), JPN (312), AUS (685), ESP (734) CHN (765)

Faster data speeds and more reliable data connections are the main reasons that people intend to upgrade to 4G

We asked those respondents who said that they were likely to upgrade to 4G in the next year why they intended to do so. The most frequently cited reasons involved the faster download/streaming speeds and the better data coverage/connectivity that 4G offers, although the desire to keep up with the latest technology, and with mobile handsets, were also mentioned by a large proportion of respondents (Figure 1.45).

Figure 1.45 Reasons for wanting to upgrade to 4G mobile services



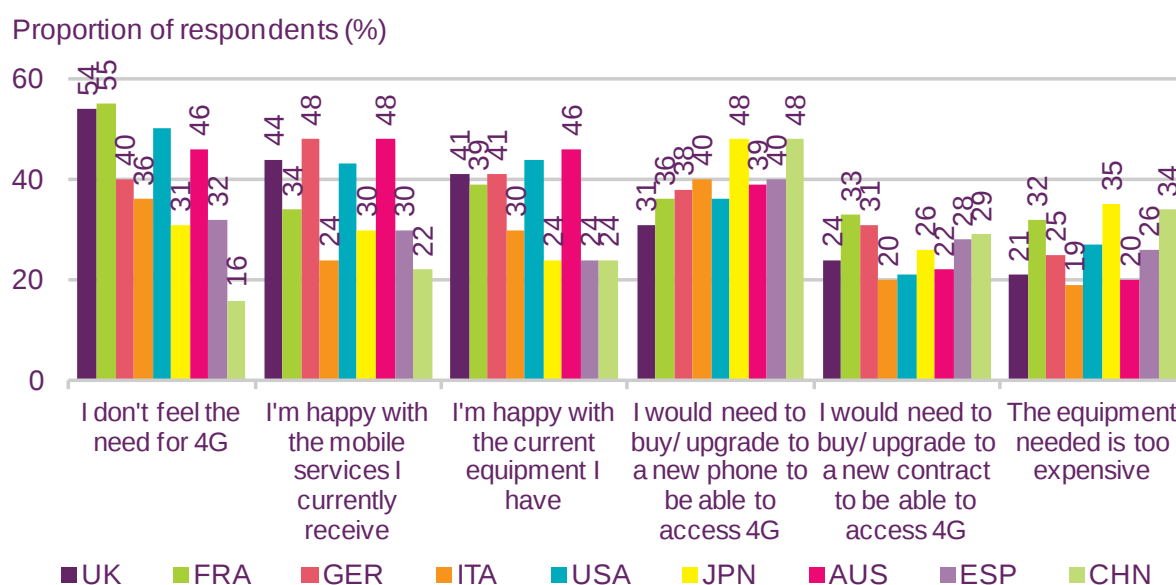
Source: Ofcom research, September 2013

Base: All respondents who have or are likely to get 4G

Consumers who were unlikely to upgrade to 4G cited ‘not seeing the need for 4G’, or price, as their reason for not upgrading

Similarly, we asked those respondents who stated that they were unlikely to upgrade to 4G in the next year why this was the case. Here, the most frequently cited reasons for not upgrading were the lack of a perceived need for 4G services, and the lack of perceived need for a new mobile handset and/or contract, when they were happy with their current device and/or services. The additional costs associated with upgrading to 4G (purchasing a 4G-enabled device or handset and paying extra to access 4G services) were also mentioned as being barriers to upgrading to 4G (Figure 1.46).

Figure 1.46 Reasons for not wanting to upgrade to 4G mobile services



Source: Ofcom research, September 2013

Base: All respondents who are unlikely to get 4G or are unsure

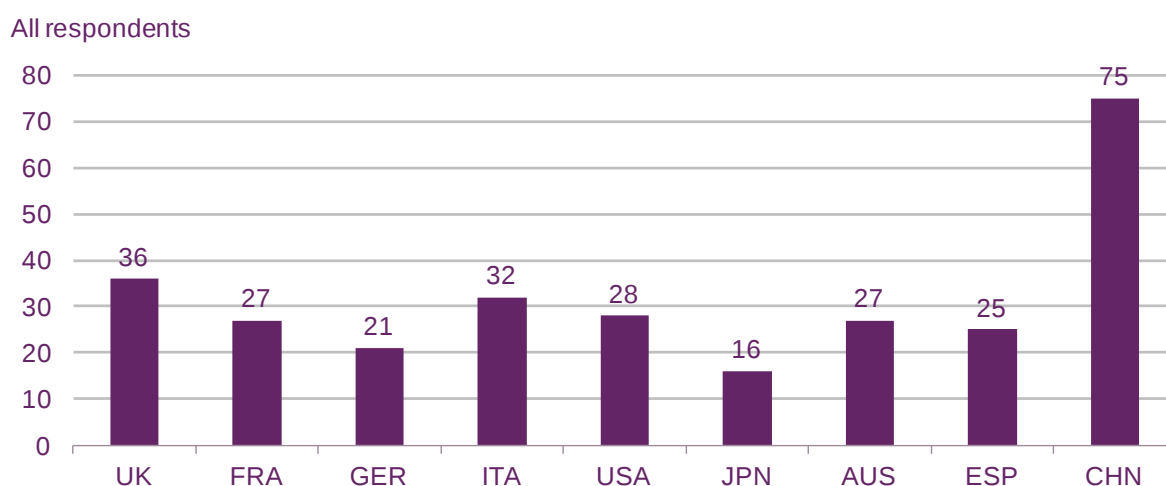
1.6 Audio-visual consumption on web enabled devices

1.6.1 UK consumers most likely to use online TV services

Figure 1.47 shows the proportion of internet users who use their home internet connection to watch TV online. With the exception of China (where broadband penetration is much lower than in the other countries in our research), UK consumers are the most likely to access TV content over the internet, with over a third (36%) of internet users claiming to do this every week. In Italy, a third (32%) of internet users access TV content over the internet on a weekly basis, and in France, Australia and the US about a quarter of internet users do so.

The popularity of internet TV catch-up services in the UK from the free-to-air broadcasters, such as BBC iPlayer, 4oD and ITV Player, is helping to drive UK consumers' consumption of TV content online. According to data from the BBC, BBC iPlayer is continuing to grow in popularity, with 159 million requests for TV programmes in August 2013, up from 151 million in August 2012 and 115 million in August 2011.

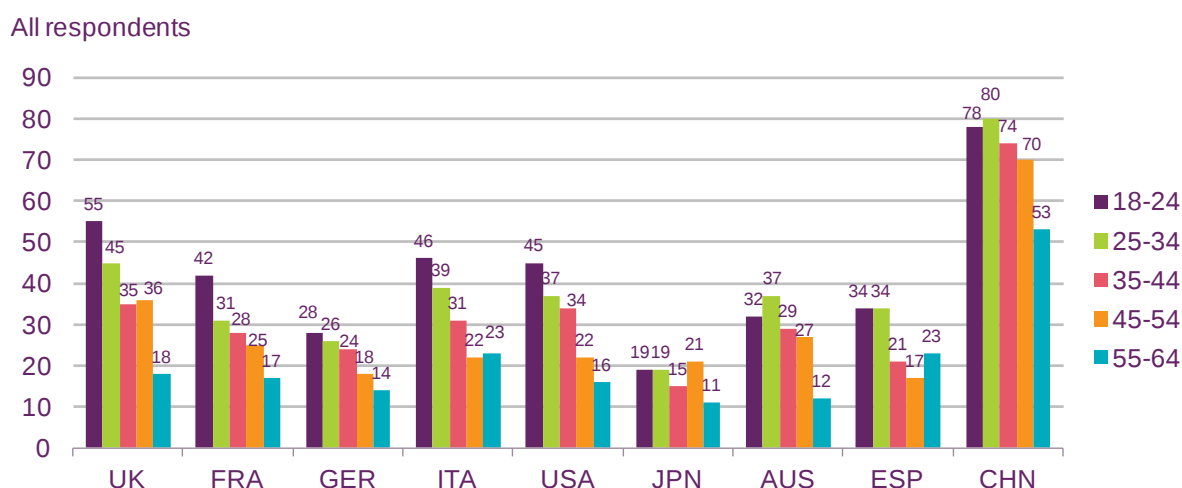
Figure 1.47 Weekly viewing of TV content over the internet



Source: Ofcom consumer research September 2013. Base: all respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007. Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

In the UK, internet users aged 18-24 are the most likely to access TV content online, with 55% claiming to do so, while 55-64 year olds are the least likely, with only 18% claiming to do so. As set out in Figure 1.48, this pattern is generally consistent across the countries surveyed, although in some countries, such as Australia and China, 25-34 year olds have a higher propensity to watch TV over the internet, and in Japan, it is the 45-54 year olds who are the most likely.

Figure 1.48 Weekly viewing of TV content over the internet, by age



Source: Ofcom consumer research September 2013. Base: all respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007. Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

Devices used to access audio-visual content

We are using a greater variety of devices to access audio-visual content than ever before. In the UK 62% of laptop users and 47% of mobile users watch short-form video content, on platforms such as YouTube and Vimeo, on their devices, while 77% of smart TV owners, 34% of tablet users and 31% of console users watch catch-up TV on their devices.

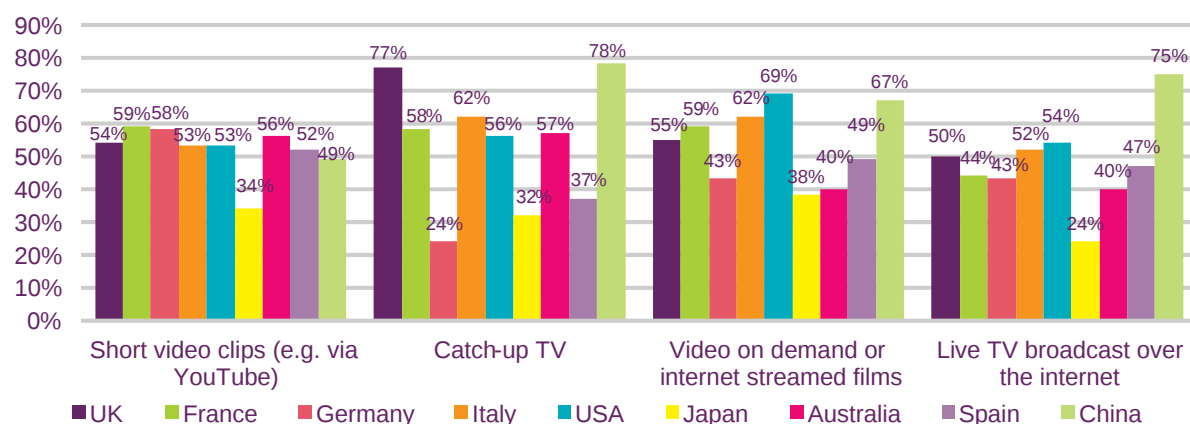
UK consumers more likely to watch catch up TV via smart TVs, smartphones and tablets than any other ICMR country

Figure 1.49 shows the types of AV content watched by smart TV owners on their device. In the UK, catch-up TV (including services from the free-to-air broadcasters, such as BBC iPlayer, 4oD and ITV Player) is the type of content most likely to be watched on a smart TV, with over three-quarters (77%) of smart TV owners doing this, and around half stating that they watched the other types of AV content featured in our research.

Catch-up TV is also the most popular content accessed via smart TVs in China (78%) and Australia (57%). In the US, however, video on demand is the online content most likely to be watched; 69% of owners access this on their smart TV. The viewing of video-on-demand services in the US is likely to be driven by the availability of subscription and paid-for video-on-demand services, such as Netflix. According to comScore MMX data, in August 2013 the Netflix website had almost 30 million unique visitors in the US and around 2.5 million in the UK.

Figure 1.49 Types of AV content watched on smart TVs

% of individuals with a smart TV who watch a particular format on that device



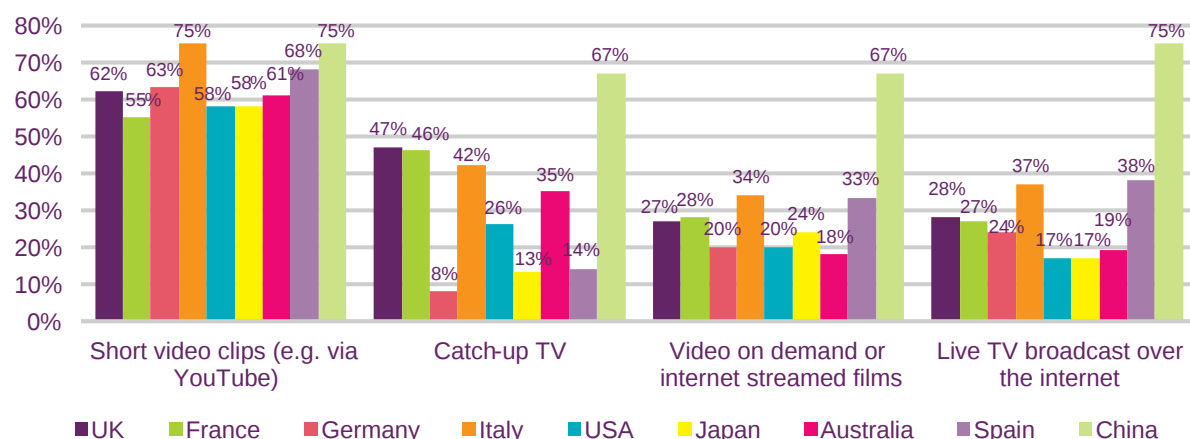
Source: Ofcom consumer research September 2013. Base: smart TV owners, UK=88*, FRA=52**, GER=96*, ITA=94*, USA=63**, JPN=56**, AUS=96*, ESP=77*, CHN=244. Q.15c What sorts of video content do you watch on each of your devices over the internet? * Base size is very low, consider with caution, ** Base size is very low (under 75), consider with caution.

The types of AV content watched by laptop, desktop and notebook owners on these device(s) can be seen in Figure 1.50. Short video clips are the type of content most likely to be viewed on these types of devices in all nine countries. In the UK, video on demand and internet streamed films are the formats least likely to be watched on laptops, desktops and notebooks; only 27% of respondents claim to do this.

The UK has the highest number of internet users accessing catch-up TV via their laptop or desktop PC (77%), of all the countries in our analysis. However, recent figures from the BBC suggest that the number of programme requests to BBC iPlayer via a PC represents less than half of all programme requests, at 42% (99 million), with requests from tablets now accounting for 18% (43 million)¹⁷.

Figure 1.50 Types of AV content accessed on laptops, desktops and notebooks

% of individuals with laptop/desktop/notebook who watch a particular format on that device

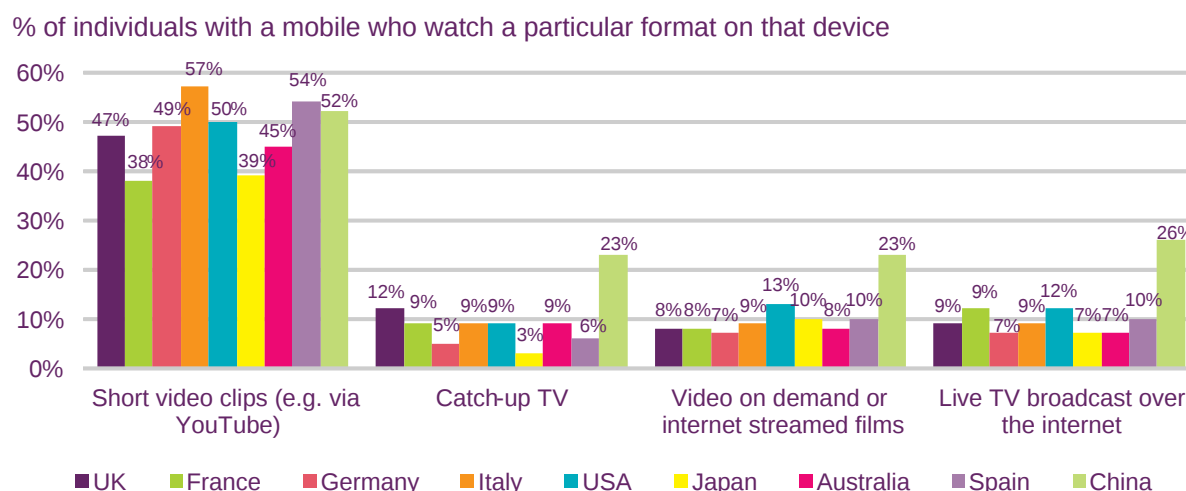


Source: Ofcom consumer research September 2013. Base: laptop/desktop/notebook owners, UK=952, FRA=941, GER=951, ITA=908, USA=940, JPN=942, AUS=960, ESP=931, CHN=966. Q.15c What sorts of video content do you watch on each of your devices over the internet?

¹⁷ BBC iPlayer monthly performance pack, August 2013

As shown in Figure 1.51 short video clips are also the form of AV content most likely to be watched on mobile phones. In the UK, almost half of mobile phone owners said that they watched short video clips on their phones via sites such as YouTube, whereas only around one in ten said that they used their device to watch other types of AV content. The remaining countries follow a similar pattern to the UK, except in China where around a quarter of respondents stated that they also watched longer forms of AV content on their mobile phones. With regard to catch-up TV specifically, mobile phone owners in the UK are more likely than those in the other countries surveyed to watch this type of content on their device.

Figure 1.51 Types of AV content watched on smartphones

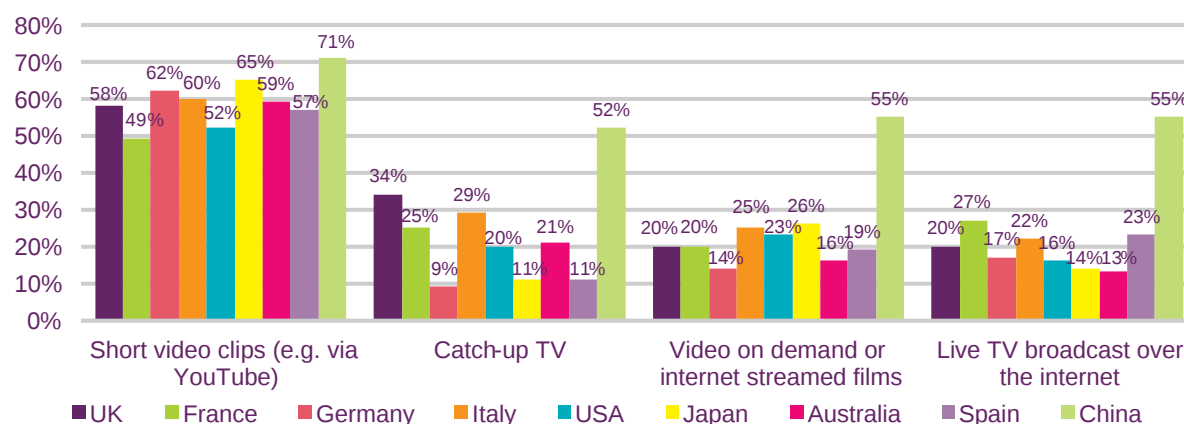


Source: Ofcom consumer research September 2013. Base: Mobile owners, UK=572, FRA=456, GER=470, ITA=638, USA=437, JPN=581, AUS=550, ESP=703, CHN=866. Q.15c What sorts of video content do you watch on each of your devices over the internet?

Short video clips are also the form of AV content most likely to be viewed on tablets. In all our comparator countries at least half of the tablet owners surveyed said that they used their tablet to watch short video clips, while (with the exception of China) around 10% to 30% said that they watched the other types of content on this device. And following a similar pattern to the viewing of catch-up TV on mobile phones, consumers in the UK are also the most likely to watch this type of content on tablets.

Figure 1.52 Types of content watched on tablets

% of individuals with a tablet who watch a particular format on that device



Source: Ofcom consumer research September 2013. Base: Tablet owners, UK=329, FRA=203, GER=180, ITA=286, USA=239, JPN=171, AUS=316, ESP=324, CHN=476. Q.15c What sorts of video content do you watch on each of your devices over the internet?

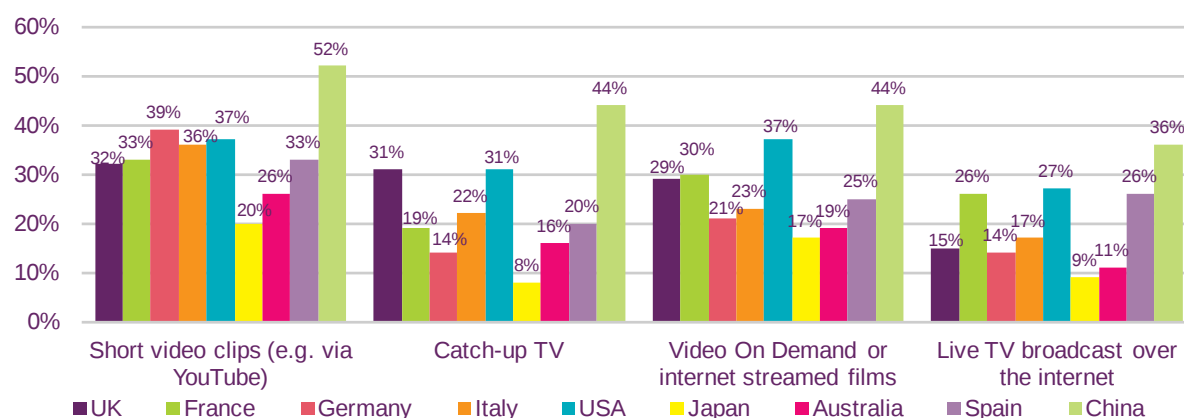
There is a more varied picture of content consumption on games consoles, with the type of content most likely to be watched varying by country. Figure 1.53 illustrates that in the UK, video on demand and catch-up TV are almost as popular as short video clips for watching on a games console, with almost equal proportions of users (29%, 31% and 32% respectively) doing so for each video format.

This makes the UK unique among the other European comparator countries, where the short video-clip format is much more likely than the other formats to be watched on a games console. In France (19%), Germany (14%), Italy (22%) and Spain (17%), catch-up services via the video games console did not feature as strongly as they did in the UK.

The research also indicates that in the US short video clips and video on demand are the most commonly watched formats on games consoles (37% each), while catch-up TV is used by 31% of console owners.

Figure 1.53 Types of content watched on games consoles

% of individuals with a games console who watch a particular format on that device



Source: Ofcom consumer research September 2013. Base: games console owners, UK=189, FRA=63*, GER=80*, ITA=103, USA=145, JPN=112, AUS=77*, ESP=108, CHN=59*. Q.15c What sorts of video content do you watch on each of your devices over the internet? * Base size is very low, consider with caution.

1.7 News consumption – the international context

1.7.1 Introduction

This section looks into the consumption of news. The first part of this section focuses on digital news consumption, and presents a summary of the key findings from the Reuters Institute *Digital News Report*, which was published in June 2013. The second section presents the findings from Ofcom's consumer research and looks at which platform consumers use as their main source for different types of news. The key findings include:

- Within the sample of online news users, TV remains the main platform for news in the UK, Germany, France and the US. However, in Spain, Italy and Japan, online is the main source.
- The majority of respondents across the countries say they prefer their news to have no particular point of view. However, one in ten of those in the UK, Spain, Italy and the US prefer news to challenge their point of view, while 1% of those in Germany say this.
- Respondents in the UK are most likely to use 'traditional' news brands online, and to use branded sites to find news. In all other countries except Spain, search engines are the most popular means of finding news.
- Online consumers in the UK are less likely than those in Italy and US to use the internet as a main source of national news.

1.7.2 Digital news consumption – a comparative study

This section provides a summary of key findings from the Reuters Institute *Digital News Report*, published in June 2013.¹⁸ Ofcom, along with the BBC, Google, Newsworks, FranceTelevisions, the Hans Bredow Institute and Roskilde University, provided support for this project. The research provides comparisons between the UK, the US, France, Germany, Japan, Italy, Spain, Denmark and Brazil. To maintain consistency with Ofcom's data, this summary does not include data relating to Denmark or Brazil.

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

The survey was completed by an online panel of 2078 UK news users for YouGov in January/February 2013. YouGov also conducted online surveys in the other countries, with samples ranging from 965 (Italy) to 2028 (US). In this section, we refer to these people as 'online users of news', which means they have online access and said they had used any form of (offline or online) news in the previous month. For further methodological details please see <http://www.digitalnewsreport.org/survey/2013/survey-methodology-for-the-reuters-digital-news-report-2013/>.

¹⁸ Available at:
https://reutersinstitute.politics.ox.ac.uk/fileadmin/documents/Publications/Working_Papers/Digital_News_Report_2013.pdf

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

Figure 1.54 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, they are the least likely to say they are interested in news about politics, and also the least likely to say they are interested in science and technology news. They are most likely to say they are interested in entertainment and celebrity news.

Respondents in Germany are more likely than those in other countries to be interested in news about their region, as might be expected, with the Lander system of government. They are also more likely to be interested in international news. Respondents in France and Japan are less interested than the other countries in local news, while those in Spain are the least likely to be interested in business and financial news, although four in ten are interested in news about the economy. Respondents in Spain are the most likely to be interested in health and education, arts, culture, and sports news.

Figure 1.54 Levels of interest in types of news

	UK	FRA	GER	ITA	US	JPN	ESP
News about the country	71%	66%	70%	62%	57%	62%	64%
International news	53%	54%	67%	42%	56%	48%	44%
Local news about my town or city	49%	31%	47%	49%	59%	30%	42%
News about my region	44%	41%	53%	38%	31%	37%	43%
Business and financial news	20%	18%	18%	16%	22%	27%	14%
News about the economy	44%	35%	31%	40%	52%	48%	41%
Entertainment and celebrity news	20%	13%	18%	15%	14%	18%	13%
Health and education news	28%	36%	27%	35%	29%	18%	38%
Arts and culture news	11%	17%	8%	19%	9%	20%	21%
Sports news	31%	27%	28%	33%	23%	32%	36%
News about the country's politics	37%	45%	50%	52%	54%	60%	43%
Science and technology news	22%	31%	29%	31%	26%	26%	30%

Source: Reuters Institute / YouGov research Jan/Feb 2013

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

Base: UK (n=2078) US (n=2028) Spain (n=979) Japan (n=978) Italy (n=965) Germany (n=1062) France (n=973)

1.7.4 Online is the main platform for news for respondents in Spain, Italy and Japan

Which platforms do people prefer to use for their news consumption? Across the countries studied, there are variations among online news users in which platform they prefer as their main source of news. TV is the main platform for news in the UK (41%), Germany (43%), France (57%) and the US (43%), while in Spain (41%), Italy (42%), and Japan (39%) online is cited as the main platform. In Germany and France, radio is the main platform for more than one in ten online users of news. Newspapers are the main platform for one in five users in Germany and Japan.

Figure 1.55 Main platform for news, by country

	UK	FRA	GER	ITA	US	JPN	ESP
TV	41%	57%	43%	39%	43%	35%	33%
Radio	7%	12%	13%	5%	5%	4%	9%
Print	15%	6%	18%	13%	9%	20%	15%
Online	35%	23%	25%	42%	39%	39%	41%

Source: Reuters Institute / YouGov research Jan/Feb 2013

Q4: You say you've used these sources of news in the last week, which would you say is most important or which would you say is your main news?

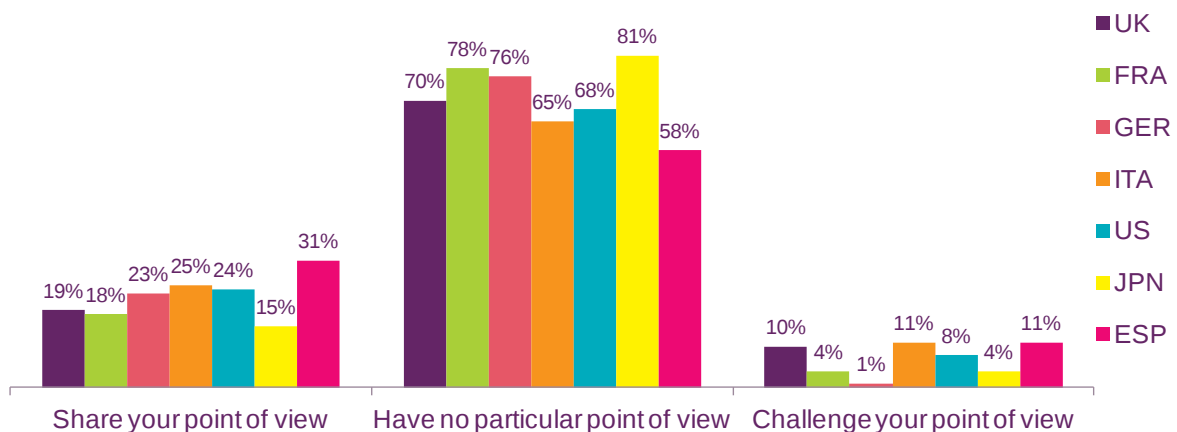
Base: UK (n=2078) US (n=2028) Spain (n=979) Japan (n=978) Italy (n=965) Germany (n=1062) France (n=973)

1.7.5 Most respondents say they have a preference for impartial news

Turning to the types of news that people prefer, respondents were asked whether they preferred impartial news, news that “shares your point of view”, or news that “challenges your view”.

Figure 1.56 shows that online users of news are most committed to impartial news sources, ranging from 58% of respondents in Spain to 81% in Japan. Those in Spain were the most likely to say they preferred news that shared their own point of view. Around one in ten respondents in the UK, Spain, Italy and the US said they preferred news that challenged their point of view, although only 1% of respondents in Germany, and 4% in France and Japan nominated this option.

Figure 1.56 Preference for impartial news, by country



Source: Reuters Institute / YouGov research Jan/Feb 2013

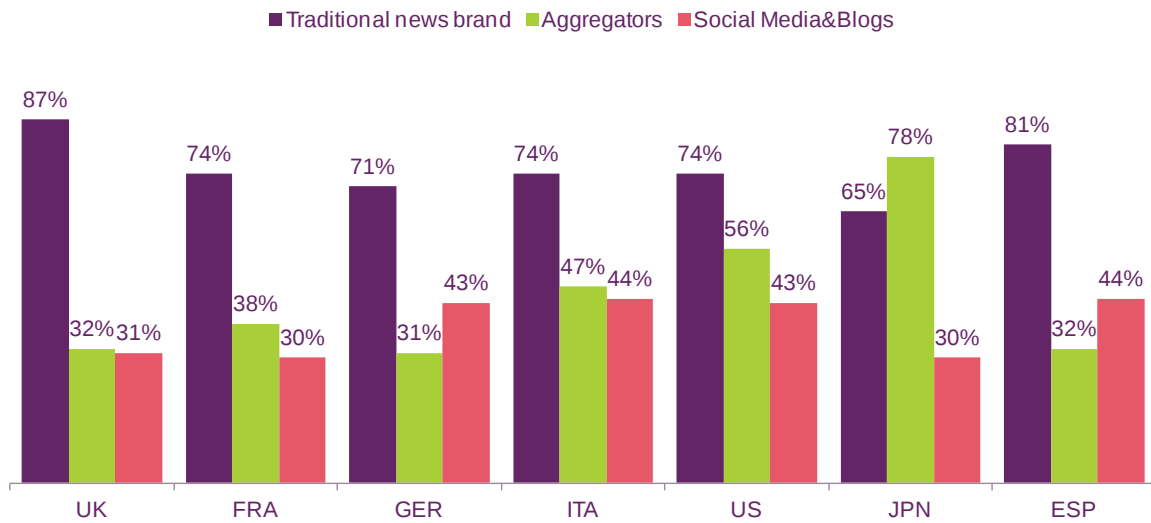
Q5c: Thinking about the different kinds of news available to you, do you prefer news that...

Base: (n=2078) US (n=2028) Spain (n=979) Japan (n=978) Italy (n=965) Germany (n=1062) France (n=973)

1.7.6 Respondents in the UK are more likely to turn to traditional news brands online

When asked which online news providers they had used in the past week, respondents in the UK were less likely than those in the other countries to use aggregators or social networking sites (Figure 1.57); traditional news brands such as BBC News, Mail Online, and Sky News were more popular. Respondents in Japan are most likely to use aggregators as online news sources, due to the popularity of Yahoo (63% of respondents in Japan cite this as an online news source, compared to 10% citing the public service website NHK). The use of social media and blogs as news sources was nominated by over four in ten respondents in Spain, Italy, the US and Germany. The UK and France were least likely to nominate either aggregators or social media.

Figure 1.57 Comparison of online use of traditional brands, aggregators and social media



Source: Reuters Institute / YouGov research Jan/Feb 2013

Q5: Which, if any, of the following have you used to access news in the last week?

Base: Online users in each country (UK=1534 ; US=1470; Germany=698 ; France=658 Italy = 775; Spain=776; Japan = 831)

1.7.7 In most countries, search engines are the main way in which respondents say they come across news stories online

Figure 1.58 sets out the main ways in which respondents in each country say they come across news stories online. As might be expected from the popularity of the UK's BBC news site, 34% of UK users of online news say they go directly to branded sites to find news. One quarter (24%) say they use search engines, and 17% use social networks and aggregators of news links. In other countries the picture is quite different. In all other countries except Spain and Japan, search engines are the most popular means of finding news. In Spain, social networks are the most popular means (45%), and in Japan, aggregators are the most popular (43%). Respondents in France are least likely to say they use branded sites (16%).

Figure 1.58 Main gateways to online news

	UK	FRA	GER	ITA	US	JPN	ESP
Branded sites	34%	16%	32%	35%	20%	28%	38%
Search engines	24%	45%	40%	49%	33%	39%	40%
Social networks	17%	14%	15%	38%	30%	12%	45%
Aggregators	17%	12%	16%	16%	26%	43%	17%
Friends/ colleagues	18%	12%	20%	21%	26%	13%	23%

Source: Reuters Institute / YouGov research Jan/Feb 2013

Q10: Thinking about how you find news online, which are the main ways that you come across news stories?

Base: UK (n=2078) US (n=2028) Spain (n=979) Japan (n=978) Italy (n=965) Germany (n=1062) France (n=973)

Note: question includes other ways of coming across news stories. Top five ways, ranked by UK incidence, are shown here.

1.7.8 Talking with friends and colleagues is the main way in which respondents share news

There are various ways of engaging with news online. Figure 1.59 shows how respondents in each country say they use news stories online. Offline discussion remains most popular, with between one third and half of respondents in each country saying they talk with friends and colleagues about the news, although in Japan this drops to 17%.

Spain, Italy and the US are the most likely to say they comment on, or share, news via social networks. Respondents in the UK are the least likely to say they blog about the news (1%), and around one in ten say they share news via email or social networks.

Figure 1.59 Sharing, commenting and creating news, by country

	UK	FRA	GER	ITA	US	JPN	ESP
Share a news via email	10%	18%	10%	19%	23%	4%	24%
Share a news via a social network	11%	14%	8%	33%	22%	8%	30%
Comment on news via social network	10%	10%	8%	26%	21%	7%	27%
Write a blog on a news issue	1%	2%	2%	5%	4%	4%	3%
Talk with friends and colleagues	44%	34%	39%	50%	51%	17%	55%

Source: Reuters Institute / YouGov research Jan/Feb 2013

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=2078) US (n=2028) Spain (n=979) Japan (n=978) Italy (n=965) Germany (n=1062) France (n=973)

1.7.9 Main sources of news

The following analysis uses data from Ofcom's own consumer research. 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 at least 1000 respondents in each nation. As the research was carried out online, the sample differs from other Ofcom consumer research and direct comparisons cannot be made. The research methodology is discussed in detail in Appendix A.

Online consumers in the UK are less likely than those in Italy and the US to use the internet as a main source of national news

Across all the nations analysed, TV is the main source of most types of news except celebrity news/ gossip, where respondents are more likely to use the internet as their main source. The report shows a similar pattern across nations, and consumption habits are similar in a number of areas, particularly related to TV and internet.

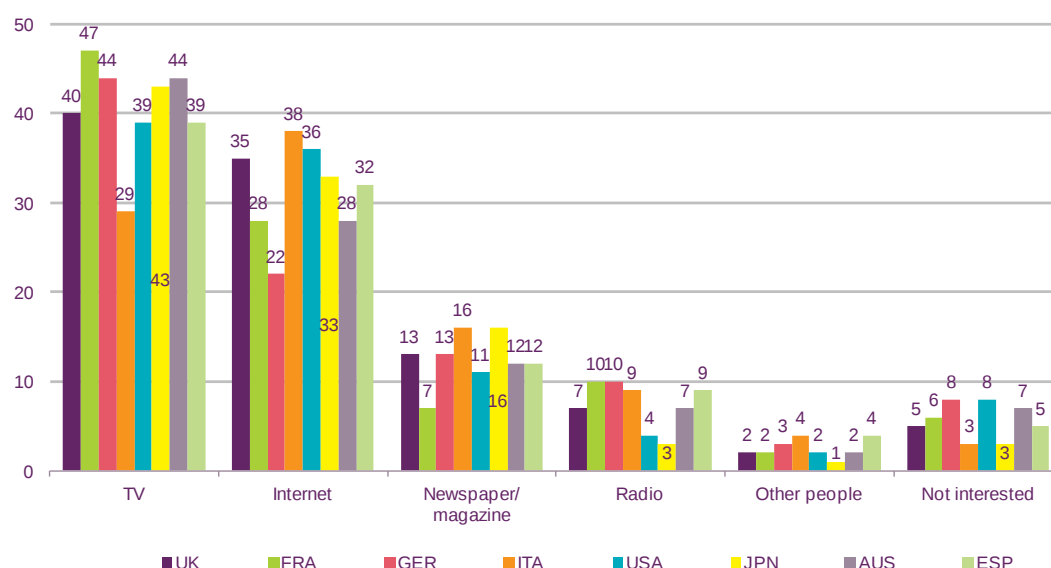
Although the most-cited main sources of news for online users generally are TV and the internet, across the nations in the sample there are subtle differences in consumption.

When asked about their main source for national news, the source named most often was TV, followed by the internet. In the UK, four in ten (40%) selected TV as their main source of national news. Respondents in France were more likely to say that they used TV as their main source of national news, where almost half (47%) selected TV as their main source and 28% selected the internet.

A similar picture emerges in Australia, where 44% 'mainly' access national news on TV and 28% via the internet. This contrasts with Italy, where the internet is more likely to be used as

a main source of national news, with 38% of respondents using this platform, compared to 29% using TV.

Figure 1.60 Main sources of national news



Source: Ofcom consumer research September 2013 Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007. Q.11 Which, if any, is your main source for the following information? National news

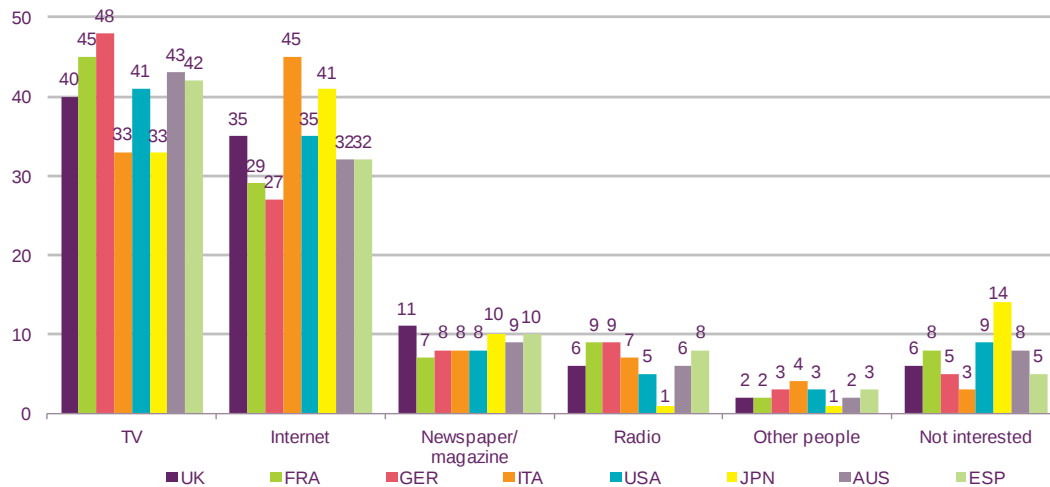
In the UK, France, Germany and Australia, TV is the main source of international news. The internet is the main source in Italy and Japan

The pattern is the same for accessing international news. In the UK, 40% of consumers use TV as their main source of international news and just over a third (35%) use the internet. Online consumers in the UK are more likely than those in France and Germany to access international news on the internet, whereas online consumers in France and Germany are more likely to watch TV for this type of news (45% and 48% respectively).

In Italy, the internet is more widely used than any other medium as a main source of international news, with 45% of respondents stating that they do this. The comparable figure for the UK is 35%. TV is used less as a main source of international news in Italy, with only 33% naming TV as a main source of international news, compared to 40% in the UK.

Fourteen per cent in Japan said that they were not interested in accessing international news stories. Radio, and newspapers and magazines, are not widely used as main sources of international news by respondents in any of the countries analysed.

Figure 1.61 Main sources of international news



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

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

In the UK, France, the US and Japan, TV is the main source of local news

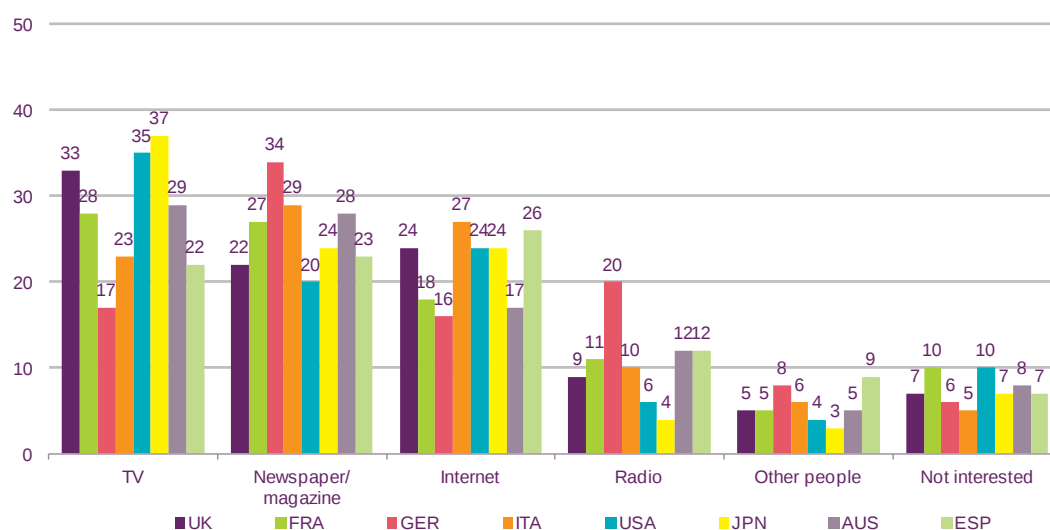
The picture changes when online users are asked about their main sources of information about their locality or region. TV and internet remain the main sources of news for most users, but more people are also using newspapers and magazines as main sources of local news.

In the UK, France, the US and Japan, TV is the main source of local news, with between 28% and 37% selecting TV in those countries. In Germany and Italy the main source of local news is newspapers and magazines, while in Spain the main source of local news is the internet.

Thirty-four per cent of research participants in Germany claimed that they read newspapers and magazines for local news, far more than the 16% who used the internet and the 17% who used the TV as their main source. Respondents in Germany were also more likely to use radio as a main source of local news, with 20% claiming that they did this, more than in any of the other nations analysed.

Just over a quarter (28%) of consumers in Australia (compared to 22% in the UK) use newspapers and magazines as a main source of regional and local news. This is slightly more than the 17% who use the internet for this purpose in Australia.

Figure 1.62 Main sources of regional / local news



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

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

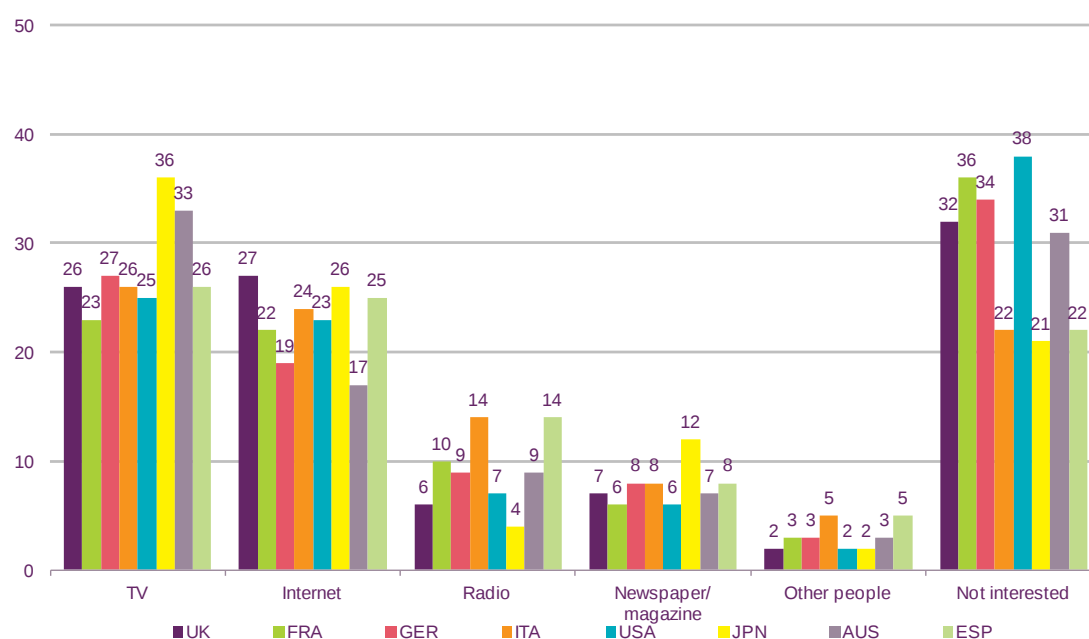
Almost a third of adults in the UK are not interested in sports news

Respondents were asked about their main source of sports news. They were also asked about their main sources of celebrity news.

As with other types of news, TV and internet remain the main sources. However, large proportions of people in most countries reported that they were not interested in sports news.

In the UK just over a quarter (27%) used the internet as their main source of sports news, the highest of all nations included in the study; the lowest was Australia at 17%.

Figure 1.63 Main sources of sports news



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

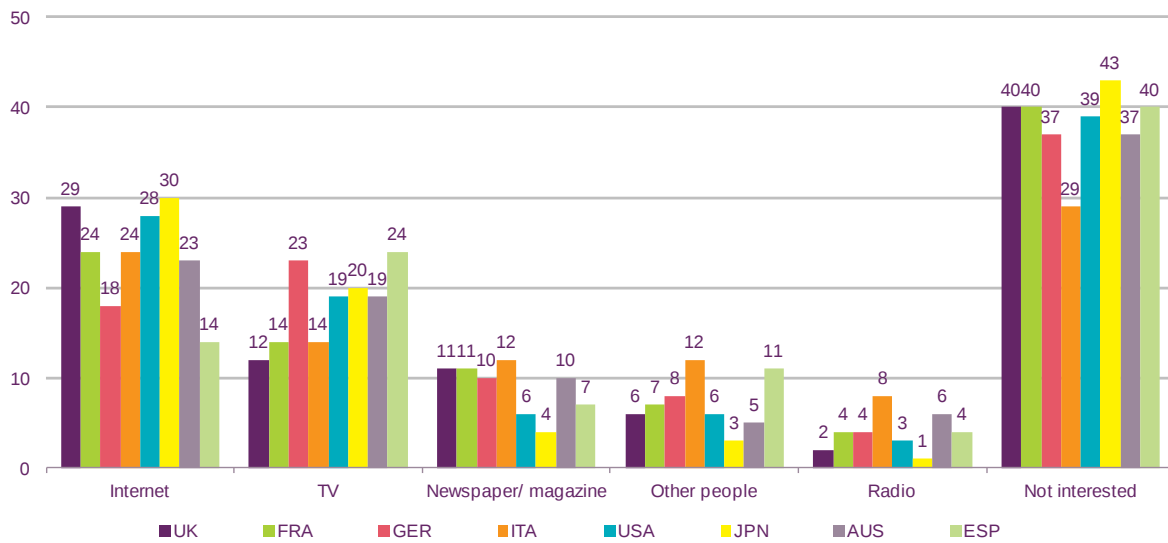
Q.11 Which, if any, is your main source for the following information? Sports news

Almost a third of respondents in the UK use the internet as their main source of gossip/ celebrity news

As with sports news, significant proportions of respondents did not express any interest in accessing celebrity news and gossip. Between 29% and 43% in all the countries had no interest in accessing celebrity news.

Twenty-nine per cent in the UK access celebrity news on the internet, and 11% do so by reading newspapers and magazines, while 40% are not interested.

Figure 1.64 Main sources of celebrity news/gossip



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

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

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 arising from the EU roaming regulation, recent national and EU initiatives on net neutrality, the recent work of the European Regulators' Group for Post, next-generation access, assurances to audiences on audio-visual standards, online protection of minors and radio spectrum policy. It does not aim to be a comprehensive examination of regulatory frameworks across the comparator countries, but presents an overview of the main regulatory and policy developments internationally over the past year.

1.8.2 Key developments in the European regulatory and legislative framework

The EU 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 promote effective competition and consumer protection as well as constituting 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 this fast-changing 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 the EU rules and is monitoring member states' progress towards achieving the targets set out in the [Digital Agenda](#).

It 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 the fully-fledged review of the framework which had been anticipated by many in 2015-16.

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 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 to the Commission to veto the regulatory remedies proposed by NRAs in the [relevant markets](#);
- Net neutrality measures which would prohibit anti-competitive blocking and throttling;
- New fully harmonised consumer protection measures in the areas of transparency, contract information, switching, and bill shock.

The Commission is keen for the European Parliament and the Council to adopt the draft Regulation by April 2014, before Parliament breaks for the elections in May 2014. In such a case, the Regulation would apply from July 1, 2014, except for the articles on consumer protection, net neutrality and switching, which would apply from July 1, 2016. By EU standards, this would be an unusually quick legislative procedure.

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.

The new Regulation had extended the anti-bill shock and transparency mechanisms to EU roamers travelling beyond the EU's 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.

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 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 shows that prices for data are on average significantly below the current data cap of 50 cents per Megabyte;
- the Regulation was applied through an Implementing Act introduced by the Commission in December 2012, which was complemented by subsequent BEREC guidelines on the structural solutions required by Article 4 and 5 of the regulation providing for appropriate technical solution(s) to separate roaming from domestic services which were published on 5 July 2013;
- As envisaged in the Regulation, the chosen technical solutions comprised 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".

- In addition, on 27 September 2012, BEREC published its guidelines on wholesale roaming and resale access, as required by the Regulation, which set out the requirements for the wholesale access reference offer which MNOs were required to have in place by 1 January 2013;
- the timescale for review of the Regulation by 2016 allowed 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 which are close to domestic tariffs.

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

These proposals aim to incentivise operators to offer "Roam Like at Home" (RLAH) pricing by potentially exempting them from the structural solutions under the roaming regulation if they introduce such pricing by 1 July 2014 or gradually under two other scenarios. These would involve in summary either a glide path relating to the number of tariffs and the percentage of customers using such tariffs or applying RLAH pricing to an increasing number of EU countries covering an increasing percentage of the EU population.

Under the proposal, if the operator has received a decoupling request by the start of 2014, the exemption from the structural solutions would not apply for a transitional period of three years.

In addition, the Commission proposes to abolish all incoming cross-border charges by 1 July 2014 and to put back the planned 2016 review of the regulation to 2017.

At the time of writing (November 2013), the potential impact of these proposals was being evaluated.

There were other notable international developments on mobile roaming in 2013:

In February 2013, the New Zealand Ministry of Business, Innovation and Employment (MBIE) published a report prepared jointly with Australia's Department of Broadband, Communications and the Digital Economy (DBCDE) on trans-Tasman roaming services. The report recommends increased powers for regulators in both countries to intervene in the mobile roaming market.¹⁹

The report recommended that the New Zealand and Australian regulators:

- collect and report regularly on wholesale and retail price trends for trans-Tasman roaming, with appropriate protections against the disclosure of confidentially sensitive information;
- expand the remedies available to the New Zealand and Australian regulators for investigations into trans-Tasman roaming services, to include: wholesale regulated terms of access; wholesale price caps; retail price caps (preferably opt-in); and mobile local-access obligations.

¹⁹ New Zealand Ministry of Business, Innovation and Employment & Australian Government Department of Broadband, Communications and the Digital Economy, *Trans-Tasman roaming*, Final Report, February 2013

This follows up the draft report²⁰ which was issued by the Australian and New Zealand governments in August 2012 following a joint investigation into trans-Tasman mobile roaming charges. The report found that government action was required to enable prices for international roaming between New Zealand and Australia to continue to fall.

In addition, an OECD paper published in June 2013 on “International Mobile Roaming Agreements”, explored principles that could form the basis of good practices in the establishment of international mobile roaming agreements between two or more countries.²¹

Traffic management and net neutrality

The ‘net neutrality’ debate (whether, and where, there should be a principle of non-discrimination of internet traffic across networks) has continued to occupy regulators and governments across the world, with focus particularly on questions of discrimination and transparency.

Guidelines and rules have been adopted in various countries in recent years - the [Canadian](#) and [Norwegian](#) regulators both set out guidance in 2009. In 2011 the Singaporean regulator published a net neutrality policy framework²² and the Korean Communications Commission published Guidelines for Net Neutrality and Internet Traffic Management.

The US Federal Communications Commission adopted [open internet rules](#) in December 2010. In 2012 it established an Open Internet Advisory Committee (OIAC) to track and evaluate the effects of these rules and in August 2013 the OIAC published its [first annual report](#), looking at the areas of economic Impacts of Open Internet Frameworks, the mobile ecosystem, specialised services and transparency. Also, in 2013 Verizon brought a case against the Open Internet Order to the US Court of Appeals with the underlying issues being Verizon’s claim that FCC does not have authority to regulate the Internet.

In three countries, the principle of net neutrality has been enshrined in law – the 2010 Chilean net neutrality law was followed in 2013 by legislation in the Netherlands and Slovenia which prohibited differentiation of data traffic and prevent operators from charging consumers separately for the use of certain services and applications while using an internet access service.

While NRAs in Europe continue to monitor these issues, the focus of the debate has now shifted to provisions in the European Commission’s Connected Continent legislative proposals (mentioned in 1.1.2 above) on the open Internet and traffic management. Under the proposals, ISPs would be prohibited from blocking or slowing down of Internet traffic, except where necessary to apply reasonable traffic management measures. The exceptions would include traffic management to comply with a legal order, to ensure network integrity and security, to combat spam, and to minimise congestion, provided that equivalent types of traffic are treated equally.

The proposals would also enshrine in EU law a user’s right to be “free to access and distribute information and content, run applications and use services of their choice.” These net neutrality rules are likely to be one of the more contentious areas of the legislative package.

²⁰ New Zealand Ministry of Business, Innovation and Employment & Australian Government Department of Broadband, Communications and the Digital Economy, *Trans-Tasman roaming*, August 2012

²¹ OECD (2013), “International Mobile Roaming Agreements”, OECD Digital Economy Papers, No. 223, OECD Publishing. <http://dx.doi.org/10.1787/Sk4559f2bn51-en>

²² IDA, *Decision issued by the Info-Communications Development Authority of Singapore: Net Neutrality*, 16 June 2011

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 of the regulatory framework for postal services.
- 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.
- End to end Competition and Access Regulation including access to elements of postal infrastructure.

So far, the Group has produced final reports on quality of service and end-user satisfaction, complaints handling, market indicators and their methodology, common cost allocation, the VAT exemption as it applies to the postal sector and on the net cost of USO calculation and the evaluation of a reference scenario. Normally these reports are subject to consultation in draft form before being published on the ERGP's web site. In addition, during 2013, the ERGP sub group on cross-border services prepared internal advice to the Commission on how to analyse cross-border parcels delivery markets and a state of play report on end to end competition. The ERGP held two Plenary meetings of the NRA Heads in June and November including a workshop to brainstorm ideas for the 2014 work programme.

As well as the ERGP, a number of other international bodies are active in the postal sector. The [Universal Postal Union \(UPU\)](#), a UN body, is the primary forum for cooperation between member states concerning postal services, with a particular focus on operational standards and 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, Qatar, at which the Doha four-year Postal Strategy was adopted, elections were held and decisions were taken on the terminal dues arrangements for 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 [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 on “An Integrated parcel delivery market for the growth of e-commerce in the EU.”

This paper examined the evolution of e-commerce and delivery markets in Europe and considered ways of stimulating online cross-border transactions by ensuring that the 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, 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 Autumn 2013, the Commission was considering publishing a follow up e-commerce roadmap to follow up the high number of responses it received to its Green Paper.

In addition, in September 2013, the European Commission published the results of two postal studies, the first on “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 due to publish in January 2014. 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.

The second study was on “E-commerce and delivery – Study on the state of play of 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

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)²³, typically although not universally based on fibre-optic technology, has been more uneven.

²³ 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

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 Mbps, and 50% should have access to 100 Mbps. In 2013, 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 proposals concerning the (Europe-wide) availability of harmonised wholesale access inputs to facilitate the provision of pan-European broadband services by pan-European operators. Once adopted, this requirement would be binding on all Member States (and thus NRAs).
- In September 2013, the Commission also adopted its Recommendation on consistent non-discrimination obligations and costing methodologies²⁴. The specific objectives of this recommendation are two-fold. On the one hand, it aims at promoting further competition in the provision of broadband services by ensuring that alternative operators are on a level playing field with incumbent firms. On the other hand, it also aims at improving the broadband investment conditions by encouraging the price regulation of new (wholesale) NGA services only when the prices of such services are not constrained by other means.
- The Commission is also continuing its work on a draft Regulation containing measures designed to reduce broadband roll-out costs. Reaching the Digital Agenda targets will require rolling-out new broadband infrastructure and/or upgrading existing connections. The Commission recognises the fact that civil engineering costs account for up to 80% of the cost of installing broadband networks and its draft Regulation includes provisions which would help decrease this significant upfront expense faced by all networks operators. The draft Regulation 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". The Regulation is being discussed among Member States in European Council meetings and the European Parliament will vote on its report on the Regulation by the end of February 2014.

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 2013 BEREC also provided a formal Opinion on the aforementioned Commission Recommendation on consistent non-discrimination obligations and costing methodologies. BEREC supports the Commission's view that it is crucial that the promotion of new investment in NGA is not pursued at the expense of the competitive gains made over the last decade. The comments and proposals it included in its opinion were aimed at ensuring that the final Recommendation is as effective a regulatory intervention as possible.

²⁴ http://ec.europa.eu/governance/impact/ia_carried_out/docs/ia_2013/c_2013_5761_en.pdf

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 published national broadband plans, as detailed in the 2011 [OECD report on National Broadband Plans](#)²⁵. Most of these include targets related 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 aims 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. 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.

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 NBN began in 2010, with completion of the FTTP roll-out planned by June 2021, along with completion of the fixed wireless and satellite roll-out by 2015. However, changes to the National Broadband Network plan are expected from the new Coalition government which, prior to the general election, had proposed shifting the NBN's main means of delivery from FTTP to fibre to the node (FTTN). The government will announce its plans after conducting a series of enquiries to assess the potential costs of implementing changes to the plan.

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 continuing 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 being its “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 are

²⁵ OECD, *Working Party on Communication Infrastructures and Services Policy: National Broadband Plans*, 15 June 2011

expected to boost the overall development of the country's fibre broadband industry as well as attract investment of up to 1tn yuan (US\$160bn).

1.8.5 Providing appropriate assurances to audiences on standards

Connected TV and convergence

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, including on the protection of minors, incitement to hatred, advertising, and the promotion of European works. It also ensures that pan-European broadcasters have to 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 regionally in a number of fora, for example at the European Platform of Regulatory Authorities (EPRA). EPRA meets twice a year to consider key issues for content regulators; for example, the scope of the AVMS Directive in relation to VOD, and how regulators determine jurisdiction in cases where services are received in one country but regulated elsewhere (in the EU or beyond).

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

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 was high on the policy agenda in Europe throughout 2012 and this continued to be the case in 2013, as EU Member States anticipated and then prepared responses to the long-awaited publication of a Green Paper by the European Commission '[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.

In the UK, Ofcom has conducted in-depth research into the connected TV market to understand how it is developing and what regulatory challenges it may pose in the future, and in its [response to the European Commission](#) has built on this work to outline 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.

The European Commission received over 200 responses to its consultation and is now in the process of reflecting upon these: the key question to answer will doubtless be whether the

AVMS Directive – which underpins audio-visual regulation in Europe – requires review or remains fit for purpose given the changing technological environment.

In Europe only in France have there been concrete proposals to extend regulation to cover internet content beyond that falling under the scope of the AVMS Directive as “on demand”. Following a process initially launched at the government’s behest in 2011 the French audio-visual 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.

Outside of 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. However, 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.

Online protection of minors

In recent years, child online protection²⁶ has moved higher up the international policy-making and regulatory agenda. There is an emerging debate about self-regulatory models, media literacy,²⁷ and the role that various participants in the internet value chain should be asked to play in preventing access to harmful activities, and in creating a safer and better online offering for children. The discussions are increasingly linked to the questions around the convergence of broadcast and online content technologies, a notable example being a report published in 2012 by the CSA in France, on the protection of minors in a converged environment, proposing the creation of a single authority across all media, and promoting the use of age-based rating systems, parental control tools, and media education and awareness.

The European Commission continues to pursue approaches to protecting children online through a number of measures, including initiatives such as the [Safer Internet Programme](#), which is due to conclude in its current form this year. The 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 Coalition established working groups to deliver five objectives: simple and robust reporting tools for users; age-appropriate privacy settings; wider use of content classification; wider availability and use of parental controls; and effective take-down of child abuse material. In early 2013, The Coalition

²⁶ 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.

²⁷ Ofcom defines media literacy as: “the ability to access, understand and create communications in a variety of contexts”.

published its [recommendations and commitments](#) on each of the five work streams, and a number of members also made individual commitments.

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.²⁸

One interesting initiative has been the collaboration by the British Board of Film Classification (BBFC) and Dutch regulator NICAM and others on an international 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, is easy to fill in and takes less than a couple of minutes to complete. It will help parents make decisions about what they and their children watch online and will be piloted in Italy later this year.

Meanwhile, the ITU continues to implement its Child Online Protection initiative, which was launched in 2008. In its latest phase, the ITU has set up a group (SG17) to investigate the possibility of developing international telecommunications standards to protect children from online threats.

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

In the UK in October 2013 [Ofcom published new research](#) on children and parents' media use and attitudes online, as part of its media literacy research programme.²⁹

Parental controls

In the UK: The government published its long awaited Communications strategy document, 'Communication, Content and Consumers', in July 2013, outlining its proposals for 'default on' network level online parental controls. A role has been suggested for Ofcom to assess and report on how the ISPs have implemented the measures.

In Germany: Providers of content that is potentially harmful to minors are subject to protection obligations under the German regulations, which can be met by providing parental controls. In February 2012, KJM, the co-regulator for the protection of minors, approved two such filters: systems provided by Juspro and Deutsche Telekom, which in 2013 were to cover content for viewers aged above 18.

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. The code requires opt-out controls using a PIN, and information to be provided about the controls and content classifications. In 2013, a technical board set up by the AGCOM Council defined the technical requirements for these access controls and AGCOM put into place a set of detailed obligations specifically for the parental control mechanisms for on-demand content which might seriously impair the physical and moral development of minors, elaborating on the classification criteria that can be used to identify such content. Providers of on-demand services subject to the AVMS Directive must now

²⁸ European Commission, *European Strategy for a Better Internet for Children*, 2 May 2012

²⁹ Ofcom, *Children and parents: media use and attitudes report*, 23 October 2012

ensure technical measures are in place to ensure that access to content is provided only to adults (via the use of a code).

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.

Preventing access to child abuse images

The European Parliament adopted in late 2011 the [Directive on Sexual Exploitation of Children](#), which contains one provision whereby Member States can take measures to block access to websites with child abuse content, subject to safeguards. The Directive is to be implemented by December 18 2013.

Media pluralism and political communications

2013 also saw the emergence 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. 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 properly handled at national level.

The work coincided with a number of European regulators making changes to their domestic provisions for political advertising and broadcast content. Ofcom published [new rules](#) in March on Party Political Broadcasts and Italy, in the run up to elections in February, implemented legislation that ensures equal coverage of political parties in news and current affairs programmes and sets out rules for political advertising.

1.8.6 Promoting the efficient use of public assets

The use of spectrum, in delivering critical services across 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 the use of spectrum does 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 can help countries achieve seamless use of wireless services at a European, or even global, level. In addition, the 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](#)³⁰ and the [Radio Spectrum Policy Group](#)³¹;
- the [CEPT/ECC](#),³² which has a broader membership (than the EU) with 48 member states; and

³⁰ http://ec.europa.eu/information_society/policy/ecomm/radio_spectrum/eu_policy/rsc/index_en.htm

³¹ <http://rspg.groups.eu.int/>

³² <http://www.cept.org/ecc>

- the [International Telecommunications Union \(ITU\)](http://www.itu.int/ITU-R/)³³, 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](http://www.itu.int/ITU-R/index.asp?category=conferences&mlink=wrc&lang=en)³⁴ (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 State 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 technical implementing measures that can ensure harmonised conditions for the availability and efficient use of radio spectrum. These mandates specify the task to be undertaken and the timeframe in which they 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)

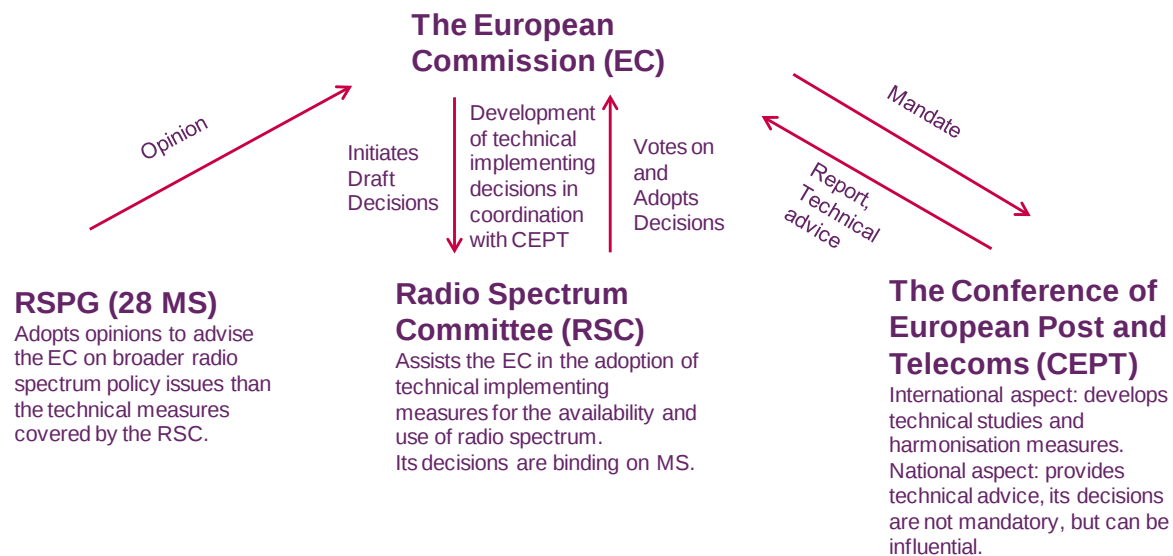
The RSPG is a high-level advisory group assisting the EC in the development of radio spectrum policy. As part of its advisory function, the RSPG consults extensively and in a forward-looking manner on a variety of technological, market and regulatory developments relating to the use of radio spectrum 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.

The RSPG meets three times a year.

³³ <http://www.itu.int/ITU-R/>

³⁴ <http://www.itu.int/ITU-R/index.asp?category=conferences&mlink=wrc&lang=en>



Radio Spectrum Policy Programme (RSPP)

At the European level, an important piece of spectrum policy was implemented; the RSPP was formally adopted in March 2012. This is 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.

More immediate actions detailed within the RSPP are for member states to authorise the use of the following frequency bands, by specific dates, all of which have been allocated for high-speed electronic communication services in the EU. These bands will be critical for the delivery of wireless/mobile broadband across member states;

- Harmonised bands at 900/1800 MHz, 2.5-2.69 GHz, 3.4-3.8 GHz, by the end of 2012; and the 800 MHz band, by 1 January 2013, except in case of individual derogation obtained before that date.

Additional specific actions, by 2015, by the Commission and through consultation with 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 400 MHz to 6 GHz range;
- the wider adoption of spectrum trading throughout the EU;
- harmonised spectrum for the development of the internal market for wireless safety services and civil protection;

- 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 last World Radiocommunication Conference (WRC) was held in early 2012 and the results of that conference were highlighted in our last [report/ICMR]. Work is already underway to prepare for the next WRC³⁵ which will be held in late 2015. That conference will be addressing a wide range of spectrum harmonisation decisions, including:

- future spectrum requirements for mobile broadband
- finalising the potential for mobile services to make use of the 700 MHz 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).

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. At this present time: discussions are at an early stage, with no definitive decisions taken on any of the proposals.

CEPT continues its programme of work on a wide range of spectrum areas. This will include responding to specific tasks, that it will be mandated to undertake, to assist in the delivery of the actions detailed in the RSPP. These actions will be taken by the Radio Spectrum Committee of the EC as noted earlier.

1.8.7 Contributing to, and implementing, public policy defined by Parliament

Online copyright infringement

The protection of copyright online is at the forefront of debates around the creation and distribution of online content in many countries.

At the EU level, the European Commission has a variety of ongoing initiatives in this area. In December 2012 it announced that it had agreed on a process to “modernise the copyright framework” which will consist of two tracks. The first of these - a ‘stakeholder dialogue’ due taking place throughout 2013 - will pave the way for the second track, which will consist in the preparatory work for possible legislative initiatives to be taken forward by the new European Commission following the elections in 2014.

³⁵ <http://www.itu.int/ITU-R/index.asp?category=conferences&mlink=wrc&lang=en>
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In addition, the Commission and European Parliament are pursuing a number of other initiatives in the field of intellectual property. In December 2012, the Commission launched a [stakeholder questionnaire](#) on intellectual property enforcement, which ran until March 2013. The Commission issued a [roadmap](#) in March 2013 in which it pledged to assess the results of the questionnaire before deciding whether to revise the Intellectual Property Rights Enforcement Directive (IPRED). A proposed [Directive](#) on collective rights management is currently being debated in the European Parliament and Council. The proposal aims to encourage multi-territorial licensing of musical works by collecting societies representing rights holders.

In parallel, a number of national legislative and non-legislative initiatives have focused on online copyright infringement.

UK: the Digital Economy Act (DEA) 2010 requires Ofcom to make an 'Initial Obligations' Code to regulate the process by which ISPs will notify subscribers when somebody using their IP address appears to have infringed copyright. In June and July 2012, Ofcom consulted on both [the draft Code](#) and the implementation of the Government's [Costs Sharing Order](#), which requires Ofcom to set fees payable to ISPs and Ofcom by rights holders who wish to take advantage of the notification scheme. To come into force, the draft Code needs to go to Brussels for a review under the Technical Standards Directive before being laid before Parliament alongside the costs sharing order. Ofcom has reduced its work on implementing the Digital Economy Act pending Government resolution of issues relating to its Cost Sharing Order.

France: the government has taken steps to reform its framework for tackling online copyright infringement. Following recommendations made in a government-commissioned report published in May 2013, the Ministry of Culture and Communications announced that HADOPI, the body responsible for enforcing France's 'graduated response' programme will be abolished, and its duties will be transferred to the CSA. The government hopes to implement the merger, along with a series of digital content policy reforms in 2014.

Italy: in July 2013, the communications regulator AGCOM ran a 60 day consultation on a draft Regulation on online copyright. As well as proposing a series of self regulatory measures to promote online platforms, the Regulation sets out a "notice and takedown" framework, whereby AGCOM would be empowered to ensure that website operators remove infringing material in the event that the operators don't respond to rights holder complaints.

Spain: in September 2013, Spain passed a new law aimed at reinforcing its framework for enforcement against online copyright infringement. The new law complements the Sustainable Economy Law which was adopted in March 2011 and created an Intellectual Property Commission ("IP Commission") within the Ministry of Culture. The IP Commission is empowered to order the suspension of a website or the withdrawal of infringing website content, as well as to conduct dispute resolution between ISPs, rights holders and broadcasters. The 2013 law implements criminal fines for companies that advertise on infringing sites, and will establish an "electronic edicts board" on the IP Commission's website to allow for streamlined rights holder notifications.

United States: a voluntary "six strikes" scheme known as the Copyright Alert System (CAS) was launched in February 2013. The measure, which was established through an agreement between US rights holders and ISPs, consists of ISPs sending up to six electronic warnings notifying subscribers of alleged copyright infringement. Some ISPs have agreed to take certain mitigation measures, such as bandwidth throttling, if the alleged infringement continues after a final warning has been received.

New Zealand: the Copyright (Infringing File Sharing) Amendment Act, which provides for a 'three strikes' graduated response scheme came into effect in September 2011. Since January 2013, a number of cases were processed by the Copyright Tribunal, to which rights holders can submit complaints against users who continue to infringe after receiving three notices.

South Korea: changes to the Korean Copyright Law in 2009 introduced a 3 strikes-based notice and takedown scheme that targets commercial websites offering unauthorised content as well as individuals who egregiously upload infringing content to these sites.

Canada: Bill C-11, or The Copyright Modernisation Act, which adds new rights and exemptions to the Canadian Copyright Act, received royal assent in June 2012.



The Communications Market 2013

2 Comparative international pricing

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2.1 Comparative international pricing

2.1.1 Introduction

In this section of the report we compare the pricing of UK communications services to those in France, Germany, Italy, Spain and the US (where we have used Illinois because it is broadly representative of the US as a whole in terms of its relative wealth and rural-urban split).

We use a methodology which is based on the use of services by five 'typical' households. This methodology matches tariffs to usage requirements and has been developed in order to address the difficulties in comparing prices caused by service bundling, tariff complexity, differing usage profiles within countries and variations in averages across countries. It also takes into account the cost of installation and hardware (including subsidies) and bundle discounts, in order to reflect the full cost of ownership of the relevant services.

This section of the report includes an overview of our methodology (which is required in order to fully understand our findings), a summary of those findings by service, followed by analysis on a basket-by-basket basis. The full methodology can be found in Appendix B: comparative international pricing methodology.

The key findings of this section include:

- Prices in the UK compared favourably to those in the other five countries covered by our price benchmarking work in 2013: the lowest 'weighted average' single-service prices for three of the five baskets used in our analysis, and the lowest 'best-offer' prices for two baskets, were found in the UK.
- Italy also performed well, having the lowest 'best-offer' (including multi-play) prices for two baskets and the lowest 'weighted average' price for one basket.
- Low basket prices in the UK were largely due to lower mobile prices: the UK had four of the lowest 'weighted average' stand-alone prices and six of the lowest 'best-offer' prices for the eight mobile connections used in our analysis.
- The UK also benefited from low fixed broadband and fixed voice prices, having the lowest 'weighted average' and 'best-offer' prices for all three of the fixed broadband connections used in our baskets, and the lowest 'weighted average' prices for three of our four fixed voice connections.
- The main area where the UK did not perform well was HD premium pay-TV services (including a PVR), where single-service prices were the highest among our comparator countries (we note, however, that it is difficult to produce like-for-like comparisons of TV services, as the number of channels and the quality of the content included in each package varies considerably).
- In most of our comparator countries, it was cheaper for consumers to buy the combination of services that were required by baskets which include a fixed broadband connection as part of a bundle rather than on a stand-alone basis: the only occasion when this was not the case was for Basket 5 in the US.

2.1.2 Methodology

Full details of the methodology are provided in Appendix B: comparative international pricing methodology, but the basic principles are as follows:

We have constructed five household types, and for each of these have defined an appropriate basket of fixed-line voice, fixed broadband, mobile voice, mobile messaging, mobile broadband and TV services (Figure 2.1). When taken together, the usage patterns of these households are designed to be representative of average use across our countries, in order to address the potential for biases associated with the baskets being more closely aligned with the usage profiles of some countries than of others.

We have made some changes to the baskets used in the analysis this year in order to reflect changes in the use of communications services, including increasing levels of fixed and mobile data and SMS use across the baskets, and removing the mobile broadband (dongle) connection which was previously required by Basket 5.

Figure 2.1 Summary of households and baskets used in the analysis

'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	None	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	Low use	Medium use superfast	None	Premium pay-TV with HD & PVR

Source: Ofcom

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

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

- Incoming calls to mobile phones are included in recognition of the different charging mechanism in the US.
- The broadband components are defined by minimum data requirements, while the requirements for fixed broadband services also include a minimum headline speed.
- The television element includes the licence fee and hardware cost. Two tiers of pay-TV are considered: the most basic pay service available, over and above the channels available on free-to-air (FTA) TV, and a premium service defined as a top price film/entertainment package combined with the best package of top-tier football matches. Some baskets also have a requirement for HD channels and/or a DVR.

The cost of hardware (mobile handsets, broadband modems/routers, digital set-top boxes and DVRs) are included within our analysis 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 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 include connection and/or installation costs.

In July 2013, 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 which were published on the websites of the operators were included (i.e. the analysis excludes bespoke tariffs which are offered only to certain customers).

Our model identified the tariffs that offer the lowest price for meeting the requirements of each of the household baskets, 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 2013.

Analysis

We provide two types of analysis for each basket:

'Average single-service' pricing: the price of each individual service, as defined by the average of the lowest price tariffs offered by the three largest operators which provide the service in each country, weighted by the retail market share of the service provider in order to ensure fair representation. We assume that consumers are only able to obtain stand-alone services, and although this provides a useful comparison of the relative costs of communications services, the limitations of this analysis are that an increasing number of providers do not offer stand-alone services, and as take-up of bundled services increases, single-service prices become relevant to fewer consumers. (Ofcom research data showing the take-up of bundles can be found in section 1.3 of this report).

'Best-offer' pricing: the lowest price that a consumer could pay for this basket of services, including, where appropriate, by purchasing 'bundled' services. Our view is that this type of analysis is essential 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 generally geographically constrained to areas where premises are connected either to a cable network or to an unbundled telephone exchange. Second, even in areas where these services are available, take-up may be low.

Therefore, although the 'best offer' provides insight into the lowest prices available to some customers, it may not be as good a reflection as the weighted average analysis of the prices that consumers are actually paying.

Limitations

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

- The analysis assumes a rational consumer who has a full understanding of his or her usage requirements, and who 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 few will actually 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, 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 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 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 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 single-service pricing analysis, tariffs that are over 100% higher than those 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 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 is also true for cable TV and all types of broadband.
- We do not define 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, over 80% of Italian mobile connections are pre-pay, while over 80% 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.
- 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 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 2013 and applied it to 2012 data. This means that there may be some distortions in the relative positions of countries compared to the findings in 2011. The prices quoted are in nominal terms.

Report structure

We start the analysis in this section of the report by looking at the individual components of our five baskets 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' single-service 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 baskets in terms of the 'weighted average' cost across the three largest providers in each nation, and also the 'best prices' available when 'multi-play' bundles are included.

2.1.3 Analysis by service

Fixed voice summary

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

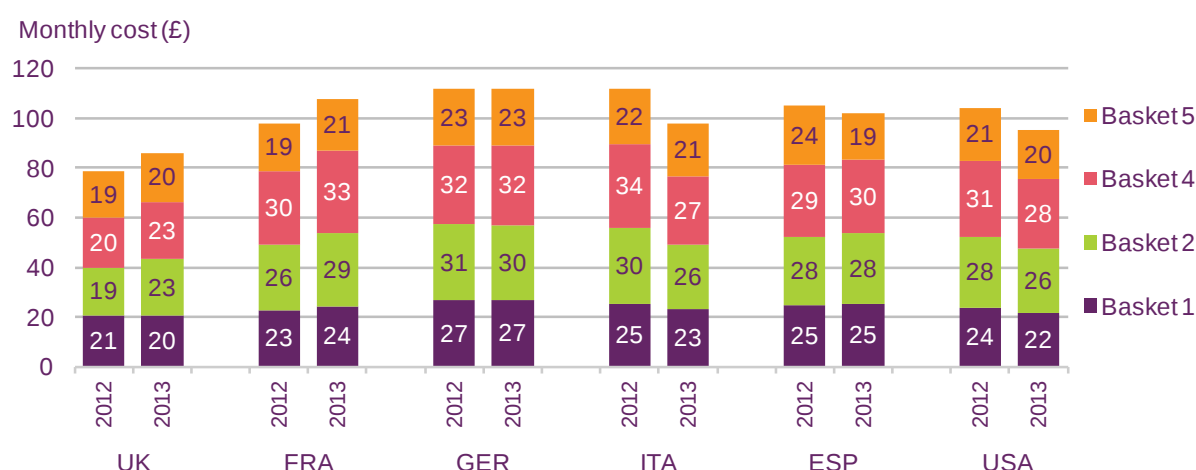
The UK had the lowest weighted average of the best-value tariffs (from the three largest operators) among our comparator countries, for three of the four baskets that include fixed voice services (Figure 1.2). One reason for this is the availability of line-rental pre-payment tariffs, which were offered by the providers whose tariffs fed into the UK weighted average in 2013, but were not available in any of the other countries included in our analysis. These tariffs enable customers to make savings of up to £5 a month on the line rental element of their service by paying a year up front, rather than a monthly line rental fee. When pre-payment tariffs are excluded from the UK weighted average calculations, the 2013 weighted

average price of the fixed-line element of the four baskets which include this service increase by around £4 each a month, and the total weighted average price of the fixed elements of these four baskets is then the third highest among our comparator countries (rather than the lowest).

The basic line rental fee of many fixed-line services includes an inclusive call allowance, and consumers can often reduce their total spend by purchasing 'add-ons' to basic line rental, which provide additional inclusive calls, or calls at a reduced rate, for an additional monthly fee. The two providers feeding into the UK weighted averages both offer these 'add-ons', and in 2013 the cheapest tariff options for the two higher-use fixed-line connections (in Baskets 2 and 4) for both providers included 'add-on' call packages.

In France and the UK, the total weighted average cost of the fixed-line elements of the four baskets that included the service increased in 2013, in both cases by 10%. The weighted average cost fell in all of the other comparator countries except Germany, where it was unchanged. The largest reduction in price was in Italy, where the total weighted average cost of the fixed voice elements of our baskets fell by 12% during the year.

Figure 2.2 Comparative single-service 'weighted average' fixed-line voice pricing



Source: Ofcom using data supplied by Teligen

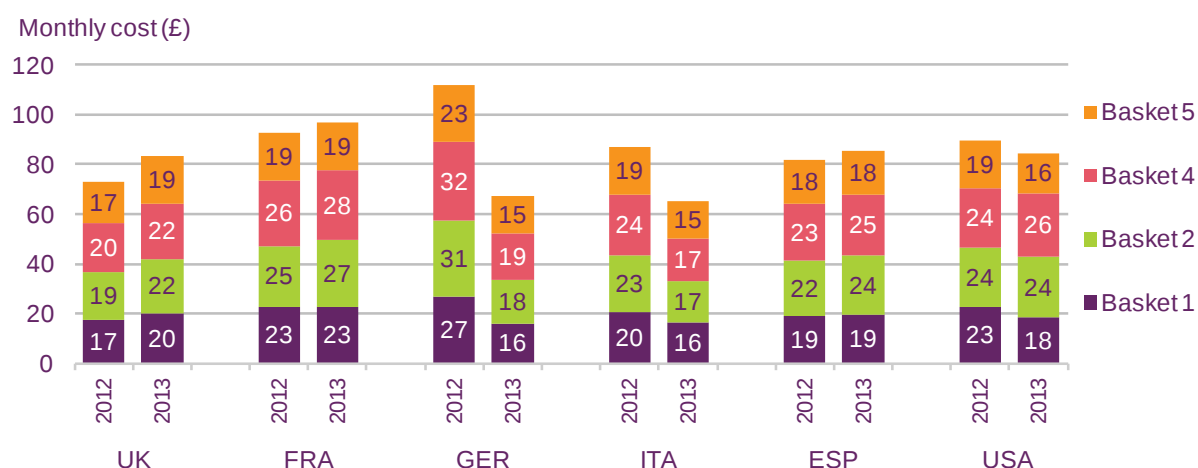
Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2012 and July 2013; PPP adjusted

While weighted average analysis is to a large degree a reflection of the pricing of the largest provider in each market (who is typically the incumbent provider), analysis of 'best-offer' prices (as shown in Figure 2.3 below) highlights the lowest-cost stand-alone tariff, which is frequently offered by a new entrant as it tries to gain market share from established providers. In the UK, France, Germany and Italy, the same provider offered the 'best-offer' stand-alone tariffs for all four fixed voice connections (in the UK it was TalkTalk, while in France it was SFR, in Germany Telecolombus and in Italy, where total 'best-offer' prices were lowest, it was TeleTu). In Spain Movistar offered three of the 'best-offer' tariffs, while in the US AT&T also offered three.

Again, our analysis indicates increases in fixed-line voice pricing in some countries. The total 'best offer' price of fulfilling the fixed voice requirements of the four baskets that include the service increased in the UK (by 14%) and in France and Spain (in both cases up by 4% during the year). The increase in the UK was partly due to TalkTalk removing a promotion that had been available in 2012 which offered a discounted monthly fee for 12 months (the base price of its 'best-offer' line rental pre-payment tariff was unchanged during the year).

Best-offer prices fell in the US, Italy and Germany during the year, with the largest falls in Italy (where the total 'best offer' cost of the four fixed-line services fell by 25% during the year) and in Germany (where it fell by 40%). In both cases, these falls were due to the introduction of new, low-cost, services: in Italy this was TeleTu's *Parla Facile* service, while in Germany it was Telecolombus' *Telefon Flat* service (which had previously been offered only as part of a bundle). In both countries, these services provided the 'best-offer' tariffs for all four baskets, although an additional call 'bolt-on' offering 120 minutes of calls to mobile phones for €5 a month was required for Baskets 2 and 4 in Italy.

Figure 2.3 Comparative single-service 'best offer' fixed-line voice pricing



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for the fixed-line voice component of each basket from any of the three largest operators by market share in each country, July 2012 and July 2013; PPP adjusted.

Mobile summary

There are eight mobile phone connections included across the five household types that we use in our analysis, and these have usage profiles ranging from low use and a basic handset to high use and an advanced handset. These eight connections (which are summarised in Figure 1.4 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 basket analysis later in this section.

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	None
Connection 3	Household 4 handset 2	Intermediate	150	250	50MB
Connection 4	Household 5 handset 2	Intermediate	200	50	200MB
Connection 5	Household 4 handsets 3 and 4	Intermediate	100	300	400MB
Connection 6	Household 4 handset 1	Advanced	250	100	300MB
Connection 7	Household 5 handset 1	Advanced	300	150	400MB
Connection 8	Household 3 handset 1	Advanced	500	200	1GB

Source: Ofcom

Our analysis found that while the total weighted average price of the eight connections included in our baskets had been lowest in France in 2012, it was lowest in the UK in 2013 (Figure 2.5).

The weighted average price of five of the eight connections fell in the UK in 2013, with the largest declines being for the higher usage connections, and overall, the total weighted average cost of all eight connections fell by 23% during the year. In France, the total weighted price of the eight connections fell by 14% during the year, and although the weighted average prices fell for all connections except Connection 4, these falls tended to be relatively small, with only the decline in the weighted average price of the highest-use connection (Connection 8) being more than £3 a month.

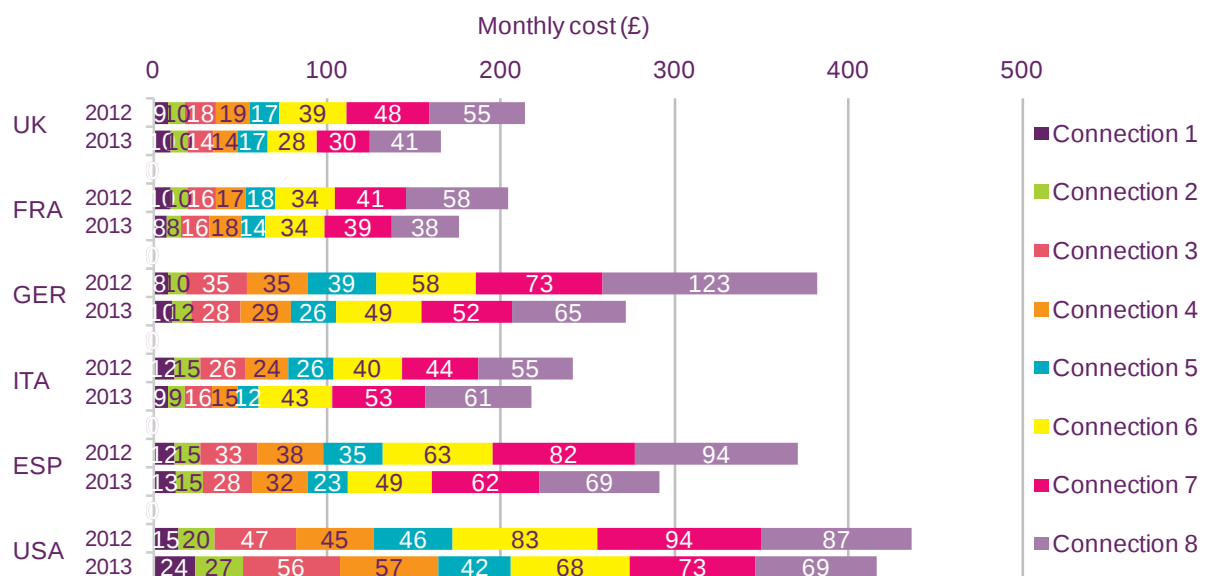
The total weighted average price for all eight of the connections included within our baskets fell in all countries in 2013, with these falls ranging from 5% in the US to 29% in Germany. Weighted average mobile prices in the US were the highest among our countries for all of the eight connections included in our analysis, partly because US mobile users are charged for incoming as well as outgoing calls as a result of the 'receiving party pays' interconnect regime that exists there. This charging mechanism means that mobile post-paid contracts tend to be relatively expensive as they include large numbers of bundled call minutes (or unlimited minutes) for incoming and outgoing use. This contributes to average mobile use in the US being higher than in Europe. In addition, pre-pay top-ups in the US tend to be high value (for example \$50) and any credit often expires after a month, making pre-pay services less attractive in the US than in other countries.

'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 only supplied with a SIM card which is used in a handset that they already own, and the mobile provider is able to pass on the lower cost associated with not having to subsidise a new handset to the consumer in the form of lower service prices. In the UK, 19 of the 22 tariffs feeding into the UK average best-pricing analysis of our eight connections in July 2013 (86%) were SIM-only contracts, up from 46% in July 2012 (where a tariff is SIM-only our model factors-in the cost of buying a mobile handset separately and amortises it over three

years).³⁶ 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% in the US to 42% in France.

The proportion of operator best-price offers feeding into the UK connection analysis that were pay-as-you-go fell from 21% to 5% in the year to July 2013, the lowest proportion across our comparator countries. This is a result of UK mobile providers incentivising consumers to switch to pay-monthly services (including SIM-only tariffs) from pre-pay services; for example, by offering low-cost pay-monthly tariffs and by increasing pre-pay prices and removing pre-pay handset subsidies.

Figure 2.5 Comparative single-service 'weighted average' mobile pricing



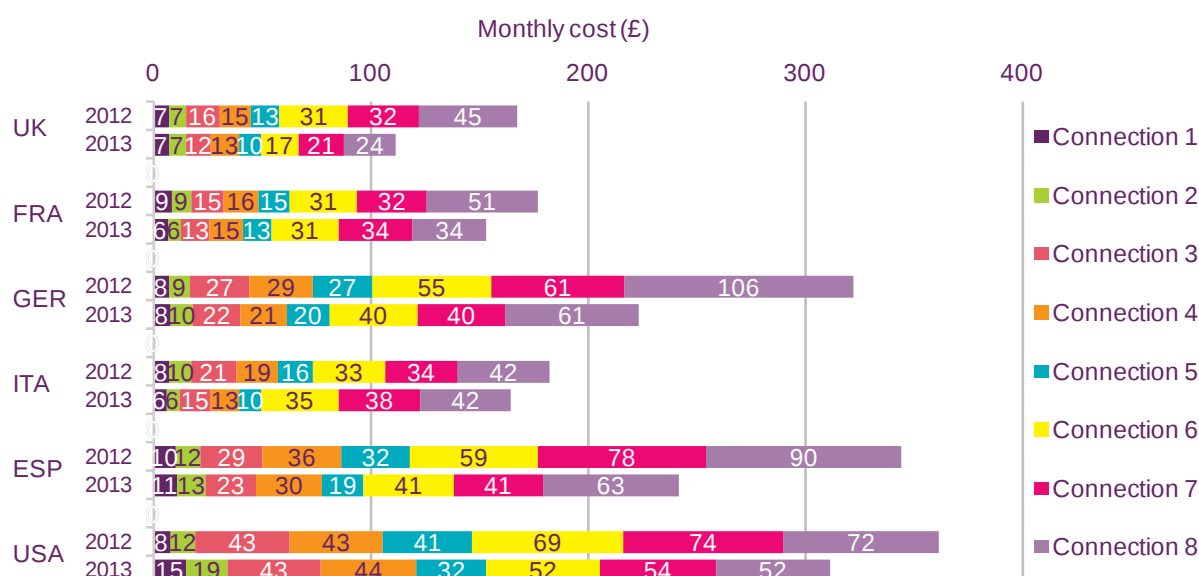
Source: Ofcom using data supplied by Teligen
 Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2012 and July 2013; PPP adjusted

The pattern of the lowest prices available for the usage profiles included in our analysis closely resembled those of the 'weighted average' analysis, with the UK having six of the eight lowest-price 'best-offer' tariffs across our comparator countries (Figure 2.6). The two remaining 'best-offer' prices (those for Connections 1 and 2, the lowest-use connections) were both found in Italy.

T-Mobile had five of the eight 'best-offer' UK prices for our connections in 2013, with Three, Vodafone and Virgin Mobile offering the 'best-offer' prices for Connections 3, 4 and 5 respectively. It was notable that O2, the UK mobile brand with the highest connection share in the UK, and Orange, did not provide any of the best-offer prices for our connections. In most of our comparator countries there was evidence that one provider's prices were generally lower than the other operators included in our analysis: in Italy, Wing offered all eight 'best-offer' mobile prices for our connections, while Orange in France and Vodafone in Spain each offered six of the eight best-offer tariffs for our connections. Similarly, Base and Vodafone offered five of the 'best-offer' mobile prices in Germany and Spain, while in the US AT&T and Sprint offered four each.

³⁶ 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.

Figure 2.6 Comparative single-service 'best offer' mobile pricing



Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for the mobile phone component of each basket from any of the three largest operators by market share in each country, July 2012 and July 2013; PPP adjusted.

Fixed-line broadband summary

There are a number of issues regarding the comparison of stand-alone fixed broadband prices. First, fixed broadband is often purchased as part of a bundle of communications services from the same supplier, meaning that analysis of stand-alone prices may not be representative of the prices paid by many consumers. Second, 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. Finally, most fixed broadband services also require a fixed-line voice service (although this is frequently not the case for cable broadband and 'naked DSL',³⁷ which is available from some operators in the UK, France, Italy, Germany and the US).

We exclude the cost of the telephone line rental from our stand-alone fixed broadband price analysis, even if this is required, and include it instead in the fixed voice element of the baskets in question (see Figure 2.2 and Figure 2.3). The inclusion of line rental in this analysis would increase the cost of fixed broadband services in those countries which do not have significant naked DSL availability, including the UK. 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 Baskets 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 more, as is required for Basket 5 (as Orange and SFR had both withdrawn their stand-alone superfast services), and for this reason figures for Basket 5 in France include a connection of at least 'up to' 10Mbit/s, so these figures are not comparable to those in our other countries.

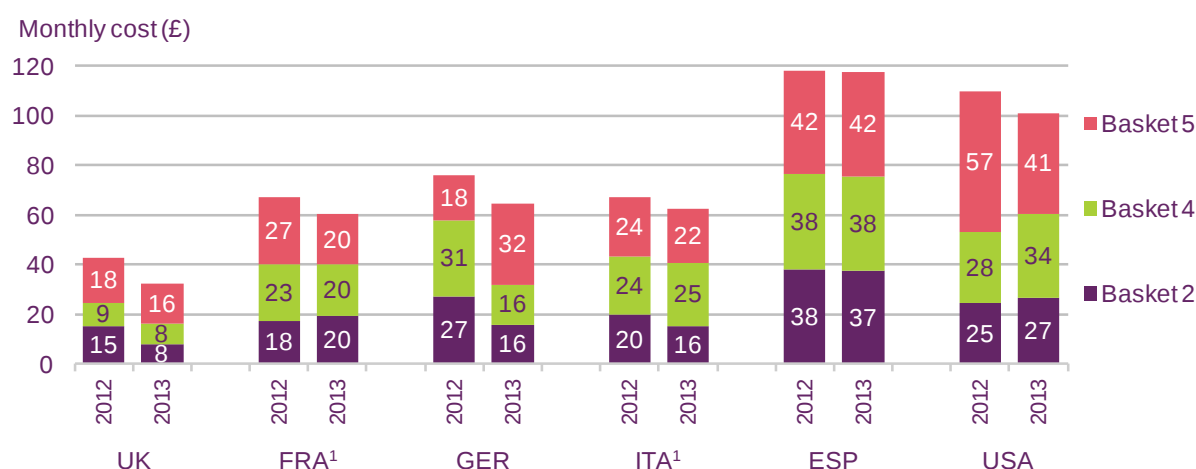
The UK had the lowest total weighted average stand-alone price for the three fixed broadband connections included in our analysis in 2013 (Figure 2.7). During the year the weighted average price of the connection required by Basket 2 fell by £7 per month to £8 per

³⁷ A 'naked DSL' connection is a DSL broadband service that is provided without the requirement for a fixed voice line.

month, largely as a result of BT reducing the price of its *Broadband Option 2* service by £2 a month to £16 per month, and introducing a promotion offering free rental for six months rather than half price for three months, as had been available in 2012. The weighted average price of the connection required by Basket 4 fell in the UK in 2013, down by £1 per month to £8 a month as a result of the change in the price of BT's *Broadband Option 2* service and the withdrawal of O2's stand-alone fixed broadband service, following the acquisition of its fixed telecoms business by BSKyB in early 2013. The weighted average price of the superfast connection required by Basket 5 fell by £2 a month in 2013, as a result of a fall in the price of BT's *BT Infinity Option 1* service, and Virgin Media increasing the half-price line rental promotional period available on its 30Mb cable service from three months to six months.

The total weighted average price of the three fixed broadband connections required by our baskets fell in all six comparator countries in 2013, with the rate of decline ranging from 1% in Spain to 17% in Germany (it was 12% in the UK). In Germany, there were significant falls in the weighted average price of the connections required by Baskets 2 and 4, as a result of the withdrawal of a number of more expensive stand-alone ADSL services during the year. However, the weighted average price of the superfast connection required by Basket 5 increased from £18 per month to £32 per month as a result of a Kabel BW's tariffs not featuring in the pricing model in 2013, following its merger with Unity Media, and a €5 a month fall in the price of Vodafone's *VDSL 50000* service to €39.95, meaning that it was included in the weighted average calculation, thereby pulling up the average.

Figure 2.7 Comparative single-service 'weighted average' fixed-line broadband pricing

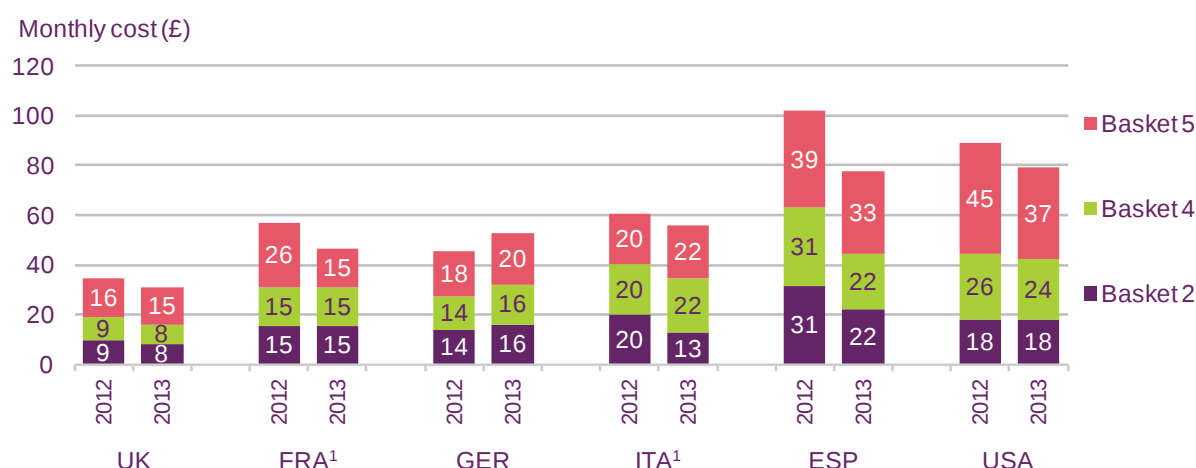


Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2012 and July 2013; PPP adjusted; ¹ In France in 2013 and Italy in 2012 Basket 5 includes a connection below 30Mbit/s because none of the ISPs included in our pricing model offered a suitable superfast service

The UK had the lowest 'best offer' stand-alone prices for the fixed broadband element of all three of the connections included in our analysis in 2013 (Figure 2.8). The difference between the weighted average prices and best-offer prices gives an indication of the range of prices available in each country, and these varied significantly among our comparator countries in 2013, ranging from an 11% difference in Italy (where broadband prices are closely aligned) to 51% in Spain (in the UK the figure was 23%, the joint second-lowest difference across our countries, along with Germany).

Figure 2.8 Comparative single-service 'best offer' fixed-line broadband pricing



Source: Ofcom, using data supplied by Teligen

Note: July 2012 and July 2013; PPP adjusted; ¹ In France in 2012 and 2013 and in Italy in 2012 Basket 5 includes a connection below 30Mbit/s because none of the ISPs included in our pricing model offered a suitable superfast service.

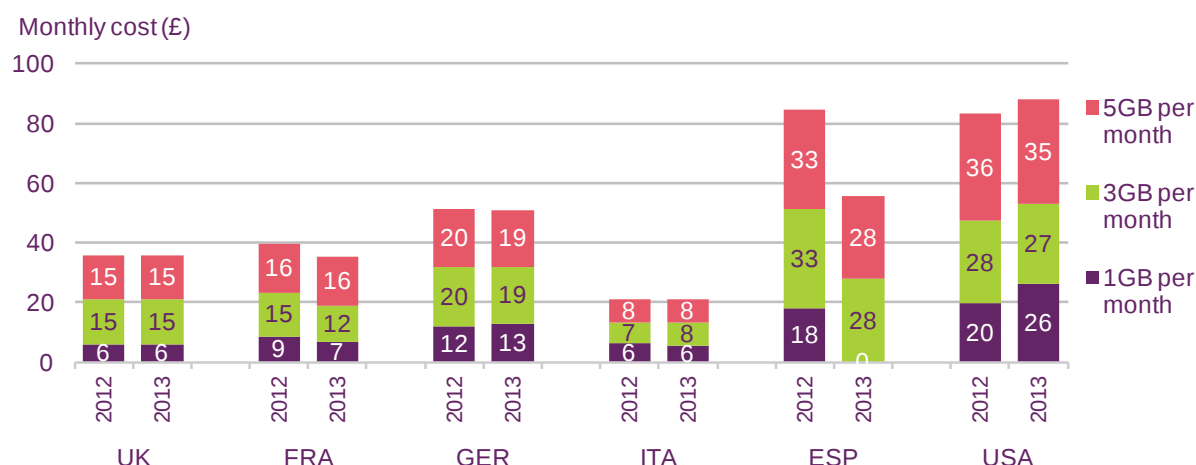
Mobile broadband summary

We do not take the speed of mobile broadband connections (using a datacard, 'dongle' or dedicated data SIM) into account when comparing services, as they are generally not marketed using speed, nor do we consider whether these services include bundled use of public WiFi hotspots. In addition, we consider only the 'best offer' service available, as the relatively narrow range of tariffs available in many countries makes it difficult to produce meaningful analysis of 'weighted average' mobile broadband prices.

Only one of the five baskets included in our analysis includes a mobile broadband connection (using a datacard or 'dongle'); Basket 3, which includes a high-use connection (5GB of data over 30 days a month). To enable us to provide a comparison of the full range of mobile broadband use, we also include in our analysis a low-use connection (1GB of use over 10 days a month) and a medium-use connection (3GB of data over 25 days a month).

As was the case in 2012, the lowest single-service prices for mobile broadband services were available in Italy in 2013 (Figure 2.9). The UK, where the 'best-offer' services and prices were identical to those in 2012, had the third lowest prices in 2013, as falling 'best-offer' prices for the lower and medium connections in France meant that the total 'best-offer' price of all three connections fell below that in the UK. The total 'best-offer' price of all three connections fell in all comparator countries other than the US (where it increased by 6%) and the UK in 2013, with the fall ranging from 1% in Germany to 34% in Spain. In Spain, the 'best-offer' prices fell for all three connections in 2013, with the largest fall being for the low-use connection, as a result of the inclusion of Jazztel's mobile broadband tariffs in the model in 2013, as its *Pack Internet Movil* service offers 1GB of data per month for no monthly fee.

Figure 2.9 Comparative single-service 'best offer' 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 2012 and July 2013; PPP adjusted

Pay-TV summary

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

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.

Our analysis includes TV licence fees, which were highest in Germany and the UK, at £16 per month and £12 per month respectively in 2013, where applicable (there is no TV licence fee in Spain and the US). As with mobile broadband services, we consider only single-service 'best offer' TV service pricing in this section; it is difficult to produce meaningful weighted average single-service pricing analysis because of the relatively low number of services that are available in most countries.

Italy had the lowest single-service 'best offer' price for both of the basic pay-TV services that are included in our analysis, both of which include a PVR, and the second of which also requires high-definition (HD) channels. In both cases, the 'best-offer' service in Italy was Telecom Italia's new *Cubovision Ready* IPTV service, which offers 44 basic channels for €14.90 per month (reduced by €5 per month for a year) and requires a set-top box costing €159. This service cost less than half the €30 per month required by the equivalent 2012 'best-offer' service for these baskets (which were provided by Sky), and as a result, the total 'best-offer' price for all three connections (and including the licence fee) fell by 30% in Italy in 2013, despite the 'best-offer' price of the HD premium pay-TV service having increased by £4 per month during the year.

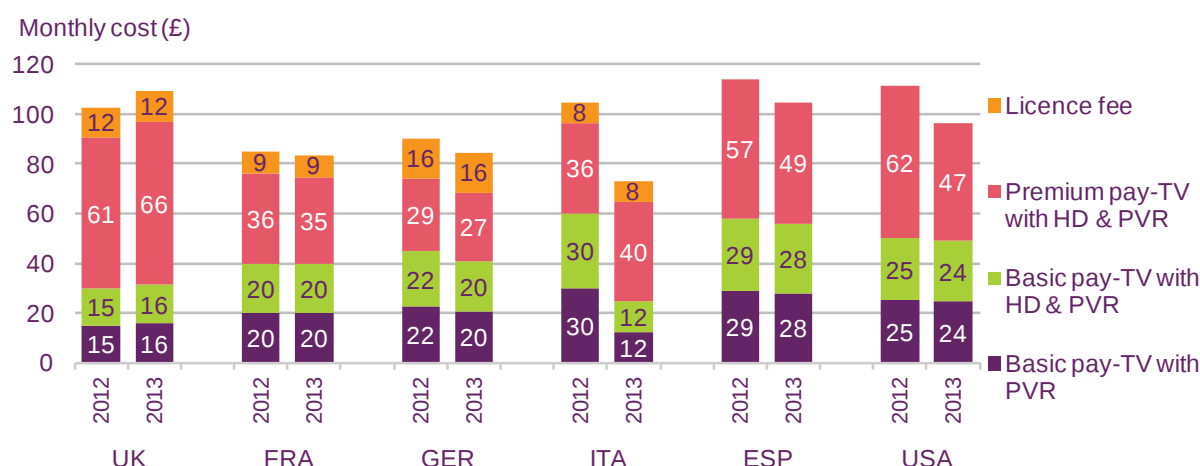
The UK had the second-lowest 'best-offer' price for each of the basic pay-TV services included in our analysis in 2013, the cheapest offer for both being Virgin Media's *TV Size M+*

with TiVo 500GB service, which was £1 a month more expensive than it had been in 2012 as a result of a £1 increase in its standard monthly fee to £19 a month (although in both years the service was offered at half price for 12 months). The relatively high TV licence fee in the UK, along with it having the most expensive 'best-offer' premium HD pay-TV service in 2013 (Sky's *Sky Entertainment Extra+ with Sky Sports & Movies + HD Mix* at £66 per month), meant that the UK had the highest total 'best-offer' price for the TV services included in our baskets, when the TV licence fee was included in the analysis.

It is important to note the difficulty in comparing premium pay-TV packages, which is due to the variations in content in these packages. Sky's 'best-offer' premium pay-TV service in the UK in 2013 included 370 basic channels and 36 premium channels, while the cheapest comparable service (Kabel Deutschland's *Kabelanschluss Premium HD* service, which cost £27 per month in Germany) included less than half this number of channels.

The total 'best-offer' price for the three pay-TV services included in our baskets fell by 8% and 14% respectively in Spain and the US in 2013, the countries where they had been highest in 2012, and in both cases, most of this decline was as a result of a fall in the 'best-offer' price of the HD premium pay-TV service. In Spain this was due to Digital Plus reducing the price of its *Paquete Deporte+ (with Free Canal+ Liga) WITH iPlus* service (which was also the 'best-offer' service in 2012), and introducing a more generous promotion, while in the US Direct TV offered a new service in 2013 (*Entertainment + HBO + Sports Pack*) which was heavily discounted (by \$30 per month to \$42.98 a month) for a year. The total 'best-offer' price for the three TV services also fell in France and Germany in 2013, with the fall in Germany (6%) being higher than the 1% fall in France.

Figure 2.10 Comparative single-service 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 basket from any of the three largest operators by market share in each country, July 2012 and July 2013; PPP adjusted

Having provided an overview of findings on a single-service basis, we now detail the relative total prices for baskets of communications services, representative of five household types.

2.1.4 Basket analysis

Basket 1: a low-use household with basic needs

Our first basket 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 2.11 Composition of Basket 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

The cheapest weighted average cost of fulfilling the requirements of Basket 1 in 2013 was in Italy at £48 a month, a £9 per month fall compared to 2012. The UK weighted average stand-alone price was the third highest among our comparator countries in 2013, at £53 per month, a £2 a month (4%) increase on 2012.

As our weighted average single-service analysis weights the largest three providers' 'best-offer' 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 market share of over 50%.

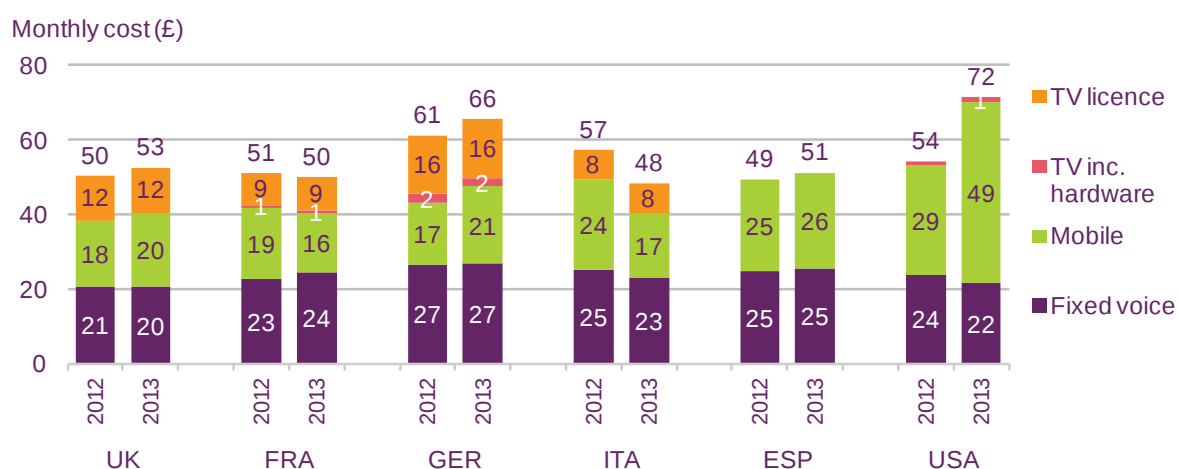
The weighted average price of the fixed voice element of the basket ranged from £20 per month in the UK to £27 per month in Germany among our comparator countries in 2013, and the change in the weighted average compared to 2012 ranged from a 1% fall in the UK to 9% increases in Italy and the US. While our analysis shows that the weighted average stand-alone price of the fixed voice element of Basket 1 fell in the UK in 2013, this fall was the result of Virgin Media (which had had the most expensive 'best-offer' stand-alone fixed voice service contributing to the UK weighted average in 2012) withdrawing its stand-alone landline services. Excluding Virgin Media's 'best-offer' tariff from the 2012 calculation would have shown a larger increase in the weighted average stand-alone price in 2013.

France and Italy were the only comparator countries where the weighted average cost of fulfilling the mobile requirements of the basket fell in 2013 (by 17% and 28% respectively). Among the other comparator countries the increases ranged from 5% in Spain to 67% in the US (it was 14% in the UK), with the increase in the US being due to the price of the 'best-offer' price of the Sprint tariff, which fed into the weighted averages, increasing from £25 per month for the *Basic* service in 2012 to £42 for the *Unlimited My Way - Talk & Text* service in 2013.

As Basket 1 includes only free-to-air TV services, the main driver of the cost of the TV component of the basket is the TV licence fee (although not in Spain and the US, where there is no licence fee). As the basket 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 2.12 Basket 1: 'weighted average' single-service pricing



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 2012 and July 2013; PPP adjusted

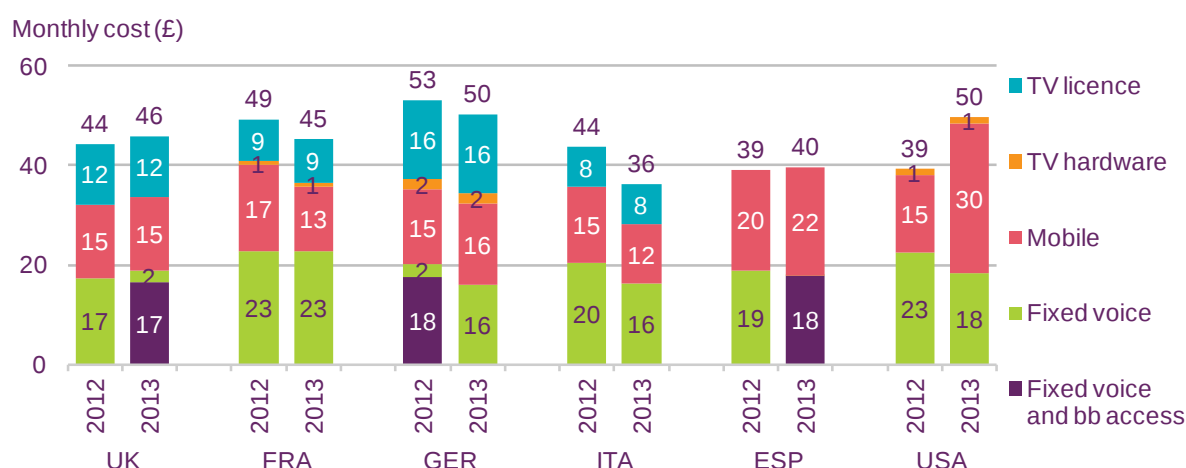
Best-offer pricing analysis shows the lowest possible monthly cost of fulfilling the basket's usage requirements, using the tariffs of the largest providers in each country, including bundled services. The difference between the weighted average and the best-offer prices of each service in the bundle gives an indication of the range of prices available in each country, and these were relatively small for the fixed voice and mobile elements of the basket, suggesting that tariffs for the service are closely aligned in each country (Figure 2.13).

Italy had the lowest best-offer cost of fulfilling the requirements of Basket 1 in 2013, at £36 a month. This was £7 a month less than in 2012, with most of this fall due to the introduction of TeleTu's low-cost *Parla Facile* fixed voice service. The UK had the third most expensive 'best-offer' price for Basket 1 in 2013, at £46 per month (a £2 per month increase compared to 2012).

Increasing stand-alone fixed telecoms prices in the UK meant that it was one of two countries (along with Spain) where the best-offer option to fulfil the basket's fixed-line use included a bundled fixed broadband connection, even though the basket does not require one. In the UK, buying the 'best-offer' bundle was £1 a month (2%) cheaper than the 'best-offer' combination of services, while in Spain the saving was £2 a month (4%). In the UK, this bundle was provided by TalkTalk, while the 'best-offer' mobile service was T-Mobile's *Pay Monthly 7* tariff, as it had been in 2012. The cost of the television component of the basket remains the same in the best-offer analysis, as it includes free-to-air television, where the only costs are the licence fee, hardware and installation.

The biggest difference between the stand-alone 'best-offer' weighted average and the 'best-offer' price available from the three largest operators in 2013 was in the US, where the lowest-cost combination of services needed to fulfil the requirements of the basket was 31% less than the weighted average best-cost price (in the UK it was 13% less). By contrast, there was relatively little variation between the 'weighted average' and the best-offer prices in France, with the best-offer price being just 9% cheaper than the weighted average, indicating that there was little difference between the mobile and fixed voice tariffs available from the largest operators.

Figure 2.13 Basket 1: comparative 'best offer' 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 2012 and July 2013; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service

Basket 2: A broadband household with basic needs

The second basket 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 and SMS.

Figure 2.14 Composition of Basket 2

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
400 call minutes	Minimum 4Mbit/s headline speed 15GB data	Connection 1 50 call minutes 25 SMS Connection 2 50 call minutes 25 SMS	None	Free-to-air

Source: Ofcom

The cheapest weighted average cost of fulfilling the requirements of Basket 2 was in the UK in 2013, at £63 a month, £3 a month less than in 2012. The UK was one of three countries (along with Germany and Italy) where the total weighted average price of the basket fell during the year, with the largest fall in Italy (22%).

The fixed-line voice requirement of this basket mainly consists of calls to fixed-line phones within the same country, made during the daytime, meaning that the basket favours packages which include these call types within the monthly fee. This was the case with the BT and TalkTalk tariffs that fed into the weighted average price in the UK, which was the lowest among the countries in our analysis, at £23 a month. This was a £4 a month (18%) increase compared to 2012, the largest proportional rise among our comparator countries, and was due to both BT and TalkTalk increasing the line rental of their 'best-offer' services (which were also the 'best-offer' services in 2012), and because TalkTalk no longer offered a £1.50 per month discount for the first year of service, that had been available in 2012.

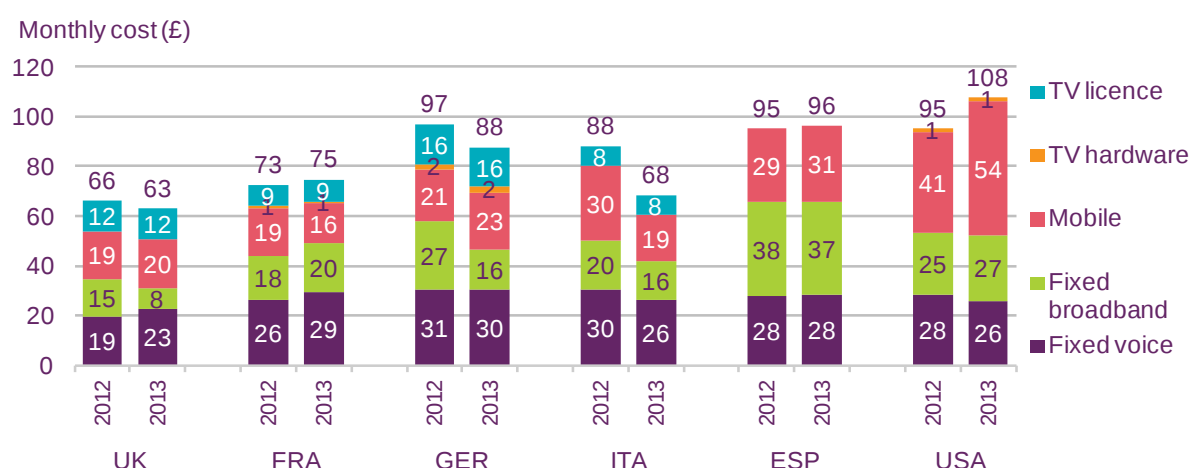
The UK had the lowest weighted average price for the fixed broadband element of Basket 2 in 2013 at £8 a month, £7 a month (47%) less than in 2012, largely as a result of BT offering

its *Broadband Option 2 - Unlimited Broadband* service free for six months (our methodology calculates the monthly price based on a 12-month period). Across the other comparator countries, the change in the weighted average 'best-offer' price for the fixed broadband element of the basket ranged from a 41% fall in Germany to an 11% increase in France, where the launch of a stand-alone version of Free's *Forfait Free Box* service (which was more expensive than the unchanged Orange and SFR 'best-offer' services which contributed to the weighted averages in both 2012 and 2013), resulted in an increase in the weighted average price.

The lowest weighted average single-service price for the mobile elements of the basket (two handsets with low voice and SMS use) was in France, at £16 a month, following a 17% fall in the weighted average price as a result of Orange introducing a new tariff (*Forfait Sosh mobile 4,90€*) which was cheaper for the connections in this basket than its 2012 'best-offer' tariff, and because SFR and Bouygues Telecom reduced the price of their 'best-offer' services (*CARRÉ 2h Bloqué + 50MB SIM* and *Forfait Bloqués 1h + WE SIM Only* respectively). In the UK the weighted average cost of the mobile requirement of the basket increased by £1 a month (4%) to £20 a month, despite O2 and Orange introducing lower-cost tariffs. The highest weighted average mobile costs were in the US, at £54 a month, a 32% increase compared to 2012, following large increases in the price of AT&T's and Sprint's 'best-offer' prices.

This basket contains the same basic free-to-air television service as Basket 1.

Figure 2.15 Basket 2: 'weighted average' single-service 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 2012 and July 2013; PPP adjusted

The cheapest best-offer prices to fulfil the requirements of Basket 2 were in the UK and Italy in 2013, at £47 a month (Figure 2.16).

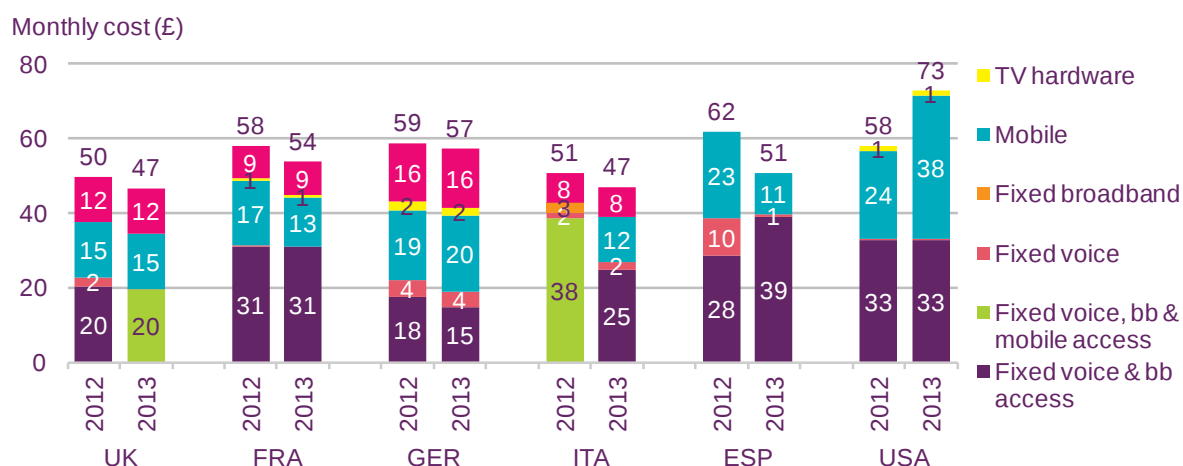
In the UK, the 'best-offer' tariff was £3 a month (6%) cheaper than it had been in 2012, and involved purchasing a bundle of fixed voice and fixed broadband services from EE at a reduced monthly fee, which was available only to its mobile customers (*Mobile + Broadband & Anytime Mobile Calls*) with line rental pre-payment. The 'best-offer' mobile service in the UK was from T-Mobile (owned by EE): the *Pay Monthly 7* tariff, as it was in 2012. The monthly fee for this service was £1 less (excluding the cost of the mobile element of the basket) than the TalkTalk bundle, which had been included in the 2012 UK 'best-offer' tariff, and also benefited from lower out-of-bundle fixed voice calls. In Italy, the total cost of the 'best-offer' combination of services fell by £4 a month (7%) in 2013, and involved a Fastweb double-play fixed voice and fixed broadband bundle (*Super Surf with ADSL FastWeb*) rather

than a triple-play bundle of fixed voice, fixed broadband and mobile services, as had been the case in 2012.

The largest percentage fall in the 'best-offer' price of Bundle 2 was in Spain in 2013, at 18%, the result of Orange launching a new triple-play bundle of fixed voice, fixed broadband and mobile services (*ADSL Maxima Velocidad + Llamadas + Canguro 35*). The US had the only increase in price for the 'best-offer' combination of services, up by 25% following a £15 per month (63%) increase in the price of the mobile element of the basket as a result of AT&T increasing the price of its *10c/Minute Plan + 200 Messages* service. The US had the highest price of the mobile element of the basket, at £38 per month (the lowest price was found in France at £13 a month, using Orange's *Forfait Sosh mobile 4,90 €* service). The total 'best-offer' prices of the basket in France and Germany fell by 7% and 3% during the year.

The savings that were available by buying the 'best-offer' combination of services including bundles for Basket 2, rather than the stand-alone 'best-offer' combination, ranged from 6% in Italy to 31% in Spain in 2013 (in the UK it was 18%). Similarly, the difference between the 'best-offer' including bundles and the weighted average stand-alone price ranged from 28% in the UK and France to 48% in Spain.

Figure 2.16 Basket 2: comparative 'best offer' 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 2012 and July 2013; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service

Basket 3: A mobile 'power user'

The third basket 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' basket analysis in this report includes the 'best offer' single-service cost of the mobile broadband component of the basket.

Figure 2.17 Composition of Basket 3

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
None	None	500 call minutes 200 SMS 1GB data	5GB over 30 days per month	Basic pay-TV DVR

Source: Ofcom

The cheapest weighted average cost of fulfilling the requirements of Basket 3 in 2013 was in France, at £85 a month. The UK had the second lowest weighted average stand-alone price for this basket in 2013, at £88 per month, a £12-a-month (12%) fall compared to 2012 as a result of a decrease in the price of the mobile phone element of the basket.

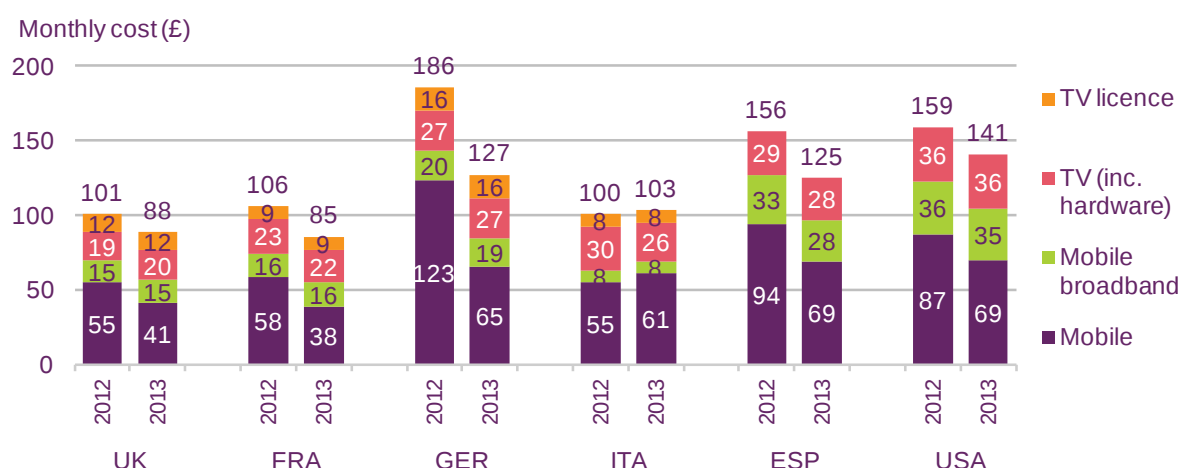
Large differences in the cost of the mobile phone connection in this basket (which had the highest use of the eight mobile connections which we use across the five baskets in our analysis) meant that the total weighted average stand-alone price of this basket varied widely across our comparator countries in 2013, ranging from France's £85 a month to £141 a month in the US. In all of our comparator countries, the cost of the mobile phone component of the basket was the largest single contributor to the total weighted average price, with the proportion that it constituted ranging from 45% in France to 59% in Italy (in the UK it was 47%).

Italy was the only comparator country where the total weighted average stand-alone price of the basket increased in 2013, up by £3 per month (3%) to £103, as a result of a 12% rise in the weighted average price of the mobile phone element of the basket, which was partly offset by a fall in the TV service element. Across the other countries included in the analysis, the fall in the total weighted average stand-alone price ranged from 12% in the UK and the US to a 32% fall in Germany, with the cost of the mobile phone element of the basket being the main driver of all of these falls (in Germany it fell by 47% as O2, T-Mobile and Vodafone all launched cheaper tariffs). Mobile phone service prices in the US compared slightly more favourably for the connection included in Basket 3 than for the other, lower-use connections used in our analysis (although it was still the most expensive) as post-pay mobile tariffs in the US usually include a large allowance of (incoming and outgoing) call minutes. However, it was still the second most expensive country after Spain.

There were also large variations in the 'best-offer' stand-alone price of the mobile broadband element of the basket across our countries, ranging from £8 a month in Italy (for Tre's *Web 60 SIM only* service) to £35 a month in the US for AT&T's *Mobile Share Data 6GB* service. But there was little change in the 'best-offer' stand-alone prices in our comparator countries between 2012 and 2013; the only difference that was greater than £1 a month was a £5 per month fall to £28 in the 'best-offer' tariff in Spain, as a result of Vodafone reducing the monthly fee for its *Internet Movil 5GB* service from €35 to €25, but withdrawing an offer which gave half-price rental for three months.

This basket includes a basic 'entry-level' pay-TV service, which is defined as the lowest subscription required to receive channels in addition to those available on free-to-view television, with a PVR. Because of the variation in numbers and types of channels, and quality of programming, like-for-like comparison is more problematic than for telecoms services, but the lowest prices were available in the UK and France.

Figure 2.18 Basket 3: 'weighted average' single-service pricing



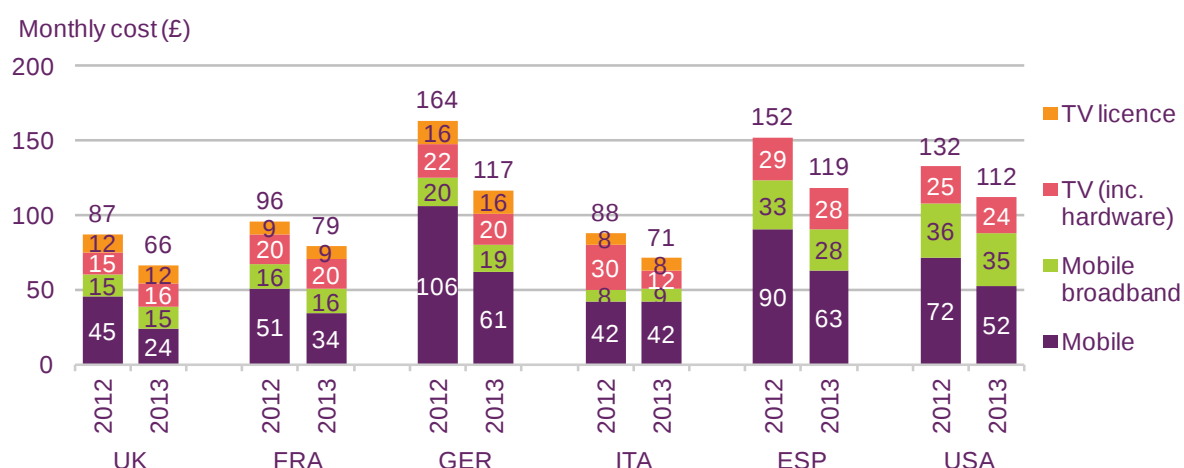
Source: Ofcom using data supplied by Teligen

Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2012 and July 2013; PPP adjusted; the figure for mobile broadband is the best-offer single-service cost

The cheapest best-offer price for fulfilling the requirements of Basket 3 in 2013 was in the UK at £66 a month, £21 a month (24%) less than it had been in 2012 (Figure 2.19). This fall was a result of a £22 per month (48%) decrease in the 'best-offer' price of the mobile phone element of the basket, due to T-Mobile launching a new 12-month SIM-only tariff, *SIM Only 12 months 11*, offering 500 call minutes, unlimited SMS messages and 1GB of data for £11 per month.

In none of our comparator countries did the best-offer combination of services to fulfil the requirements of Basket 3 involve buying bundled services, reflecting the low availability of bundles of mobile phone, mobile broadband and/or pay-TV services offering significant bundle discounts. For this reason, Figure 1.19 compares the single-service best-offer tariffs discussed previously in this report. There was less variation between the weighted average best price and the 'best-offer' combination price than was the case for the other baskets, because Basket 3 includes a low number of services, and because we have used 'best offer' single-service broadband prices in the 'weighted average' analysis (for the reasons outlined previously).

Figure 2.19 Basket 3: comparative 'best offer' 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 2012 and July 2013; PPP adjusted

Basket 4: A family household with multiple needs

Basket 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 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 2.20 Composition of Basket 4

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
500 call minutes	Minimum 10Mbit/s headline speed 50GB data	Connection 1 250 call minutes 100 SMS 300MB data Connection 2 150 call minutes 250 SMS 50MB data Connection 3 100 call minutes 300 SMS 400MB data Connection 4 100 call minutes 300 SMS 400MB data	None	HD basic pay-TV DVR

Source: Ofcom

The UK had the lowest weighted average stand-alone price for this basket in 2013, at £141 a month. This was £15 a month (10%) less than in 2012.

The primary driver of variations in cost between countries was the weighted average price of the four mobile connections that this basket includes. France and Italy were the only comparator countries where the mobile phone element of the basket accounted for less than

half of the total weighted average stand-alone price of the basket (in both countries mobile services made up 48% of the total). Among the other comparator countries, this proportion ranged from 54% in the UK to 68% in the US (Figure 2.21).

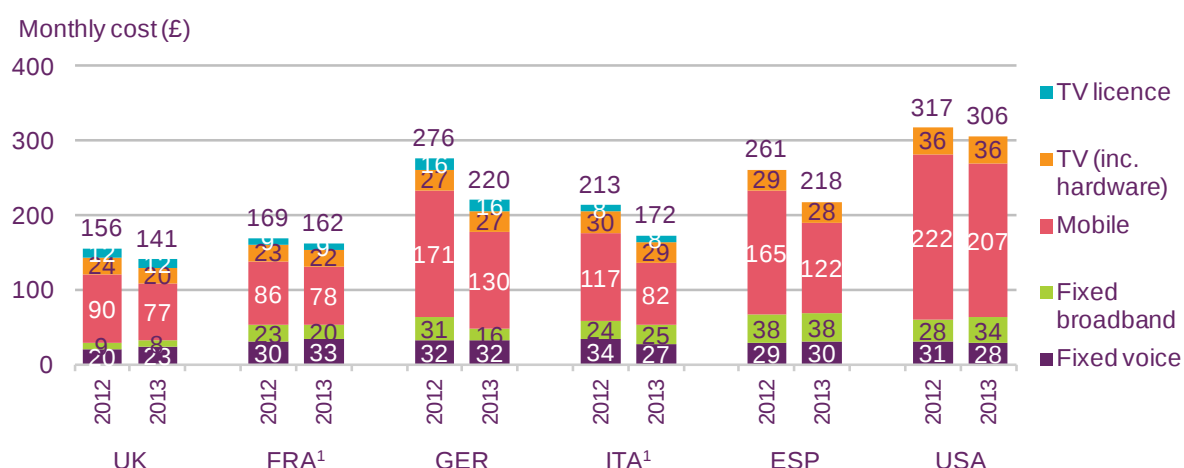
This basket includes 500 minutes of fixed voice calls, the highest fixed call use required by any of our baskets, and the two tariffs that contributed to the UK weighted average (which was the lowest among our comparator countries, at £23 per month) both involved additional call bolt-ons to reduce the cost of these calls: BT's *Unlimited Anytime Plan* with its *Friends & Family International* calls option and TalkTalk's *Talk UK Anytime* tariff along with *100 Mobile Minutes Boost* and *Global Saver* bolt-ons. The price of the fixed voice element of the basket was highest in France, at £33 in 2013, a 12% increase since 2012 as a result of both the France Telecom and SFR tariffs, which fed into the average (*Optimale 4h fixe et mobiles* and *SFR Ligne Fixe illimite vers fixes et international*), being more expensive than their 2012 equivalents.

The basket includes four mobile phones with varying use of voice, SMS and data services, and the lowest total 'weighted average' prices for all four connections were found in the UK (£77 per month) and France (£78 per month). Despite having fallen by £14 (6%) during the year, the highest overall weighted average stand-alone price of fulfilling the mobile requirements of the basket was in the US (as it had been in 2012), at £207. This was the lowest rate of decline among our comparator countries, the highest being in Italy (30%), where a £10 a month decrease in the weighted average price of the basket's lower-use connection, and a £2 a month fall in each of the medium-use connections, was offset by a £1 a month increase in the weighted average price of the high-use connection.

The UK also had the lowest weighted average fixed broadband prices for this basket in 2013, at £8 a month. This was £1 a month lower than it had been in 2012, largely as a result of BT introducing a generous promotional offer on its *Broadband Option 2 - Unlimited Broadband* service. Spain had the highest weighted average fixed broadband price in 2013 at £39 a month, while the largest fall in the weighted average price was in Germany, where it fell by £16 a month (48%) to £31 per month.

The television element in this basket is the same as that in Basket 3 (basic pay-TV), but this basket also requires HD channels. The only country where this resulted in a change to the weighted average price of the TV element of the basket was in Italy, where MediaSet's *Pacchetti Football* service dropped out of the average calculation as it did not include any HD channels and, as a result, the weighted average increased by £3 a month to £29.

Figure 2.21 Basket 4: 'weighted average' single-service 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 2012 and July 2013; PPP adjusted

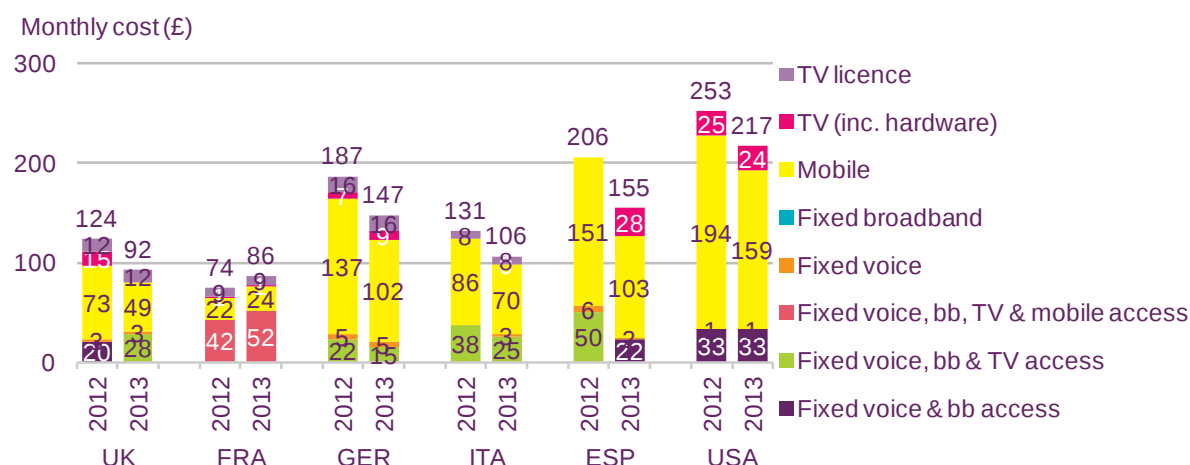
The cheapest best-offer cost of fulfilling the requirements of Basket 4 in 2013 was in France, at £86 a month. The UK had the second-lowest best-offer price, at £92 a month; £31 a month (25%) less than in 2012.

As was the case with Basket 2 (which also includes a fixed broadband connection), there were substantial savings to be made in 2013 by buying the services required by Basket 4 as part of a bundle. The difference between the 'best-offer' price of Basket 4 including bundles and the lowest price available using stand-alone services ranged from £15 a month (14%) in the UK to £57 a month (40%) in France among our six countries (Figure 2.22). As was the case in 2012, France had the lowest 'best-offer' price including bundles for Basket 4 in 2013, due to the availability of a low-cost Bouygues Telecom quad-play service of fixed voice, fixed broadband, pay-TV and mobile services. However, the 'best-offer' quad-play Bouygues Telecom bundled service in 2013 (*Forfait Sensation 500 MB + Bbox Sensation*) cost £9 a month more than the equivalent service in 2012, and this was the main driver behind an £11 per month increase in the total 'best-offer' price of this basket in France.

In the UK, Germany and Italy the lowest-cost option involved buying a triple-play bundle of fixed voice, fixed broadband and pay TV. In the UK, this was TalkTalk's *TalkTalk Plus TV with Line Rental Saver + TV Starter Boost + 100 Mobile Minutes Boost* service, which includes TalkTalk's newly-launched TV service, which is based around the YouView free-to-view TV platform. In Spain and the US, the cheapest option was a double-play bundle of fixed voice and fixed broadband services.

Mobile services constituted the largest part of the total 'best-offer' price in most comparator countries (the exception being France, where part of the basket's mobile requirement was fulfilled by a quad-play bundle). The comparative 'best-offer' pricing for the basket therefore closely resembled that of the mobile prices in each country, with the US having the highest 'best-offer' basket price (£217 per month) due to it having the highest price for the mobile element of the basket (£159 per month).

Figure 2.22 Basket 4: Comparative 'best-offer' 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 2012 and July 2013; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service

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

Basket 5 is typical of an affluent young couple of high-end users. They both have mobiles and are fairly high users 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 a superfast 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 personal video recorder (PVR).

Figure 2.23 Composition of Basket 5

Fixed-line voice	Fixed broadband	Mobile	Mobile broadband	Television
200 call minutes	Minimum 30Mbit/s headline speed 25GB data	Connection 1 300 call minutes 150 SMS 400MB data Connection 2 200 call minutes 50 SMS 200MB data	None	HD pay-TV with sports and movies PVR

Source: Ofcom

Italy offered the lowest 'weighted average' pricing for Basket 5 (excluding France, where a suitable stand-alone superfast broadband service was not offered by the providers in our pricing model), at £159 a month (Figure 2.24). The UK had the next-lowest weighted average stand-alone price for the basket (again, excluding France) at £160 a month, an £18 a month (10%) fall compared to 2012.

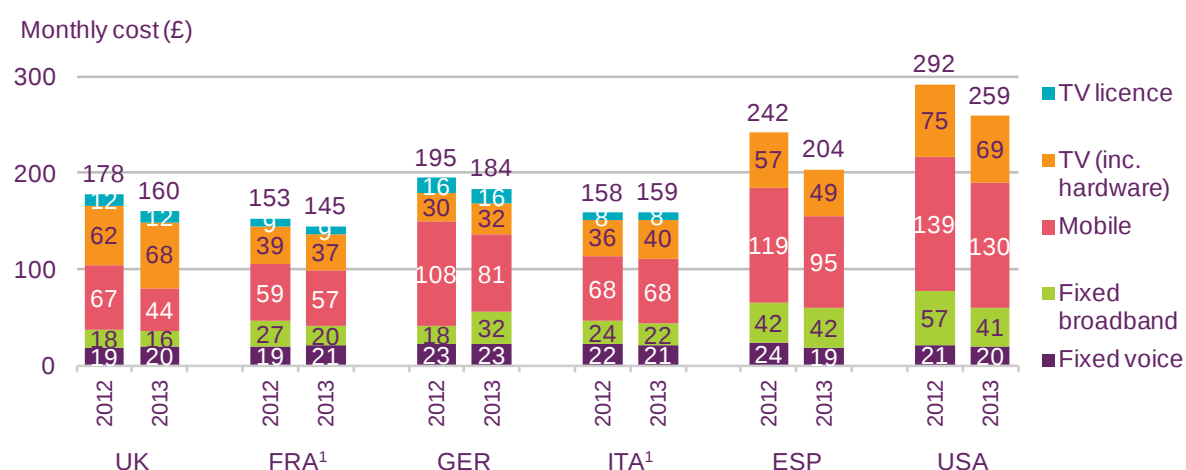
Basket 5 has the lowest fixed voice use of all the baskets, with 200 minutes of outgoing calls per month, and the UK had the third-lowest weighted average price for this usage profile (after Spain and the US) at £20 a month, a £1 a month (6%) increase compared to 2012.

The lowest average weighted stand-alone cost of satisfying the mobile requirements of the basket (the first with 300 minutes of outgoing calls, 150 SMS and 400MB of mobile data use, and the second with 200 outgoing call minutes, 50 SMS messages and lower mobile data use at 200MB) was also in the UK in 2012, at £44 a month. The UK had the lowest weighted average prices for both the high- and low-use connections in this basket (at £30 and £14 per month respectively), while the highest weighted average prices for each were found in the US, at £73 for Connection 1 and £57 for Connection 2. As discussed previously, mobile services are comparatively expensive in the US as a result of the receiving-party-pays interconnection regime. The total weighted average stand-alone price of the two connections fell by £23 (34%) in the UK in 2013, while in France (where the weighted cost had been lowest in 2012) the fall was just £1 (2%) to £57 a month.

Basket 5 requires a fixed broadband connection with 25GB of use and an advertised download speed of 'up to' 30Mbit/s or higher. None of the providers included in our analysis in Italy in 2012, or in France in 2013, offered a stand-alone fixed broadband service which fulfilled this requirement, and the fixed broadband element in the relevant years in these countries includes lower-speed ('up to' 10Mbit/s or higher) services. This means that the fixed broadband (and the total) prices for this basket in Italy in 2012 and France in 2013 are not directly comparable to those in our other comparator countries. There was a wide range of weighted average stand-alone prices for the superfast broadband connection required by this basket, ranging from £1 a month in the UK (a £2 per month fall compared to 2012, as a result of promotions available to consumers taking BT's *BT Infinity Option 1* or Virgin Media's *30Mb* services) to £42 a month in Spain.

Basket 5 also includes an HD premium pay-TV component. As was the case in 2012, the highest weighted average prices for this package, which includes top-league football (NFL in the US) and top-price film/entertainment channels, were in the US and the UK in 2013 at £69 and £68 a month respectively (the lowest was in Germany at £32 per month). The pricing of the pay-TV element of this basket is largely a result of the way in which channels are bundled, and in the US and the UK the football and film content needed to fulfil the basket's requirements was bundled with large amounts of additional programming. Comparisons with the US are hard to make as NFL viewing packages are marketed in many different ways and offered through a combination of pay-per-view and subscription.

Figure 2.24 Basket 5: 'weighted average' single-service pricing



Source: Ofcom using data supplied by Teligen

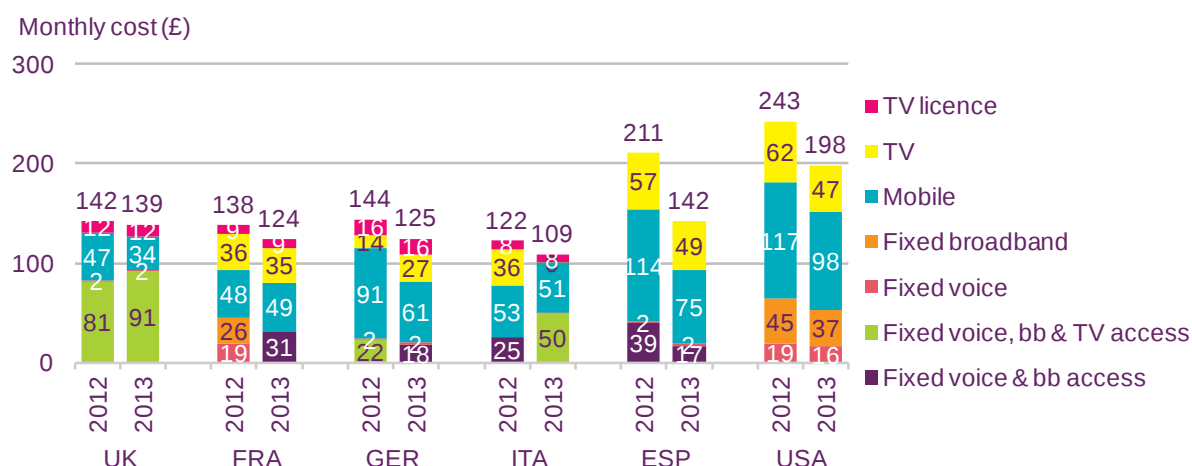
Note: Weighted average of best-value tariff from each of the three largest operators by market share in each country; July 2012 and July 2013; PPP adjusted; the figure for mobile broadband is the best-offer single-service cost; ¹ In France in 2013 and Italy in 2012 Basket 5 includes a connection below 30Mbit/s because none of the ISPs included in our pricing model offered a suitable superfast service.

The lowest 'best-offer' pricing for Basket 5 was in Italy at £109 a month, while in the UK the 'best-offer' price was £139 per month, £3 a month less than it had been in 2012 and the third highest price among our comparator countries.

The US was the only comparator country where the 'best-offer' price for Basket 5 did not include buying bundled services: in France, Germany and Spain the 'best-offer' combination of services included a double-play bundle of fixed voice and fixed broadband, while in the UK and Italy the 'best-offer' price required a triple-play bundle of fixed voice, fixed broadband and pay-TV. In the UK this bundle was TalkTalk's *TalkTalk Plus TV with Line Rental Saver + TV Entertainment Extra Boost + Sky Movies & Sky Sports + Fibre Medium* service, which had a base monthly rental fee of £91, while in Italy it was FastWeb's *Fiber FastWeb + Super Surf + FastWeb TV with Sky TV HomePack FULL w Football & Cinema* service, at £50 per month.

The largest savings, compared to purchasing services on a stand-alone basis, were found in Italy, where the cost of the cheapest bundle of services was £29 a month, 17% less than the cheapest combination of stand-alone services, although in percentage terms, the saving was higher in Italy at 20% (in the UK this saving was £7 a month or 5%). The steepest fall in the best-offer prices for Basket 5 in 2013 was in Spain, where it fell by 33% (£29 a month) with the largest fall in cost (£39 per month, or 34%) being in the mobile phone element of the basket.

Figure 2.25 Basket 5: comparative 'best-offer' 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 2012 and July 2013; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service; ¹ In France in 2013 and Italy in 2012 Basket 5 includes a connection below 30Mbit/s because none of the ISPs included in our pricing model offered a suitable superfast service.

2.1.5 Conclusion

Figure 2.26 summarises the weighted average stand-alone and 'best-offer' (including bundles) pricing of all five of our baskets across our six comparator countries.

As in 2012, this year's analysis again shows that prices in the UK compared favourably to those in the other five countries covered. Excluding the TV licence fee, the lowest 'weighted average' single-service prices for Baskets 2, 3 and 4 and the lowest 'best-offer' prices for Baskets 2 and 3 were found in the UK. Italy also performed well, having the lowest 'best-offer' (including multi-play) prices for Baskets 1 and 5 and the lowest 'weighted average' price for Basket 1, while France had the lowest best-offer' (including multi-play) prices for

Basket 4 and the lowest 'weighted average' price for Basket 5. The main area where the UK did not perform well was HD premium pay-TV services (including a PVR), where single-service prices were the highest among our comparator countries (the lowest price for the service was found in Germany). As stated previously, it is difficult to produce like-for-like comparisons of these services, as the number of channels and the quality of the content included in each package varies considerably.

Low basket prices in the UK were largely because the 'weighted average' stand-alone and 'best-offer' mobile prices in the UK were the lowest among our six countries: the UK had four of the lowest 'weighted average' stand-alone prices and six of the lowest 'best-offer' prices for the eight mobile connections used in our analysis (all five of the baskets included a mobile telephony element). In addition, the UK also benefited from low fixed broadband and fixed voice prices, having the lowest 'weighted average' and 'best-offer' prices for all three of the fixed broadband connections used in our baskets, and the lowest 'weighted average' prices for three of our four fixed voice connections.

Figure 2.26 Summary of 'weighted average' and 'best offer' basket pricing

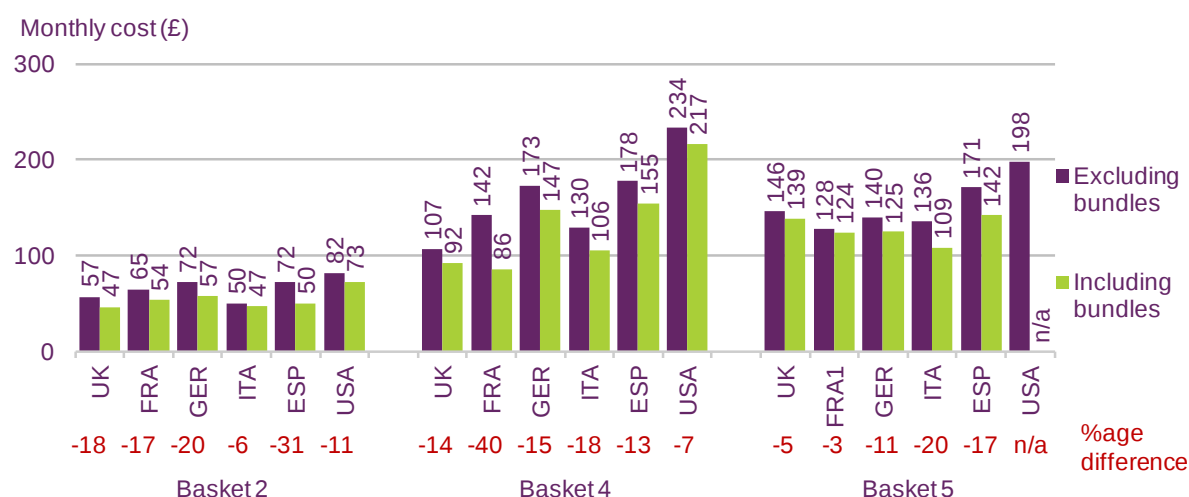
Weighted average stand-alone service pricing (£ per month)				'Best-offer' pricing including multi-play (£ per month)			
Basket 1	1	ITA	40	Basket 1	1	ITA	28
	2	UK	40		2	UK	34
	3	FRA	41		3	GER	34
	4	GER	50		4	FRA	36
	5	ESP	51		5	ESP	40
	6	USA	72		6	USA	50
Basket 2	1	UK	51	Basket 2	1	UK	34
	2	ITA	60		2	ITA	39
	3	FRA	66		3	GER	41
	4	GER	72		4	FRA	45
	5	ESP	96		5	ESP	50
	6	USA	108		6	USA	73
Basket 3	1	UK	76	Basket 3	1	UK	54
	2	FRA	83		2	ITA	63
	3	ITA	97		3	FRA	70
	4	ESP	128		4	GER	101
	5	GER	129		5	USA	112
	6	USA	149		6	ESP	119
Basket 4	1	UK	129	Basket 4	1	FRA	77
	2	FRA	153		2	UK	80
	3	ITA	164		3	ITA	98
	4	GER	205		4	GER	131
	5	ESP	218		5	ESP	155
	6	USA	306		6	USA	217
Basket 5	1	FRA	115	Basket 5	1	ITA	100
	2	UK	148		2	GER	109
	3	ITA	151		3	FRA	115
	4	GER	168		4	UK	127
	5	ESP	204		5	ESP	142
	6	USA	259		6	USA	198

Source: Ofcom using data supplied by Teligen

Note: Excludes the TV licence fee

In most of our comparator countries it was cheaper for consumers to buy the combination of services that were required by Baskets 2, 4 and 5 (which all include a fixed broadband connection) as part of a bundle rather than on a stand-alone basis. The only occasion when this was not the case was for Basket 5 in the US, where a suitable bundled service was not offered by the operators whose tariffs are included in our database. The potential savings available to those buying the services required by Baskets 2, 4 and 5 as part of a bundle varied between countries (Figure 2.28). In the UK, these savings ranged from 5% for Basket 5 to 18% for Basket 2, while among the other comparator countries it ranged from a 6% saving for Basket 2 in Italy to a 40% saving for Basket 3 in France.

Figure 2.27 Difference between ‘best-offer’ prices, including and excluding bundles

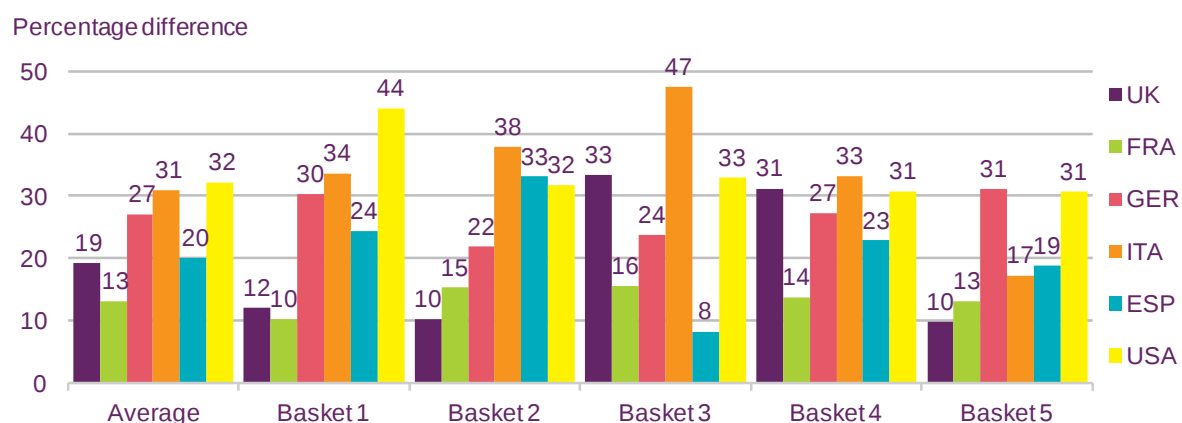


Source: Ofcom using data supplied by Teligen

Note: Lowest tariff available for each service type from any of the largest operators by market share in each country, and July 2012; PPP adjusted; where a service is included in a bundle any additional usage charges are recorded separately against the relevant service; ¹ excluding bundle figures for Basket 5 in France include ‘up to’ 10Mbit/s fixed broadband services as none of the providers included in our model offered a suitable stand-alone superfast service.

In the UK, the ‘weighted average’ stand-alone prices of our five baskets were, on average, 19% higher than their ‘best-offer’ stand-alone prices (France was the only country where this proportion was lower, at 13%). This indicates that, while there is a comparatively narrow range of prices offered by operators in the UK compared to those available in other countries, most consumers will still be able to save money by shopping around for the provider and tariff that best suits their needs (Figure 2.28). By way of comparison, the largest differences between weighted average and best-offer basket pricing were in the US (32%) and Italy (31%).

Figure 2.28 Difference between 'best-offer' and 'weighted average' stand-alone pricing



Source: Ofcom using data supplied by Teligen

Note: Basket 5 in France includes 'up to' 10Mbit/s fixed broadband services as none of the providers included in our model offered a suitable stand-alone superfast service



International Communications Market Report 2013

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 analysis of the 17 comparator countries.

- *Key market developments* details some of the major TV and audio-visual industry trends during the past year, covering 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: 2012

	UK	FRA	GER	ITA	USA	CAN	JPN	AUS	ESP	NED	SWE	IRL	POL	BRA	RUS	IND	CHN
TV revenue (£bn)	11.7	9.6	11.0	6.7	103.6	4.5	32.7	5.5	4.4	2.6	1.8	0.8	2.4	12.7	3.9	4.8	15.5
Revs change (% YOY)	1	0	2	-10	4	2	4	2	-8	-1	4	-4	6	18	10	11	9
Revenue per cap (£)	185	145	136	108	329	130	257	249	93	152	200	169	61	63	27	4	12
from advertising	56	41	41	52	125	63	116	117	33	46	62	32	18	35	20	1	7
from subscription	86	74	47	34	203	48	97	95	25	67	96	100	42	27	7	3	4
From public funds	44	33	51	24	1	18	42	34	39	40	41	34	1	1	0	0	0
TV licence fee ¹	145	102	176	91	n/a	n/a	108	n/a	n/a	n/a	194	130	43	n/a	n/a	n/a	n/a
Largest TV platform	Platform	Dsat	IPTV	Dsat	DTT	DCab	DCab	DTT	DTT	Dcab	Acab	Dsat	DSat	DSat	ACab	Acab	Dcab
	% of homes	47%	32%	41%	51%	40%	58%	32%	61%	71%	53%	32%	53%	46%	38%	34%	55%
TV viewing (mins/day) ²	241	230	222	255	293	238	n/a	186	246	196	164	203	243	216	238	n/a	164
No.1 channel share (%)	21	23	13	18	7	9	n/a	17	14	21	24	20	15	40	14	n/a	6
DTV take-up (%)	100	97	75	100	91	94	80	93	100	85	68	96	82	64	48	37	52
Pay TV take-up (%)	54	64	64	33	87	95	66	31	24	99	95	73	80	30	69	85	59
DSO date	2012	2011	2008	2012	2009	2011	2011	2013	2010	2006	2007	2012	2013	2020	2015	2013	2015

Source: IDATE / industry data / Ofcom / Mediametrie, Eurodata TV Worldwide. Figures have been converted to GBP using IMF 2012 average exchange rates. ¹The Japanese licence fee costs £108 in terrestrial households or £191 to receive a larger number of channels via satellite. ²Refers to average TV viewing per head, per day.

Some of the key market developments seen during the past year include:

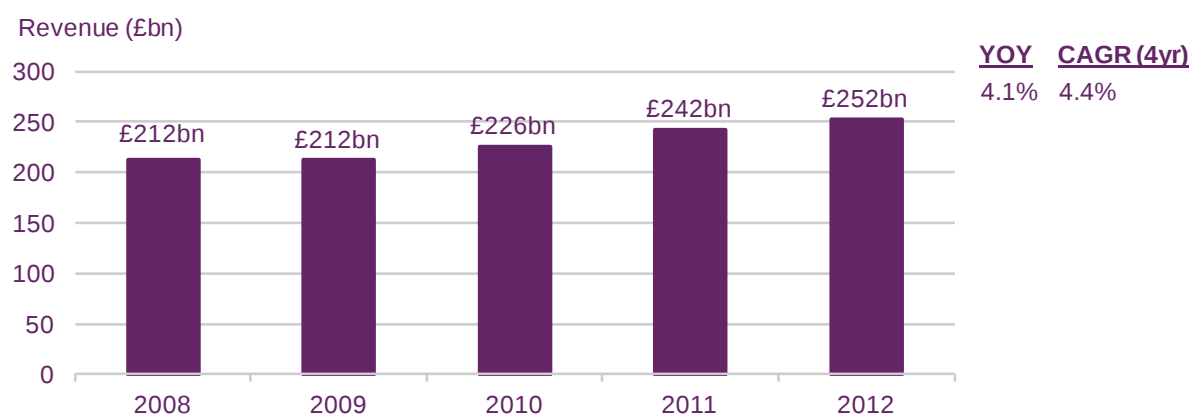
- **Global TV revenues increased in 2012, by 4.1% year on year, to £252bn.** Despite the challenging economic conditions, global TV revenues have increased by 4.4% on a compound annual basis over the four-year period since 2008.

- **Global subscription revenues increased for the fifth year in a row, from £98bn in 2008 to £127bn in 2012 – a compound annual growth rate of 4.4%.** At £127bn, income generated from subscription fees represented half of the total global TV revenue of £252bn in 2012. Global net advertising revenue also experienced year-on-year growth, increasing 4.6% per year to £102bn, while income from public funding remained unchanged since last year, at £23bn.
- **The UK leads the way in digital conversion and is one of only three countries to have 100% of all main TV sets receiving DTV in 2012.** *In the UK, Spain and Italy, 100% of all main TV sets received DTV in 2012. Since Italy's digital switchover in 2012, the remaining 7% of its analogue households have converted to receive DTV.*
- **Among the European countries included in our research, the household ownership of HDTV sets and HD services is highest in the UK.** Sixty-eight per cent of UK homes now have an HDTV set; 11pp above the average for all comparator countries (57%), while take-up of HD services in UK homes is 48%, 15pp above the average (33%).
- **The UK has the highest ownership of digital video recorders (41% of households) among all the countries included in our research.** The US and Australia follow, with DVRs installed in 38% and 35% of households respectively. France has the lowest ownership, with a reported 17% DVR take-up in the home.
- **UK smart TV ownership is 17% (19% average among European comparator countries) with the vast majority (78%) claiming to have connected, and used, the internet functionality.** Ownership of smart TVs is greatest in Australia and Germany, with 21% and 19% of homes respectively having such devices, while the lowest take-up is found in French households, at 9%.
- **UK consumers are the most likely to access TV content over the internet,** with over a third (36%) of internet users claiming to do this every week.
- **Consumers in the UK are the most likely to watch catch-up TV on their smart TVs, mobile phones and tablets.** Seventy-seven per cent of UK smart TV owners said that they accessed catch-up TV on their device, while over one in ten mobile phone owners in the UK stated that they had accessed catch-up TV on their device. For tablets, a third of UK consumers said that they had accessed catch-up TV on their device, compared to 20% in the US and 11% in Japan.
- **The UK is unique in Europe with almost a third of games console owners taking advantage of catch-up TV apps such as the BBC iPlayer and 4OD.** Access to catch-up TV services via games consoles in France, Germany, Italy and Spain is not as popular as in the UK (19%, 14%, 22% and 20% respectively).
- **Revenue generated from the sale of UK television programming to international markets stood at £1.22bn in 2012.** This was a 4% increase on the 2011 figure of £1.18bn. The US remains the UK's largest export market; increasing by a further 11% in 2012 to reach a total revenue figure of £475m.

3.1.2 Global TV revenues up 4.1% in 2012, driven by continued growth in subscription and advertising revenues

Ofcom estimates that global TV revenues increased in 2012, by 4.1% year on year, to £252bn. Despite the challenging economic conditions, global TV revenues have increased by 4.4% over the four-year period since 2008. Our analysis of global television revenues incorporates the three main components: net 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: Ofcom analysis based on data taken from PwC Global Entertainment and Media Outlook: 2013-2017 @ www.pwc.com/outlook. IDATE / industry data / Ofcom for US and UK revenues.

Notes: Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012.

The 4.1% increase in global television revenues to £252bn in 2012 was driven primarily by continued growth in subscription revenues combined with a sustained recovery in advertising revenues.

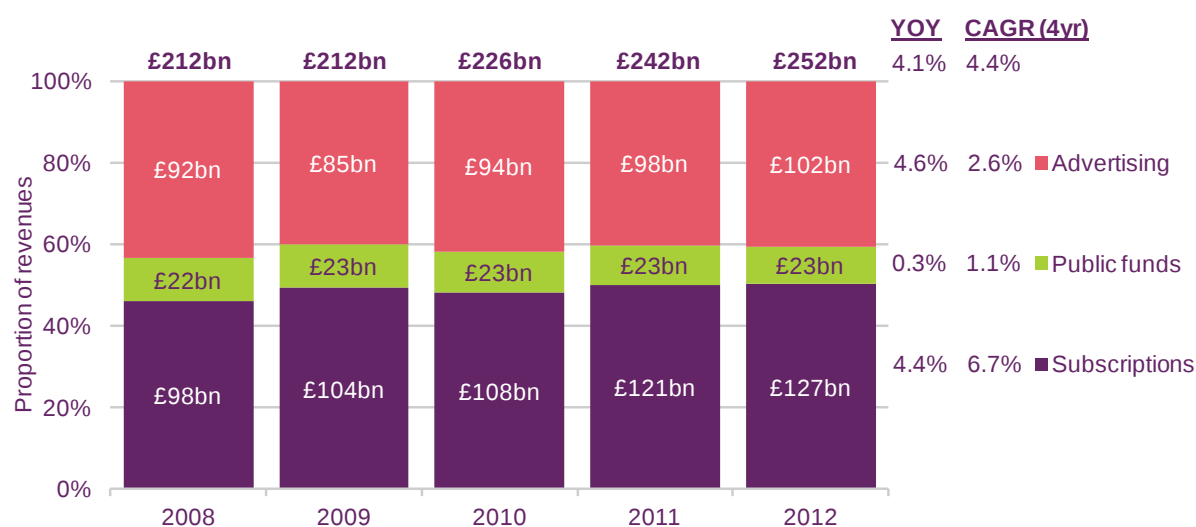
Global subscription revenues increased for the fourth year in a row, from £121bn in 2011 to £127bn in 2012 – a year-on-year increase of 4.4%. However, the *growth* in global subscription revenues was not as significant as in 2011, when an 11.8% year-on-year rise was experienced.

At £127bn, income generated from subscription fees represents half of the total global TV revenue of £252bn in 2012.

Following a decline in 2009, global net television revenues (NAR) bounced back in 2010. This global recovery in NAR has been sustained in 2012, with revenues increasing 4.6% (or £4bn) to £102bn.

Public funding, usually sourced from TV licence fees or government grants, remained unchanged in 2012 for the third consecutive year, at £23bn. Revenue from this source has changed little over the four-year period, increasing by just 0.3% per year on an average compound basis.

Figure 3.3 Global TV industry revenues, by source



Source: Ofcom analysis based on data taken from PwC Global Entertainment and Media Outlook: 2013-2017 @ www.pwc.com/outlook. IDATE / industry data / Ofcom for US and UK revenues. Notes: Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012.

3.1.3 Digital take-up slows as more countries reach switchover

In 2012, take-up of digital television (DTV)³⁸ continued to slow overall. In only a few comparator countries did the proportion of primary TV sets receiving DTV increase more quickly in 2012 than in 2011. Of these countries, all, with the exception of Germany, are either approaching scheduled digital switchover from analogue terrestrial (DSO) or completed the process in 2012. Levels of DTV conversion fell into four broad categories:

- **Complete digital conversion.** In the UK, Spain and Italy, 100% of all main TV sets received a digital television signal in 2012. Since Italy's switchover in 2012, the remaining 7% of analogue households have converted to receive DTV.
- **Almost complete digital conversion.** In France (97%), The Republic of Ireland (96%), Canada (94%), Australia (93%) and the US (91%) full DTV conversion is almost complete. Of these countries, only Australia has not yet completed its switchover from the analogue terrestrial platform.
- **DTV available in 60% to 85% of homes.** In the Netherlands (85%), Poland (82%), Japan (80%), Germany (75%), Sweden (68%) and Brazil (64%), a significant majority now receive DTV. Although there have been increases in DTV take-up in these countries, terrestrial broadcasting is less popular than in markets such as the UK, Spain and Italy, and faces greater competition from analogue cable.
- **The analogue platform continues to dominate.** In developing TV markets like China (DTV take-up at 52%), Russia (48%) and India (37%), many primary TV sets are currently still analogue. Switchover is scheduled for 2014 in India and 2015 in China and Russia, so higher rates of switchover are likely in the coming years.

³⁸ DTV includes all digital TV platforms

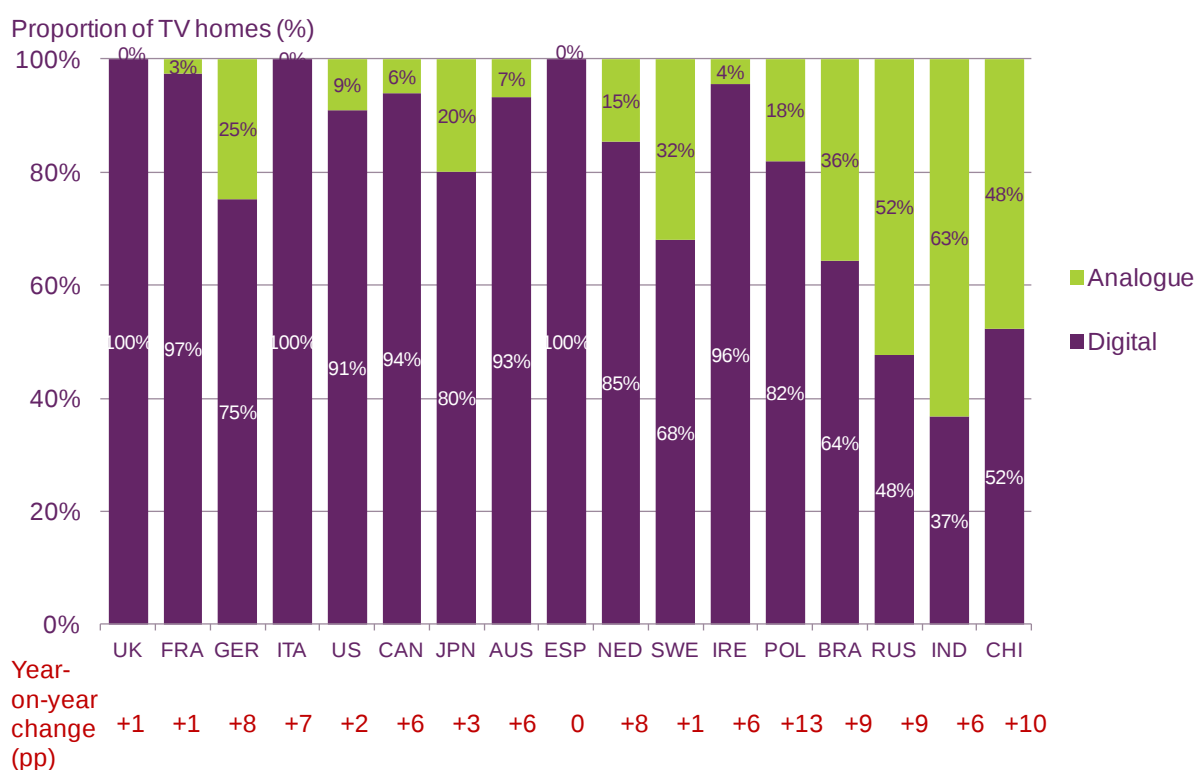
The UK is one of only three comparator countries to have 100% of all main TV sets receiving DTV in 2012. Spain reached full conversion in 2011 and since Italy's switchover in 2012, the remaining 7% of analogue households have also converted to digital.

Of the 17 comparator countries, 13 experienced a slower rate of growth in DTV take-up in 2012 than in the previous year. The rate of switchover to digital slowed in the growing number of countries where full conversion was almost complete. There were significant reductions in growth in France and Canada, where DTV take-up is now almost universal; the rates of growth dropped by 3pp and 4pp respectively in 2012. Australia, with 93% digital take-up, saw the biggest drop in growth: whereas in 2011 there had been an 11pp increase, in 2012 the increase was just 6pp.

The largest year-on-year growth in digital conversion took place in Italy, where in 2012 there was a 7pp increase, in comparison to the 1pp seen in 2011. However, 2012 was the year in which the country's switchover was scheduled, and this is likely to have been a driving factor in this increase in growth.

Of the other countries where DTV is now available in 65% to 85% of households, Sweden has experienced one of the slowest digital conversion rates. With DTV take-up relatively low, at 68%, there was an increase of just 1pp in 2012, following 4pp in 2011. This goes against the trend seen with other countries with low digital conversion, which have experienced higher rates of growth. There are three countries where analogue TV still remains prevalent despite steady conversion levels. Russia and China's rate of digital conversion was maintained in 2012, while India saw a slight increase in growth from the 5pp increase recorded in 2011, to 6pp in 2012.

Figure 3.4 Take-up of digital and analogue television: 2012



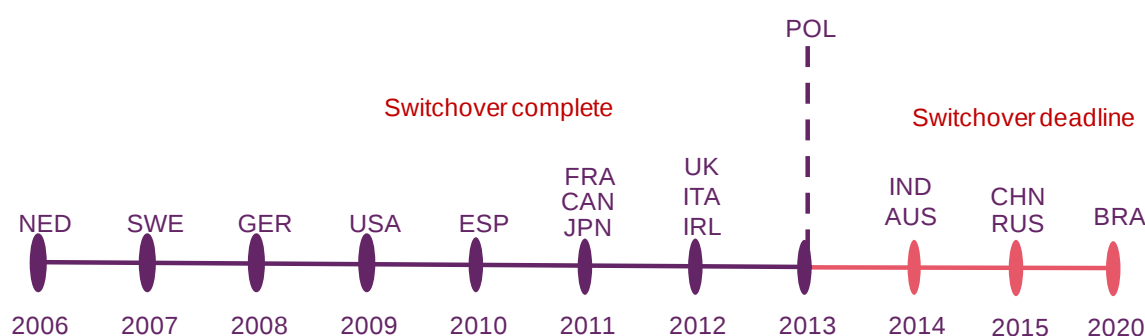
Source: IDATE / industry data / Ofcom

Since 2006, 12 countries have completed their digital terrestrial switchover. Poland is the latest country to have switched off its analogue terrestrial signal, in July 2013, while the UK,

Italy and Ireland all met their switchover deadlines in 2012. In many countries which have already completed switchover, many TV households still do not receive DTV. In Sweden, for example, 32% of TV households did not receive DTV in 2012. Similar levels can be seen in Germany (25%), Japan (20%) and the Netherlands (15%). The popularity of analogue cable in these countries may well be slowing the conversion to digital.

With only five countries yet to complete analogue switch-off, there are varying initiatives to complete the process. In India, where DTV take-up at the end of 2012 stood at just 37%, a staggered switch-off is reportedly under way, with a completion date of December 2013. Much of Australia is expected to follow a similar pattern; here, there is also a December 2013 completion date for many of the major cities in the eastern Australia and remote areas in central and western Australia, although at the end of 2012 DTV take-up was already at 93%. China and Russia are scheduled to switch off their analogue terrestrial signal in 2015, while Brazil, (where switchover is scheduled to start on a regional basis from 2015) has extended its final deadline to 2020.

Figure 3.5 Timeline for digital switchover, by country and date

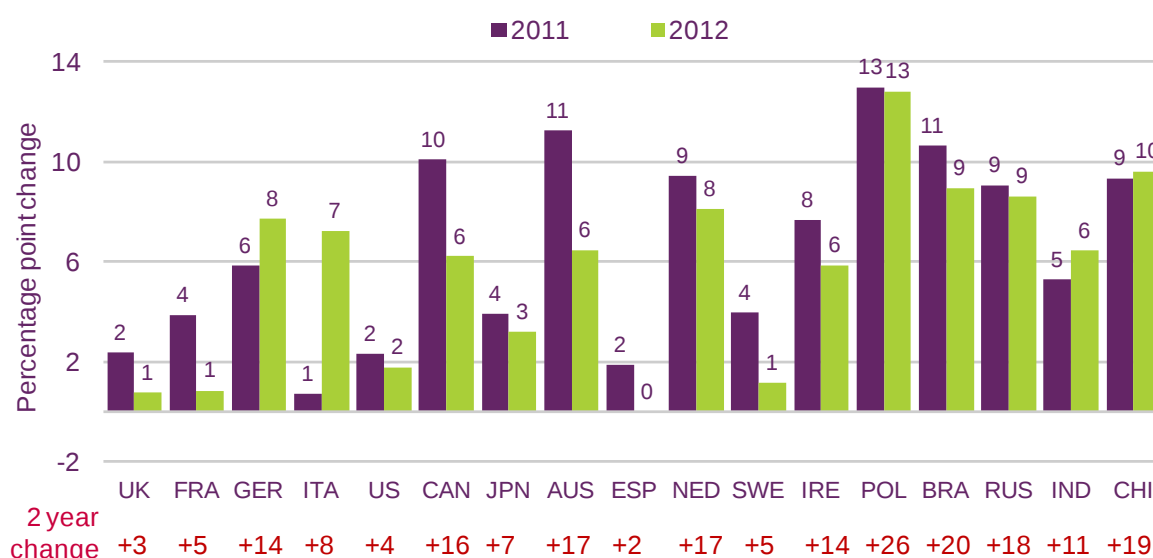


Source: IDATE / industry data / Ofcom

Only four of the comparator countries experienced accelerated growth in digital conversion in 2012. Figure 3.6 illustrates how Italy (6pp), Germany (2pp), India (1pp) and China (1pp) all saw higher growth rates in DTV take-up in 2012 than in 2011.

In the BRIC countries digital conversion rates again increased substantially in 2012, compared to the other countries in our analysis. Over a two-year period, Brazil (20pp), Russia (18pp) and China (19pp) had three of the four biggest two-year DTV conversion increases. However, the proportion of homes in Russia, India and China that receive DTV is still comparatively low.

Figure 3.6 Percentage point change in DTV take-up: 2011 and 2012



Source: IDATE / industry data / Ofcom

3.1.4 Consumers continue to embrace value-added services

With switchover from analogue to digital television being complete in the US, Japan and all European comparator countries, and with Australia's switchover scheduled for 2014 and China nearing its 2015 deadline, consumers can now take advantage of the value-added services that are available. Such services include high definition television (HDTV), which provides 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 using an integral hard disk drive.

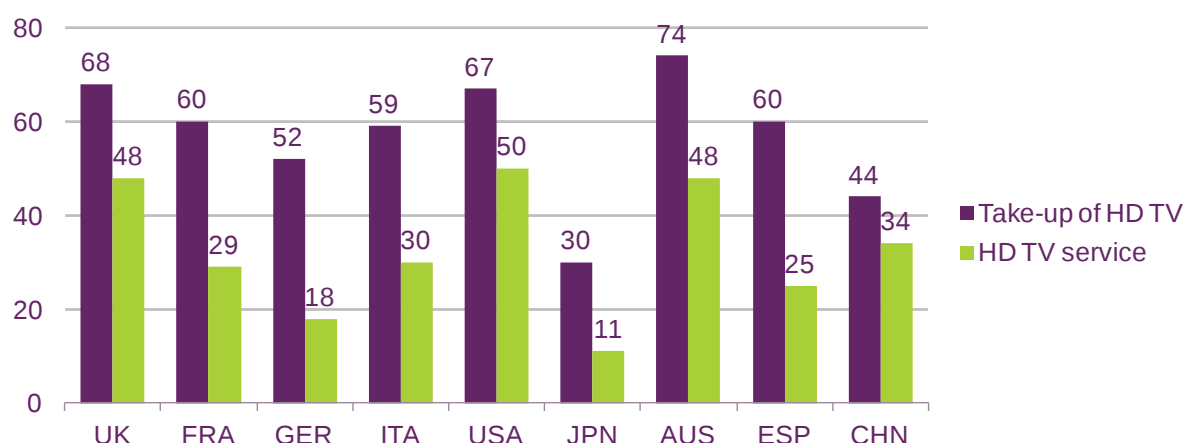
Consumers are also increasingly able to access TV and audio-visual content over the internet. One such method is through a smart TV, which is a stand-alone television set with inbuilt internet functionality, giving the user access to on-demand services alongside scheduled broadcast TV. A further method is via a connected television; these differ from smart TVs as their internet connection requires an external device such as a games console, set-top box or a PC/laptop.

The majority of homes in the UK, the US and Australia have HDTVs and HD services

Penetration of HDTV sets in UK households is now 68%, according to Ofcom research conducted in September 2013; this is the highest in Europe and 11pp above the average for all comparator countries, which stands at 57% of households. UK take-up is second only to Australia, where 74% of homes now have an HDTV set.

However, in all the countries analysed there are gaps between ownership of HD-ready television sets and actual take-up of HD services. This difference is lowest in the US, (67% ownership vs 50% take-up). The UK follows, with 68% ownership and a reported 48% household take-up of an HD service; this is the highest take-up of HD services in Europe. Australia has the same proportion of household take-up as the UK. Germany has the lowest take-up of HD services (18%) among the European countries included in our research, while Japan has the lowest overall take-up both of HDTVs and HD services (30% and 11% respectively).

Figure 3.7 Household ownership of HD-ready TV sets and HD services



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1007, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007

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

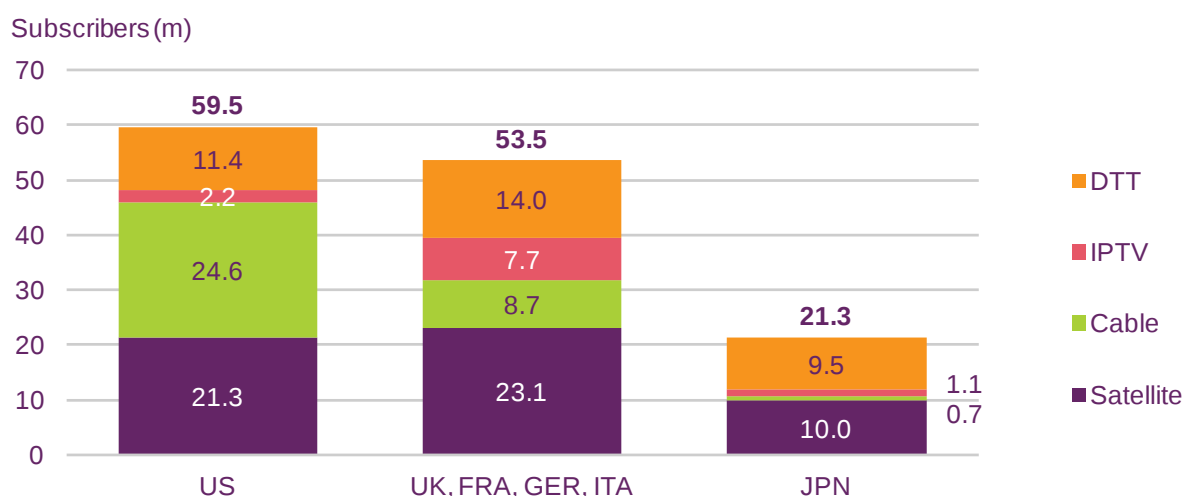
Europe has the highest proportion of households with satellite as a platform for accessing HD services

In the UK, France, Germany and Italy combined, satellite is the leading platform used by households to access HD services, with 23.1 million homes, while the second largest platform is digital terrestrial (DTT), with 14 million homes. In the US, however, the two major platforms are cable (24.6 million homes) and satellite (21.3 million homes).

In Japan, DTT is the second most popular platform for accessing HD services, after satellite (10 million and 9.5 million households respectively).

Overall, the IPTV platform has attracted the fewest HDTV households, with 2.2 million in the US, 7.7 million in our European comparator countries and 1.1 million in Japan.

Figure 3.8 Number of HD homes, by platform and country: end 2012



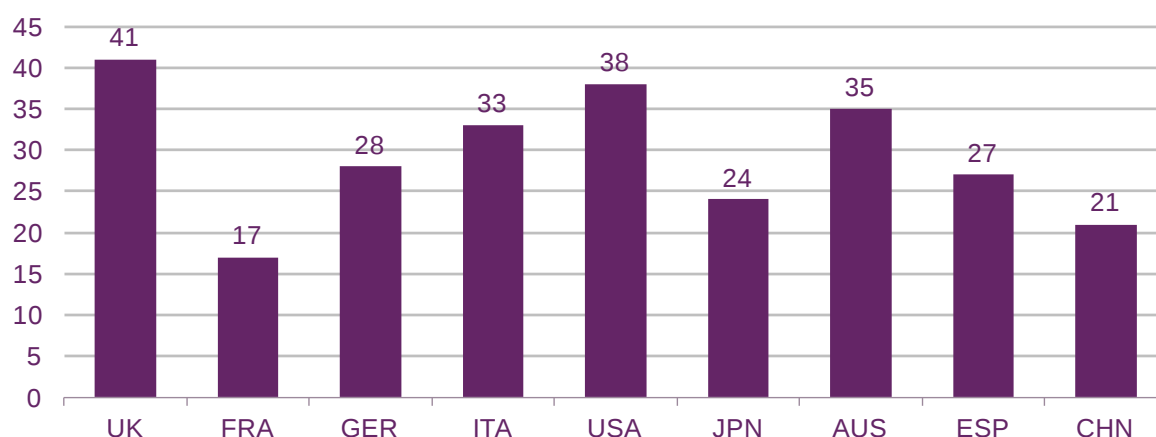
Source: IDATE / industry data/ Ofcom. Notes: paying and FTA HD homes.

The UK has the greatest household ownership of digital video recorders (DVRs)

According to Ofcom research, 41% of UK homes now have a DVR device³⁹, which is the highest in Europe and overall. The US and Australia follow, with DVRs installed in 38% and 35% of households respectively. France has the lowest DVR take-up of these nine comparator countries, at 17%.

Figure 3.9 Household ownership of DVR

All respondents – take-up (%)



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

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

Less than two in ten 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 a third-party 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.

Ownership of smart TVs (with inbuilt internet functionality) is greatest in Australia and Germany, with 21% and 19% of homes respectively having such devices. Smart TV

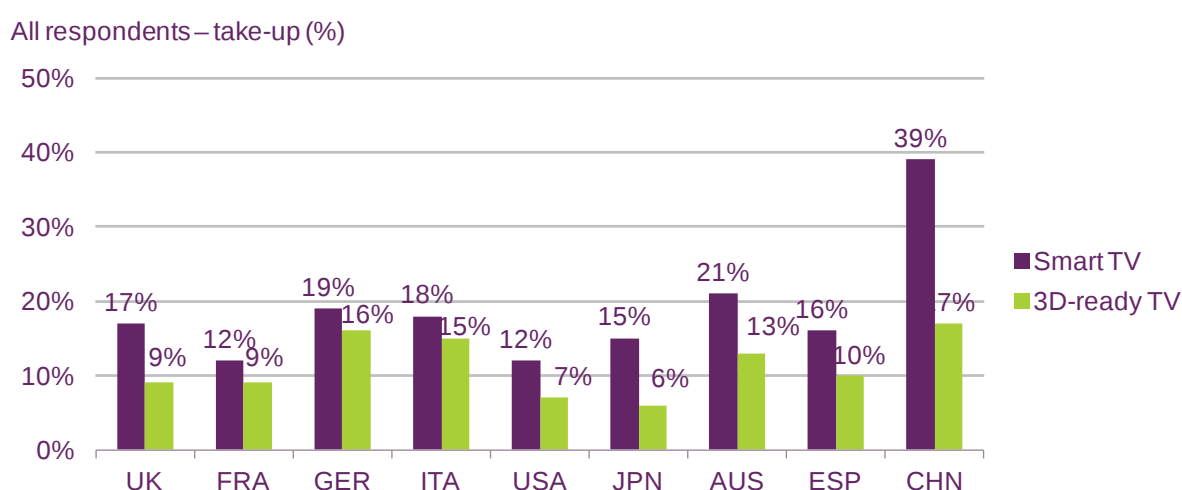
³⁹ This figure is lower than the 67% reported in Ofcom's 2013 UK Communications Market Report (CMR). The 67% DVR take-up figure for the UK quoted in the CMR is based on all individuals aged 4+ in television households who have access to a DVR. It is based on data from the BARB panel, a nationally representative sample of all households across the UK. The 41% in this report is based on consumer research to enable comparison across a number of countries.

ownership in the UK (17%) is comparable with that in Italy (18%); the lowest take-up in Europe is found in French households, at 9%.

Figure 3.10 indicates that household ownership of smart TVs is highest in China, with 39% of respondents claiming ownership of these devices. However, this statistic must be used with caution as only 41% of Chinese citizens are reported to have internet access (December 2012 figure) and the respondents used in our survey do not represent the total population.

Ofcom's research finds that households in the UK and France are the least likely among the European comparator countries to have 3D-ready TV, with a reported 9% take-up in both countries. Along with Spain (10%), Japan (6%) and the US (7%), these countries are below the 11% average for household take-up of 3D-ready TV. The highest European take-up is reported in Germany (16%) and Italy (15%).

Figure 3.10 Household ownership of smart and 3D-ready television sets



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007

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

The majority of consumers have connected their smart TVs to the internet, with only one in ten UK consumers claiming not to have done so

Use of the internet connection on smart TVs is greatest overall in Italy (81%). The UK is second highest (78%) with Germany and Spain following (both 76%). At 67%, France has the lowest consumer use of the internet connection on smart TV's in Europe. Japan is lowest overall at 59%.

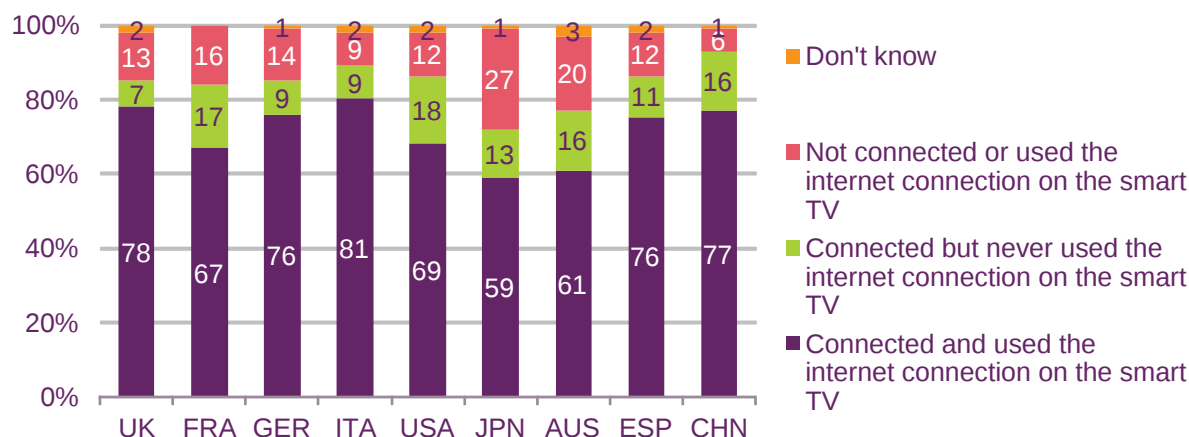
In the UK, 7% of respondents claim never to have used the internet on their smart TV, despite having connected it; this is the lowest figure among our European comparators. France has the highest proportion of consumers who have enabled the internet connection on their smart TV but not used it (17%) and the US is highest overall at 18%.

Italy is the European country in which households are least likely to either connect, or use, the internet on their smart TV (9%). The UK is behind Germany (13% and 14% respectively) with France having the highest figure in Europe, at 16%.

Japan has the highest proportion of respondents with a smart TV who have neither connected nor used the internet connection (27%).

Figure 3.11 Personal internet use on a smart TV

All respondents with a smart TV



Source: Ofcom consumer research September 2013

Base: All respondents, with a Smart TV, UK=165, FRA=117, GER=188, ITA=183, USA=123, JPN=146, AUS=209, ESP=161, CHN=393

Q4a(1): Which of the following comes closest to your use of the internet connection on your smart TV? I have...

3.1.5 The continued growth of UK TV exports

UK television industry export revenues rose by 4% to £1.22bn in 2012.

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 2012 the estimated total revenue for international sales of UK television programmes and associated activities was £1.22bn. This was a 4% increase on the 2011 figure of £1.18bn and a compound annual growth rate of 14% since 2005 when the survey reported an overall figure of £494m. This growth has largely been driven by the terms of trade changes set out in the 2003 Communications Act, which meant independent producers were able to separately 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 2012 total sales stood at £475m; this was an 11% increase on 2011, and more than four times the size of the second largest market, Australasia, which accounted for £103m of total export revenue in 2012.⁴⁰ A shared language, and cultural similarities, are likely to be the key drivers of demand for UK content in these countries, with notable successes for scripted dramas such as *Downton Abbey* and *Sherlock*.

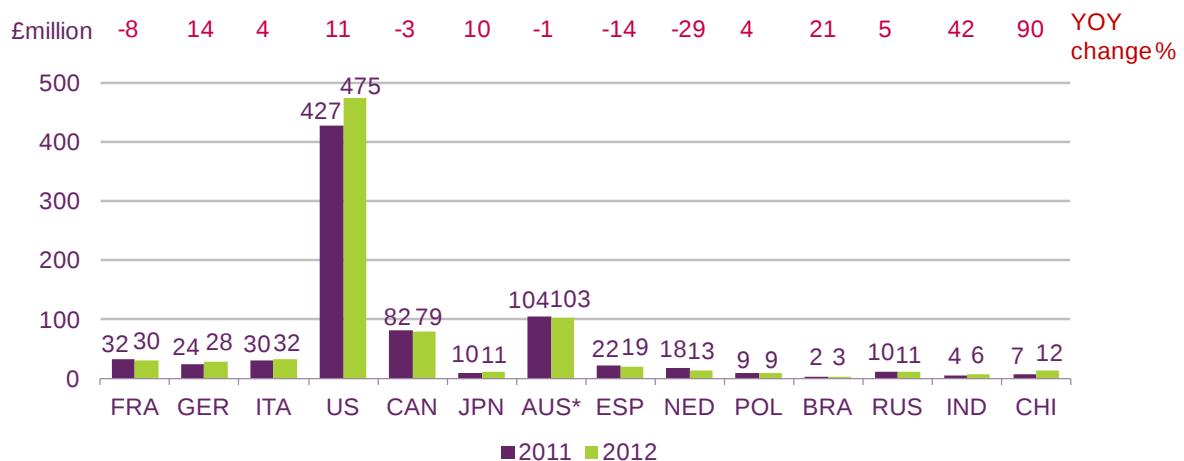
⁴⁰ Australasia comprises of Australia, New Zealand, the island of New Guinea and neighbouring islands in the Pacific Ocean.

Other large increases in total revenues were seen in Japan (10%) and Germany (14%), but the growth in revenues to the BRIC countries is the most striking increase. Exports to Brazil have increased by 21% since 2011, and to India, 42%. China saw the largest year-on-year growth of TV exports with a 90% increase. Although total revenues in these countries were among the lowest, this indicates that countries which may not previously have shown a large appetite for UK content may now be starting to do so.

Despite China's rapid growth in purchased UK TV content, the government, through the State Administration of Radio, Film and Television (SARFT) has recently introduced rules which limit the number of foreign imports which Chinese broadcasters can show. It also plans to limit these shows from being aired during primetime slots, as the country attempts to encourage a favourable environment for domestic production. UK distributors and producers may therefore need to examine new strategies in response to these recent regulatory changes.

The largest decrease in revenue in 2012 was seen in the Netherlands. In 2012 sales to this country stood at £13m; down from £18m in 2011.

Figure 3.12 UK television industry export revenues in selected countries: 2011 and 2012



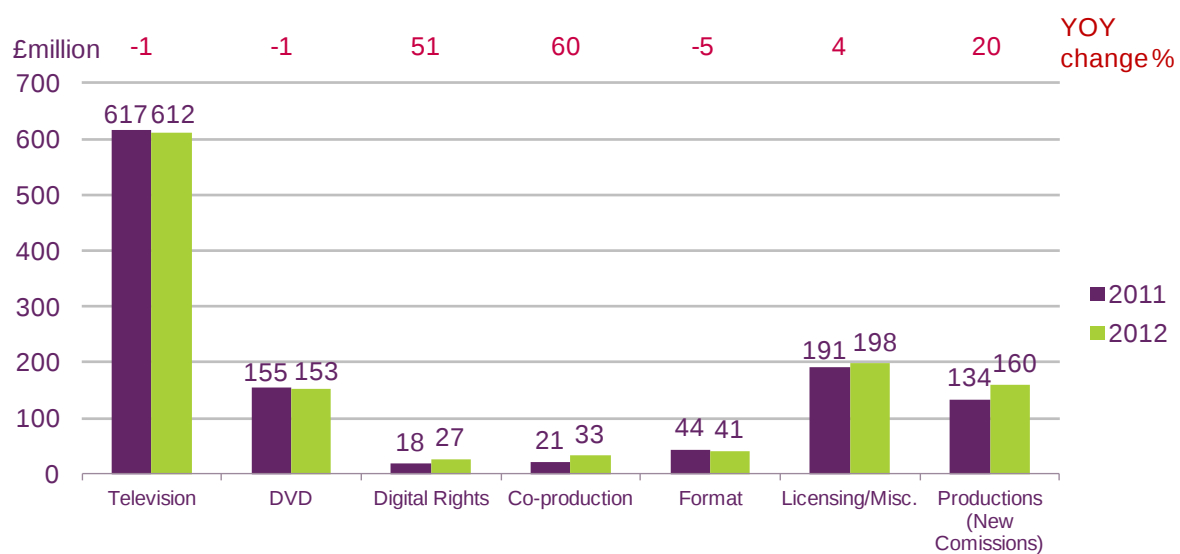
Source: PACT. UK Television Exports Survey 2012. *Note: AUS in this section is Australasia and includes Australia, New Zealand, the island of New Guinea and neighbouring islands in the Pacific Ocean.

Finished television programming is the UK's largest source of TV industry export revenue

Figure 3.13 shows how the export market for UK programming and associated activities breaks 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 £612m in 2012. Although this figure has decreased slightly since 2011, it is still over three times higher than the sales of 'licensing/miscellaneous' which is the second largest contributor to revenue.

Co-productions had the largest growth, with a 60% increase on 2011, rising to £33m in 2012. The industry is seeing more of this co-funding model as producers across countries come together to create programmes for multiple markets, such as the collaboration between the BBC and the Discovery Channel to create wildlife series *Africa* for consumption in various countries. Sales of digital rights (51%) and new commissions (20%) also experienced significant year-on-year increases in revenues.

Figure 3.13 UK industry export revenues, by type: 2011 and 2012



Source: PACT. UK Television Exports Survey 2012.

3.2 The TV and audio-visual industries

3.2.1 Summary

This section focuses on the TV and audio-visual industries, looking at eight years of key revenue trends among our comparator countries, and the financial results of major pay-TV and free-to-air broadcasters.

- **Revenues among the 17 countries analysed by Ofcom increased by 3.7% in 2012, to £234bn.** As in 2011, the BRIC countries – Brazil, Russia, India and China – experienced the largest year-on-year growth, with their joint revenues increasing by an eighth (12.4%) in 2012, up £4bn to £37bn.
- **The combined revenue of Europe and Canada experienced its first year-on-year contraction since Ofcom began reporting,** decreasing by 0.9% in 2012 to £55bn.
- **The UK experienced a modest growth in television revenues in 2012, up by 1.4% or £0.2bn,** while revenues for Italy, Spain, Ireland and the Netherlands declined. Italy experienced the largest year-on-year decline, falling 10.3% in 2012, while Spain fell by 7.8%. TV revenue in Ireland was down 3.7% and the Netherlands declined by 0.8% in 2012.
- **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 2007 and 2012, and represents the largest source of TV income for these countries.
- **While pay-TV companies mostly reported increased revenue in 2012, almost half of their free-to-air counterparts in our analysis reported declining revenues.** Free-to-air operators in Japan, France, Italy and Spain had declining revenues, with the biggest decline coming from RTVE in Spain, with revenue down 16.7% on the previous year; from £1.2bn to £1bn.
- **Revenue from online TV and video in the UK has risen by 298% in three years, from £87m in 2009 to £345m in 2012.** However, the US market is by far the largest online TV and video market among our comparator countries. Between 2009 and 2012, online TV and video revenue grew from a base of £1.2bn to £5.4bn.

3.2.2 Television revenues among comparator countries

Increase in TV revenues driven by strong growth in BRIC countries in 2012

Revenues among the 17 countries analysed by Ofcom increased by 3.7% in 2012 to £234bn. As in 2011, the BRIC countries experienced the largest year-on-year growth, with their joint revenues increasing by an eighth (12.4%) in 2012, up £4bn to £37bn. This growth was driven both by rising TV advertising and by subscription income.

There is now a £1bn gap between the TV industry revenue of the BRIC countries (accounting for the smallest proportion of revenue among the 17 countries in our report) and the combined revenues of Japan and Australia (the second smallest). The gap has diminished over the past eight years; from a £19bn gap in 2005 to just £1bn in 2012. During this period revenues in Japan and Australia have grown steadily; from £34m to £38bn, while the BRIC countries have increased more rapidly, from £15bn in 2005 to £37bn in 2012.

The combined revenues of Europe and Canada experienced the only year-on-year contraction of the four regions in our analysis, decreasing by 0.9% in 2012 to £55bn. In contrast, the US, which is the largest television market globally, increased by 3.6% in 2012, up £4bn to £104bn. Over the five-year period since 2007, US television revenues have increased on average by 4.2% per annum, compared to 1.8% for Europe and Canada combined.

Figure 3.14 TV industry revenues among comparator countries



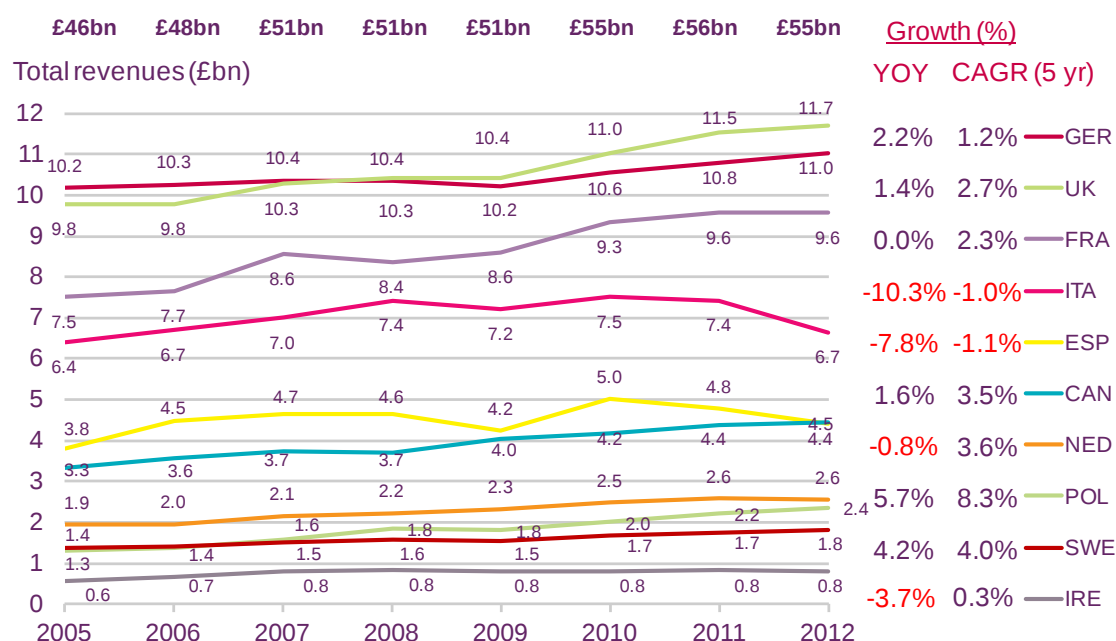
Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Revenues include advertising, subscriptions and sources of public funding only. Europe includes the European countries in this analysis – UK, France, Germany, Italy, Spain, Netherlands, Sweden, Republic of Ireland and Poland. BRIC is Brazil, Russia, India and China.

Compared to the other eight European countries in our analysis, the UK experienced sustained growth in television revenues in 2012, increasing by 1.4% (£0.3bn). At £11.7bn, the UK remains marginally higher than Germany (at £11.0bn) as the largest TV market in Europe in terms of monetary value in 2012.

Italy and Spain both recorded declines in television revenue in 2012 for the second consecutive year. Italy experienced the steepest decline, falling 10.3% in 2012 to £6.7bn, while Spain declined by 7.8% to £4.5bn. Over the five-year period since 2007, TV revenues for Italy declined by 1% or £0.3bn, compared to a 1.8% increase for all countries in the group combined. Revenues for Spain over the same time period declined by 1.1% or £0.3bn.

Ireland and Netherlands also both experienced year-on-year declines in 2012. Ireland recorded a decline of 3.7%; from £0.83bn to £0.80bn, while the Netherlands recorded a more modest decline of 0.8%. Despite the year-on-year declines, Ireland still shows a five-year compound annual growth rate of 0.3%, and the Netherlands 3.6%.

Figure 3.15 TV industry revenues among European countries and Canada



Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Revenues include advertising, subscriptions and sources of public funding only. Europe includes the European countries in this analysis – UK, France, Germany, Italy, Spain, Netherlands, Sweden, Republic of Ireland and Poland.

TV revenues increased in 2012 for the four BRIC countries, with revenues up by 12.4% year on year and by 14.2% over a five-year period. In 2012 the combined revenue of the BRIC countries reached £37bn, £4bn more than in 2011.

Brazil's and China's TV revenues enjoyed 17.6% and 9.5% growth respectively. In China, which has the highest industry revenues among the BRIC countries, revenue rose from £14.2bn in 2011 to £15.5bn in 2012. Brazil saw the steepest year-on-year growth in 2012, with the television industry earning £12.7bn, £1.9bn more than in 2011.

Over the five-year period to 2012 India experienced a compound annual growth rate of 12.4%. The 2012 figure of £4.8bn represented a year-on-year increase of £0.5bn or 10.6%. Russia also experienced consistent growth over the period, with a compound annual growth rate of 7.6%; from a base of £2.7bn in 2007 to £3.9bn in 2012. Russia's year-on-year industry growth was 10.4%.

Figure 3.16 TV industry revenues among BRIC countries



Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Revenues include advertising, subscriptions and sources of public funding only. BRIC is Brazil, Russia, India and China.

Figure 3.17 illustrates the changing composition of TV industry revenues, by country, between 2007 and 2012.

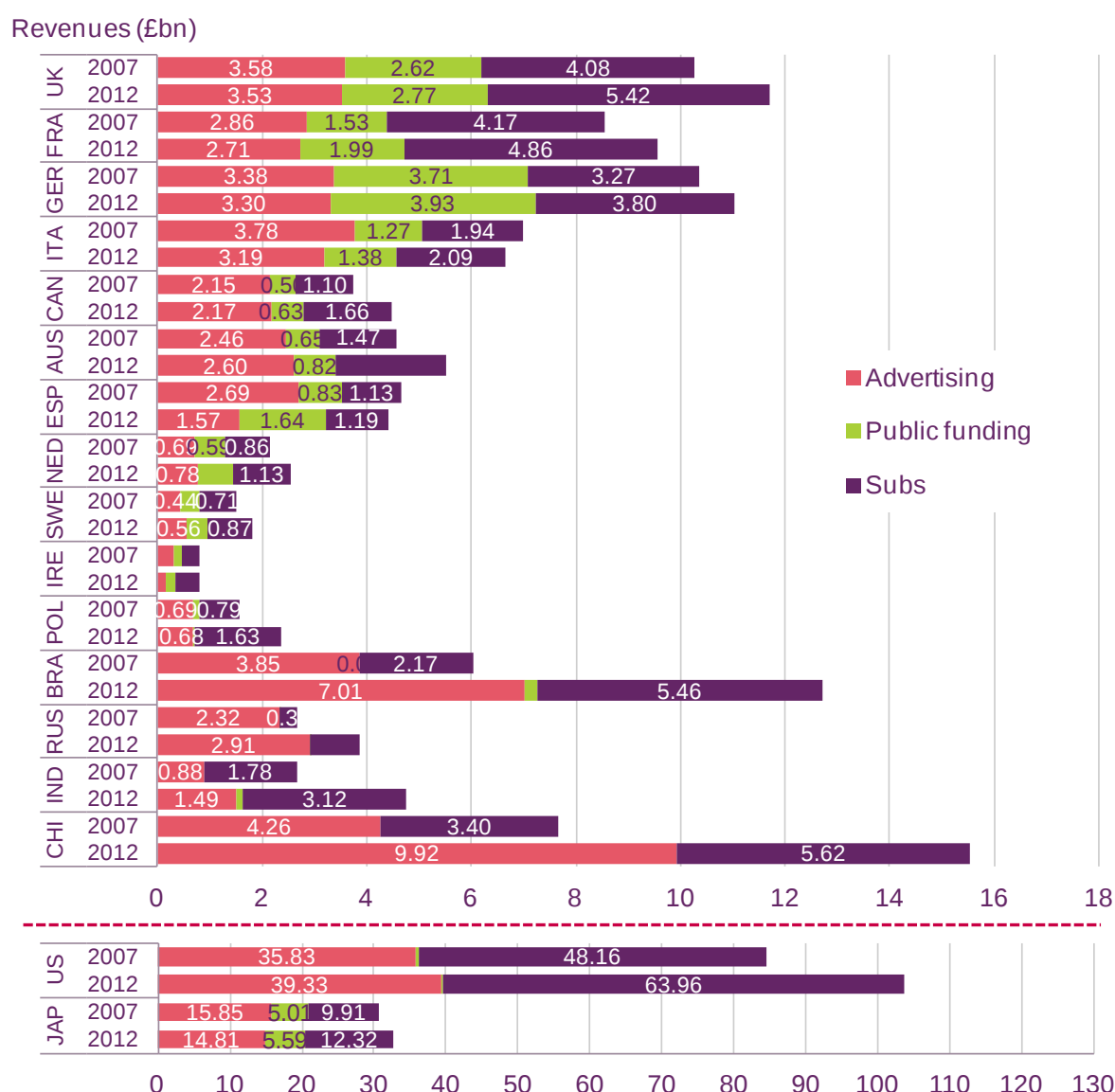
Among the major European television markets, Germany, the UK and France, income from pay-TV subscriptions was the fastest-growing source of revenue over the five-year period between 2007 and 2012 and, for the UK and France, represented their largest source of TV income.

Among our 17 comparator countries, Italy and Spain experienced declines in TV revenues between 2007 and 2012. Advertising spend for both countries decreased over the five-year period: in Italy, advertising revenue declined from £3.78bn to £3.19bn. Over the same period, advertising revenue in Spain fell from £2.69bn to £1.57bn. Unlike in the other countries included in our report, these declines were only partially offset by increased subscription revenues over the same time period.

The US and Japan, the two largest countries by revenue (£103.6bn and £32.7bn respectively), are included at the bottom of Figure 3.17 to accommodate the higher scale. The US experienced robust growth from pay-TV subscriptions (up from £48.16bn in 2007 to £63.96bn in 2012), combined with a more modest increase in TV advertising revenues over the five-year period, resulting in an increase in total revenue to £103.6bn in 2012. In contrast, advertising revenue for Japan decreased over the five-year period; from £15.58bn to £14.8bn, although this was offset by growth in the pay-TV market where revenue from subscriptions grew from £9.91bn to £12.32bn.

The television markets of the BRIC countries all recorded increases in total revenue between 2007 and 2012, driven by an increase both in net advertising revenue and in subscriptions. However, the BRIC countries are notable for a lack of public funding, with only Brazil and India having any public funds attributed to TV in 2012 – although the value of public funding in these countries was minimal, at £0.2bn.

Figure 3.17 TV revenues among comparator countries, by source: 2007 and 2012



Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. 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

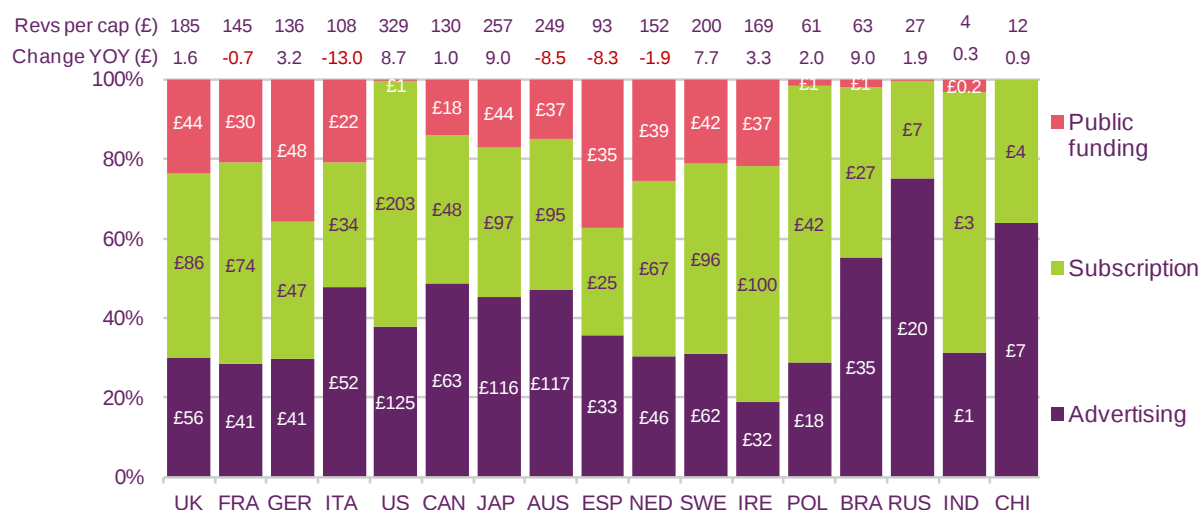
TV revenue per head in the UK increased by £1.60 to £185 in 2012

Per head, revenue in the US was the highest among the 17 comparator countries, generating £329 per head in 2012, an increase of £8.70. Japan, where this figure increased by £9, has also continued to increase its revenue per head since 2011, to £257 per head. Brazil made similar increases in revenue per capita, with £9 growth, although revenue per head in Brazil is significantly lower than most other ICMR countries, at £63.

Among the major European markets, Italy, Spain, France and Netherlands recorded declines in per-capita revenues in 2012 – with Italy down £13 to £108 and Spain down £8.30 to £93. Netherlands revenue per head declined by £1.90 and in France it decreased by 70p. In contrast, Germany and the UK both recorded increases, with Germany up £3.20 to £136 and the UK up £1.60 to £185 per head.

TV income per capita for the BRIC countries is well below the other comparator countries in our analysis. For example, India has the lowest TV revenue per head of all 17 countries, at just £4 per person.

Figure 3.18 TV revenue per head, by revenue source : 2012



Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Revenues include advertising, subscriptions and sources of public funding only; figures inside the bars represent industry revenue per head by source.

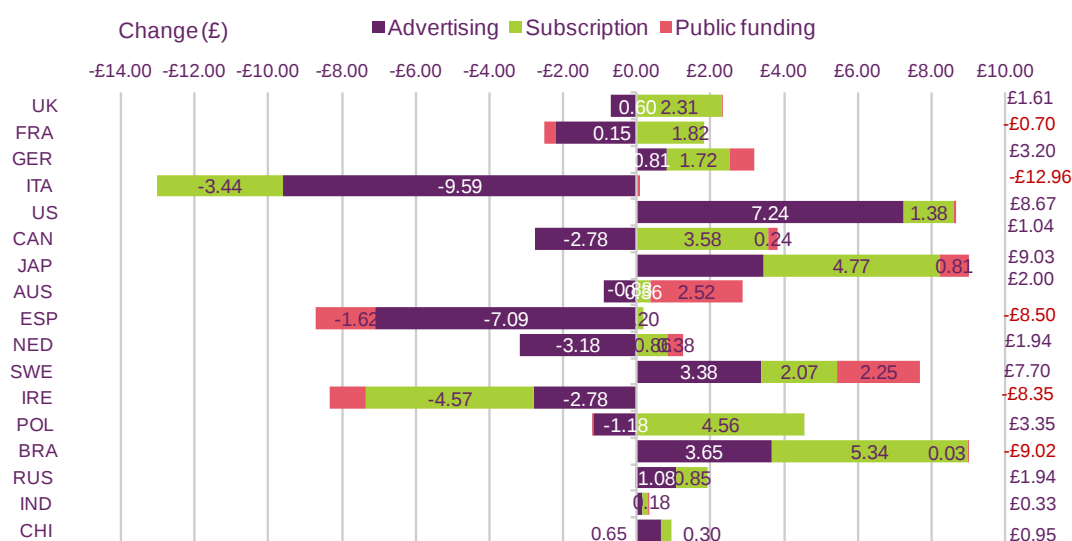
Subscription income in the UK offsets decline in advertising revenue per head

Figure 3.19 details the changes, by country, in revenue per head, split by the three component parts. For the majority of countries, including the UK, increases in revenue per head in 2012 were driven primarily by growth in income generated from subscription fees. In the UK, the increase of £2.31 per head in subscription fees compensates for the year-on-year decrease of £0.70 per head in advertising revenue. Italy and Ireland were the only countries to record a decline in subscription revenue per capita, down £3.44 and £4.57 per head respectively in 2012.

For more than half of the countries measured, advertising revenues per head declined in 2012. The two biggest losers of ad revenue per head were Italy and Spain, where advertising revenues per head declined by £9.59 and £7.09 respectively, while the US saw the largest increase in advertising revenue per head, earning £7.24 more than in 2011.

Only a few countries experienced significant growth in public funding per head in 2012, with the most notable being Sweden and Australia, where public funding increased by £2.25 and £2.52 per head respectively against the previous year.

Figure 3.19 Changes in components of TV revenues per head: 2011 to 2012



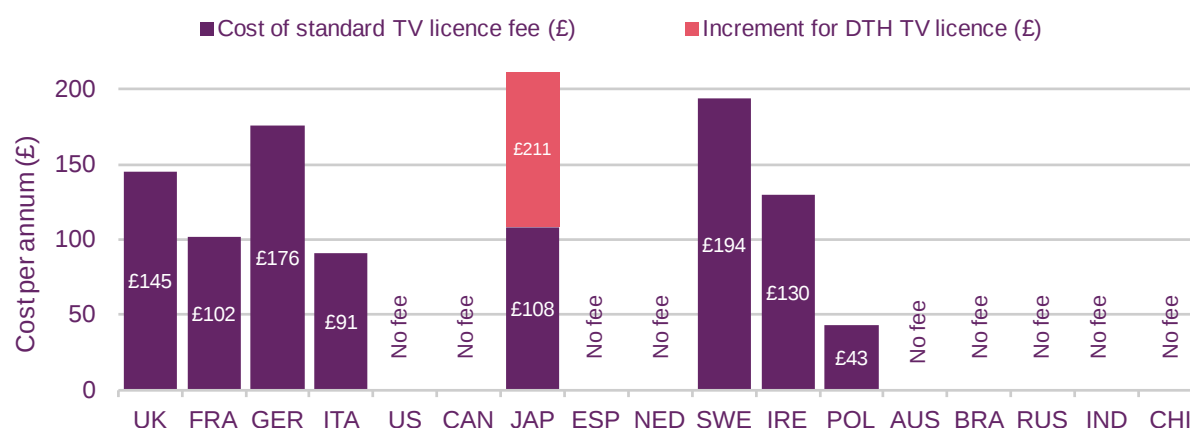
Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Revenues include advertising, subscriptions and sources of public funding only; the bars represent changes in industry revenue per head, by source.

3.2.4 TV licence fees most common in Europe

Public funding, in the form of TV licence fees paid for by viewers, is an important element of TV finance in most of the major European markets included in this analysis. Figure 3.20 illustrates the cost of a TV licence fee in each of the comparator countries where a licence is available.

As in 2011, the cost of the UK's licence fee in 2012 was the fourth most expensive, at £145 (no change since 2011), behind Germany (£176), Sweden (£194) and Japan (£200 for a satellite TV licence).

Figure 3.20 Cost of a TV licence fee



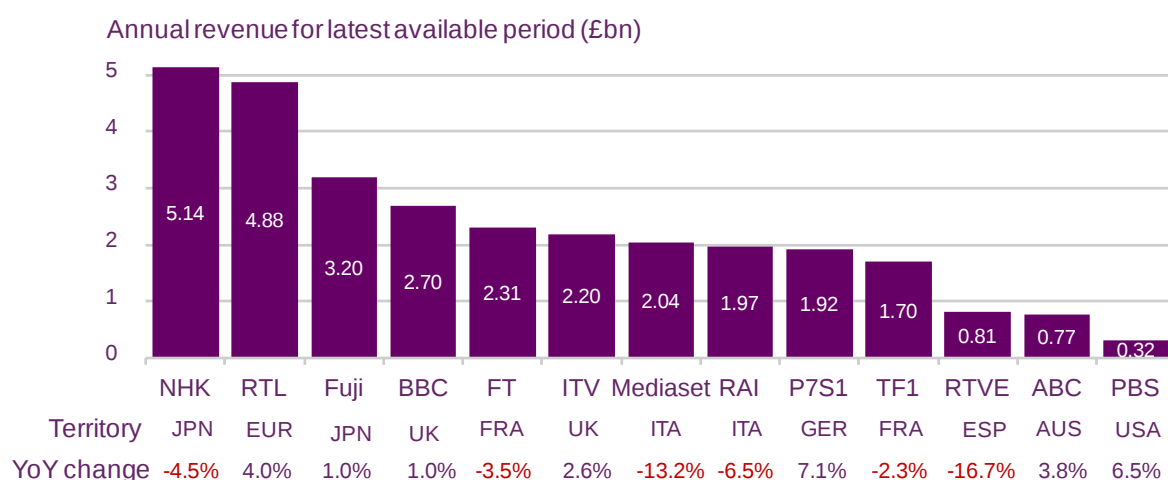
Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012; Prices as at end 2012. Note: The Japanese licence fee costs from a minimum of £108 in terrestrial households to a maximum of £211 (rounded) to receive a larger number of channels via satellite. No licence fee exists in countries where no data are shown.

3.2.5 Mixed fortunes for major free-to-air broadcasters

Figure 3.21 shows the reported revenues for selected free-to-view TV operators. Although some free-to-view broadcasters (including ITV in the UK) experienced increases in revenue in 2012, operators in Italy, Spain, France and Japan recorded lower revenues than the year before. This decline is driven primarily by the free-to-air broadcasters' reliance on advertising revenues, which have been hit by the economic downturn in recent years.

In the UK, the proportion of income allocated to TV by the BBC increased by 1.0% in 2012 to £2.7bn, while ITV reported an increase in revenue of 2.6% to £2.2bn, driven by an upturn in television advertising, as well as a transformation plan to generate income from revenue streams other than just TV advertising.

Figure 3.21 Latest reported revenues for selected free-to-view TV operators : 2012



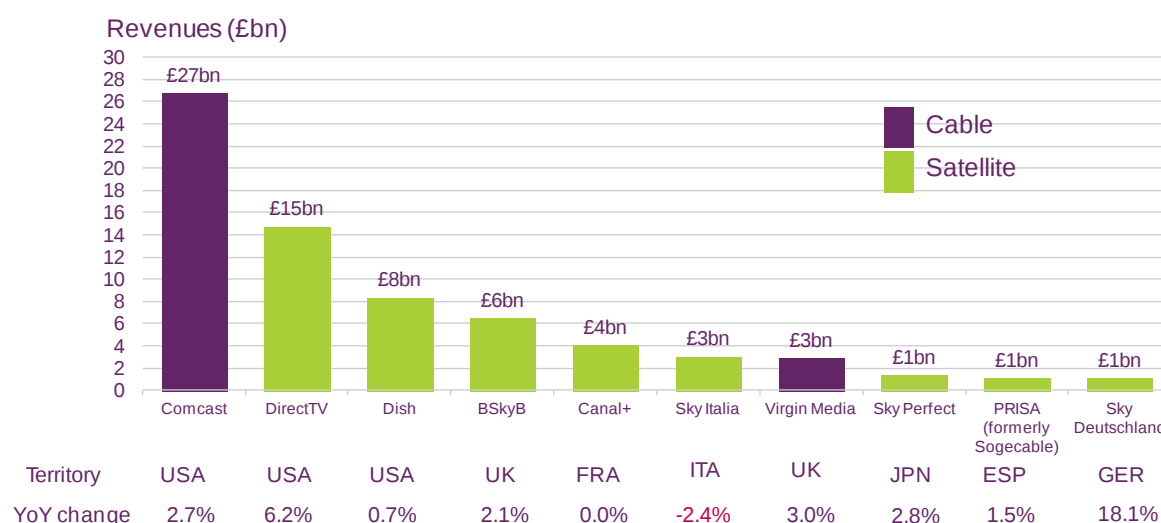
Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012; Comparisons should be regarded as indicative only due to the possibility of differences in financial reporting between broadcasters. RTL figure includes its key European markets; Mediaset includes Italian FTA and pay-TV business (year ending Dec 31) BBC represents its income allocated to TV; RAI figures include licence fee (split between radio and TV unknown), TV advertising and sponsorship; ProSieben, group revenues (years ended Dec 31); France Televisions is licence fee and advertising; TF1 includes French channels (years ended Dec 31); PBS and the ABC are total revenue to year ending June 30; Fuji TV is broadcasting and production, year ending March 31; RTVE is advertising and public funding (as of year ending Dec 31).

3.2.6 Pay-TV revenue still rising despite difficult trading conditions

In contrast to the free-to-view operators, revenues for pay-TV broadcasters increased in 2012 for all but one of the operators in our analysis. BSkyB and Virgin, in the UK, reported increases in revenue, up by 2.1% to £6 bn and by 3% to £3bn. These gains were exceeded by Sky Deutschland in Germany, whose revenue increased by 18.1% on 2011, to £1bn. The Italian pay-TV operator, Sky Italia, reported a loss in revenue on 2011, to £3bn and France's Canal+ showed no change on the previous year. Despite Spain's struggling market, PRISA (formerly Sogecable) reported a 1.5% gain in revenue in 2012, to £1bn.

Revenues for the main pay-TV operators in the US grew year on year; Comcast reported revenues of £27bn in 2012, up 2.7% on 2011 (this figure includes the integration of NBC Universal). Revenues for DirectTV also increased, up by 6.2% to £15bn; Dish network, the smallest of the three US operators measured, increased by 0.7% to £8bn.

Figure 3.22 Latest reported revenues from selected pay-TV operators: 2012



Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012; where possible we have reported revenues related to the TV services only (including advertising). Comcast includes video and advertising revenues. Time Warner Cable includes video and advertising revenues; BSkyB include retail, wholesale and advertising revenues; KDG includes cable access and TV/radio revenues; Virgin Media includes consumer and content revenues; Sky Italia revenue based on IDATE's estimate from News Corporation's annual report; Canal+ represents Canal Plus Group pay-TV revenues; Sogecable's platform is Digital Plus.

Pay-TV ARPU up in the UK as more consumers opt for bundled services

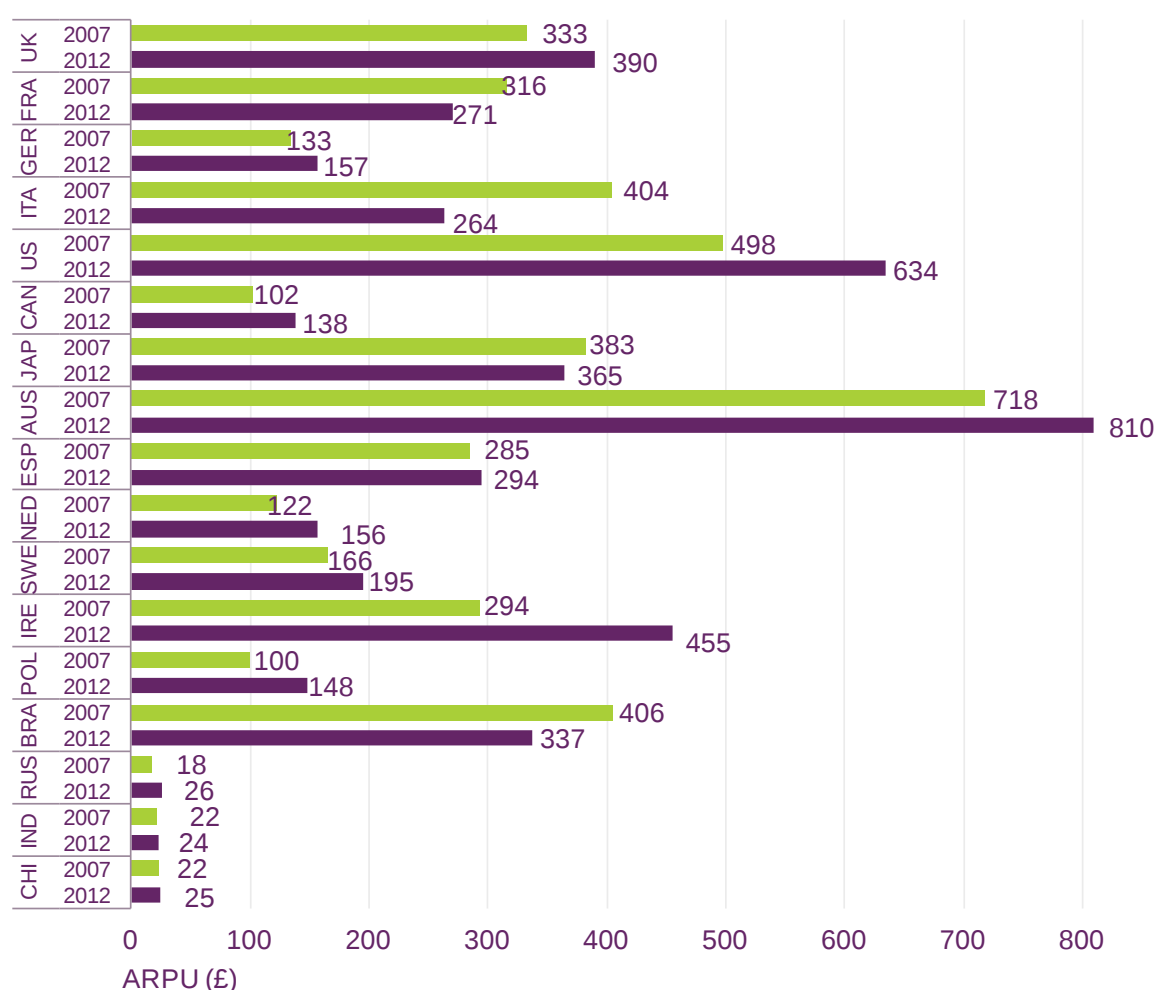
Average revenue per user (ARPU) can provide insights into the relative performance of pay-TV operators by country.

In the UK, pay-TV operators increased ARPU over the five-year period since 2007. The UK was among the countries with higher ARPU, at £390 at the end of 2012, up from £333 since 2006. Figures from BSkyB, the UK's largest pay-TV operator, for the financial year ending June 2013, indicate that 35% of Sky customers are 'triple-play' customers – bundling TV, broadband and fixed-line services into a single package, up by 3% since the financial year ending in 2012.

The US and Australia are the highest-ranking markets in terms of pay-TV ARPU, as pay-TV operators continue to encourage consumers to purchase more value-added services, such as high definition and PVR services. ARPU in the US at the end of 2012 stood at £634 (up from £498 in 2007), while in Australia the equivalent figure was £810 (up from £718 in 2007).

Pay-TV operators in France and Italy both experienced declines in ARPU between 2007 and 2012, with those in Italy declining the most: from £404 in 2007 to £264 in 2012. Pay-TV average revenue per user for France declined by £45 over the five-year period, to £271 in 2012.

Figure 3.23 Pay-TV ARPU, by country: 2007 and 2012



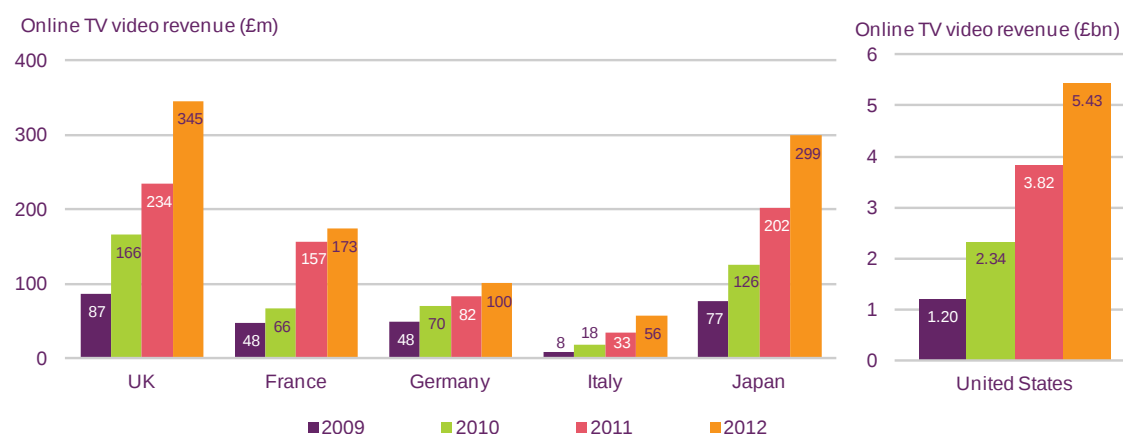
Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. ARPU is average revenue per user, representing the average revenue generated per pay-TV subscriber.

UK online TV and video revenue up by almost 300% over three years

Since 2009, Ofcom has collected data for online TV and video revenue in five comparator countries, with significant gains recorded in each country. In the UK, online TV and video revenue has risen by 298%; from £87m to £345m. In Italy, where revenues from both advertising and broadcast pay-TV subscriptions continue to decline, revenue from online TV and video have increased by 600% over three years, from £8m in 2009 to £56m in 2012.

In Japan, revenue growth from online TV and video was more in line with increases in the UK. In 2009 revenue was £77m; this grew by 289% to £299m in 2012. The US market is by far the largest online TV and video market among our comparator countries; between 2009 and 2012 online TV and video revenue grew from £1.2bn to £5.4bn.

Figure 3.24 Online TV and video revenue for selected ICMR countries



Source: IDATE / industry data / Ofcom. Notes: Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Different scale used for the US due to larger size. Data refers to either advertising revenue from VOD services, 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, Netflix, Lovefilm, Hulu and Hulu Plus, iTunes and YouTube.

3.3 The 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, digital video recorders and connected televisions (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 3.3.6).

- **In 2012, the UK and Italy joined Spain with 100% digital television take-up on main TV sets**, as the digital switchover (DSO) programme was completed. The majority of homes in France (97%), the Republic of Ireland (96%), Canada (94%), Australia (93%) and the US (91%) also now receive digital television.
- **In the UK, digital satellite (which includes Freesat and Sky TV) continued to be the country's number-one viewing platform on primary sets** (47% of TV households) while digital terrestrial was the second highest with 37%. Digital satellite was also the most popular platform in Germany, Ireland, Poland and Brazil. Cable continues to be the most popular viewing platform in eight out of the 17 comparator countries.
- **Over half (54%) of TV homes in the UK had a pay-TV service in 2012, making the UK 13th of the 17 comparator countries.** The Netherlands (99%), Canada (95%) and Sweden (95%) were the three highest countries in terms of pay-TV take-up. The largest year-on-year growth in this area was seen in Brazil and Russia, with a 6pp increase each, with Russia increasing by 31pp over the five years since 2007.
- **Almost one third (32%) of primary TV sets receive an IPTV service in France, where it constitutes a mainstream alternative to DTV.** In most other countries, including the UK, IPTV penetration is much lower, due in part to the challenges of gaining a foothold in the face of a range of well-established digital platforms
- **The number of visitors to online VOD streaming websites increased substantially in the UK and the US in 2012.** According to comScore MMX data, the number of unique visitors to the Netflix website in the UK increased from 1.4 million in August 2012 to 2.5 million in August 2013, an increase of 79%, while in the US, the number of unique visitors to Netflix reached nearly 30 million in August 2013 (up 14% year on year).
- **At four hours per day, the UK has one of the highest levels of scheduled linear TV viewing among comparator countries – 19 minutes more than the average for all 15 ICMR countries.** Despite the increase in online TV, scheduled linear television remains popular, with viewing either up or unchanged in the majority of comparator countries. Households in the US continue to watch more TV than any other country in our analysis, at 293 minutes per day.

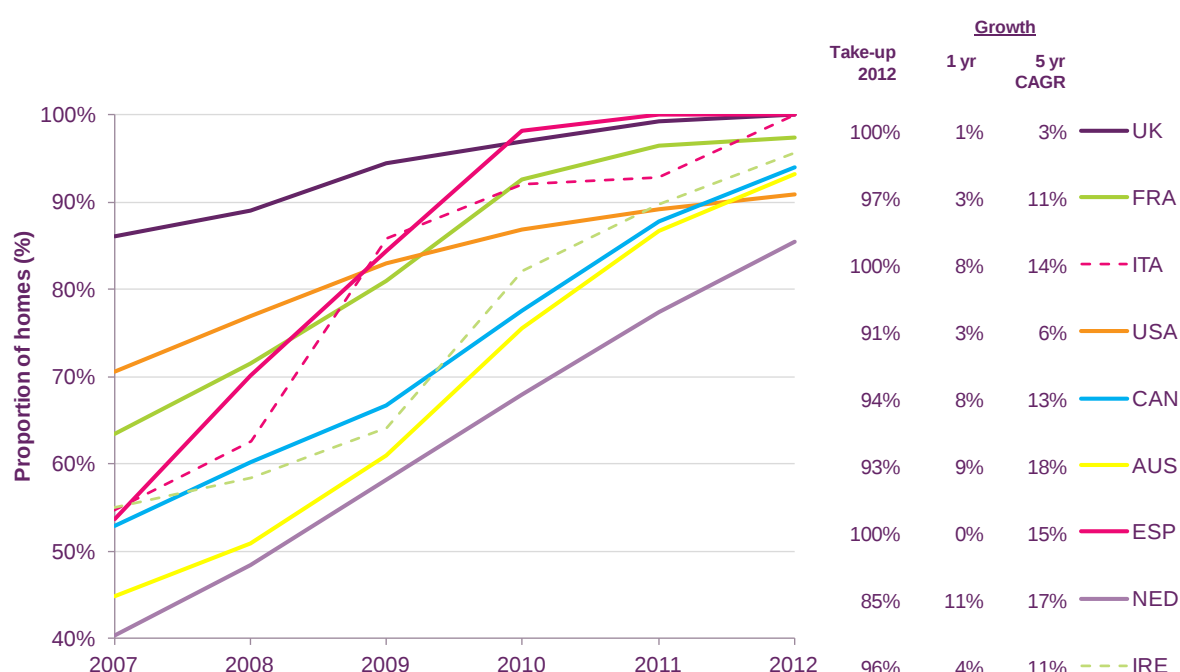
3.3.2 Digital television take-up on main sets

In the UK, Spain and Italy all main TV sets now receive digital television

The average digital television take-up of the 17 comparator countries now stands at 80%. Figure 3.25 and Figure 3.26 support this growth, and for ease of interpretation, the countries are illustrated in two charts⁴¹.

The UK and Italy both joined Spain with 100% DTV take-up on main TV sets, as the analogue terrestrial switch-off (ASO) programme was completed in 2012. There are a number of countries where terrestrial ASO is complete, but some households continue to receive an analogue cable service. The Republic of Ireland completed terrestrial ASO in 2012 and digital penetration is now at 96%. In France and Canada, where terrestrial ASO was completed in 2011, DTV take-up figures stand at 97% and 94% respectively. Digital conversion at the end of 2012 stood at 91% in the US, where the analogue terrestrial signal was switched off in 2009. Finally, Australia, where ASO is scheduled for December 2013, is already at 93% conversion to DTV⁴².

Figure 3.25 Take-up of digital television: top nine comparator countries



Source: IDATE / industry data / Ofcom

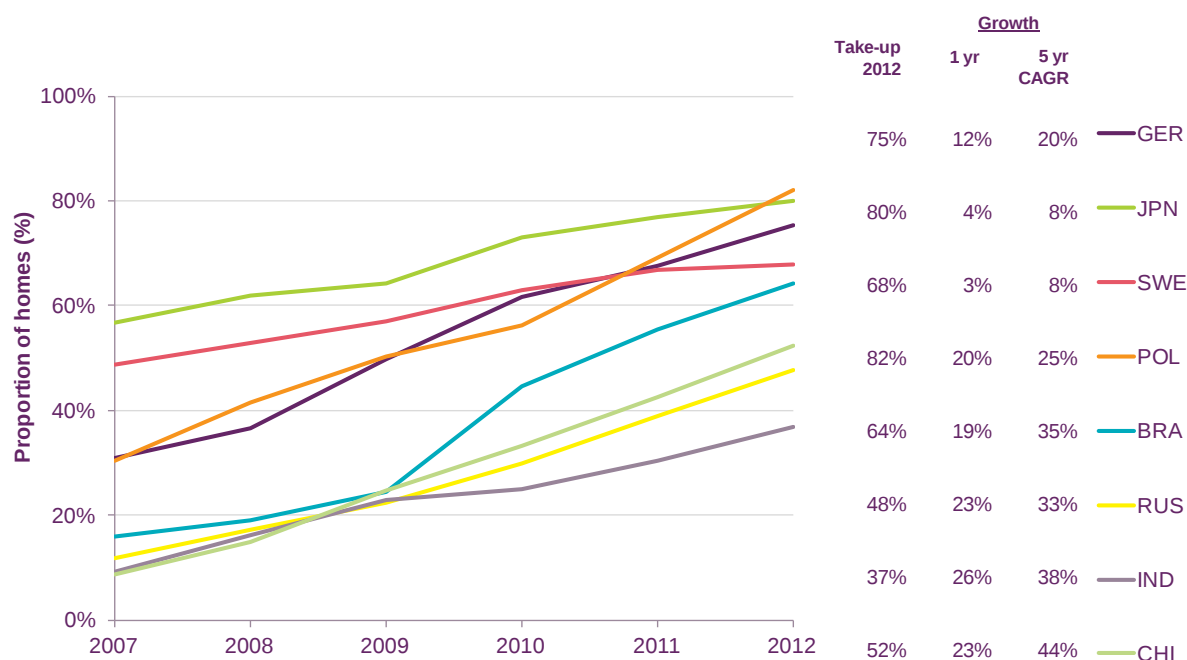
At the opposite end of the spectrum, digital television take-up in 2012 in China, Russia and India remained well below the average of 80% among comparator countries, at 52%, 48% and 37% respectively. Although the year-on-year average increases of these countries is greater than the other comparator countries, at 24%, the rate at which digital conversion is occurring appears to be slowing. This figure is down from the 2011 average increase of 29%, and this is also demonstrated by the five-year average, which is now at 38% for these countries, down from 54%.

⁴¹ 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 IDATE – a single source is used for this report to enable comparisons across comparator countries.

⁴² DTV refers to all digital television platforms.

In Japan and Sweden, year-on-year growth was relatively slow despite these countries beating their analogue terrestrial switch-off deadlines. Although a significant majority in these countries now receive DTV (80% and 68% respectively) the conversion appears to be slow and this might be explained by the comparatively slow migration to digital among analogue cable viewers.

Figure 3.26 Take-up of digital television: the next eight comparator countries



Source: IDATE / industry data / Ofcom

Cable is the most popular television platform in many comparator countries

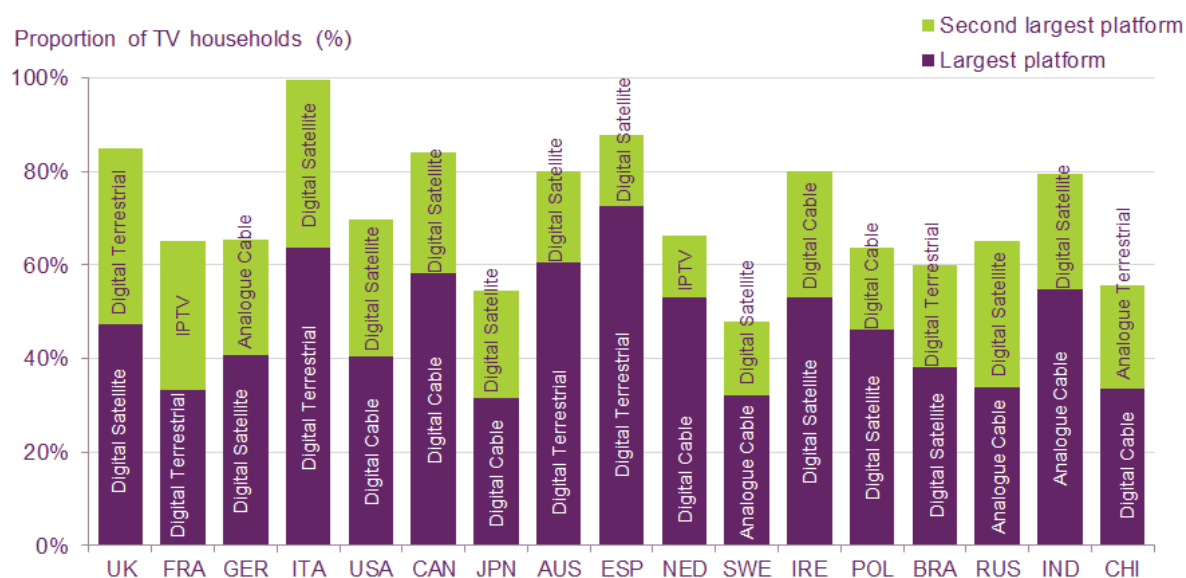
Looking at digital and analogue technologies together, cable was the most popular television platform for eight of the 17 comparator countries in 2012: the US, Canada, Japan, the Netherlands, Sweden, Russia, India and China.

There was a 3% increase in the UK's most popular viewing platform, as digital satellite (which includes Freesat) increased to 47%, ahead of digital terrestrial at 37%. Digital satellite was also the most popular platform in Germany, Ireland, Poland and Brazil. While digital satellite may not be the top choice in many countries, it is often the second most popular platform and is in the top two places in 14 of the 17 countries analysed in this report.

Digital terrestrial was the most popular platform in four countries in 2012: France, Italy, Australia and Spain.

IPTV is the second most popular platform in two countries: France and the Netherlands. In France, IPTV is now close to overtaking digital terrestrial as the number-one viewing platform, with 32% penetration.

Figure 3.27 Most popular TV platforms, by country: 2012

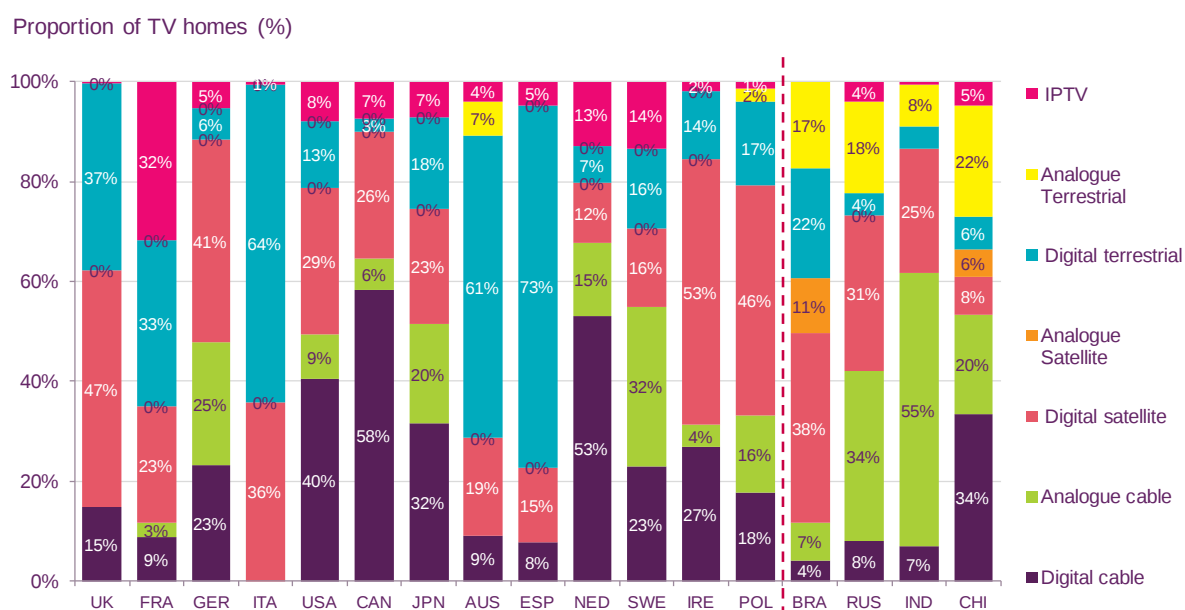


Source: IDATE / industry data / Ofcom

Although digital satellite is in the top two platforms in 14 of the 17 countries, digital terrestrial remains strong, particularly in Spain where it has a 73% market share, in Italy with 64%, and in Australia with 61%. It is also still a substantial performer in the UK and France, with 37% and 33% market shares respectively.

Despite the progress made in migrating homes from analogue to digital platforms, analogue still prevails in some countries. Analogue cable remains strong in the majority of the BRIC countries, including India (55%), Russia (34%), and also in China (20%), where it may prove to be an obstacle in the conversion to digital. Analogue also has a strong presence in Sweden (32%), Germany (25%) and Japan (20%), where DTV take-up also is slow.

Figure 3.28 TV platform take-up by country: 2012



Source: IDATE / 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.

Figure 3.29 sets out changes (by percentage point) in take-up of the different television platforms. The red/green tint indicates of 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 2012 was experienced in homes in Poland, where total analogue reduced by 13pp. Of the corresponding 13pp increase in digital platforms, terrestrial was the main beneficiary, with a 9pp increase, with digital cable picking up the remaining share.

The majority of the movement from analogue to digital technologies are seen mainly for terrestrial and cable, with only Brazil showing any large increase in the digital satellite platform (a 7pp increase). Brazil experienced the largest two-year digital conversion rate, with a total 20pp increase. Much of this can be attributed to the migration from analogue terrestrial to digital satellite in this country.

One of the other key patterns displayed is the movement between the cable platforms, from analogue to digital, and significant decreases in analogue cable were seen in several countries: the Netherlands (-8pp), Canada (-6pp), India (-5pp), China (-5pp), Germany (-4pp), Poland (-4pp) and Japan (-3pp), while digital cable increased in the majority of these countries at a similar rate.

With the exception of India, the BRIC countries experienced, on average, the biggest falls in total analogue take-up (after Poland) with a combined average of -8pp. The vast majority of this decline in Brazil and Russia was in terrestrial, while in China the reduction was an even split between terrestrial and cable.

Figure 3.29 Year-on-year changes in platform take-up (pp), by country and platform

	UK	FRA	GER	ITA	USA	CAN	JPN	AUS	ESP	NED	SWE	IRE	POL	BRA	RUS	IND	CHI
Digital terrestrial	0	-4	1	8	0	-2	-2	7	1	0	-3	5	9	1	2	2	1
Digital satellite	1	0	4	1	0	0	0	-1	0	0	0	0	0	7	4	1	2
Digital cable	0	0	2	0	1	6	4	0	-1	6	2	1	3	1	1	3	6
IPTV	0	4	1	-2	1	2	2	1	-1	2	2	0	0	0	1	0	1
Total digital	1	1	8	7	2	6	3	6	0	8	1	6	13	9	9	6	10
Analogue terrestrial	-1	0	0	-6	0	0	0	-6	0	0	0	-5	-3	-7	-4	-2	-5
Analogue satellite	0	0	-4	-1	0	0	0	0	0	0	0	0	0	-2	0	0	0
Analogue cable	0	-1	-4	0	-2	-6	-3	0	0	8	-1	-1	-4	1	0	-5	-5
Total analogue	-1	-1	-4	-7	-2	-6	-3	-6	0	8	-1	-6	-13	-9	-4	-6	-10

Source: IDATE / industry data / Ofcom

Over a quarter of homes in France have access to an IPTV service

Internet protocol television (IPTV) is the term used for television and/or video signals that are delivered to subscribers or viewers using internet protocol (IP) technology, and is typically used in the context of streamed linear and on-demand content.

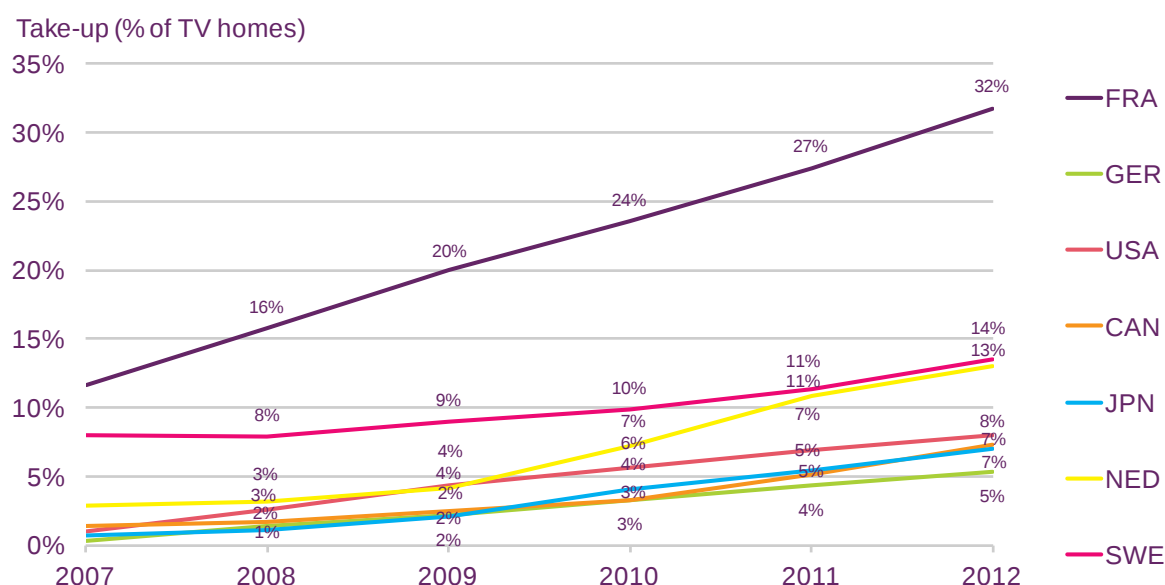
In 2012, IPTV continued to compete with digital platform technologies, encouraged by the early marketing of triple-play bundled services in countries with high-bandwidth infrastructure. In France, almost a third of primary TV sets (32%) receive an IPTV service, which constitutes a mainstream alternative to DTV. IPTV has penetrated the market more quickly here than in any other comparator country, benefiting from early introduction, low tariffs and the low availability of cable services.

Take-up of IPTV services exceeded 5% in seven of the comparator countries in 2012. In the UK this figure was under 1%⁴³, and low IPTV penetration here may be due in part to the challenges faced in competition with well-established digital platforms. Competition exists in the form of other types of pay-TV providers, both satellite and cable, as well as the popularity of free catch-up services from public service broadcasters, such as iPlayer, ITV Player and 4OD.

France saw the largest increase in the proportion of main sets connected to IPTV, with a 5% increase. Canada had a 2% increase in IPTV penetration in 2012, for the second successive year; Japan had an increase of 2%, while Sweden had an increase of 3%.

In the Netherlands, there was an increase of 2% in 2012, on top of the 4% achieved in 2011. IPTV subscriptions, including catch-up TV, video on demand and HD, are available at a cost comparable 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 3.30 IPTV take-up on main TV sets in countries where take-up exceeded 5% in 2012



Source: IDATE / industry data / Ofcom. Notes: Only countries where IPTV take-up exceeded 5% of television homes in 2012 are shown in the chart. "IPTV households" refers to all TV households receiving only or mainly linear television channels using ADSL or optic fibre access networks. It does not include hybrid services, i.e. services combining an aerial broadcast access (either terrestrial or satellite) for linear services and a broadband access for on-demand content.

⁴³ BT Vision is not included in IPTV figures for the UK; these figures are reported within the digital terrestrial numbers because Freeview channels are, in part, delivered through a TV aerial.

3.3.3 Take-up of HDTV services, digital video recorders and connected TVs

As shown in section 3.1.4, penetration of HDTV sets in UK households is 68%, according to Ofcom research conducted in September 2013, while the proportion of households taking an HDTV service is 48%, the highest penetration of HD services among the European comparator countries included in this report.

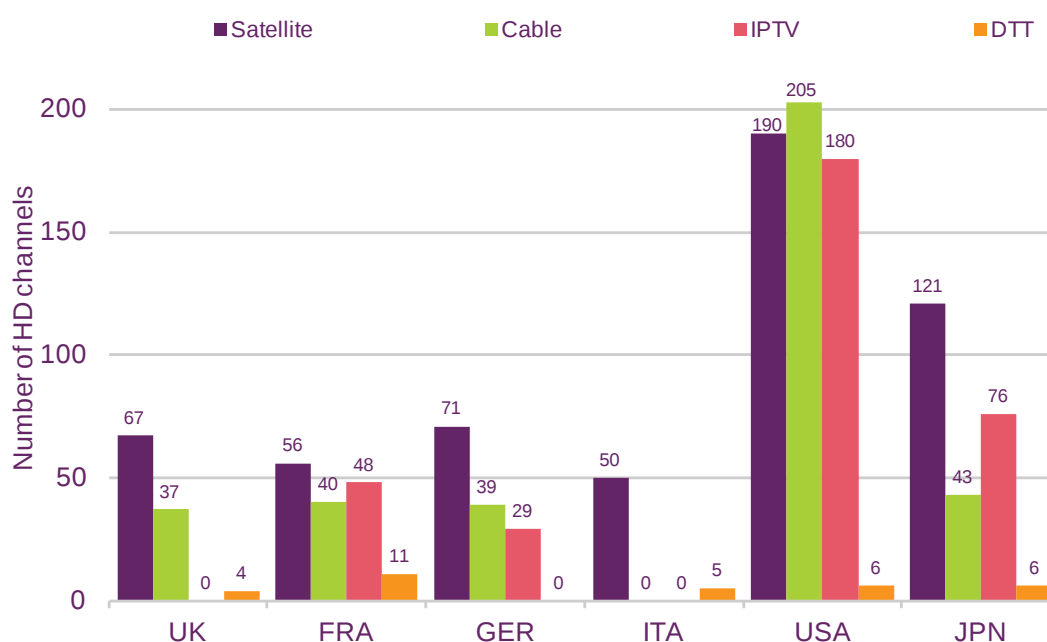
In the US the majority of HDTV channels are provided by pay-TV formats. Cable offers the highest number, with 205, while satellite provides 190 and IPTV 180. Only six HD channels are available through the digital terrestrial platform.

Japan also provides a substantial number of HD channels through pay-TV formats, although the majority are made available on satellite (121) and IPTV (76). By comparison, in the US there are only 43 HD channels available on cable.

The profile of the European countries is similar to Japan. Although fewer HD channels are available, the satellite platform provides the greatest number. Of the European countries, Germany offers the greatest number of channels on satellite, with 71, while the UK offers slightly fewer, at 67. In Italy only 50 HD channels are available through the satellite platform; this is also the only pay-TV platform providing HD channels in this country.

The number of HD channels offered through cable in Europe and Japan (with the exception of Italy) are all at similar levels, ranging between 37 and 43.

Figure 3.31 Number of HDTV channels: end 2012



Source: IDATE / industry data / Ofcom. Note: BT Vision is not included in IPTV figures for the UK; these figures are reported within the digital terrestrial numbers because Freeview channels are, in part, delivered through a TV aerial.

Digital video recorders, smart TVs and 3D technology take-up

Figure 3.32 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 31% of UK respondents' homes in 2012, second only behind the US with 33%. The countries with the lowest DVR take-up and use were France (13%) and China (12%).

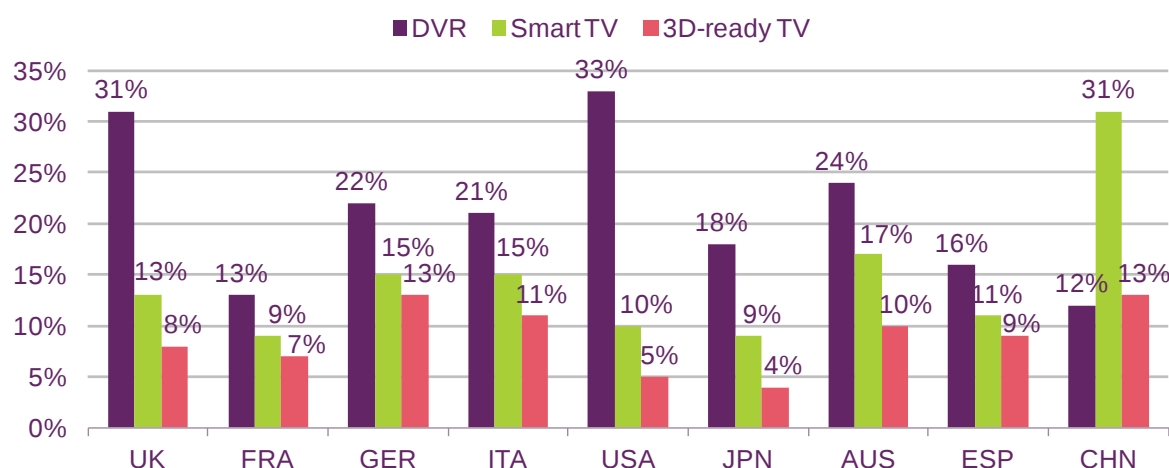
The proportion of respondents who claimed they owned, and personally used, a smart TV was highest in China. However, internet penetration low in China (around 42%, and centred in the cities). Therefore, the people responding to our survey are likely to be early adopters of new technology, and do not closely represent China's 1.4 billion inhabitants. Excluding China, Australia was the country with the highest take-up of connected TVs in 2012, at 17%. Germany and Italy were the next two countries, both with 15% of respondents saying they owned and personally used this technology. France and Japan both had the lowest percentage, 9%.

In Europe, 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 8%. However, many connected TVs come with built-in 3D capability, so the actual penetration of 3DTVs may be higher than indicated below.

Both the BBC and ESPN announced in 2013 that they would not be continuing with their 3D broadcast plans, citing poor consumer appetite, so the future of the UK 3D TV market is now in question. But while some broadcasters are ending their commitment to this technology, others, such as BSkyB, are reaffirming theirs. and there are conflicting predictions about its future. At the same time there is growing investment in smart TV, and ultra HD (4K) technology is also starting to gather pace.

Figure 3.32 Take-up of digital video recorders, smart TVs, and 3D-ready TVs

All respondents – own and personally use (%)



Source: Ofcom consumer research September 2013 Q4a Which of the following devices do you personally use?

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

The rise of ultra HD?

Ultra high definition television (UHDTV), sometimes referred to as '4KTV' is defined by the Consumer Electronics Association as: *displays which have an aspect ratio of 16:9 and at least one digital input capable of carrying and presenting native video at a minimum resolution of 3,840 x 2,160 pixels.*

Today's full-HD TVs have a 1920 x 1080 pixel resolution, which is equivalent to an image of approximately 2 megapixels. UHDTV sets will produce four times this resolution, at 8 megapixels.

Electronics manufacturers including Sony, LG and Samsung have begun to produce models in sizes ranging from 55 to 85 inches.

Although many films and TV shows are now filmed in ultra HD, the degree to which broadcasters will invest in content is still unknown; it will be dictated in part by consumer demand.

Sky recently broadcasted the first ultra-HD live UK event, recording and broadcasting a live Premier League football match, while FIFA has announced that Sony will be responsible for recording the FIFA 2014 World Cup in 4K.

Japanese broadcaster NHK is currently trialling 8K, or 'Super Hi-Vision (SHV)' technology, which has a 7680 x 4320 pixel resolution. The company aims to begin satellite broadcasts in 2020, to coincide with the Tokyo Olympics due to be held later that year.

3.3.4 Pay-TV take-up

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.

Although there has been little year-on-year change in pay-TV take-up in the UK, the proportion of households with pay TV has increased by 6pp since 2007, with 54% of all households subscribing to pay-TV packages.

As Figure 3.33 shows, in North America consumers have been willing to pay for access to additional television channels over the past five years, and take-up remained stable in 2012 at 88%; a 2pp increase since 2007. There has, however, been some significant movement in the US, with a 7.4 million fall in take-up of cable TV since 2007. Much of this decrease can be accounted for by the increase in IPTV (of 8.1 million) over the same period.

Pay-TV take-up has increased by 5pp on average across the European comparator countries since 2007. However, the proportion of those paying for additional channels has decreased by 1pp since 2011, to 57%. Within this figure there are some substantial variations between the European comparator nations (see Figure 3.34).

Although levels were originally low for pay-TV numbers in the BRIC countries, popularity has continued to grow, and take-up in 2012 stands at 64%; an increase of 22pp since 2007. Again, these figures vary substantially between countries in this group.

Figure 3.33 Take-up of pay TV among groups of comparator countries



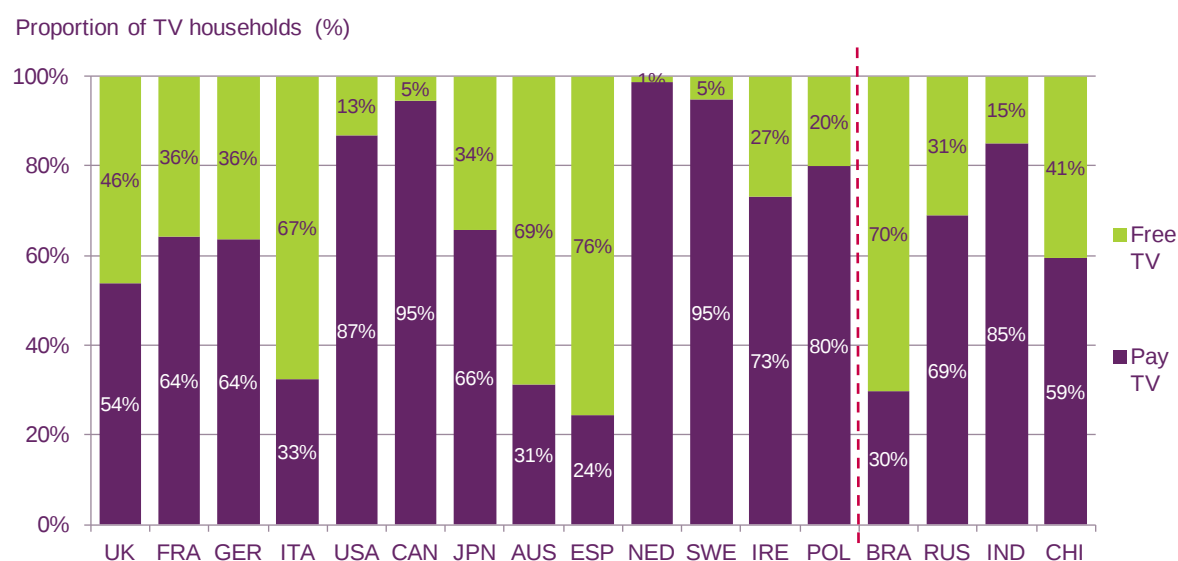
Source: IDATE / industry data / Ofcom. Note: 'Europe' in this context means those European countries within our comparator set. 'Total' in this context means the 17 countries in this report's comparator set.

In 2012, the majority of homes in 13 of the 17 comparator countries paid for additional television channels.

Although pay-TV take-up varies considerably between countries, there is a fairly broad category of those which are, by and large, willing to pay for additional channels. The Netherlands (99%), Sweden (95%), Canada (95%), the US (87%) and India (85%) all had strong pay-TV take-up numbers at the end of 2012. However, the characteristics of pay-TV services differ between these countries. In the US and Canada, pay-TV services are similar to those in the UK (providing access to a large number of additional TV channels in exchange for payment). But 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.

In Italy, Australia, Spain and Brazil, the free-to-view television model remains more popular than pay TV.

Figure 3.34 Take-up of pay and free-to-air television: end 2012

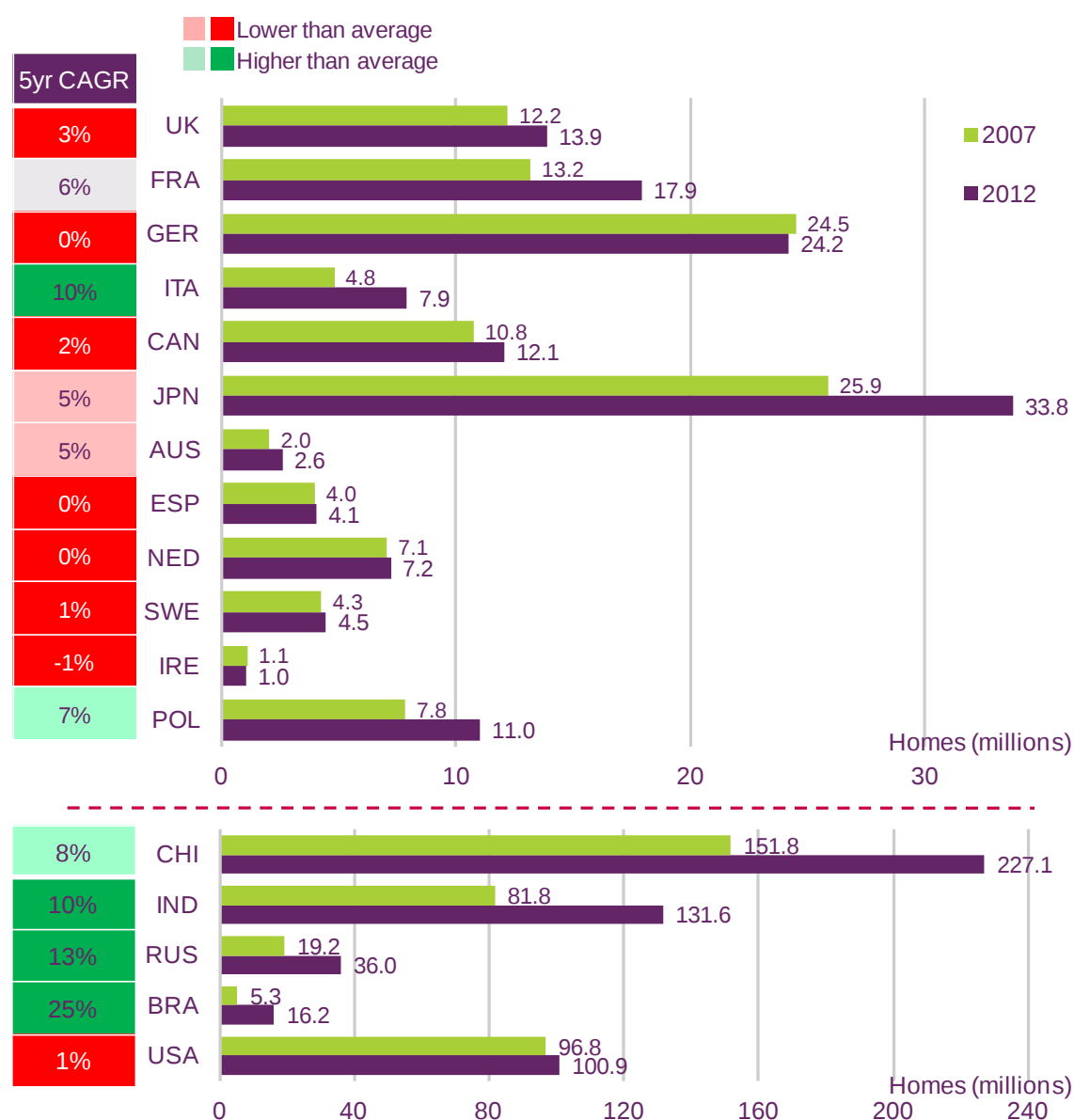


Source: IDATE / industry data / Ofcom

The largest year-on-year increases in pay-TV take-up were seen in Brazil and Russia, both with an increase of 6pp in 2012. Russia has seen a significant growth since 2007, with an increase of 31pp over this five-year period.

Although in the UK there has been only a 1% increase in pay-TV households since 2011, the five-year time period shows an increase of 14%; from 12.2 million homes in 2007 to 13.9 million in 2012.

Figure 3.35 Pay-TV take-up, millions of homes: 2007 and 2012



Source: IDATE / industry data / Ofcom

3.3.5 Use of online subscription TV and film streaming services

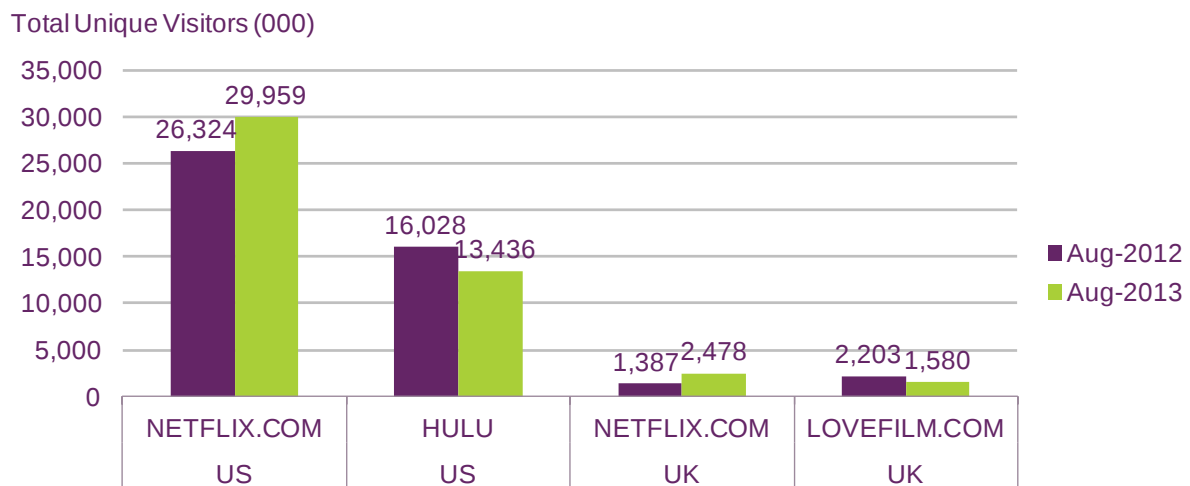
There is a growing global trend in subscription video-on-demand (VOD) services. This section examines data on selected streaming sites in the UK and the US, such as Netflix, Hulu and Lovefilm Instant.

According to comScore MMX data, Netflix has substantially increased its total unique online visitor numbers in the US, to reach nearly 30 million in August 2013; a 14% increase since August 2012. Netflix launched in the UK in January 2012, and by August 2012 the number of unique UK internet users visiting its website had risen to 1.4 million. This grew rapidly over the next 12 months, reaching 2.5 million in August 2013, an increase of 79%.

There have been declines in unique visitor numbers to Netflix's closest competitors websites; Hulu in the US, and Lovefilm in the UK; numbers are down by 16% and 28% respectively since August 2012. Hulu has seen a substantial decline in its unique visitor numbers;

comScore reported a figure of 31.4 million in January 2012.⁴⁴ Since then the number has declined significantly – in August 2013 it stood at 13.4 million.

Figure 3.36 Total unique visitors to selected TV and film streaming sites in the US and the UK



Source: comScore MMX, August 2012 to August 2013, UK and US work and home panel. Note: This is the unique audience for laptop and desktop computers only.

According to data provided by comScore MobiLens, 10% of US and 4% of UK mobile internet users aged 13 and above stream Netflix through their mobile devices. Although there has been a dramatic decline in Hulu's total unique visitors, 4% of this group in the US⁴⁵ still stream this service through a mobile phone device.

Netflix's success against its competitors is thought to be largely due to the company's pricing, subscription initiatives and commissioning its own first-run content, such as drama series *House of Cards*. Netflix recently announced a deal in the UK with pay-TV company Virgin Media; Virgin customers who own a TiVo set-top box will be able access Netflix VOD content through their television using an app. Netflix continues to expand globally; it recently made the Netherlands the 41st country to use its streaming service.

3.3.6 Consumption of broadcast television services

European countries increased their consumption of TV more than other comparator countries

Linear television viewing remains popular with audiences, with the average individual across the ICMR comparator countries consuming 222 minutes per day (Figure 3.37). Ten of the 15 countries showed year-on-year increases in daily viewing minutes per head, with Russia recording the biggest growth; up by 18 minutes per day (8.2%) to 243 minutes. In Spain and the Netherlands viewing also increased; here, viewing minutes were up by 2.9% and 2.6% respectively.

Across European countries the majority showed an uplift in viewing, with the exception of Germany (-3.9%), Ireland (-1.0%) and the UK (-0.4%). Average daily viewing per head increased most in Spain (up 2.9%), and the least in Poland (up 0.4%).

There was a mixed picture among the BRIC countries, with Russia increasing daily viewing by 8.2%, Brazil declining by 4% and China gaining a modest 0.6%. In North America,

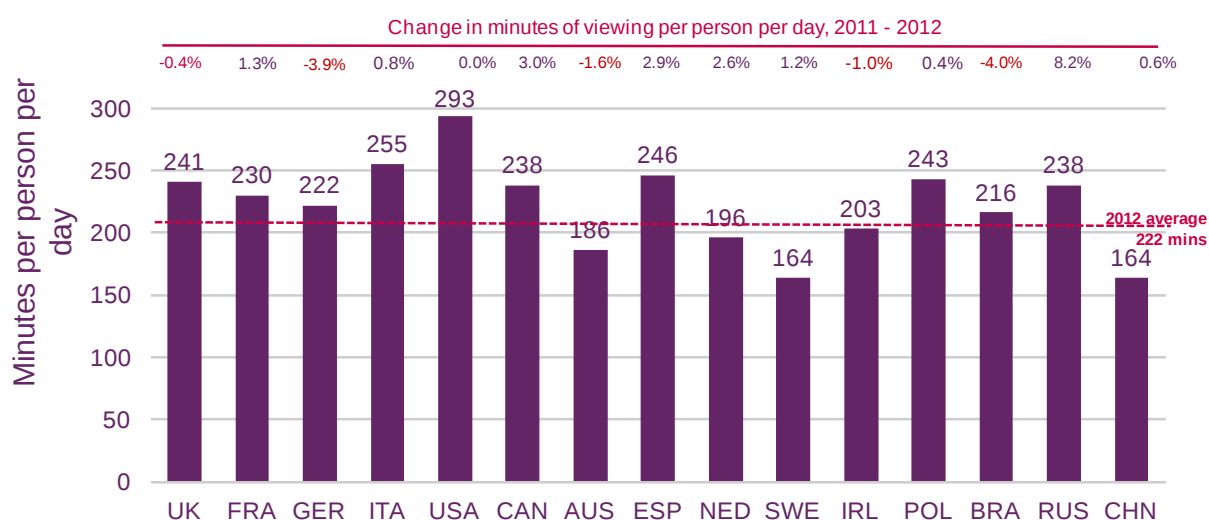
⁴⁴ Source: comScore Video Metrix, January 2012, US home and work panel.

⁴⁵ Source: comScore MobiLens, August 2013 (3 month average), mobile internet users aged 13+

viewing in the US stayed at the same level as in 2011, while Canada experienced a 3% increase in daily viewing minutes. Australia's daily TV consumption was down 1.6% compared to the previous year.

In terms of time spent watching television, viewers in the US had the highest average, at almost five hours per day (293 minutes) in 2012; unchanged since last year. The UK ranked fifth among the comparator countries, with the average individual watching for about four hours (241 minutes) per day, above the 3 hours 42 minutes (222 minutes) per head average for all comparator countries. Sweden and China had the lowest daily TV consumption per head, with the average person in both countries spending 164 minutes per day watching television.

Figure 3.37 Daily TV viewing, per head: 2011-2012



Source: Médiamétrie, Eurodata TV Worldwide. The figure for Canada relates to Canada National which was introduced in 2011. Previous data related to viewing in non-Quebec households. Viewing in Australia relates to 5 Metro Cities and Network for France.

Most popular national channels

We compare the year-on-year performance of the top five highest-ranking channels, by market, to gauge the impact of channel expansion and choice (Figure 3.38).

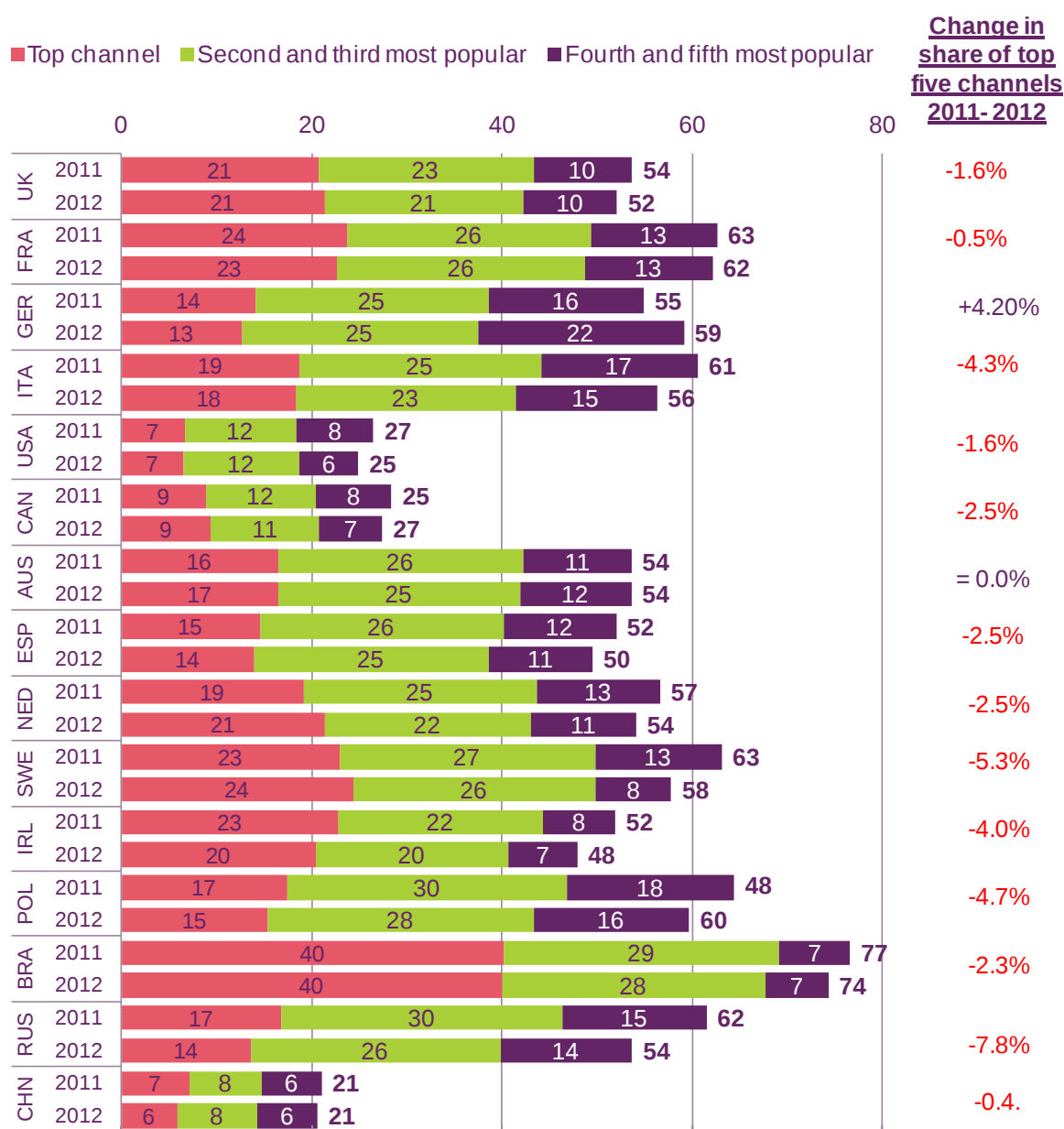
The BRIC countries (Brazil, Russia and China), together with Australia and Poland, are the only remaining countries of our comparator group to complete full digital switchover. The latter two countries are set to switch off their analogue signal by the end of 2013. Brazil will be the last of the comparator countries to switch off its analogue terrestrial signal; it plans to go wholly digital in approximately seven years' time, in 2020. According to MediaMetrie data, all but one of the 19 reported channels in Brazil are available on the analogue terrestrial platform. Only two of them are available exclusively on pay TV, with the remainder on free-to-air. A mass audience and a strong appetite for television viewing (Brazil has above the comparator country average for daily viewing per head) is heavily concentrated on a few core channels, with Brazil's top five channels commanding three-quarters (74%) of all viewing in 2012. This is similar to the levels accounted for by the five main PSB channels in the UK, five years ago before the start of DSO. The top-performing channel in Brazil, Globo, drew over half of this combined viewing, and the viewing share attained by the top five channels has remained relatively stable since 2011.

Turning to the Netherlands , the first of our comparator countries to achieve DSO, at the end of 2006, the top five channels remained resilient and continued to account for the majority of all television viewing (54%) in 2012. Just under half of this (21%) was attributed to the highest-ranking channel (Nederland1) which increased its share year on year. The aggregated share, and the proportions of viewing among the five most popular channels, are similar to the levels achieved by the five main PSBs in the UK in 2012.

The UK completed DSO in 2012, and audiences continue to value PSB programming despite digital TV having reached universal coverage. The five main PSBs made up the top five channels and accounted for over half of all viewing – although, like the Netherlands this has declined year on year.

However, the share of viewing of the top five channels by comparator countries does show a consistent pattern of decline when compared to 2011. While Russia increased its overall daily viewing hours in 2012 (see Figure 3.37), its top five channels experienced the biggest loss in share of all the markets, declining by almost 8% year on year. This suggests that viewers have moved away from a select group of channels and are fragmenting across a wider range of channels in 2012. Sweden and Poland also saw notable declines in share for their top five channels, with falls of 5.3% and 4.7% respectively. The share for Australia's five most-watched channels stayed the same, while Germany's top five enjoyed a 4.2% increase, the only country in our comparator group to do so.

Figure 3.38 Patterns of viewing among the top five TV channels: 2011-2012



Source: Médiamétrie, Eurodata TV Worldwide. The 2011 and 2012 figures for Canada relates to Canada National which was introduced in 2011. Previous data related to viewing in non-Quebec households. Viewing in Australia relates to 5 Metro Cities and Network for France.

Channels that are publicly owned have increased or maintained share, in the main, during 2012

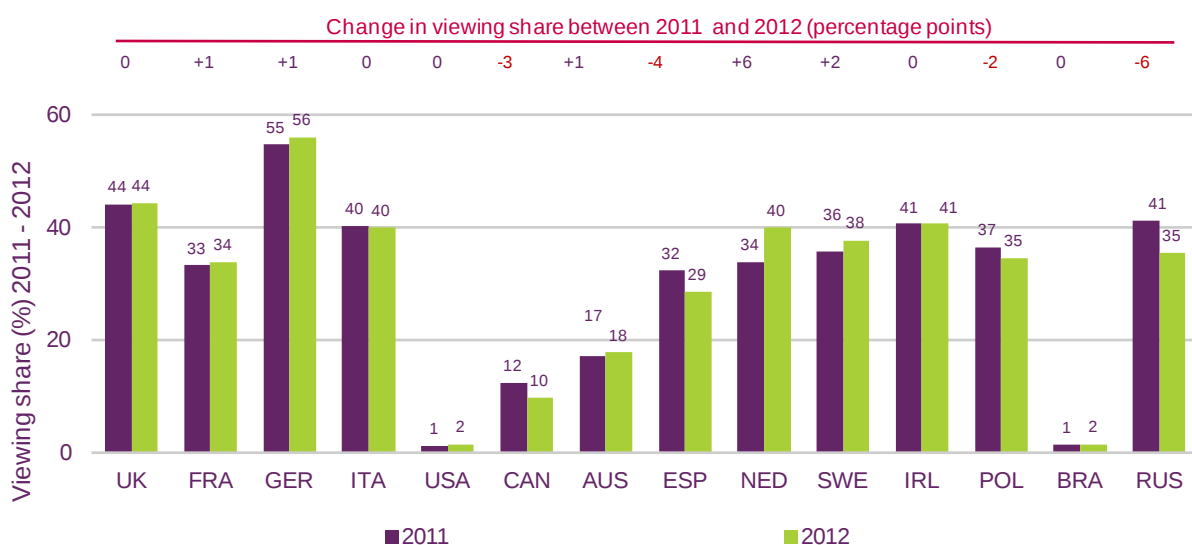
Viewing of publicly-owned channels, which includes domestic state channels as well as international channels like BBC One, remains strong, with only three of the comparator countries displaying a year-on-year decline.

The audience share of publicly-owned channels was highest in Germany, at 56% of audience share, up by one percentage point on the previous year. ARD, ARD 3 and ZDF accounted for 37.5% of this, with the proportions taken by each at similar levels; around

12.5%. The UK ranked second, with the BBC and Channel Four⁴⁶ families of channels accounting for a 44% share of viewing. The main PSB channels took the majority share, with BBC One contributing 21%, BBC Two 6.1%, and Channel Four 5.6%. The combined viewing share of the publicly-owned channels remained at the same level as in 2011.

The biggest year-on-year share increase was seen in the Netherlands, which experienced a 6 pp growth compared to the previous year. In North America, the US experienced a modest 1 pp increase, driven by viewing to BBC America. (PBS Primary Affiliates are the only other publicly-owned channels, and their share remained static year on year). Viewing to publicly-owned channels in Canada fell by 2 pp, to account for 10% share. In the BRIC countries the share of viewing attributed to any publicly-owned channel increased by 1 pp in Brazil, while it decreased by 6 pp in Russia. Australia added an additional 1 pp year on year to achieve 18% share.

Figure 3.39 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. Includes public, domestic public and mixed. Domestic public refers to public channels that broadcast locally. Public refers to international public channels that broadcast in a country. Mixed refers to channels that have hybrid status (mix of public and private funding). The figures for Canada relate to Canada National which was introduced in 2011. Data prior to 2011 referred to viewing in non-Quebec households. Australia is based on 5 Metro Cities, France is based on Network.

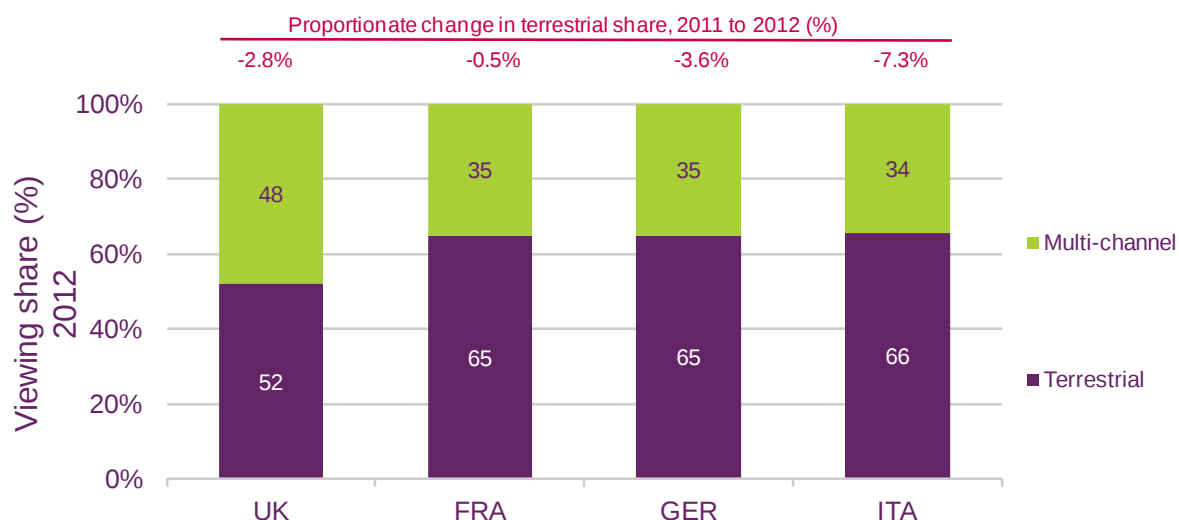
Viewing of legacy terrestrial channels continues to command the majority of viewing

The UK, France, Germany and Italy had all turned off their analogue terrestrial signal by the end of 2012. Of the selected comparator countries examined in Figure 3.40, the UK was the last to complete the transition to full digital terrestrial television, achieving digital switchover in October 2012. The erosion of viewing to the traditional terrestrial channels in the UK (BBC One, BBC Two, ITV, Channel 4 and Channel 5) appears greater when compared to the comparator European countries, which have all sustained a 65%-66% share.

⁴⁶ Although Channel Four is funded by advertising and not publicly funded, under the terms of its Public Service Broadcasting licence, it does not make a commercial profit. All funds are re-invested into television commissioning from independent producers.

In Germany, the first of the four in this comparator group to turn off its analogue terrestrial signal in 2009, the popularity of the legacy terrestrial channels remains strong. The top four of the six terrestrial channels - ARD, ARD3, ZDF and RTL - all performed equally strongly, with individual channel shares ranging from 12.2% to 12.6% .Collectively, the traditional terrestrial channels achieved the same level of share as in France and Italy; these countries completed their analogue terrestrial switch-off in November 2011 and July 2012 respectively.

Figure 3.40 Terrestrial versus multichannel share



Source: Médiamétrie, Eurodata TV Worldwide. 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)



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4 Radio and audio

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4.1 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 17 comparator countries. It focuses on three topics – key market developments in the sector, industry revenues, and trends among radio and audio consumers.

- The market developments section looks at the growth in radio revenues among our comparator countries and the use of mobile phones to listen to radio and audio content.
- The radio industry section examines global radio revenues and looks at revenues among our comparator countries in 2012 in detail.
- 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: 2012

	UK	FRA	GER	ITA	USA	CAN	JPN	AUS	ESP	NED	SWE	IRL	POL	BRA	RUS	IND	CHN
Total industry revenue (£bn)	1.2	1.0	2.8	0.4	12.1	1.2	1.0	0.7	0.4	0.2	0.1	0.1	0.1	0.4	0.3	0.2	1.2
Revenue change (% YOY)	+2.8	-0.5	-0.4	-8.2	+3.6	+3.1	-1.4	+0.5	-9.9	-1.9	+1.6	-4.2	-2.7	+6.7	+9.3	+17.3	+11.9
Revenues per capita (£)	18.9	15.9	34.9	6.6	38.3	35.3	7.7	31.5	8.2	14.0	13.2	21.3	3.0	2.0	1.9	0.2	0.9
% income from public licence fees	60.4	38.9	79.3	20.9	n/a	n/a	5.1	n/a	n/a	18.9	37.4	22.5	4.4	n/a	n/a	n/a	n/a

Source: Ofcom, PricewaterhouseCoopers. All figures are nominal.

The key market developments during the year include:

- **Radio revenue has increased for the third consecutive year.** Combined radio revenues among the 17 comparator countries analysed in this report grew for the third consecutive year in 2012, increasing by 2.5% to reach £23.5bn.
- **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 £420m.
- **Among countries with public radio licence fees, revenue growth is highest in the UK.** The UK is also the only one of our comparator countries where both advertising and public radio licence fee revenues increased, rising by 3.7% and 2.1% respectively.

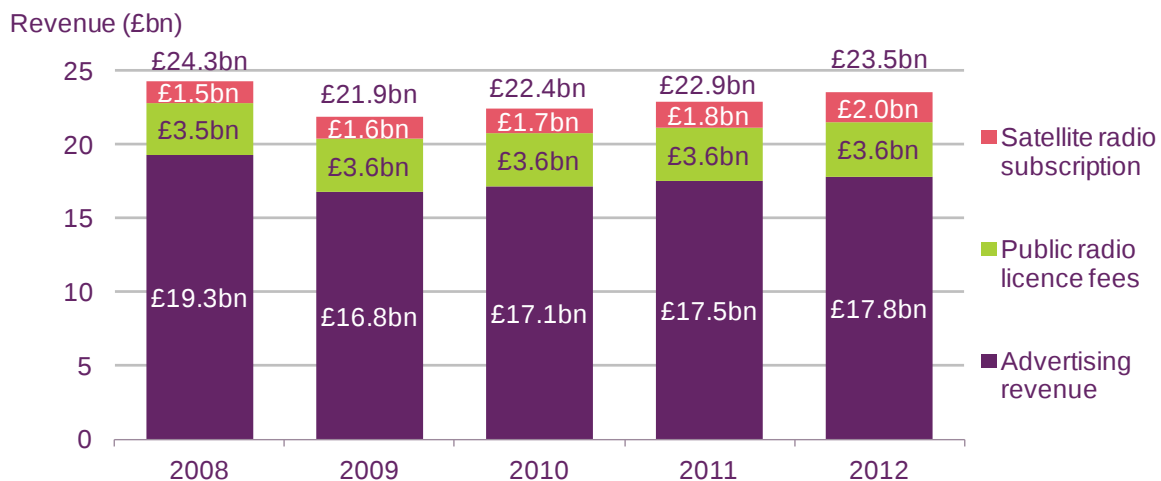
- **One fifth (21%) of those with a mobile phone in the UK use it to listen to the radio, but listening to ‘music I own’ is more popular.** Of all the countries that we surveyed, only mobile phone owners in Italy, Spain and China are more likely to use their mobile phone for this purpose.
- **Mobile phone users in Japan are less likely to use their mobile phone to listen to music at least monthly, while those in Spain are more likely to do so.** With the exception of Japan, at least one in ten mobile phone users in our comparator countries use their device to listen to music at least weekly.
- **Streamed music services are more popular in the US than in any other comparator country.** One fifth (18%) of those with a mobile phone in the US listen to streamed music on their mobile. The US is also the only country where people are more likely to listen to streamed music than music transferred from a computer.
- **YouTube is the only music streaming service used by mobile internet users in all of our comparator countries.** In the UK, YouTube is the most popular streaming service and is used by 4% of mobile internet users. This is followed by Spotify which is used by 3% of UK mobile internet users.

4.1.2 Radio revenues among comparator countries up by 2.5% in 2012

Radio revenue has increased for the third consecutive year

Radio revenues among the 17 comparator countries analysed in this report grew for the third consecutive year in 2012, increasing by 2.5% to reach £23.5bn. (Figure 4.2) While revenues from licence fees decreased slightly, commercial revenues increased, with advertising revenues growing by 2.0% to £17.8bn. The largest proportional growth was in satellite radio subscriptions, which grew by 13.4% to £2.0bn.

Figure 4.2 Total radio revenues for the 17 comparator countries

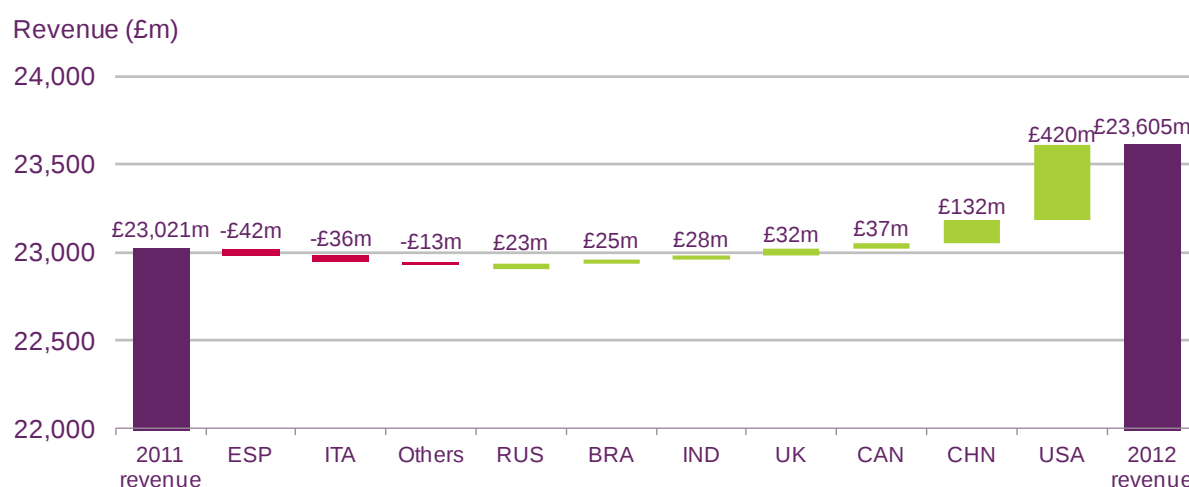


Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Revenues fell in Spain and Italy, but this was offset by growth among the other comparator countries

As Figure 4.3 shows, seven of the 17 countries reported significant increases in radio revenue between 2011 and 2012. The largest absolute increase was experienced by operators in the US, where advertising and satellite subscription revenue both increased. The Canadian market also grew as a result of increases in both of these sources of revenue. The four BRIC countries, where radio revenue is generated exclusively through advertising, all reported an increase in revenues. The largest declines were in Spain (£42m) and Italy (£36m) and are a result of falling advertising revenues. Revenues in the UK grew by £32m, as both licence fee and advertising revenue increased.

Figure 4.3 Changes in radio revenue, by country: 2011 and 2012



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. 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 which provides satellite radio services in the US, reported growing its subscriber base by 2 million in 2012 to almost 24 million in 2012.⁴⁷ This has contributed to subscription revenues growing faster than advertising revenues, in proportional and absolute terms, as they increased by £227m or 13.8% in comparison to the 1.9% growth in advertising revenues. Subscription revenues and subscriber numbers also increased in Canada. At the end of November 2012, Sirius XM Canada had 2.2 million subscribers, up from 2.0 million for the same period the previous year.⁴⁸

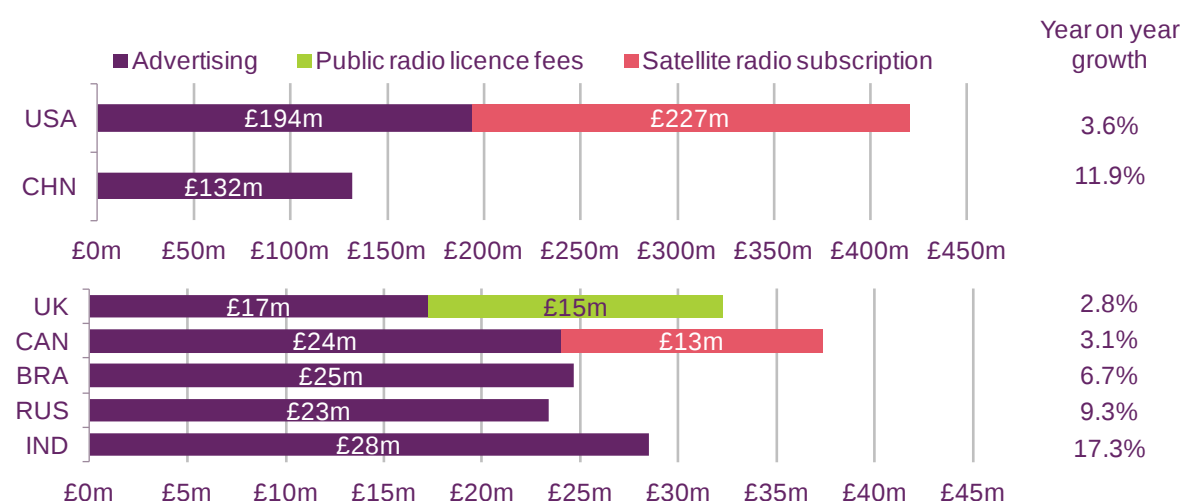
⁴⁷ Sirius XM, *Proxy Statement and 2012 Annual Report*, http://files.shareholder.com/downloads/SIRI/2726395301x0x652466/4D4285DE-D78E-4458-8F42-B10F67CB4795/SiriusXM_2012_Annual_Report.pdf

⁴⁸ Sirius XM Canada, *SiriusXM Canada Delivers Strong Growth in Q1 Fiscal 2013*, 14 January 2013, http://www.siriusxm.ca/uploadedFiles/Content/Our_Company/Financial_Reports/XSR%20Q1%20F2013%20Press%20Release%20Final%20w%20Financial%20Statements-1.pdf

After the US, the next largest absolute growth was in China, where advertising revenues grew by £132mn. The other BRIC countries also saw significant growth in advertising revenue.

Of all of our comparator countries where revenues are made up of commercial and public radio licence fees, the UK was the only country to see significant growth.

Figure 4.4 The most substantial increases in radio revenue, by component: 2011-2012



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

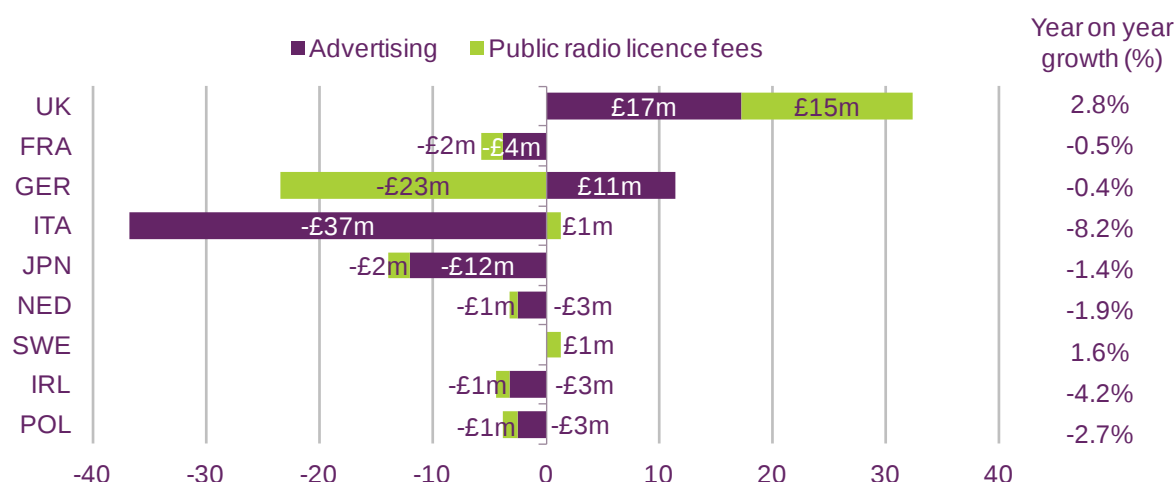
Among countries with public radio licence fees, revenue growth is highest in the UK

The changes in total revenue in those countries where public radio licence fees contribute to total revenue are set out in Figure 4.5. Of all of the countries, only the UK experienced growth in revenues, and it is also the only country where both advertising and licence fee revenues increased. Sweden was the only other country where total revenues grew; licence fee revenues increased by £1m.

In Italy, licence fee revenues increased by £1m, but this was not enough to offset a far larger decline in advertising revenue (£37m). Advertising revenues in Italy are likely to have been affected by the lack of an audience measurement system for radio listening. The previous measurement system, Audiradio, ceased activities in 2011, and data was not available from the replacement system, RadioMonitor, until May 2013.⁴⁹

⁴⁹ EGTA, *Radio Focus*, June 2013 http://radiofocus.egta.com/market.php?ld_country=19, accessed 10 October 2013; RadioMonitor, Survey <http://radiomonitor.it/indexeng.php#>, accessed 10 October 2013

Figure 4.5 Changes in radio revenue among comparator countries with public radio licence fees, by component: 2011-2012



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

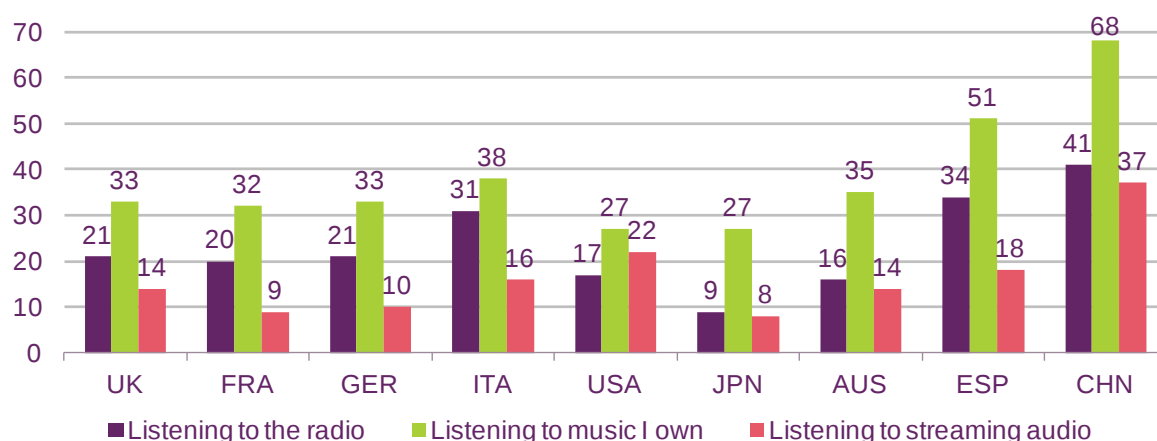
4.1.3 One fifth of mobile phone owners in the UK use their mobile to listen to the radio

One fifth of those with a mobile phone in the UK use it to listen to the radio, but listening to 'music I own' is more popular

Our consumer research has found that one fifth (21%) of mobile phone owners in the UK use their device to listen to the radio. Of the countries that we surveyed, only mobile phone owners in Italy, Spain and China were more likely to use their mobile phone for this purpose. In all of the countries surveyed, listening to 'music I own' was more popular. With the exception of China, where our online research methodology means that the findings are representative of early adopters in urban areas, rather than the whole population (see our research methodology in *Appendix A: Consumer research methodology*), use of a mobile phone to listen to audio content was highest in Spain, where half (51%) of mobile phone owners listened to 'music I own' on their device, and Italy, where four in ten (38%) did so. Using a mobile phone to listen to streamed audio was most popular in the US, where one fifth of mobile phone owners did this.

Figure 4.6 Use of a smartphone/mobile phone to listen to audio content

All respondents with a mobile phone/smartphone



Source: Ofcom consumer research September 2013

Base: All respondents with a mobile phone/ smartphone, UK=894, FRA=850, GER=890, ITA=904, USA=793, JPN=855, AUS=877, ESP=897, CHN=936.

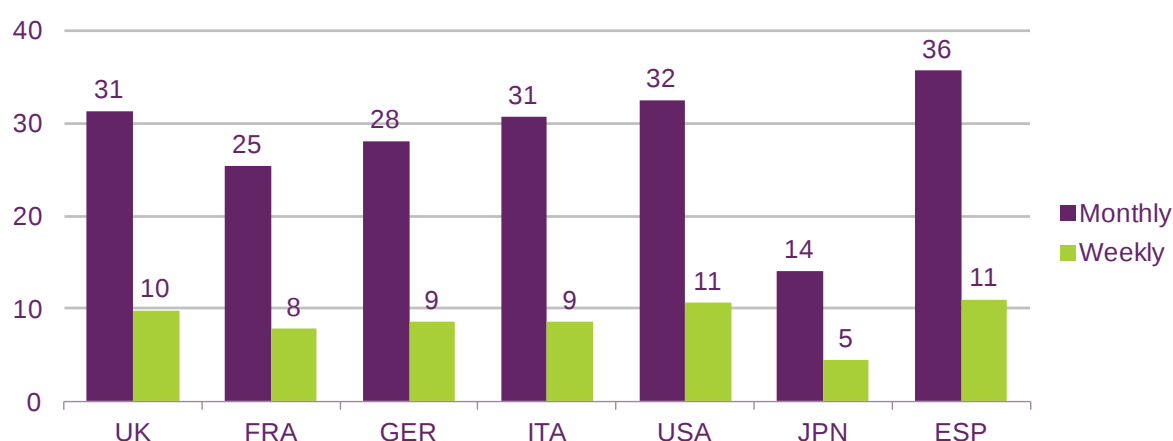
Q.15d Which, if any, of the following audio activities do you use each of your devices for?

Mobile phone users in Japan are less likely to use their mobile phone to listen to music at least monthly, while those in Spain are more likely to do so

While our research indicates the proportion of mobile phone users who listen to audio content on their device, it does not show how often they do so. Data from comScore's Mobilens survey show that the frequency of listening to music on a mobile phone is broadly similar among many of our comparator countries, with around one in ten doing so at least weekly. Two notable exceptions are Japan, where it is considerably less likely that mobile phone users listen to music on their device on a monthly or weekly basis, and Spain, where it is more likely that mobile phone users will listen at least monthly.

Figure 4.7 Frequency of listening to music on a mobile phone

Proportion of mobile phone users (%)

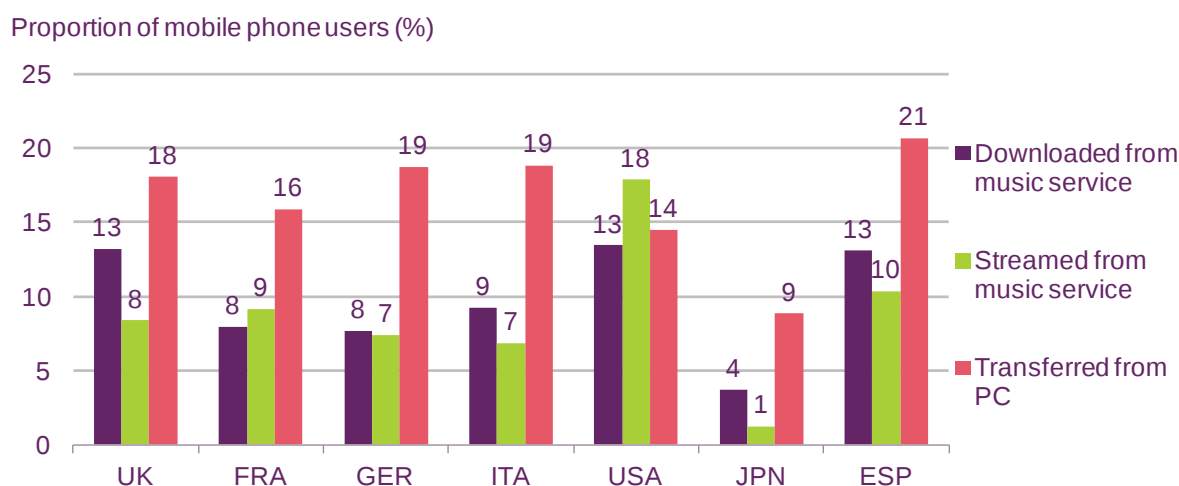


Source: comScore MobiLens, August 2013 (3 month average, mobile phone users aged 15+)

Streamed music services are more popular in the US than in any other comparator country

The proportion of mobile phone users who listen to music via music streaming services is higher in the US than in any other comparator country, as shown in Figure 4.8, with one fifth (18%) of those with a mobile phone listening to music from this source. The US is the only country where people are more likely to listen to streamed music than music transferred from a computer. Downloading audio content from a music service is a more popular activity in the UK, the US and Spain than in any of the other countries analysed here.

Figure 4.8 Source of music listened to on a mobile phone

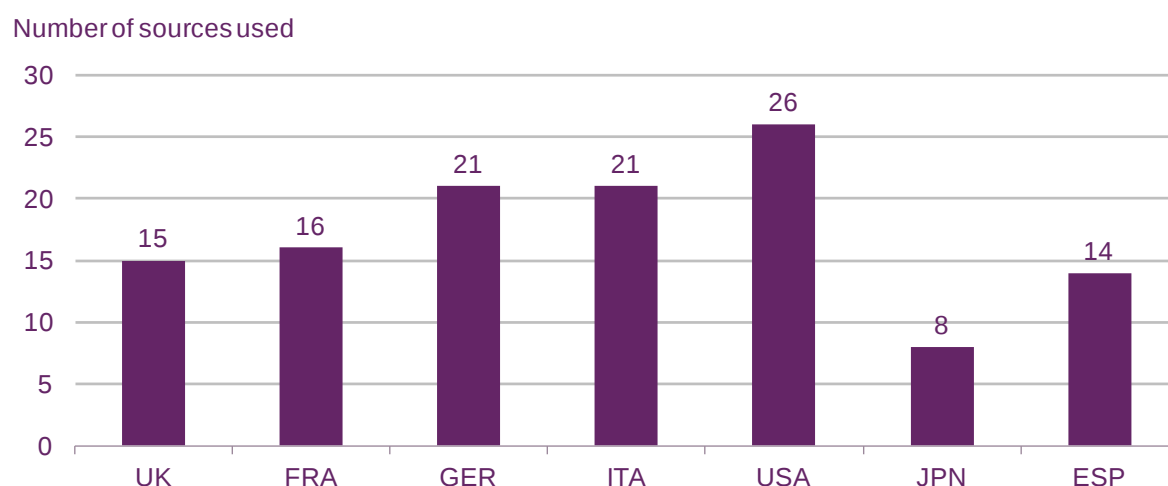


Source: comScore MobiLens, August 2013 (3 month average, mobile phone users 15+)

Those in the US are more likely to name a range of sources for streaming music to their mobile phones

In addition to having the largest proportion of mobile phone users who stream music to their mobile phone, those in the US were also more likely to name a range of sources that they used to listen to streamed music. Mobile internet users in the US named 26 different sources of streamed music, compared to 15 in the UK and only eight in Japan. Mobile internet users in France and Germany also named a large number of music streaming sources. This is likely to reflect the range of different sources available in these countries.

Figure 4.9 Number of music streaming services used by mobile internet users

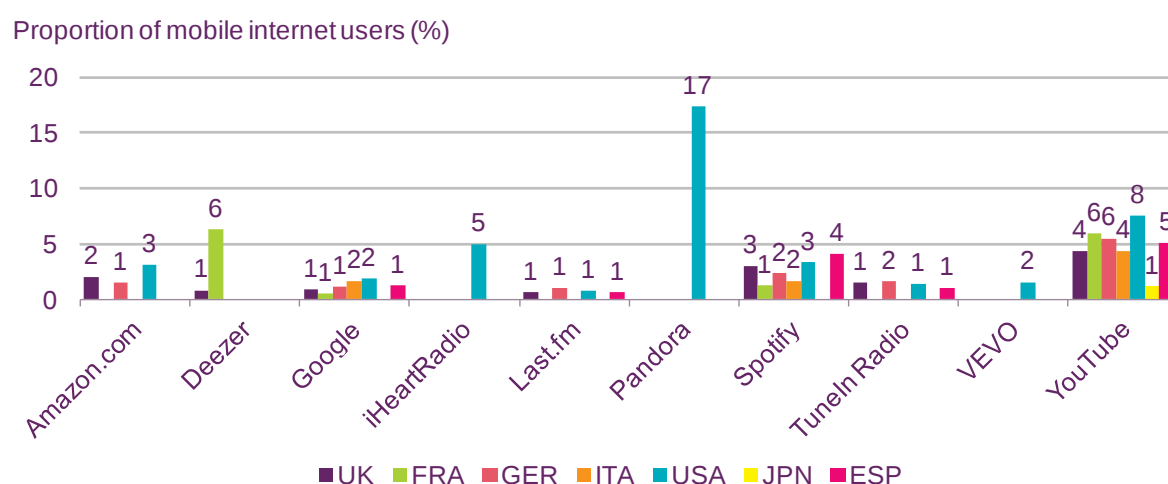


Source: comScore MobiLens, August 2013 (3 month average, mobile internet users 15+)

YouTube is the only music streaming service used by mobile internet users in all of our comparator countries

In each country there are a number of brands of music streaming service which are specific to that country. The only brand named by mobile internet users in all of the countries in Figure 4.10 was YouTube, Google's video sharing website. Spotify, a music streaming service available on subscription for mobile users, was named by users in all countries except Japan, where Spotify is not currently available. The most-cited streaming service was Pandora, a radio-like service which provides content based on its users' tastes in music, which was used by almost one-fifth of mobile internet users in the US. Pandora is available only in the US, Australia and New Zealand. iHeartRadio, which provides a recommendation service as well as aggregating streamed radio station content, was used by 5% of mobile internet users in the US. In the UK, the most popular streaming service was YouTube, used by 4% of mobile internet users, followed by Spotify, used by 3% of mobile internet users.

Figure 4.10 Sources used for streaming music content



Source: comScore MobiLens, August 2013 (three-month average, mobile internet users aged 15+)

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. The main findings include:

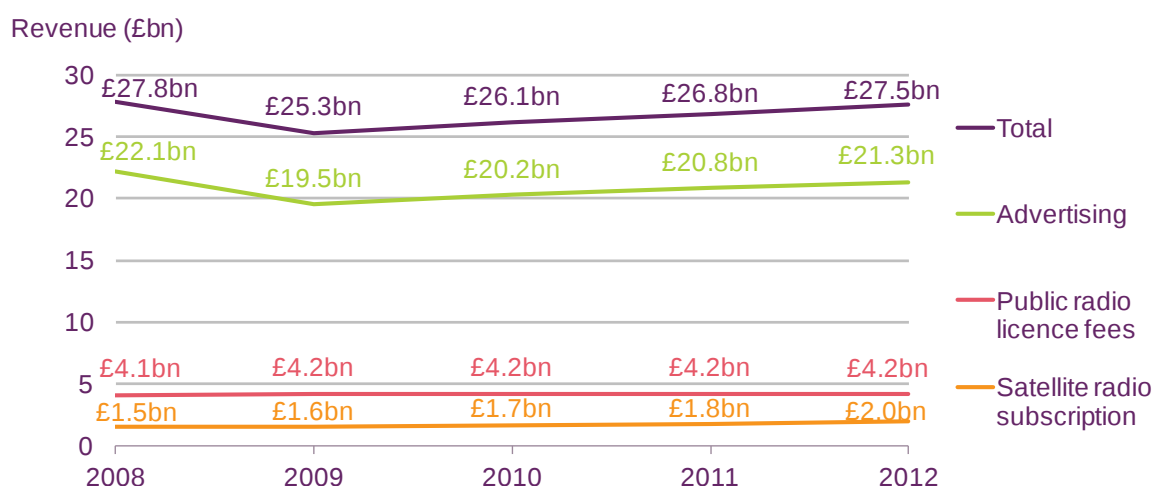
- **Global radio revenues stood at £27.5bn in 2012.** Global radio revenue rose by 2.7% in 2012 to reach £27.5bn. Although this is the third consecutive year of increase after an 8.9% decline in 2009, global revenues are 0.8% lower than they were in 2008.
- **Nine of our 17 comparator countries reported growth in revenue in 2012.** Revenues among the 17 comparator countries featured in this report grew by 2.5%. In the UK the value of the radio market grew by 2.8% to £1.2bn, due to growth in local advertising and sponsorship as well as an increase in licence fee revenues.
- **Revenue growth is fastest in the BRIC countries, while southern Europe has seen the largest proportional declines.** India had the highest rate of growth at 17.3% while the largest proportional decline was in Spain (9.9%), followed by Italy (8.2%).
- **Public radio licence fees contribute the largest proportion of revenues in Germany and the UK.** Germany has the highest public funding ratio, with 79.3% of revenue coming from public radio licence fees. Just over 60% of radio revenues in the UK come from public radio licence fees.

4.2.2 Worldwide radio revenue

Worldwide radio revenues stood at £27.5bn in 2012

Worldwide radio revenue rose by 2.7% in 2012 to reach £27.5bn. This is the third consecutive year of increase following an 8.9% decline in 2009, although worldwide revenues are 0.8% lower than they were in 2008. Advertising continues to contribute the largest proportion of total industry revenue, accounting for over three-quarters (77%) of industry income. Revenues from public radio licence fees remained steady at £4.2bn and satellite radio subscription revenues continued to grow, rising by 13.4% to £2.0bn. The largest proportional increase in revenues came from satellite radio subscriptions.

Figure 4.11 Worldwide industry revenues: 2008-2012



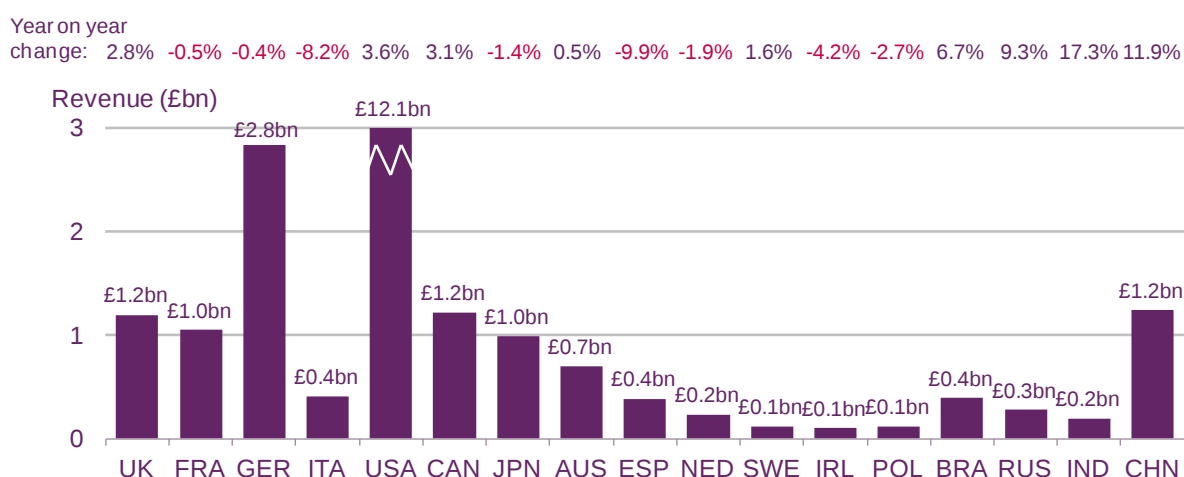
Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012.

4.2.3 Revenues among our comparator countries

Nine of our 17 comparator countries reported growth in revenue in 2012

Revenues among the 17 comparator countries featured in this report grew by 2.5%, as discussed in section 4.1.2. Nine of these countries reported an increase in radio revenues in 2012, with the largest proportional increases coming from India (17.3%) and China (11.9%). Russia and Brazil also saw significant proportional growth, increasing by 9.3% and 6.7% respectively. Revenues in the US market, the largest among our comparator countries, grew by £420.3m to £12.1bn, representing a 3.6% increase. The US accounts for over half (51%) of the total revenue for the comparator countries as a whole. Revenues in the UK grew by 2.8% to £1.2bn, due to growth in local advertising and sponsorship as well as an increase in licence fee revenues.

Figure 4.12 Radio industry revenues: 2012



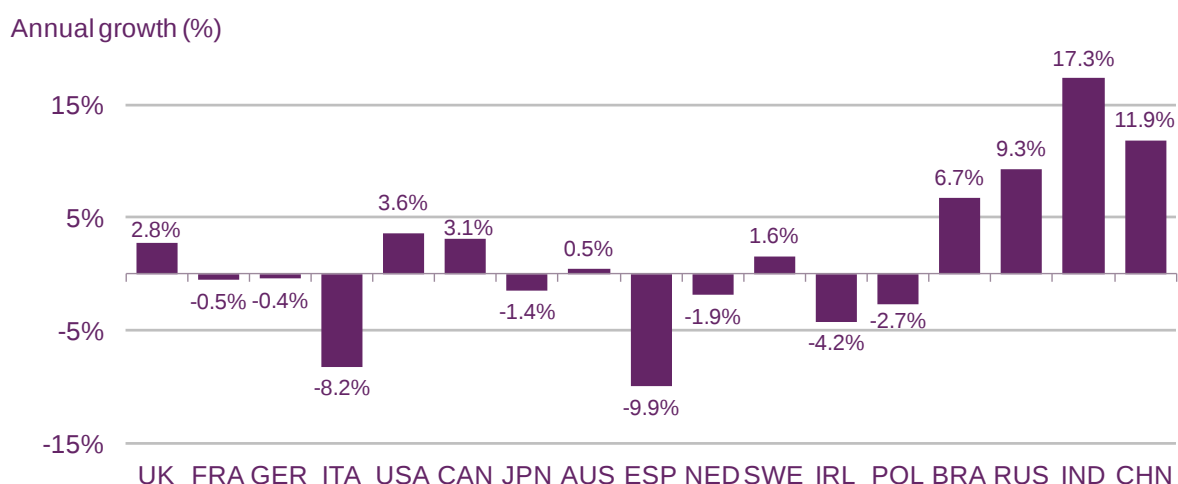
Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Revenue growth is fastest in the BRIC countries, while southern Europe has seen the largest proportional declines

The proportional changes in revenue, as set out in Figure 4.13, show that the fastest growing markets are the BRIC countries. India saw the highest rate of growth, at 17.3%, driven by the Indian government's licensing of FM services and measures to increase availability in rural areas. The 11.9% growth in China is likely to be due to increases in in-car listening. This radio audience is seen as an attractive target for advertisers, as they tend to be young professionals with high education levels. Listening time is growing in China as a result of private car ownership, and possibly also due to frequent traffic jams in urban areas.

The largest proportional decline was in Spain (9.9%), reflecting negative growth in the Spanish economy, followed by Italy (8.2%), where the loss of an audience measurement system may have reduced advertisers' confidence in radio.

Figure 4.13 Radio industry revenue annual growth: 2011-2012



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. 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

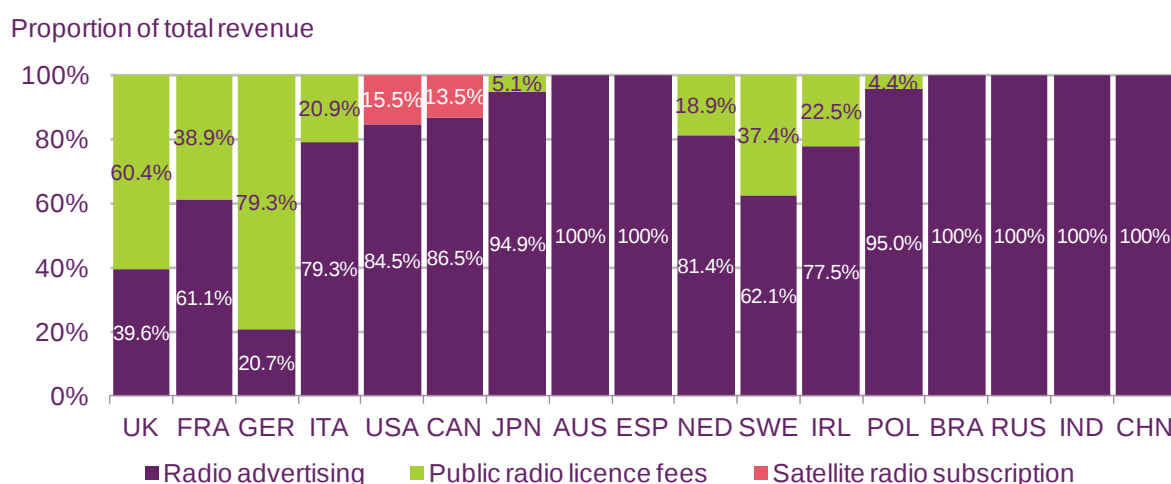
Of the 17 comparator countries, nine of the radio markets are part-funded by public radio licence fees and, with the exception of Japan, all of these countries are within Europe. Public radio licence fees make up the majority of radio revenues in only two countries, Germany and the UK.

Germany has the highest public funding ratio, with 79.3% of revenues coming from public radio licence fees. Of the markets that are partially publicly-funded, public radio licence fees contribute the least in Poland (4.4%) and Japan (5.1%). In Italy, the Netherlands and Ireland, public radio licence fees account for around a fifth of the total market. Just over three-fifths (60.4%) of radio revenue in the UK comes from public radio licence fees.

The US and Canada are the only countries where subscriber-based satellite radio is available to consumers. This contributed 15.5% of revenues in the US and 13.5% of revenues in Canada.

Some of the countries in Figure 4.14 may receive public funding from sources other than a licence fee; for example, government grants or support from other public bodies. The US, Canada, Australia and Spain all have a degree of publicly-funded radio programming.

Figure 4.14 Proportion of radio revenue, by source

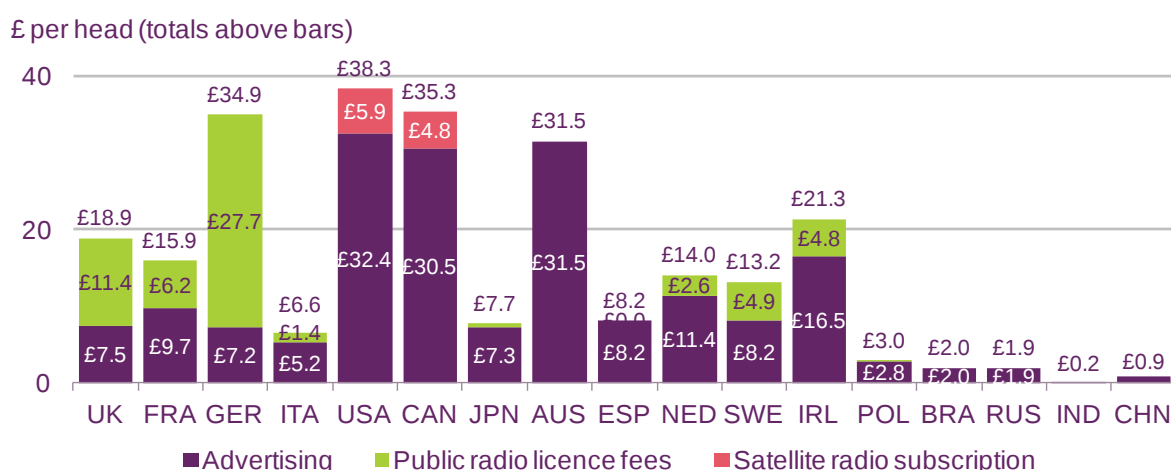


Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom.

Radio markets in the US, Canada and Germany generate the highest revenues per head of population

The highest revenue per head of population in 2012 was in the US (£38.30), followed by Canada (£35.30). In Europe, the highest revenue per head of population was found in Germany, with £27.70 of the £34.90 total made up of public radio licence fees. In the UK, the comparable figure was £18.90.

Figure 4.15 Radio industry revenues, per head of population: 2012



Source: Ofcom analysis based on data from PricewaterhouseCoopers Global Entertainment and Media Outlook 2013-2017 @ pwc.com/outlook. Interpretation and manipulation of data are solely Ofcom's responsibility. Ofcom has used an exchange rate of \$1.580 to the GBP, representing the IMF average for 2012. Note that the UK radio industry figure is sourced from broadcaster returns made to Ofcom. Population data from US Census Bureau (end of year estimates from mid-year values)

4.3 The audio consumer

4.3.1 Introduction

The following section examines how people consume audio services among the comparator countries surveyed in this report.

- **Take-up of DAB radio sets is highest in the UK** and claimed ownership of DAB radio sets among radio listeners in the UK increased by 8pp year on year. Almost half (48%) of radio listeners claim to own a DAB radio set. This is the highest take-up of all our comparator countries.
- **Of the countries we surveyed, DAB coverage is available to the largest proportion of households in the UK, at 94%.** This is followed by Germany (90.1%) and Italy (75%), both of which have seen large year-on-year growth in DAB coverage.
- **Across all our comparator countries FM radio sets are the most widely-owned type of radio set,** but the UK has the lowest claimed ownership, at 69%. However, the UK is among the highest of our comparator countries for take-up of any radio set, at 86% due to the high proportion of DAB radio set owners (48%).
- **Respondents across all countries are more likely to use their household internet connection to listen to /download audio content than to listen to online radio, with the exception of Germany.** Listening to online radio is more popular in Germany, with three in ten (32%) doing so, more than in any other country.
- **Listening to their own music using a laptop/desktop or a tablet is the most popular audio activity on these devices among respondents in all countries.** Half (48%) of laptop/desktop owners in the UK listen to their own music on their computer, while one third (36%) of tablet owners do so. These proportions are greater than for those who listen to the radio using either device (29% and 24% respectively).
- **Across all comparator countries, radio is most likely to be used to source regional /local news than for any other type of news.** This is most evident in Germany, where 20% of respondents use the radio for this purpose, more than double the proportion of UK adults (9%).

4.3.2 Radio set ownership

DAB digital radio set take-up among radio listeners is highest in the UK

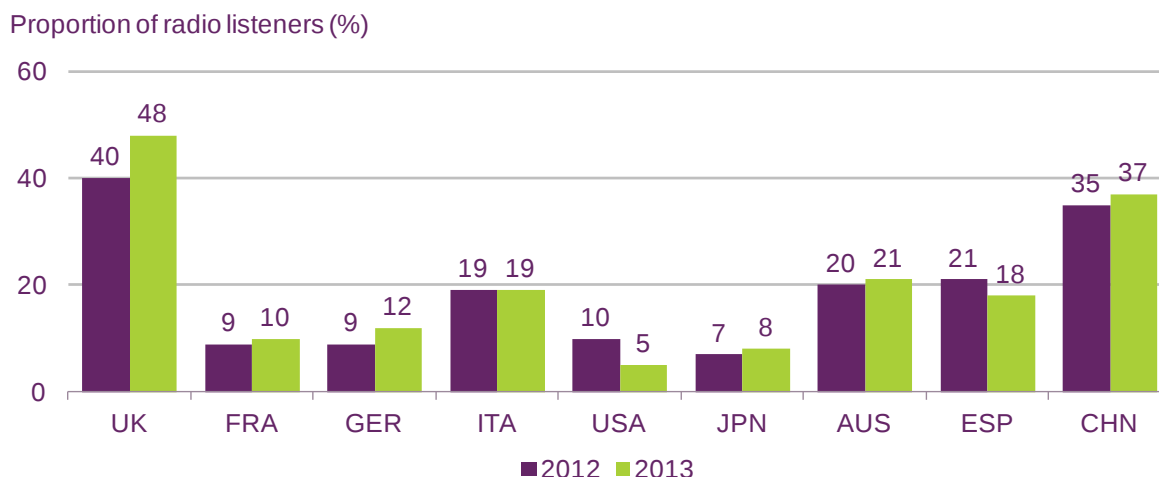
Take-up of DAB radio sets is highest in the UK, at 48%, an increase of 8pp year on year. The second highest take-up was in China (37%), but our online research methodology means that the findings are representative of early adopters in urban areas, rather than the whole population (see our research methodology in Appendix A: Consumer research methodology). This is reflected in the DAB coverage in China, which is only available in the highly populated cities of Beijing, Hong Kong and Shanghai⁵⁰ As shown in Figure 4.17, DAB coverage in China is 8%.

⁵⁰ WorldDMB Global Update, *Digital radio broadcasting using the DAB family of standards*, September 2013

Aside from the UK, DAB radio is more established in Italy than in any of the other European comparator countries, with 19% claiming ownership of a DAB digital radio set. The lowest take-up in Europe is in France (10%) reflecting the current trial status of digital radio in the country. The service is currently being broadcast over four regional multiplexes⁵¹.

Take-up of DAB sets fell in the US, where digital radio is not broadcast using the DAB family of broadcasting standards. Digital radio in the US is broadcast using HD and satellite radio.

Figure 4.16 Take-up of DAB radio sets among regular radio listeners: 2012 and 2013



Source: Ofcom consumer research September 2013, September 2012

Base: All regular radio listeners, 2013: UK=717, FRA=756, GER=775, ITA=741, USA=695, JPN=397, AUS=678, ESP=740, CHN=363, 2012: UK=757, FRA=796, GER=805, ITA=768, USA=749, JPN=384, AUS=700, ESP=763, CHN= 441

Q.3a Which of the following devices do you have in your home?

DAB coverage is higher in the UK than in any other comparator country – and coverage has increased in almost all other countries

DAB coverage in the UK, at 94% of households, is wider than in any other comparator country. This figure represents the proportion of households covered by the BBC's national multiplex and is unchanged since 2012. The national commercial multiplex in the UK, Digital One, was extended to Northern Ireland in summer 2013 and is now available to 89.5% of UK households.⁵²

Germany has seen the greatest growth in DAB coverage, of all our comparators, with an increase of 43pp year on year to reach 90% coverage. Digital radio has been built out in all urban areas and in many rural regions, and availability of DAB radio has been improved along major transport routes. Coverage in Italy has increased by 15pp year on year, and is now available to 75% of the Italian population, facilitated by the Italian regulator's decree of May 2012 which assigned transmission blocks to broadcasters and led to DAB services starting in December 2012.

Although smaller than the increase seen in Germany and Italy, DAB coverage in Australia, where DAB+ is the broadcasting technology used, has increased to 64% (year on year growth of 4pp). Digital radio services are currently available in the cities of Sydney, Melbourne, Brisbane, Perth and Adelaide, where population density is highest. Commercial

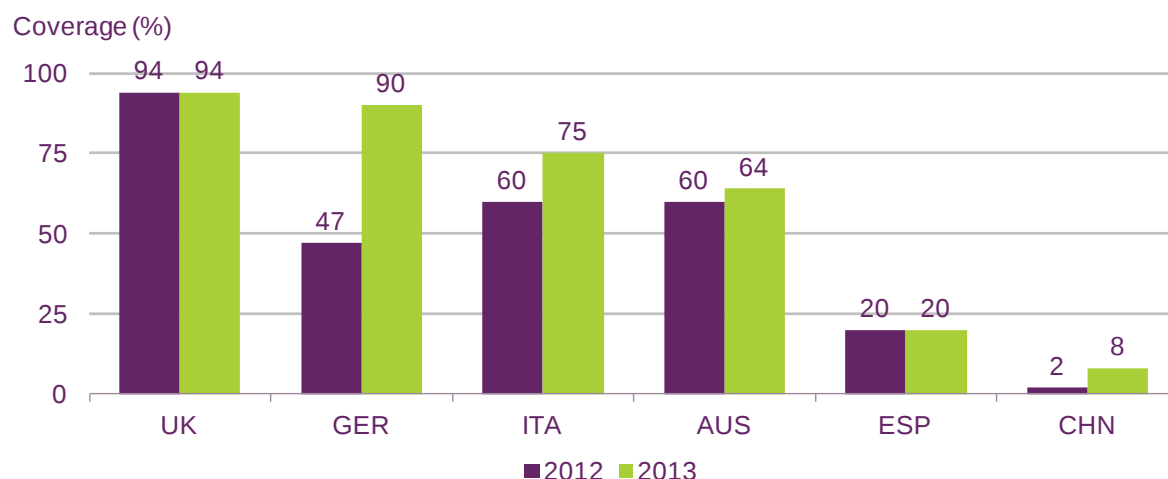
⁵¹ WorldDMB, September 2013.

⁵² Ofcom, *Digital Radio Report 2013*, September 2013

radio broadcasters and the public service broadcaster are working with the government on the regional roll-out of digital radio⁵³.

Spain has seen no year-on-year change in coverage, which remains at 20%. Coverage was reduced from 52% in 2011 to aid the migration of digital radio services from DAB to DAB+. The lowest overall coverage of DAB is in China (8%), where digital radio services are broadcast only in Beijing, Hong Kong and Shanghai.

Figure 4.17 Coverage of DAB/ DAB+/ DMB radio: 2012 and 2013



Source: WorldDMB Global Update, *Digital radio broadcasting using the DAB family of standards*, September 2012; 2013

Note: There are no data for France as digital radio is currently being trialled; the broadcasting authority Conseil Supérieur de l'Audiovisuel has forecasted 60% coverage within seven years. 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 radio set take-up is higher than take-up of any other type of radio set in all our comparator countries

As shown in Figure 4.18, 86% of radio listeners in the UK own a radio set, placing the UK among the comparator countries with the highest take-up of any type of radio set. Although fewer people in the UK claim ownership of an FM radio set, they have the highest ownership of DAB radio sets.

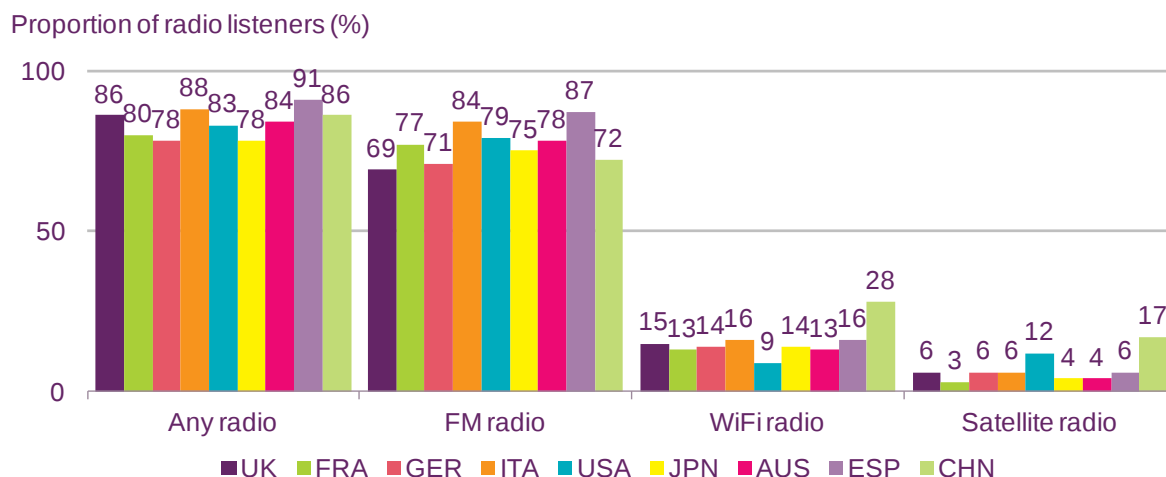
In all of our comparator countries, ownership of FM radio sets is greater than any other type of radio set. The highest take-up is in Spain (87%), followed by Italy (84%) and the US (79%). At 69%, the UK has the lowest proportion of FM radio set owners among radio listeners, of all our comparator countries.

With the exception of China, where our research represents urban internet users only, and the US, where around one in ten claim ownership of WiFi radio (9%), the take-up of WiFi radio sets is broadly similar among our comparator countries.

⁵³ WorldDMB Global Update, *Digital radio broadcasting using the DAB family of standards*, September 2013

Similarly, take-up of satellite radio is relatively low among all our comparator countries. The US is the exception; over one in ten (12%) own a satellite radio. This is because satellite radio, the main platform for digital radio, is available throughout the US.

Figure 4.18 Take-up of any radio set, and FM, WiFi and satellite radio sets, among regular radio listeners



Source: Ofcom consumer research September 2013

Base: All regular radio listeners, UK=717, FRA=756, GER=775, ITA=741, USA=695, JPN=397, AUS=678, ESP=740, CHN=363.

Q.3a Which of the following devices do you have in your home?

4.3.3 Regular listening to radio and other audio content

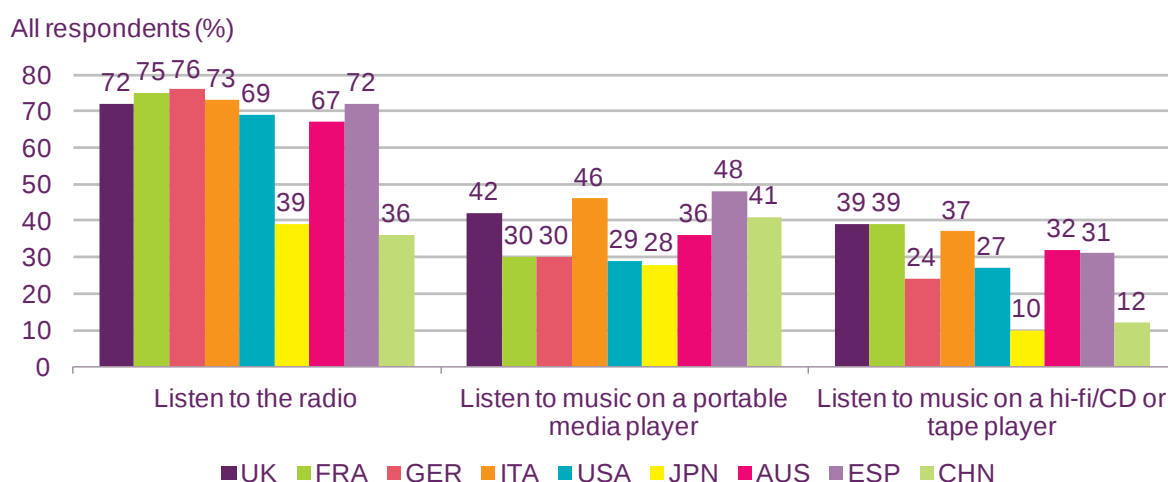
Radio is the primary method for the regular consumption of audio content in Europe, the US, Australia and Japan.

We look now at the proportion of respondents who claim to listen to radio content regularly ('regular' is defined as at least once a week). In our European comparator countries, at least seven in ten online adults are regular radio listeners, with the highest incidence of listening in Germany (76%) and France (75%). While regular radio listenership is lower in the US (69%) and Australia (67%), less than four in ten in Japan (39%) and in China (36%) are regular radio listeners.⁵⁴

We also asked about whether people used a portable media player or hi-fi system, or equivalent device. Use of a portable media player is highest overall in Spain (48%), followed by Italy (46%) and the UK (42%), while listening to music on a hi-fi or equivalent is most popular among respondents in the UK and France (39%). Despite the differing levels of listening via these devices, listening via a radio set is the most popular medium in all of the countries we surveyed.

⁵⁴ 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 89.5% of the UK population listened to radio in an average week in 2012. 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 4.19 Proportion of adults who claim to regularly consume audio content



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.5 Which of the following do you regularly do (at least once a week)?

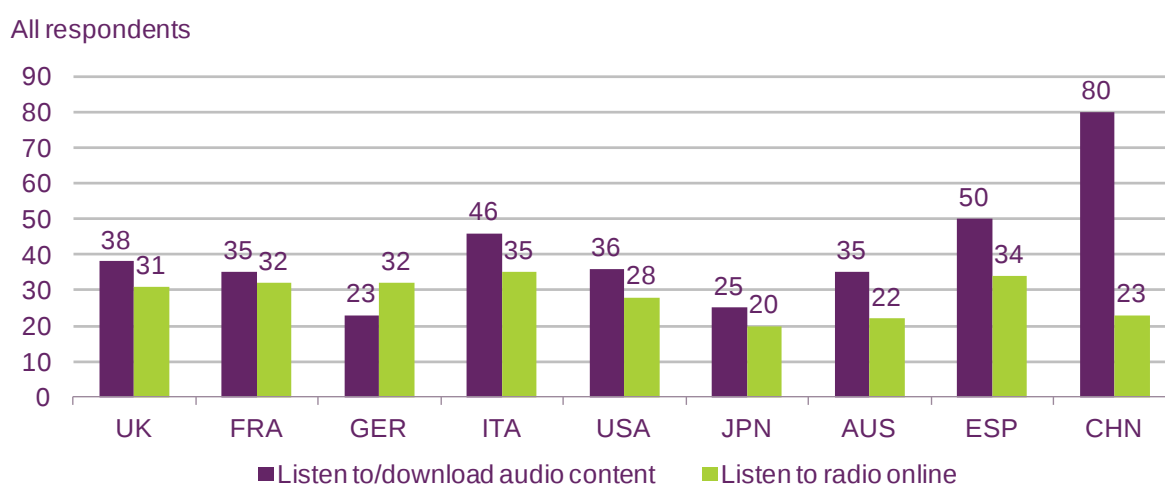
4.3.4 Listening to audio content on different devices

With the exception of Germany, respondents across all comparators prefer to listen to and/or download audio content online than listen to online radio

There is a preference for listening to, and/or downloading, audio content rather than listening to online radio, among respondents in all our comparator countries. In the UK, 38% respondents claim to use their home internet to listen to/download audio content, while 31% claim to listen to radio online.

Germany is the exception; it is the only country where listening to online radio is more popular than listening to or downloading audio content (32% versus 23%).

Figure 4.20 Weekly use of home internet connection to consume audio content



Source: Ofcom consumer research September 2012; 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

Looking at how people consume audio content on specific devices, we found that people are less likely to use their laptop/desktop to listen to the radio, preferring to listen to music that they own and to download audio.

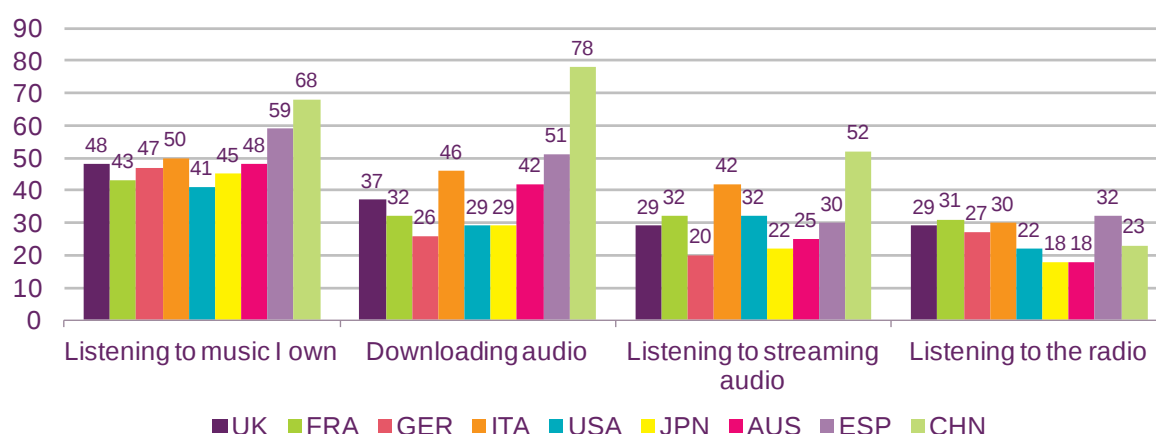
In Europe, the highest proportion of respondents who listen to their own music on a laptop or desktop is in Spain (59%), followed by Italy (50%) and then the UK (48%). Within Europe, France has the lowest proportion of people doing this, at 43%, and across all our comparator countries, this activity is least popular in the US (41%). For downloading audio content on a laptop or desktop, the highest proportion of people claimed to do this in Spain (51%), Italy (46%) and then the UK (37%). Fewer people in Germany do this activity (26%).

Across our European comparators, listening to streamed audio is most popular in Italy (42%) and lowest in Germany (20%). The popularity of listening to streamed audio in the UK and Spain is broadly comparable, at 29% and 30% respectively.

Although the landscape of online radio listening may change in future years, due to the competitive challenges presented by music streaming services such as Spotify and Deezer⁵⁵, almost one-third of those in Spain listen to the radio through a laptop or desktop computer (32%), followed by three in ten in France (31%), the UK (29%) and Italy (30%). Less than one in five (18%) in Japan and Australia use their laptop or desktop to listen to the radio, the lowest among the countries we surveyed.

Figure 4.21 Audio activities on a laptop / desktop

All respondents with a laptop/ desktop/ netbook



Source: Ofcom consumer research September 2013

Base: All respondents with a laptop/ desktop/ netbook, UK=952, FRA=941, GER=951, ITA=908, USA=940, JPN=942, AUS=960, ESP=931, CHN=966.

Q.15d Which, if any, of the following audio activities do you use each of your devices for?

The pattern of audio consumption is similar on a tablet computer. Listening to their own music is the most popular activity among respondents with a tablet, across our comparator countries. In the UK, one third (36%) of tablet owners claim to use their device for this purpose, while just over a quarter (27%) of US tablet owners listen to music they own on their tablet. Downloading audio content onto a tablet computer is less popular than listening to 'music I own' in all our comparator countries.

With the exception of China, Italy has the highest proportion of tablet owners listening to streamed audio (29%), followed by the US (26%). One fifth of tablet owners did this in the

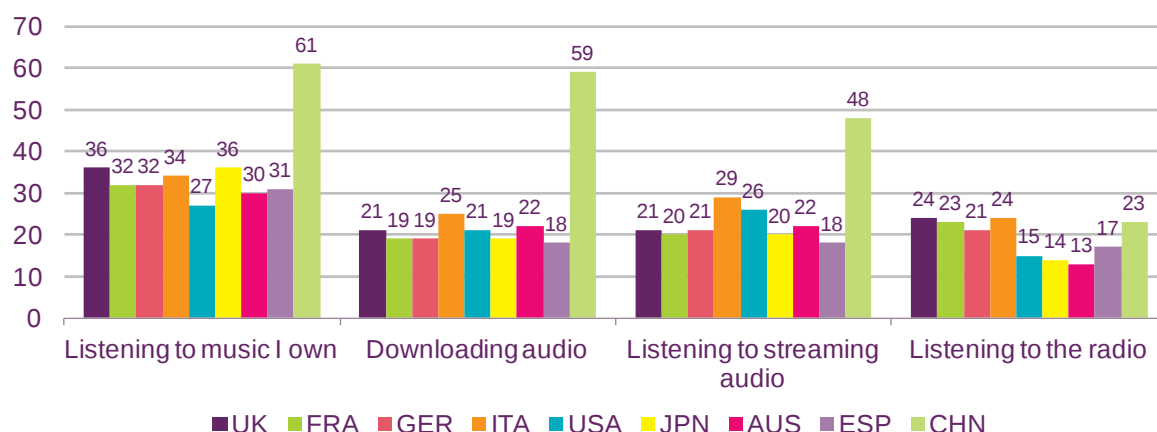
⁵⁵ Price Waterhouse Coopers, *Global Media and Entertainment Outlook 2013-2017*

UK and Germany (21%), followed by France (20%). Listening to streamed audio content on a tablet is least popular in Spain (18%).

With the exception of Spain and Germany, listening to the radio on a tablet is more popular than downloading or streaming audio among our European comparators. One quarter of tablet owners listen to radio on their device in the UK and Italy (24%), followed by France (23%), with one fifth (21%) of tablet owners in Germany doing this.

Figure 4.22 Audio activities on a tablet computer

All respondents with a tablet



Source: Ofcom consumer research September 2013

Base: All respondents with a tablet, UK=329, FRA=203, GER=180, ITA=286, USA=239, JPN=171, AUS=316, ESP=324, CHN=476.

Q.15d Which, if any, of the following audio activities do you use each of your devices for?

4.3.5 The role of radio as a main source of news

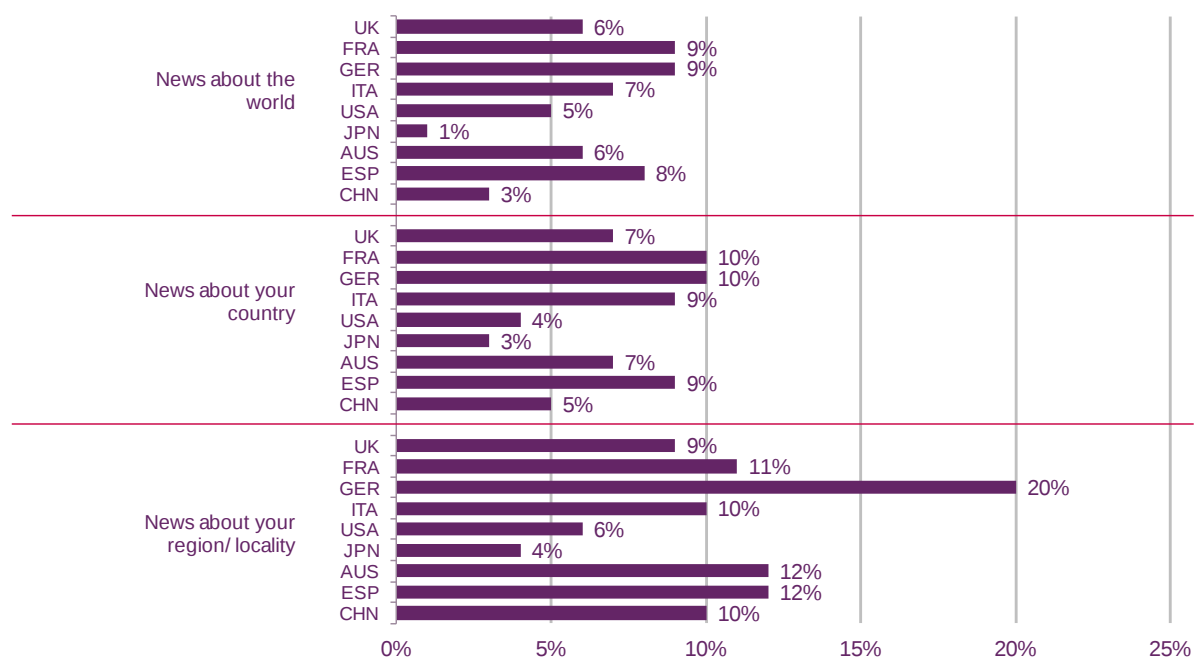
Across all our comparator countries, radio is more likely to be used to source regional/local news than any other type of news

Across our European comparators, both France and Germany (at 9% each) have the highest proportion of respondents who use radio for consuming world news. Spain follows, with 8%, while this is lowest in the UK at 6%. Listeners in Japan are 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 and Germany (10%), followed by Spain and Italy (9%). At 7%, adults in the UK are the least likely in Europe to use radio as their main source of national news. Respondents in Japan are the least likely to use the radio to source 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 20% of adults claim to use the radio as their main source of regional/local news; more than double the proportion in the UK (9%) and Italy (10%). In Spain and France just over one in ten use the radio as their main source of regional news (12% and 11% respectively).

Figure 4.23 Proportion of adults who use radio as their main source of news, by type



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

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



International Communications Market Report 2013

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	CAN	JPN	AUS	ESP	NED	SWE	IRL	POL	BRA	RUS	IND	CHN
Online universe (m)*	44.6	42.6	53.1	29.7	197.0	n/a	73.7	14.5	23.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fixed broadband connections per 100 HH†	80	84	69	53	75	85	76	68	65	91	66	66	39	31	49	6	43
Mobile broadband connections per 100 population‡	7	4	6	12	44	3	9	23	4	6	19	10	9	n/a	n/a	n/a	n/a
Internet access via a mobile phone(%)‡	57	46	47	63	44	n/a	58	55	69	n/a	n/a	n/a	n/a	n/a	n/a	n/a	86

Source: IDATE / Industry data / Ofcom / comScore

*comScore MMX, August 2013, home and work panel,

† IDATE / Industry data / Ofcom, 2013.

‡Ofcom international research, September 2013.

The internet is a platform through which consumers can communicate and consume content, and the ability to access the internet is becoming a feature of more and more consumer devices. However, the extent to which internet users have adopted the internet for their communication and content needs, and which devices they use to do so, varies from country to country.

In this chapter we consider the differences between our comparator countries in take-up of the internet, use of internet-enabled devices, and consumption of web-based content. 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, what websites they visit, and how this behaviour varies by demographic and by device.

For the remainder of this section we consider the internet advertising markets of our comparator nations and the rise of the mobile internet. Advertising plays a significant role in online markets, in many cases acting as the sole source of revenue for content creators and websites. 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 the recall and interaction with mobile advertisements. In the UK, half of the growth in internet advertising is being driven by mobile advertising; therefore in our second key market development we take a closer look at the mobile internet. We consider the take-up of the mobile internet, who mobile internet users are, the devices they use and what they use them for.

Key findings

In summary, the key findings of this section of the chapter are:

- **More than a third of all advertising spend in the UK is online.** The UK remained the country where the greatest share of all advertising spend was on the internet, with 36% of advertising being attributed to the sector in 2012.
- **The UK had the greatest spend per head on mobile advertising,** rising by almost £5 per person to £8.04 in 2012. Japan had the second highest spend, at £7.50, while the US had the second highest absolute growth of £3.52, and the third highest spend at £6.74 per head.
- **Seven in ten mobile users in the UK access the internet on their handset.** Three in four (75%) mobile users in Spain used their handset to access the internet in August 2013, the highest take-up of the mobile internet among the comparator countries analysed. The UK had the second highest take-up, with just over 71% of mobile users using the internet on their device.
- **Smartphone take-up was the highest in the UK and Spain.** Seventy-five per cent of mobile users owned a smartphone in Spain in August 2013. The UK had the second highest take-up, with seven in ten mobile users (71%) owning a smartphone, followed by the US (61%), and France, Germany and Italy (60%).
- **Android has at least a 50% smartphone OS market share in seven of our comparator countries.** Apple's iOS was the second most popular operating system across most countries, with the exception of Italy. Symbian's market share fell by half across UK, France, Germany, Italy and Spain, while the Blackberry OS also declined across all the comparator countries.

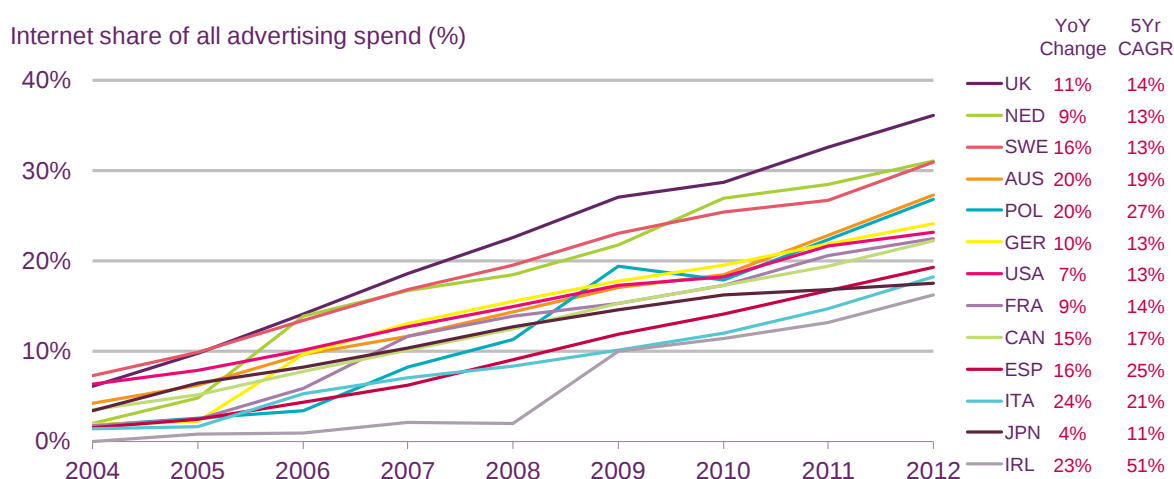
5.1.2 Internet advertising

More than a third of all advertising spend in the UK is online

The UK remained the country where the greatest share of all advertising spend was on the internet, with more than a third (36%) of advertising being attributed to the sector in 2012. The Netherlands and Sweden had the next largest shares (31%) followed by Australia and Poland (27%).

Ireland remained the country with the smallest share of advertising spend (16%) despite having the second highest year-on-year growth (23%). The internet's share of advertising grew fastest in Italy (24%) to overtake share in Japan which grew just 4% to 17%, slipping to the second smallest share of advertising spend.

Figure 5.2 Internet share of total advertising expenditure



Source: Warc data (www.warc.com)

Please refer to notes on adspend data for further detail and source information.

<http://www.warc.com/NotesOnAdspendData>

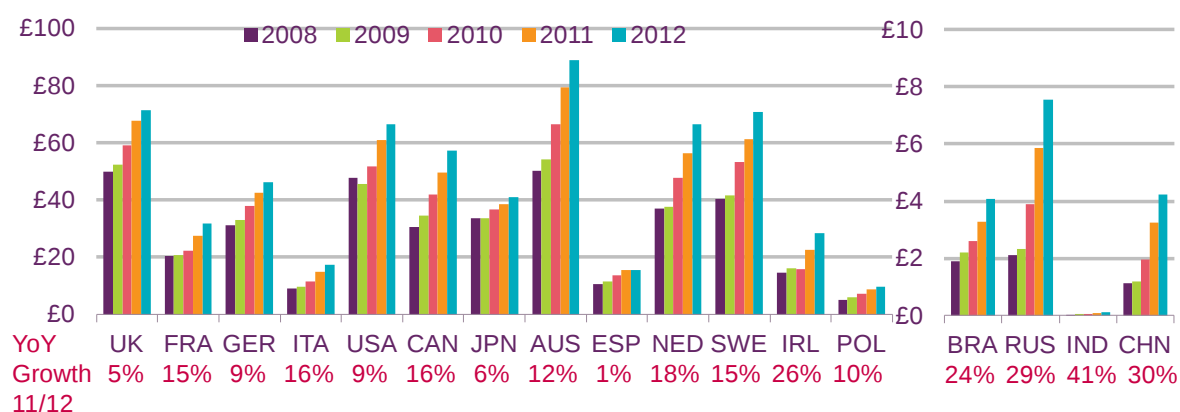
Spend on laptop and desktop internet advertising is greatest in Australia, at almost £90 per head

Internet advertising consists of spending by advertisers on paid search, banner/display, classified, video and other online formats such as email and sponsorships. Wired internet advertising consists of 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.

Australia's spend per head on wired internet advertising in 2012 was £89, the greatest among our comparator countries. The UK had the second highest spend, with just over £71, while Sweden was third highest with just under £71. Among those countries with the highest spend per head, there was double-digit growth in Australia, Netherlands and Sweden, while in the UK and the US spend per head grew by 5% and 9% respectively. This slower growth may be due to substitution in the UK and US markets for mobile advertising, as shown by the strong growth in this sector (Figure 5.5).

In Poland and among the BRIC countries, wired internet advertising revenues stood at under £10 per head. Furthermore, between the BRIC countries there were varying degrees of spend per head, from £7.56 in Russia to just £0.11 in India.

Figure 5.3 Wired internet advertising expenditure per head: 2008-12



Source: PricewaterhouseCoopers Global Entertainment and Media Outlook: 2013-2017
www.pwc.com/outlook; US Census Bureau (end of year estimates from mid-year values)

Search and video advertising revenue share grows or remains stable across all comparator countries

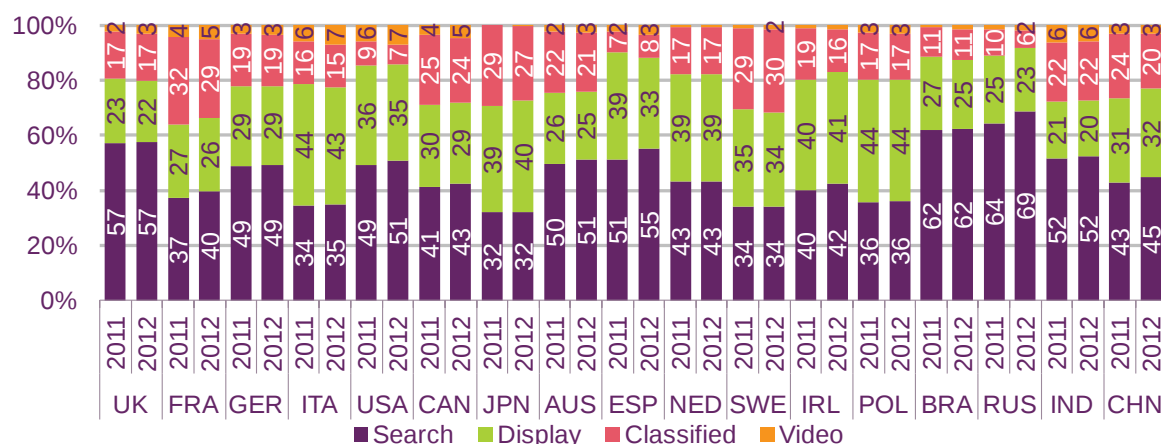
The share of internet advertising revenue between categories of advertising varies considerably across our comparator countries. The respective strengths of internet classified, display, search and video advertising are likely to be the result of a number of country-specific factors including broadband penetration, broadband speeds, and the strength of other media competing for advertising spend.

Among our comparator countries the shares of search and video advertising have either grown slightly or remained stable between 2011 and 2012, while the shares of display and classified advertising have been less consistent. The largest shifts have been in Spain, where the share of display advertising fell six percentage points to the benefit of all other categories; in France, where search advertising gained three percentage points at the expense of classified; in Russia, where search advertising grew its share by four percentage points; and in China, where classified fell four percentage points to the equal benefit of search and display. In the UK, search (57%) and classified (17%) shares remained unchanged while video (3%) advertising grew one percentage point, as display (22%) fell by the same measure.

A very small, but growing, proportion of internet advertising revenue was from video display adverts. Online video display advertising can take one 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 2011, the proportion of internet advertising revenue represented by internet video advertising was highest in the US and Italy (7%), followed by India (6%), and then Canada and France (5%).

Figure 5.4 Wired internet advertising expenditure, by category: 2011-12

Proportion of internet advertising revenue (%)



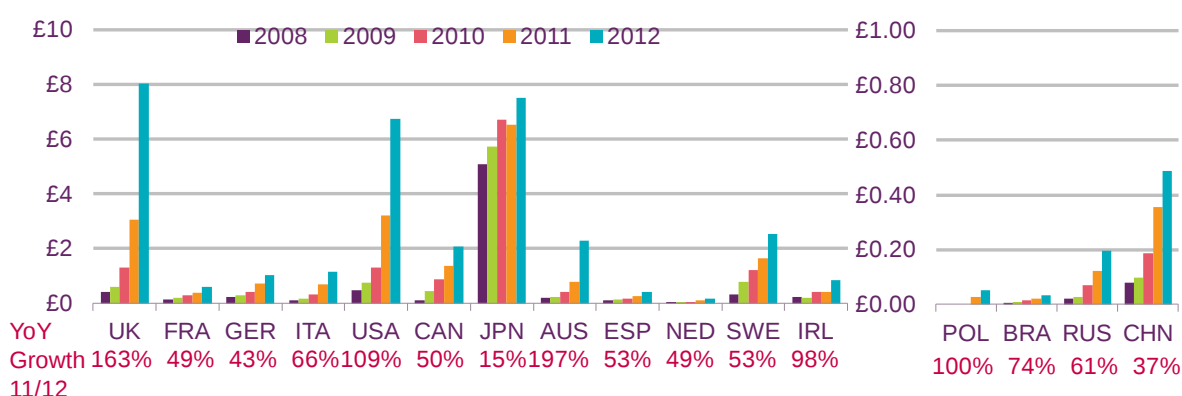
Source: PricewaterhouseCoopers Global Entertainment and Media Outlook: 2013-2017
www.pwc.com/outlook

The UK had the greatest spend per head on mobile advertising in 2012

Mobile advertising includes all advertising delivered direct 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.

In the UK, mobile advertising spend rose by almost £5 per person to £8.04 in 2012. This is the first year on record that Japan has not had the greatest spend per head; it had the second highest spend at £7.50. The US had the second highest absolute growth of £3.52, and the third highest spend at £6.74 per head. Australia had the fastest growth, 197%, almost tripling spend to £2.30 per head. The strong performance of mobile advertising in the UK, the US and Australia probably reflects the high take-up of smartphones and the mobile internet (see section 5.2.5 Internet-enabled devices), which together represent a more compelling advertising platform than previous mobile advertising formats.

Figure 5.5 Mobile advertising expenditure per head: 2008-12



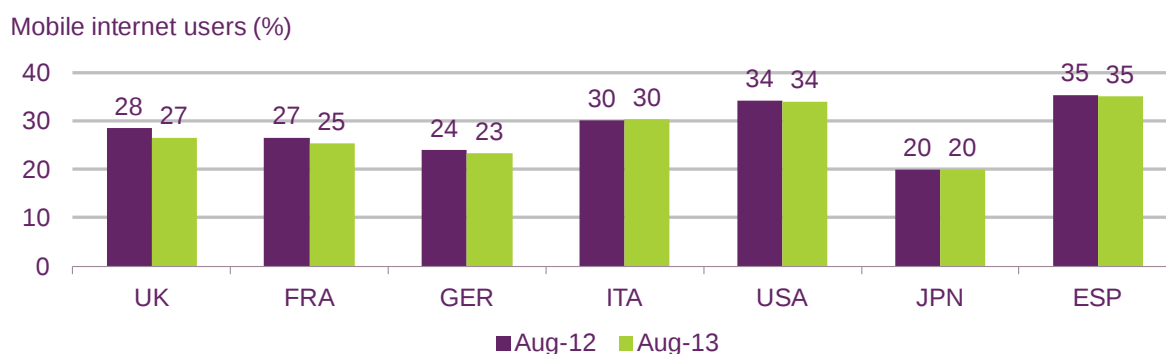
Source: PricewaterhouseCoopers Global Entertainment and Media Outlook: 2013-2017
www.pwc.com/outlook; US Census Bureau (end of year estimates from mid-year values)

Despite growing revenues, consumer recollection of mobile advertising remains static

Mobile internet users in Spain were the most likely (at 35%) to recall having seen advertising in their mobile browser or application in the past month, followed by users in the US (34%)

and in Italy (30%). Despite the growth of advertising spend, recall of mobile advertising did not change significantly between August 2012 and August 2013 among the comparator nations (Figure 5.6). In the UK recall fell marginally from 28% to 27% of mobile internet users. Therefore, the growing spend on mobile advertising is likely to reflect the growing number of mobile internet users rather than increased exposure to advertising for each mobile user (see section 5.1.3).

Figure 5.6 Recall of mobile advertising in a mobile browser or application in the past month: August 2012 and August 2013

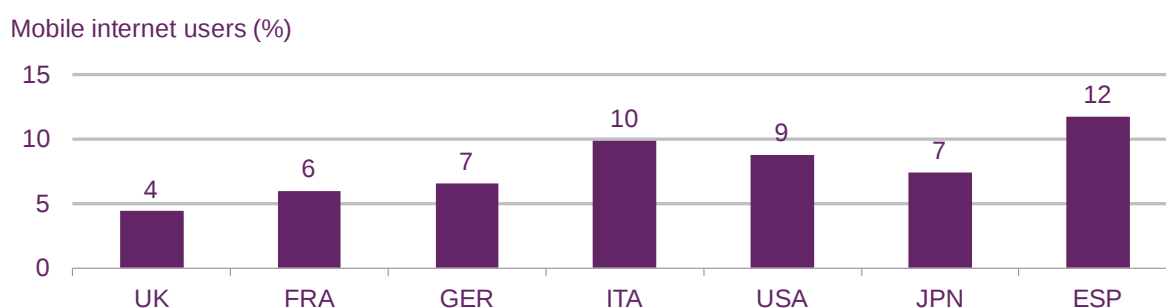


Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile internet users aged 13+

Mobile internet users in the UK are the least likely to claim to have tapped an advert in the last month

Mobile internet users in Spain were the most likely (12%) to claim to have tapped on an advert in a mobile browser or application in the past month, while users in the UK were the least likely (4%). While this might seem contradictory in the context of the high levels of mobile internet advertising spend (Figure 5.5), not all mobile internet advertising is intended to drive 'clicks', or in this case 'taps'. Instead, advertisers may wish to maximise the number of times an advert is viewed by consumers, also known as *impressions*. Alternatively, the lower proportion of mobile internet users claiming to have tapped an advert might reflect the fact that the majority of mobile advertising revenues in the UK were from mobile search advertising⁵⁶. Consumers might not associate sponsored search results as adverts in the same way as display advertising, which could lower the proportion of those claimed to have tapped an advert.

Figure 5.7 Tapped on an advert in a mobile browser or application in the past month



Source: comScore MobiLens, August 2013 (three-month average), mobile internet users aged 13+

⁵⁶ 69% search, 29% display. Source: *UK Communication Market Report*, Ofcom, August 2013.

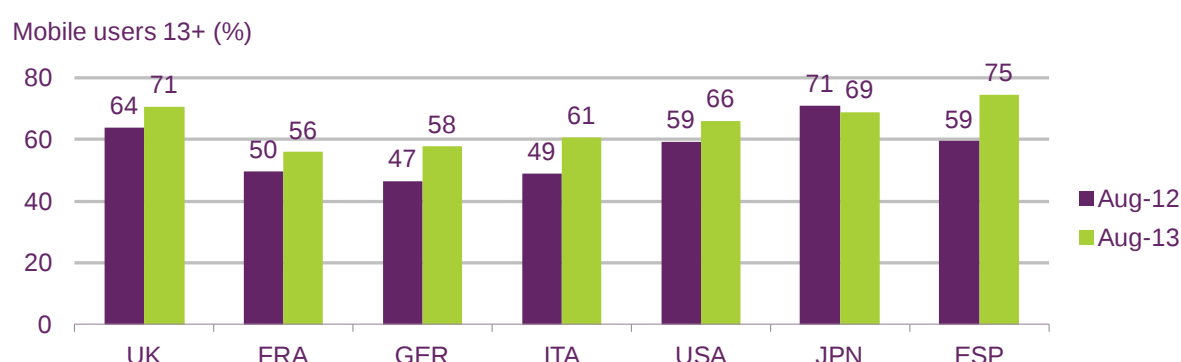
5.1.3 The mobile internet

Seven in ten mobile users in the UK access the internet on their handset

Three in four (75%) mobile users in Spain used their handset to access the internet⁵⁷ in August 2013, the highest take-up of the mobile internet among the comparator countries in Figure 5.8. The UK had the second highest take-up, with just over seven in ten (71%) mobile users using the internet on their device.

Spain was also the country with the greatest growth in mobile internet take-up, up 16 percentage points from August 2012, while the UK grew seven percentage points in the same period. Japan was the only comparator nation in Figure 5.8 to experience a decline in take-up of the mobile internet, down two percentage points (69%), but still had the third highest take-up overall, ahead of the US, Italy, Germany and France.

Figure 5.8 Mobile internet take-up



Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile users aged 13+

In Europe and the US there is a trend towards a more even gender split of mobile internet users

The strongest skew in the profile of mobile internet users was in France and Germany, where 53% of users were male and 47% female. Spain had an equal proportion of male and female mobile internet users, while in Japan mobile internet users were slightly more likely to be female (51%) than male. With the exception of Japan, the trend among the comparator countries in Figure 5.9 has been away from a greater proportion of male mobile internet users towards a more even gender split.

⁵⁷ Mobile internet access is defined as using the mobile browser, or using a downloaded mobile app.

Figure 5.9 Profile of mobile internet users, by gender

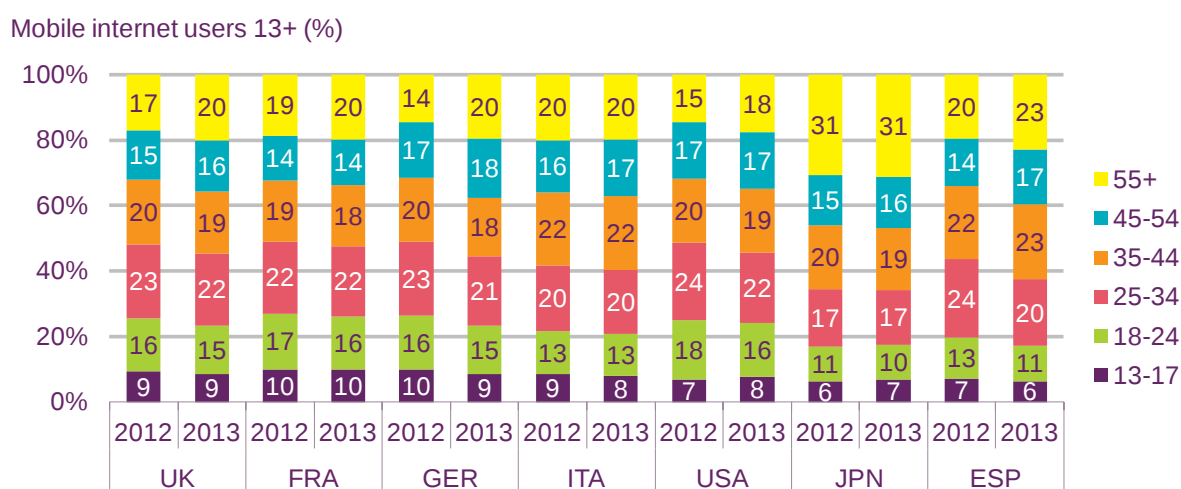


Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile internet users aged 13+

Mobile internet users are getting older, and are oldest in Japan

In August 2013 Japan had the highest proportion (31%) of mobile internet users aged over 55 among the comparator countries in Figure 5.10. Furthermore, over-55s made up the largest age group in Japan, in contrast to the other comparator nations where 25 to 34 year-olds, or 35 to 44 year-olds, were the largest age group. This probably reflects the earlier adoption of the mobile internet in Japan, and the subsequently greater take-up among older age groups. However, the other comparator countries are following Japan's lead, with the UK, France, Germany, the US and Spain all increasing their proportion of over-55 mobile internet users between August 2012 and August 2013.

Figure 5.10 Profile of mobile internet users, by age



Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile internet users aged 13+

Smartphone take-up highest in the UK and Spain

Smartphone take-up was highest in Spain, where three-quarters (75%) of mobile users owned such a device in August 2013. The UK had the second highest take-up, with seven in ten mobile users (71%) owning a smartphone, followed by the US (61%), and France, Germany and Italy (60%) all with six in ten mobile users.

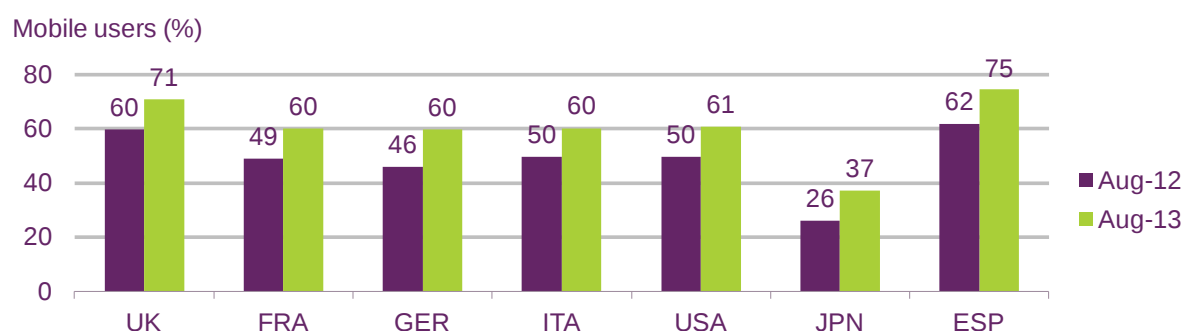
The smartphone is likely to have been a strong contributory factor in take-up of the mobile internet. Larger screens, improved user interfaces, more advanced mobile browsers and mobile apps for specific functions are features of smartphones that make accessing the

mobile internet easier than with past generations of phones. In the UK there has been a strong correlation between the take-up of smartphones and the take-up of the mobile internet, and by Q1 2013, 96% of all mobile internet users in the UK used a smartphone⁵⁸. However, this is not universally the case.

Japan has a much longer history of mobile internet access than in Europe and North America, yet smartphone take-up was half (37%) that of Spain in August 2013. This can probably be explained by the advanced nature of feature phones in Japan, which have greater internet functionality than elsewhere in the world. In our consumer research 51% of respondents in Japan claimed to have a mobile phone, while only 34% claimed to have a smartphone. However, when asked what activities could be done on their mobile phone, 92% of mobile phone owners claimed they could access emails, 77% could access the internet, and 41% could download apps. Therefore, while many consumers in Japan claim not to have a smartphone, the capabilities of their handsets reflect some of the key characteristics that would categorise it as a smartphone in other markets. Nevertheless, consumers in Japan appear to understand the distinction between the advanced feature phones native to their own market and the latest smartphones which have been a worldwide phenomenon⁵⁹.

Despite differences, there was double-digit growth in smartphone take-up among all countries in Figure 5.11 between August 2012 and August 2013. Growth was greatest in Germany, where take-up was up by 14 percentage points, and smallest in Italy where it was up ten percentage points.

Figure 5.11 Smartphone take-up



Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile users aged 13+

Android has at least a 50% market share in seven of our comparator countries

The operating system (OS) of a smartphone is the software that determines: how the user interacts with the device, some of the device's functionality, the mobile browsing experience, and the apps which are available to download to the device. Third-party apps offer users a range of specific functionality for a range of activities; for example, social networking, games and news.

In August 2013, the majority of smartphone users across all the countries analysed had a handset running the Android operating system (Figure 1.12). Android's smartphone user

⁵⁸ *The UK Communications Market Report 2013*, Ofcom, August 2013, p.262

⁵⁹ comScore MobiLens classifies smartphones from a predefined list of operating systems that are open to developers and form the basis of a developer/content ecosystem. Respondents to our consumer research were asked to classify their handset as either mobile phone or smartphone: in response 34% claimed to own a smartphone, comparable to the 37% of mobile users in comScore's research.

share grew most in Spain, climbing 21 percentage points; from 51% in August 2012 to 72% in August 2013, while in the US and Japan Android's share dropped by one percentage point over the same period. Symbian's market share fell by half across UK, France, Germany, Italy and Spain, while the Blackberry OS also declined across all the comparator countries.

Apple's iOS was the second most popular operating system across most countries, with the exception of Italy, where Symbian retains a 19% share. Apple's smartphone user share grew in the US and Japan but declined among our European comparator countries. Microsoft's Windows mobile OS growth was inconsistent (Figure 5.12), growing in the UK, France, and Italy but declining in Germany, the US, Japan and Spain between August 2012 and August 2013.

Figure 5.12 Smartphone operating system take-up



Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), smartphone users aged 13+

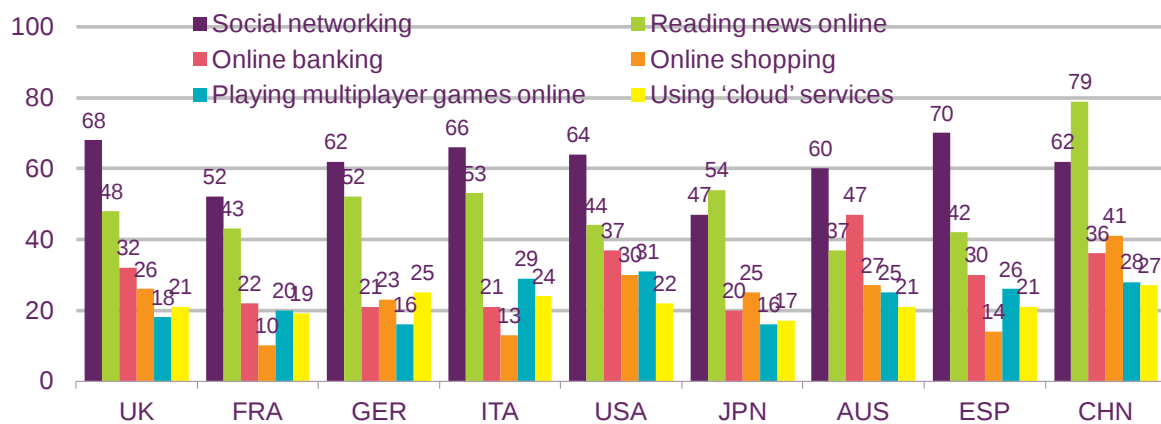
At least half of all mobile owners use their handset for social networking

Of the selected mobile phone activities shown in Figure 5.13, social networking was the most popular activity in all but two of the countries analysed. It was most popular among mobile phone and smartphone owners in Spain, where seven in ten users used their handset for social networking. In the UK just over two-thirds of owners claimed to access social networking sites on their phone. However, in Japan and China reading online news (54% and 79% respectively) was more popular than social networking (47% and 62% respectively).

The countries in which a particular mobile activity was most popular were: online banking in Australia (47%), online shopping in China (41%) and playing multiplayer games online in the US (31%). In the final third of this chapter we consider social networking and online news in more detail (p. 224) while in *The market in context* we examine online shopping in more detail (p. 39).

Figure 5.13 Mobile-internet activities

Mobile phone/smartphone owners (%)



Source: Ofcom consumer research September 2013

Base: All respondents who access internet with a mobile phone/ smartphone, UK=572, FRA=456, GER=470, ITA=638, USA=437, JPN=581, AUS=550, ESP=703, CHN=866.

Q.15a Which, if any, of the following internet activities do you use each of your devices for?

5.2 Internet and devices

5.2.1 Introduction and key findings

As internet take-up has risen over the past decade, so has the number of devices which use it to communicate and deliver content. 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 **platforms** 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:

- **Broadband households in the UK are most likely to have a fixed connection.** Among households with either a fixed broadband connection or a mobile broadband connection, households in the UK were the most likely to have a fixed connection (94%) and the second least likely overall to have a mobile connection (25%).
- **Laptop and desktop active audiences declined in France but stayed flat in the UK.** Only in France did the active audience on laptop and desktop computers fall (by 1.4%) between August 2012 and August 2013. In the UK and Japan audiences were stable; growing by just 0.9% and 0.2% respectively.
- **The laptop/desktop active audience in Spain and Italy is younger than elsewhere.** These internet users were much less likely to be aged 55 or older than in the rest of the comparator countries analysed. Just 14% of the audience in Spain and 15% in Italy were in this age group. In the UK, the active audience was more evenly distributed between age groups, with 23% aged 55 and over, and the remaining age groups making up a fifth (19-20%) each.
- **The UK and the US spend the most time browsing on laptop and desktop devices.** Internet users in the both countries averaged 36 hours browsing per month in August 2013, while internet users in Germany and Australia spent the least time browsing, at just 20 and 18 hours per month respectively.
- **UK internet users are the most likely to claim that their tablet is their most important device for going online.** One in twenty internet users (5%) said their tablet was their most important device for accessing the internet, the greatest proportion of any of the comparator countries analysed.

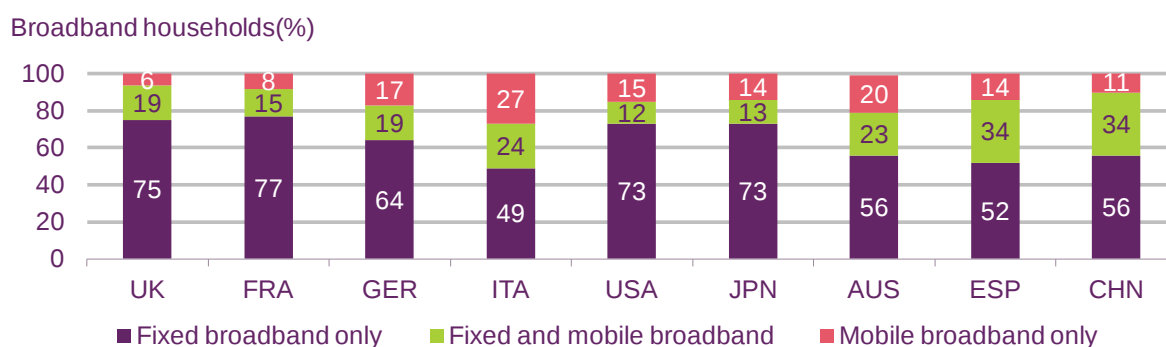
5.2.2 Internet take-up by platform

Broadband households in the UK are the most likely to have a fixed connection

Among households with either a fixed broadband connection or a mobile broadband connection, in the comparator countries shown in Figure 5.14, households in the UK were the most likely to have a fixed broadband connection (94%) and the second least likely overall to have a mobile broadband connection (25%). Broadband households in France were the least likely to have a mobile broadband connection (23%) while 51% of broadband households in Italy connected in this way. (A mobile broadband connection is via a dongle or laptop with a built-in SIM, and does not include mobile handset internet access).

Having access to both mobile and fixed broadband connections was most popular among broadband households in Spain and China (34%), while broadband households in the US and Japan were the least likely, at 12% and 13% respectively, to have adopted both technologies. Just under a fifth (19%) of broadband households in the UK had both fixed and mobile broadband connections.

Figure 5.14 Take-up of fixed and mobile broadband among broadband households



Source: Ofcom consumer research September 2013

Base: All respondents, UK=961, FRA=946, GER=892, ITA=920, USA=827, JPN=782, AUS=950, ESP=910, CHN=933.

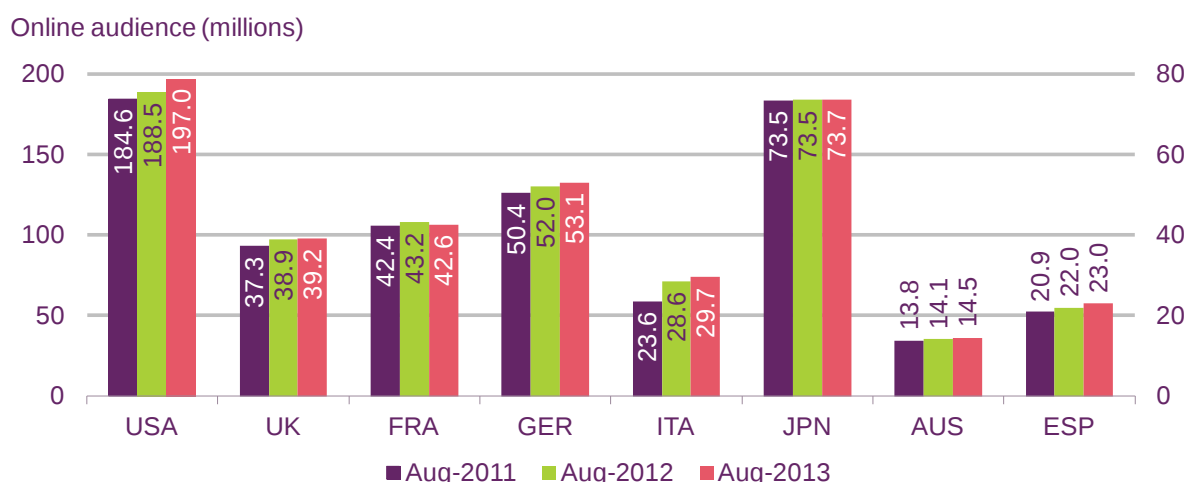
Q3b. Which of the following services do you have in your home?

5.2.3 Internet take-up

Laptop and desktop active audiences declined in France but stayed flat in the UK

Only in France, of our comparator countries shown in Figure 5.15, did the active audience on laptop and desktop computers fall between August 2012 and August 2013. Despite this 1.4% drop, the active audience in France has not dropped below its August 2011 level. Among our other comparator countries, active audiences remained relatively flat in the UK and Japan; growing just 0.9% and 0.2% respectively between August 2012 and August 2013. Growth was greatest in Spain, where the active audience grew by 4.4% to 23 million, and in the US, where it grew 4.5% to 197 million.

Figure 5.15 Active audience on laptop and desktop computers: 2011-13



Source: comScore MMX, work and home panel, August 2011 to August 2013, persons 15+

comScore

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®.

Methodology

comScore's Unified Digital Measurement (UDM) methodology combines panel and census techniques for digital audience measurement. UDM uses comScore's country measurement panels to determine audience reach and demographics. Census-level activity is captured from publishers' digital content, such as on websites, videos, and computer and mobile applications. comScore combines census-level data with those captured from the panel, to help build a more accurate view of audiences and their consumption habits. This approach allows comScore to capture the most accurate consumption activity from publishers, and attribute this to audience demographics, in a manner that is not affected by cookie deletion, blocking, and rejection.

Metrics

Throughout this report we make reference to a number of metrics, defined below:

Unique audience – the total number of unique persons who visited a website or used an application at least once in a given month. They are counted only once, even if they visited the website many times.

Active audience – the total number of people who visited any website or used any internet-connected application at least once in a given month.

Active reach – the unique audience of a website as a proportion of the active audience.

Time spent per month – the average time spent browsing a website per unique visitor per month (excludes time spent watching online video and listening to streamed music).

Dictionary

Each of the entities reported by comScore is attributed to a level in comScore's *Client Focused Dictionary*. Several entities can exist within one website (e.g. BBC Sport and BBC iPlayer) and comScore's dictionary defines how these entities are structured and how they relate to each other. It is client-focused because comScore's clients define how their websites appear in reports according to this dictionary. This six-tiered dictionary structure is used by comScore MMX and we include a reference to it in square brackets where appropriate.

Property [P] - *The highest level of reporting in the Client Focused structure, Properties represent all Full Domains (i.e. felmont.com), Pages (i.e. sports.felmont.com/tennis), Applications or Online Services under the common ownership, or majority ownership, of a single legal entity. A Property may also contain any digital media content that is not majority owned but has been legally signed over for reporting purposes by the majority owner.*

Media Title [M] - *A Media Title is an editorially and brand-consistent collection of content in the digital landscape that provides the marketplace with a view of online user behaviour. This may represent a domain, a group of domains, or an online service or application.*

Channel [C], SubChannel [S], Group [G] and SubGroup [SG] - *Within a Media Title there may be grouped URLs of editorially consistent content that make up a Channel. For some of the largest Media Titles, Channels themselves may be broad, and Subchannels, Groups and Subgroups within the larger Channels may prove useful for categorisation within the comScore Dictionary.*⁶⁰

About MobiLens

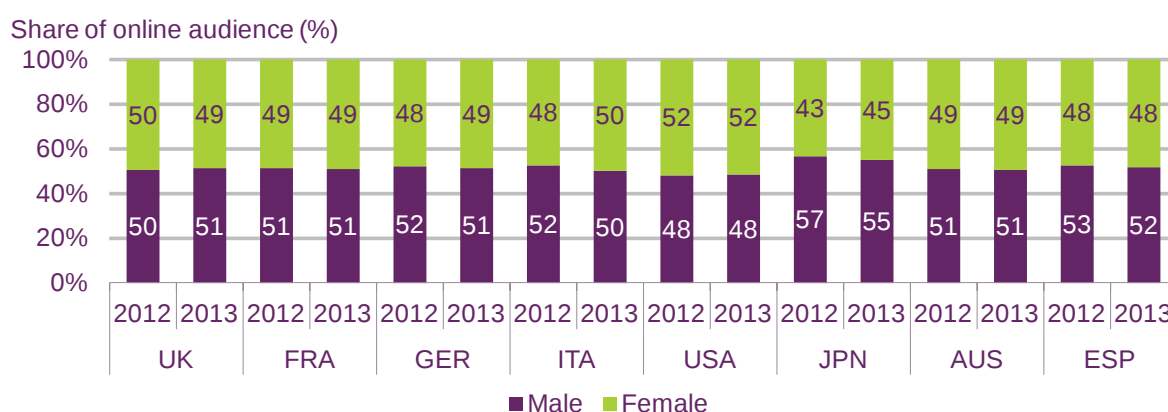
MobiLens data are derived from an online survey of a nationally representative sample of mobile phone subscribers aged 13 and above. Data on mobile phone use refers to a respondent's primary mobile phone and does not include data related to a respondent's secondary device.

The majority of laptop/desktop internet users in Japan are men, and in the US are women

Among our comparator countries, shown in Figure 5.16, Japan had the greatest imbalance between genders among those most likely to access the internet on a laptop or desktop computer. In Japan, 55% of the laptop and desktop active audience was male; slightly less skewed than in August 2012, when just 43% of this audience was female. The US is the only comparator country where the profile of the laptop/desktop active audience is skewed towards females, while in the UK, France, Germany and Italy the gender split is broadly even, with either little (≤ 2 percentage points) or no difference in the proportion of the active audience between men and women.

⁶⁰ "Glossary – Key Terms for comScore Dictionary", comScore.

Figure 5.16 Active audience on a laptop or desktop computer, by gender: 2012-2013



Source: comScore MMX, home and work panel, August 2012 and August 2013, persons 15+

The laptop/desktop active audience in Spain and Italy is younger than elsewhere

Laptop and desktop internet users in Italy and Spain were much less likely to be aged 55 or older than in the rest of the comparator countries shown in Figure 5.17. Just 14% of the laptop/desktop audience in Spain and 15% in Italy were in this age group, in contrast to France, where the 55 and over age group made up the largest proportion (27%) of laptop/desktop internet users. The laptop/desktop active audience in Spain and Italy was most likely to be aged between 35 and 44 years old. In the UK, active audience was more evenly distributed between age groups, with 23% aged 55 and over, and the remaining age groups accounting for a fifth (19-20%) each.

The greatest change in the age profiles of the laptop/desktop active audiences shown among comparator countries in Figure 5.17 was in Japan, where the over-55 age group grew by four percentage points, to 26%, between August 2012 and August 2013. The UK was the only comparator country to remain completely the same; the remaining countries were broadly similar, with year-on-year changes in age profile of two percentage points or less.

Figure 5.17 Active audience on a laptop or desktop computer, by age: 2012- 2013



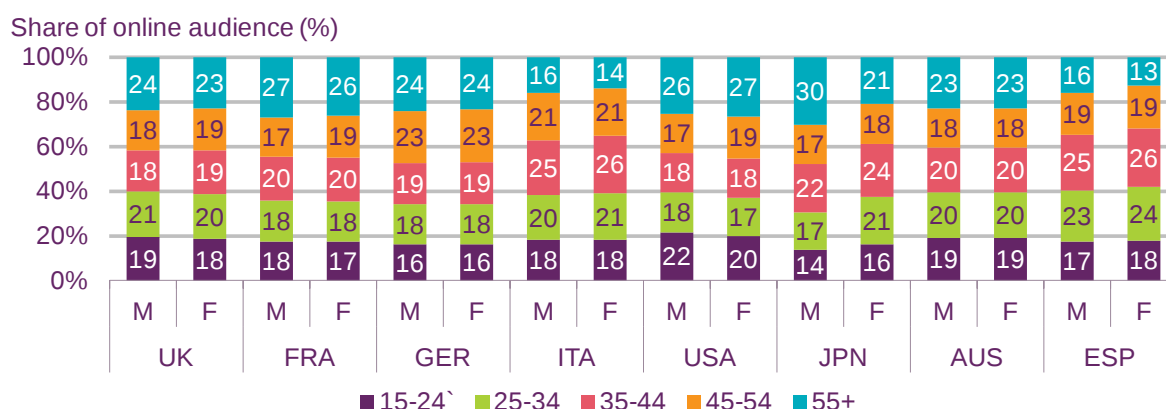
Source: comScore MMX, home and work panel, August 2012 and August 2013, persons 15+

In Japan male laptop/desktop internet users are more likely to be older than female users

In Japan male laptop/desktop internet users were more likely than female users to be aged 55 or over. Thirty percent of the male laptop/desktop active audience was in this age group,

compared to just 21% of the female active audience. This pattern was reflected to a lesser extent among the other comparator countries in Figure 5.18 with the exception of Germany and Australia, where proportions were equal, and in the US, where female internet users were more likely to be older.

Figure 5.18 Active audience on a laptop or desktop computer, by age and gender: August 2013



Source: comScore MMX, home and work panel, August 2012 and August 2013, persons 15+

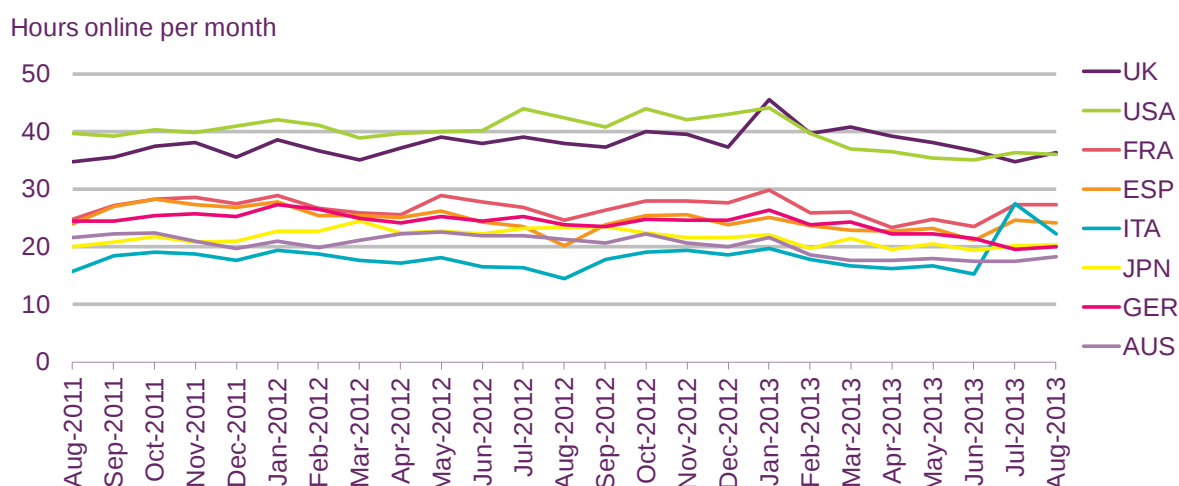
5.2.4 Time spent online

The UK and the US spend the most time browsing on laptop and desktop devices

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 Figure 5.19, with an average of 36 hours per user in August 2013. Internet users in Germany and Australia spent the least time browsing, at just 20 and 18 hours respectively.

Across all comparator countries analysed, time spent browsing on a laptop or desktop computer declined between January 2013 and June 2013. This may reflect a seasonal pattern for the northern hemisphere comparator countries, with more time spent browsing in the winter months than in the summer. However, in the UK and US this pattern is not evident and the declines since January 2013 appear more marked than fluctuations in previous months, down by 23% and 18% respectively in H1 2013. This decline could reflect the substitution of laptop and desktop devices by other internet-enabled devices: we consider this in the next section.

Figure 5.19 Average time spent browsing on a laptop or desktop computer



Source: comScore MMX, work and home panel, August 2011 to August 2013, 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

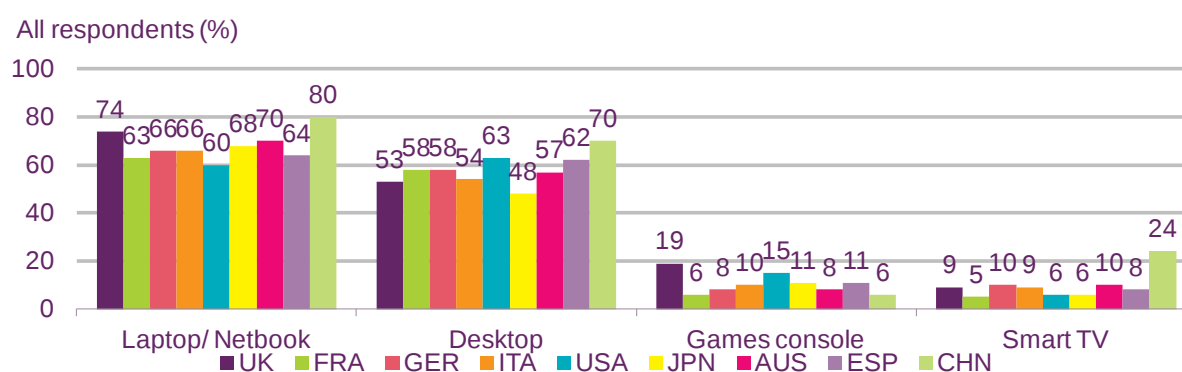
A fifth of UK respondents use their games console to access the internet

In all comparator countries in Figure 5.20 except the US, a laptop or netbook computer was the most popular fixed device for accessing the internet. However, in the US the desktop computer was the most popular; 63% of respondents used this device for accessing the internet, compared to 60% using a laptop. This is likely to be a reflection of the pattern of ownership in the US, which was also the only comparator country among those analysed to have a greater household take-up of desktop computers (73%) than laptops (70%).

Almost a fifth (19%) of UK respondents claimed to use a games console to access the internet. Take-up of games consoles in the UK was the second highest (56%) of all the comparator countries, behind Spain (60%) and ahead of Italy (52%), but in these two countries internet access on a console was about half the UK level, at 11% and 10% respectively. Internet access might be higher on games consoles in the UK because of the popularity of online gaming or other services available through these devices such as catch-up TV and video on demand (see section 1.6 Audio-visual consumption on web enabled devices).

Respondents in China were the most likely among the comparator countries analysed to access the internet using a laptop or netbook computer (80%), a desktop computer (70%), and a smart TV (24%). China also had the highest levels of take-up of these devices. However, the respondents to our consumer research in China are early adopters of the internet among the Chinese population, and so are likely to be early adopters of other communications technologies, in contrast to the respondents in the UK and other non-BRIC countries, where internet take-up is more widespread among the general population.

Figure 5.20 Fixed devices used to access the internet



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.7a Which of the following devices do you use to access the internet?

A third of those online in the UK access the internet on a tablet computer

The take-up of 'fourth screen' devices has been rapid in recent years⁶¹, driven by increasing consumer choice and the falling cost of devices. While accessing the internet on an e-reader was most popular in the UK (11%) among the analysed comparator nations, a third of respondents (33%) in the UK accessed the internet on a tablet.

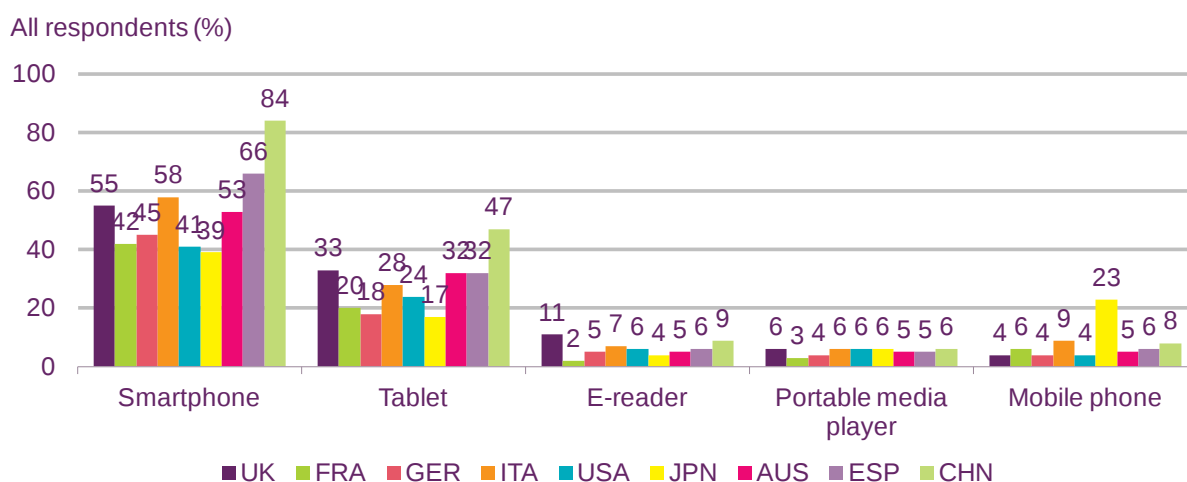
Of the portable devices shown in Figure 5.21, the smartphone was the most popular device for accessing the internet in all the comparator countries analysed. In China the smartphone was the most popular device for accessing the internet, out of all fixed and portable devices, unlike in the non-BRIC countries, where either a laptop/netbook, or a desktop computer, was more popular.

In Japan, 23% of respondents access the internet through a mobile phone, the highest, by at least 15 percentage points, among the comparator countries analysed. In contrast, access on a smartphone was the lowest (39%) among the comparator countries. This is probably because of the advanced functionality that feature phone handsets have in Japan, and the much lower take-up among Japanese consumers of smartphones (34%)⁶². The distinction between smartphones and mobile phones in Japan is discussed earlier in this chapter in section 5.1.3.

⁶¹ Household tablet ownership grew from 11% to 24% in the UK between Q1 2012 and Q1 2013, e-reader ownership grew from 14% to 22% in the same period (UK Communications Market Report, Ofcom, August 2013)

⁶² Ofcom consumer research, September 2013. We also cite comScore MobiLens data in this report, which states smartphone take-up as 37% of mobile phone users in Japan.

Figure 5.21 Portable devices used to access the internet



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

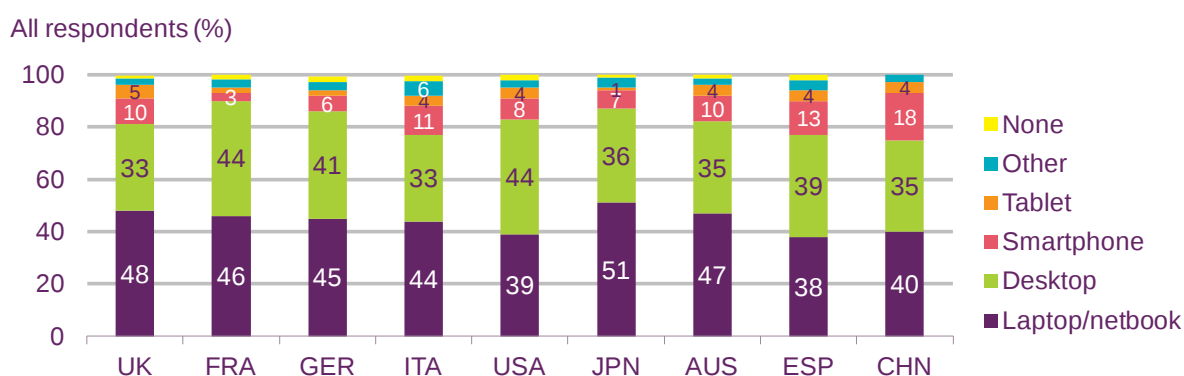
Q.7a Which of the following devices do you use to access the internet?

UK internet users are the most likely to say their tablet is their most important device for going online

In the UK, one in twenty internet users (5%) said their tablet was their most important device for accessing the internet, the greatest proportion of any of the comparator countries analysed. Ten per cent of internet users claimed their smartphone was most important, a similar proportion to internet users in Italy (11%) and Australia (10%) but less than in Spain (13%) and China (18%).

In all comparator countries in Figure 5.22, except the US and Spain, a laptop or netbook computer was the most popular choice as the most important device for accessing the internet, and in Japan, a majority (51%) of internet users claimed this. In the US, the desktop computer was the most popular device, reflecting the higher ownership of these devices (see above).

Figure 5.22 Most important device for accessing the internet



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007

Note: 'Other' response is the aggregate of responses to for mobile phone, smart TV, video games console, ebook reader, portable media player, and other.

Q.7b Which is the most important device that you use to connect to the internet (at home, or elsewhere)?

5.3 Web-based content

5.3.1 Introduction

This section explores the kinds of content and services which people access through the internet and on the World Wide Web.

- Section 5.3.2 gives an **overview** of the most popular web properties across eight of our comparator countries.
- Section 5.3.3 focuses on **search**, 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** across different devices, the popularity of different 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 5.3.6 considers **online shopping** for digital content, and respondents' propensity to purchase or subscribe to content.
- Section 5.3.7 looks at the use of the internet for consumption of **online news** services.

Key findings

In summary, the key findings from this section of the report are:

- **A small number of key website properties are popular across all of our comparator countries.** A set of properties providing similar services – Google, Yahoo! and Microsoft – appeared in the top ten for the majority of countries compared. A range of multimedia publishing groups also appeared among the most popular properties in each country analysed.
- **Social networks remain among the most searched-for terms online.** 'Facebook' was the most searched-for term on the web for 14 of our 17 comparator countries, while national social network 'VK' was among the most searched-for terms in Russia.
- **Mobile internet users in the US and the UK are the most active social networkers.** Two in five mobile internet users in the US (41%) and the UK (40%) used their handset to visit a social networking site almost every day in August 2013.
- **Two-thirds of laptop/desktop internet users in the UK visited YouTube in August 2013.** YouTube was most popular in the UK among laptop and desktop internet users (66%) and least popular in Japan (53%).
- **Users in the UK and the US were the most likely to pay a subscription for TV, film, and music streaming services.** Of all respondents who accessed films weekly, more than half (57%) in the US and 45% in the UK paid a subscription fee for the service. One quarter of respondents in the UK who regularly streamed music claimed to pay a subscription to a music streaming service, more than in any other country compared.

5.3.2 Overview

A small number of key web properties were popular across all of our comparator countries

A handful of web properties were popular with internet users across all the comparator countries, as shown in Figure 5.23. Google sites 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. These properties own web portals which feature a range of similar services, such as web search, email, news and weather. Furthermore, Google-owned sites were the most popular properties across all of the countries compared, except in the US, where Google sites were second to Yahoo! sites. The popularity of online shopping was also evident; Amazon and eBay appeared in the top ten across a number of the comparator countries, alongside Japan's Rakuten.

Alongside these global web properties were popular national websites, such as the BBC in the UK and CBS in the US. These both provide regional written and audio-visual content such as news, sport and entertainment. A number of privately-held media groups and multimedia publishing groups appeared among the top ten web properties, such as Axel Springer (which publishes *Bild*, a German tabloid newspaper) and RCS Media Group (which publishes *Corriere Della Sera*, a newspaper in Italy). Glam Media is a lifestyle content publisher and featured in the top ten properties of the UK (where it publishes the MailOnline), the US and Australia.

Figure 5.23 Top ten web properties accessed on a laptop and desktop computer, by country

	UK	FRA	GER	ITA	USA	JPN	AUS	ESP
1	Google sites -	Google sites -	Google sites -	Google sites -	Yahoo! sites +2	Google sites +1	Google sites +1	Google sites -
2	Microsoft sites -	Microsoft sites -	eBay +1	Facebook -	Google sites -1	Yahoo! sites -1	Microsoft sites -1	Microsoft sites -
3	Facebook -	Facebook -	Deutsche Telekom +5	ItaliaOnline +2	Microsoft sites -1	FC2 -	Yahoo! sites +1	Facebook -
4	Amazon sites +2	Wikimedia +3	Amazon sites +1	Yahoo! sites -	Facebook -	NHN -	Facebook -1	Unidad Medias Digitales N
5	Yahoo! sites -1	Schibsted +5	Axel Springer +2	Microsoft sites -2	AOL -	Microsoft sites +1	Apple -	Prisa +1
6	eBay -1	Yahoo! sites -1	Facebook -4	Wikimedia -	Amazon sites -	Amazon sites -1	Wikimedia -	Yahoo! sites -1
7	BBC sites -	Solocal +1	Microsoft sites -3	Banzai -	Glam Media +2	DMM N	BitTorrent +3	Wikimedia +2
8	Wikimedia +1	CCM-Benchmark -2	United Internet -2	eBay -	Wikimedia -	NTT +2	Glam Media +1	Terra Telefonica -4
9	Glam Media -1	Orange -5	Wikimedia -	RCS Media Group +1	CBS +1	Wikimedia -	eBay -2	Vocento -2
10	Apple -	Amazon sites N	Hubert Burda Media -	Gruppo Editoriale Espresso N	Ask -3	Rakuten -2	Ask -2	Schibsted -2

Source: comScore MMX, home and work panel, August 2012 and August 2013, 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 2012 comScore data, '-' only denotes no change, and 'N' denotes a new entrant to the top ten.

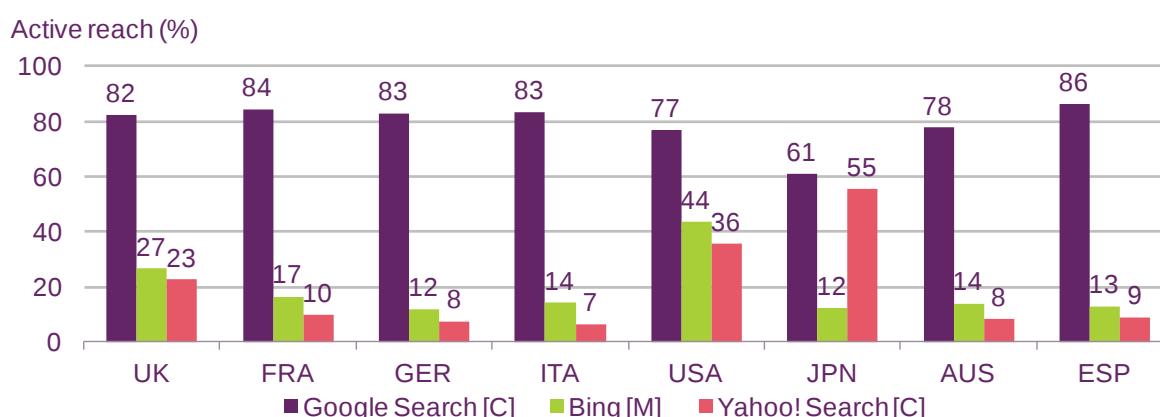
5.3.3 Search

Google is the most popular search engine across the EU5, the US, Australia and Japan

Google was the most popular search engine across all of the comparator countries in Figure 5.24. Google was most popular in the European countries analysed, where over 80% of internet users in each country visited the search engine in August 2013, and least popular in Japan, where only 61% of internet users did the same. Japan was also the comparator country in which Google's lead was narrowest, with a margin of just six percentage points over Yahoo! This reflects the strong history of Yahoo! in Japan, where the Japanese internet and telecommunications company Softbank is the majority shareholder⁶³, rather than Yahoo! Inc. itself.

More than a quarter (27%) of internet users aged fifteen and older in the UK visited Bing in August 2013. This made the UK the comparator country in which Bing was most popular, second only to the US (44%), where Bing is based.

Figure 5.24 Active reach of selected search engines on laptop and desktop computers



Source: comScore MMX, home and work panel, August 2013, persons 15+

Social networks were among the most searched-for terms online in the majority of our comparator countries

The most popular search term on Google for 14 of our 17 comparator countries (all except Japan, Russia and China) in the year up to August 2013 was 'facebook'. Furthermore, 'instagram', (a photo sharing website owned by Facebook since April 2012⁶⁴), was the search term with the largest proportional increase over the year in the UK, the US, Canada and Ireland. However, Facebook appears 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.

Google users in Australia and Brazil searched for terms related to television; the fastest-rising search terms in both countries related to the reality television programme *Big Brother*. The fastest-rising search term in India, WhatsApp (an instant messaging mobile app) follows the growing popularity of instant messaging among smartphone users. We discuss instant messaging in more detail in section 6.3.4 in the Telecoms and Networks chapter.

⁶³ Yahoo! Japan Investor Relations, <http://ir.yahoo.co.jp/en/holder/status.html>

⁶⁴ BBC News, <http://www.bbc.co.uk/news/technology-17658264>

Figure 5.25 Most popular search terms on Google between August 2012 and August 2013

Country	1 ST	2 ND	3 RD	Largest increase
UK	facebook	bbc	google	instagram
FRA	facebook	bon coin	youtube	filmze
GER	facebook	ebay	google	samsung galaxy s3
ITA	facebook	libero	mail	ask
USA	facebook	google	you	instagram
CAN	facebook	google	youtube	instagram
JPN	yahoo	天気 ¹	youtube	パズドラ ²
AUS	facebook	youtube	google	big brother
ESP	facebook	hotmail	youtube	toroporno
NED	facebook	google	marktplaats	windows 8
SWE	facebook	google	youtube	dreamfilm
IRL	facebook	youtube	google	instagram
POL	facebook	onet	allegro	kinomaniak
BRA	facebook	jogos	hotmail	bbb13
RUS	одноклассники ³	скачать ⁴	вконтакте ⁵	vk ⁶
IND	facebook	songs	video	whatsapp
CHN	百度 ⁷	是 ⁸	草榴 ⁹	百度一下 ¹⁰

Source: Google Insights Search Tool, August 2012 to August 2013. Notes: 1. weather 2. pazudora (game) 3. classmates (odnoklassniki.ru) 4. download 5. vkontakte (social network) 6. vk 7. baidu 8. yes 9. caoliu (Chinese internet forum) 10. baidu,

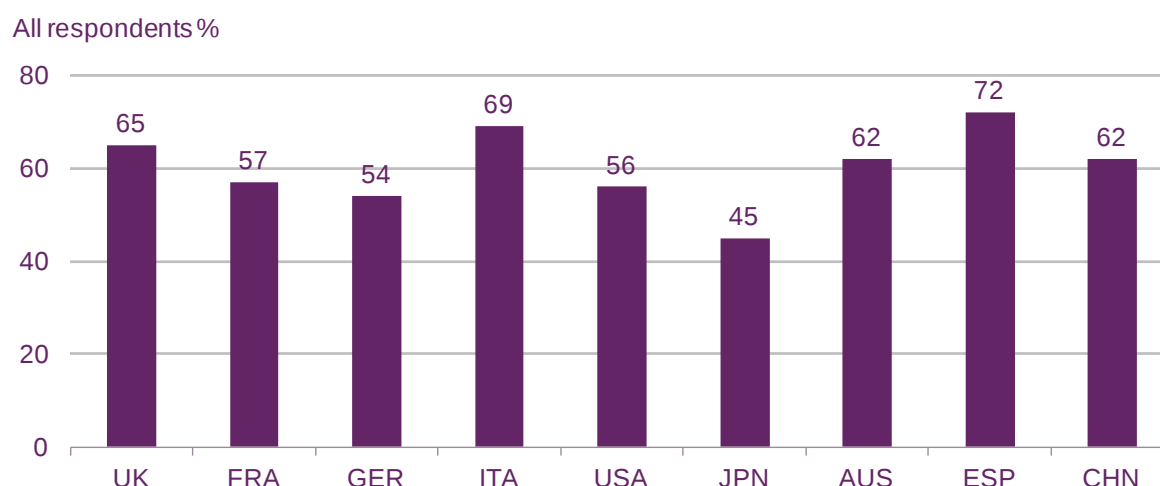
5.3.4 Social networking

The majority of internet users accessed a social networking site at least once a week

Japan was the only comparator country in Figure 5.26 where a minority (45%) of respondents to our consumer research claimed to use their internet connection to access social networking sites at least once a week. Social networking was most popular in Spain, where 72% of internet users accessed a social network at least once a week. This is reflected in the higher active reach of Facebook in Spain (see Figure 5.29) as well as Spanish social network Tuenti (18% active reach⁶⁵). Social networking was also popular in the UK, Italy, Australia and China, where at least six in ten internet users in each country visited a social networking site at least once a week.

⁶⁵ comScore MMX, Spain, home and work panel, August 2013, persons 15+

Figure 5.26 Weekly access to social networking sites



Source: Ofcom consumer research September 2013.

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

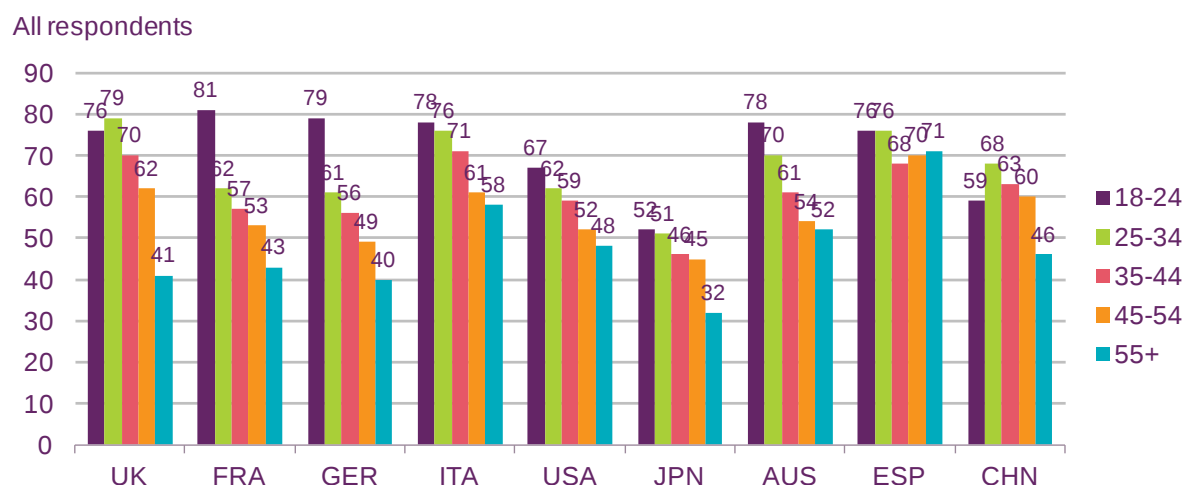
Social networking in the UK is most popular among respondents aged 25 to 34

In the UK and China, social networking was more popular among respondents aged 25-34 than those aged 18-24. This was in contrast to the rest of the comparator countries in Figure 5.27, where take-up was highest among 18-24 year olds. Furthermore, the UK had the highest overall level of take-up among 25-34 year olds, of all the comparator countries.

Comparing all age groups across all countries, social networking was most popular among 18-24 year olds in France. France was also the country with the biggest difference in popularity between the two younger age groups, with a 19 percentage point difference in use between 18-24s and 25-34s.

The general trend among our comparator countries, as shown in Figure 5.27, was that weekly access to social networking sites tended to decline with age after the age of 35 and was lowest among internet users aged 55 or over. The exception was Spain, where more than seven in ten (71%) respondents aged 55 or over visited a social network at least once a week, marginally more than 35-44 year olds (68%) and 45-54 year olds (70%) in that country.

Figure 5.27 Weekly use of home internet connection to visit social networking sites by age



Source: Ofcom consumer research September 2013.

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

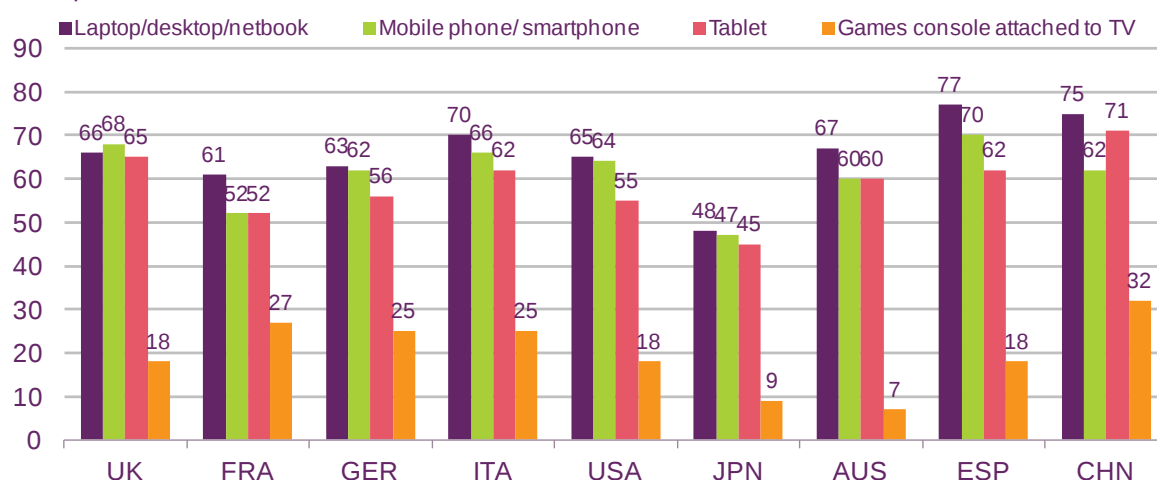
Mobile phone owners in the UK are more likely than laptop and desktop owners to use their device to access social networks

The UK was the only comparator country considered in Figure 5.28 in which owners of mobile phones and smartphones were more likely than owners of laptops and desktops to use their device to access social networks (68% vs. 66%). Generally, however, respondents did not tend to have a strongly preferred device for accessing social networking sites. The proportion of mobile phone and smartphone owners using their device to access social networks was similar to the proportion of laptop, desktop and netbook owners doing so in many of the comparator countries, and there was a difference of less than five percentage points between these two categories in the UK, Germany, Italy, the US and Japan. China was the only country in which owners of tablets were more likely than smartphone and mobile phone owners to use their device to visit social networks. Spain was the country with the biggest differences in access behaviour between owners of these devices.

Owners of games consoles were the least likely to use their device to access social networks, by a notable margin, in all the countries compared. This could be due to difficulty in accessing social networks through these devices, or to the limited functionality of social networks accessed on fixed games consoles compared to access on a computer or smartphone. Furthermore, social networking is a private communications activity less suited to the communal nature of a TV set.

Figure 5.28 Accessing social networking sites, by device ownership

All respondents with each device



Source: Ofcom consumer research September 2013.

Base: All respondents with each device, laptop/desktop/netbook 908-966 in each market, mobile phone/smartphone 437-866 in each market, tablet computer 171-476 in each market, games console attached to TV 59-189 in each market.

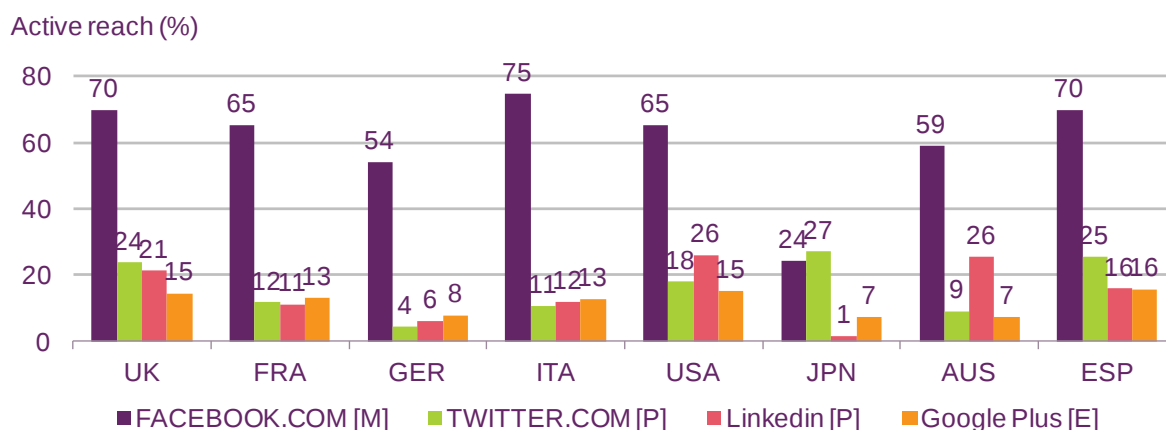
Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

Twitter is more popular than Facebook in Japan

Japan was the only comparator country in Figure 5.29 where Twitter was more popular than Facebook (27% vs. 24%) in August 2013. Furthermore, the proportion of internet users visiting Twitter was higher in Japan than in any of the other comparator countries analysed. In contrast, Germany had the fewest internet users visiting the social network in the same period (4%).

But Facebook was the most popular social network, by a significant margin, in seven of the eight comparator countries; shown in Figure 5.29. Among these countries, Facebook was most popular in Italy, where three-quarters (75%) of respondents accessed it at least once in August 2013. The UK and Spain were also among the countries where Facebook was most popular; seven in ten respondents in each country visited the social network at least once in August 2013.

Figure 5.29 Active reach of selected social networking sites on laptop and desktop computers



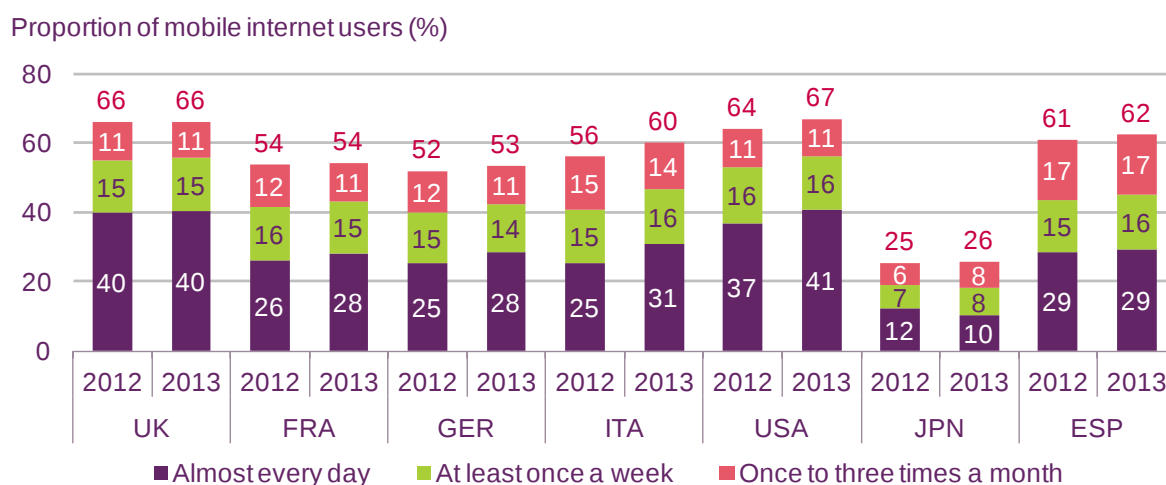
Source: comScore MMX, home and work panel, August 2013, persons 15+

Mobile internet users in the US and the UK are 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 a social networking site in August 2013. 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. Daily use of social networking sites was on the increase for the majority of our comparator countries in Figure 5.30. In France, Germany, Italy and the US the proportion of daily users rose in the past year, with Italy having the greatest increase in users who accessed social networks almost every day. Japan was the only comparator country in which the proportion of mobile internet users accessing social networks daily fell between August 2012 and August 2013.

The proportion of mobile social networkers in the UK remained static between August 2012 and August 2013, with no change in the proportions of UK mobile internet users using their handset to visit a social networking site monthly, weekly or daily. This was different to the majority of the other comparator countries, where the proportion of mobile internet users accessing social networks at least once a month increased over the year.

Figure 5.30 Monthly accessing of social networking sites on mobile phones



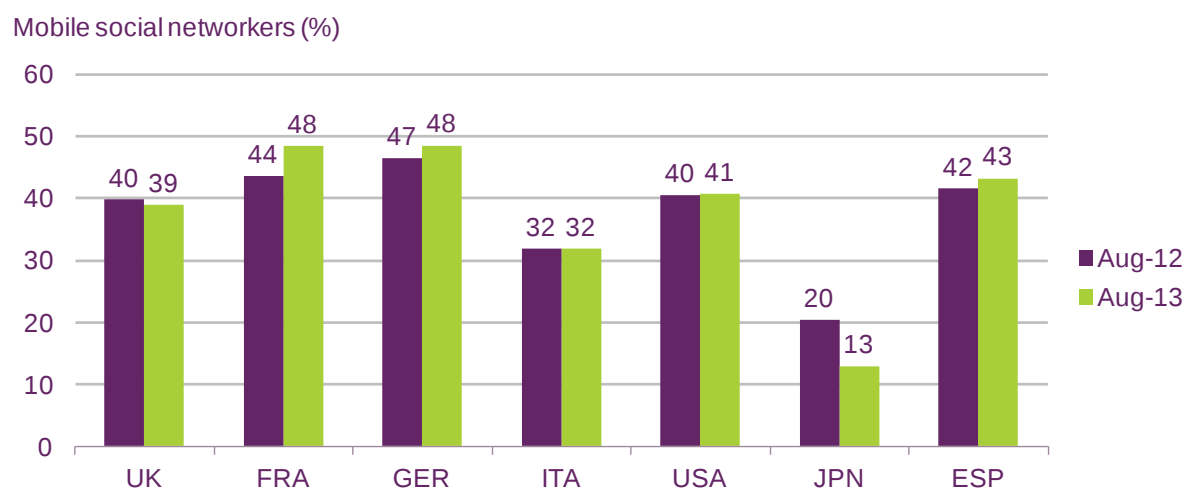
Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile internet users aged 13+

Use of social check-in services fell significantly among mobile social networkers in Japan

Social check-in services allow smartphone users to mark and share their location with online friends or followers by using the GPS functionality of their handset. The proportion of mobile social networkers using check-in services in Japan fell by seven percentage points; from 20% to 13%, between August 2012 and August 2013. This is despite the fact that the proportion of mobile internet users in Japan accessing social networks at least once a month increased slightly over the year (see Figure 5.30).

Considering the other comparator countries in Figure 5.31, use of check-in services increased among mobile social networkers in France, Germany, the US and Spain. The biggest increase was among social networkers in France, where 48% of mobile social networkers used check-in services in August 2013, compared to 44% who did so in August 2012. The proportion of mobile social networkers 'checking-in' was static in Italy over the year, and the proportion fell by one percentage point; to 39%, among UK mobile social networkers.

Figure 5.31 Use of social check-in services by mobile social networkers



Source: comScore MobiLens, August 2012 (three-month average) and August 2013 (three-month average), mobile social networkers aged 13+

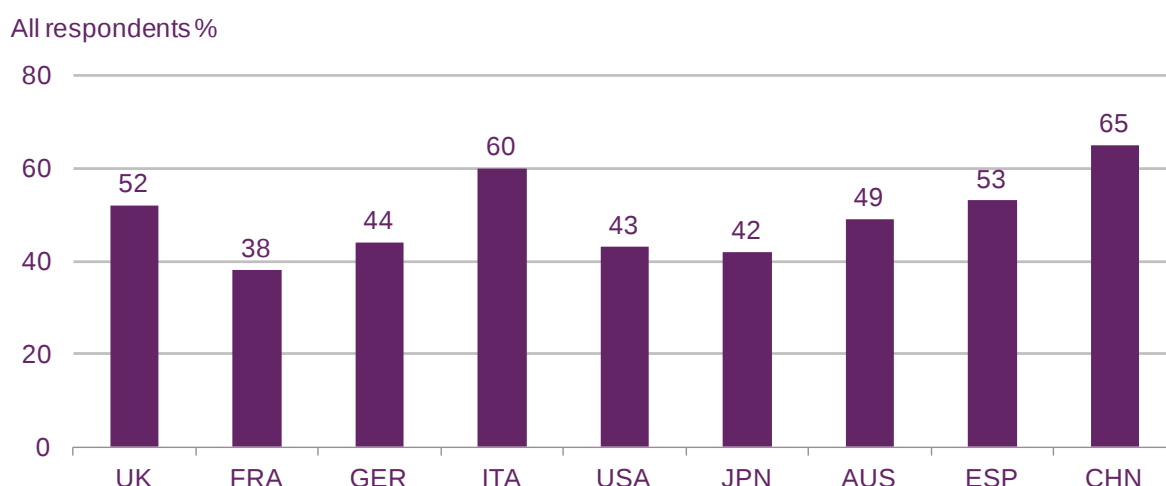
5.3.5 Online video

Two-thirds of internet users in China watch online video clips every week

Online video clips were most popular among internet users in China, with two-thirds of respondents (65%) stating that they accessed online video clips at least once a week. In comparison, less than four in ten respondents in France (38%) stated that they accessed online video clips weekly.

Online video clips were also popular among internet users in the UK, Italy and Spain, where over half of respondents in each country stated that they accessed such clips at least once a week.

Figure 5.32 Weekly access of online video clips



Source: Ofcom consumer research September 2013.

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.9 Which, if any, of the following activities do you use your internet connection for at least once a week?

Two-thirds of laptop/desktop internet users in the UK visited YouTube in August 2013

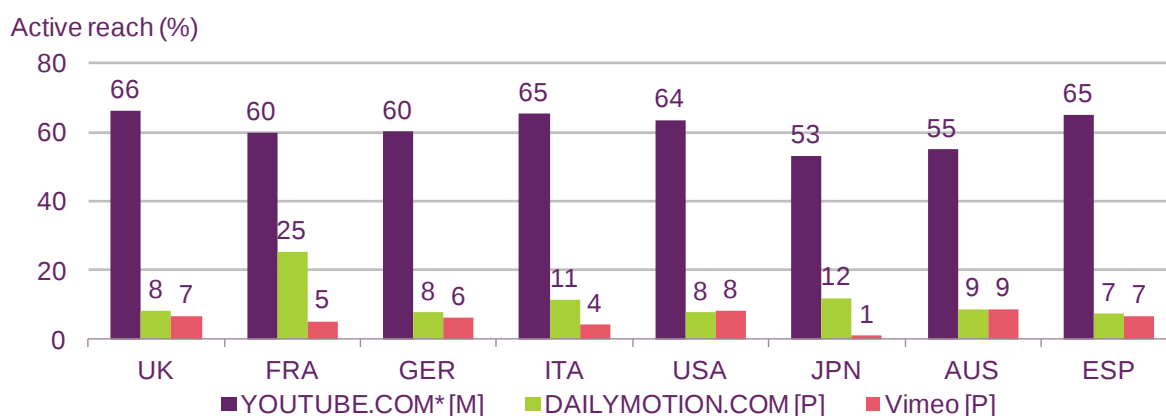
YouTube was more popular in the UK than in any other comparator country in Figure 5.33, with two-thirds (66%) of UK internet users visiting the website at least once a month. YouTube was significantly more popular than any other of our selected online video websites across all the comparator countries in Figure 5.33, with over half of respondents in each comparator country stating that they visited YouTube at least once a month. The popularity of YouTube was also evident from our analysis of the most popular search terms on Google (Figure 5.25), where it appeared in the top three most searched-for terms in five of the eight countries analysed in Figure 5.33. Furthermore, YouTube states that the number of hours of video watched worldwide each month since 2012 has increased by 50%⁶⁶.

YouTube's lead was narrowest in France, where a quarter (25%) of internet users visited Dailymotion – a French video sharing website, in August 2013, against the 60% of users who visited YouTube in the same period. Dailymotion was the second most popular video sharing website for five of the eight countries analysed, and its active reach was equal to that of Vimeo in the remaining three. However, only video sharing sites with a worldwide reach were considered in this analysis. Sites specific to certain countries, such as Niconico in Japan, which had an active reach of 44% in the year up to August 2013⁶⁷, may be much more popular in those countries.

⁶⁶ YouTube Statistics, <https://www.YouTube.com/yt/press/en-GB/statistics.html>

⁶⁷ comScore MMX, Japan, home and work panel, August 2013, persons 15+

Figure 5.33 Active reach of selected online video websites on laptop and desktop computers



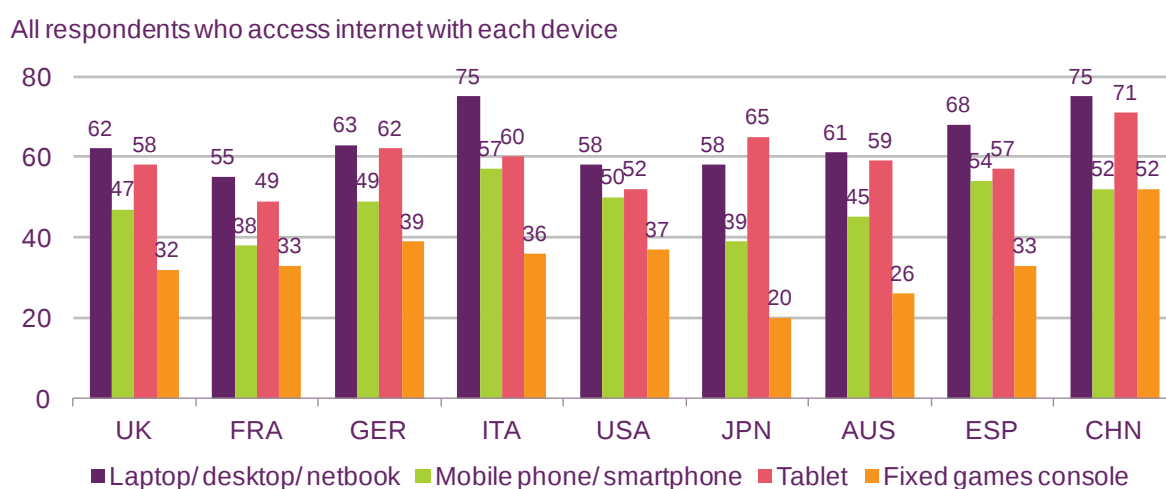
Source: comScore MMX, home and work panel, August 2013, persons 15+

Watching online video clips is more popular among tablet owners than mobile phone and smartphone owners

Mobile phone and smartphone users in the UK were noticeably less likely than owners of laptops/desktops/netbooks and owners of tablet computers to access online video clips using their device. This was also true of a number of our comparator countries (France, Germany, Japan, Australia and China) and may reflect consumers' concerns about data consumption when using their handsets' cellular connections. Generally, laptop, desktop and netbook owners were the most likely to access online video clips using their device, in all the comparator countries in Figure 5.34, except Japan, where owners of tablet computers were more likely to use that device to watch online video clips.

Owners of fixed games consoles were found to be among the least likely respondents to use their device to access online video clips, in every country analysed. This may be due to the greater difficulty in using this kind of device for watching online clips, in comparison to using a laptop or tablet.

Figure 5.34 Accessing online video clips, by device ownership



Source: Ofcom consumer research September 2013.

Base: All respondents with each device, laptop/desktop/netbook 908-966 in each market, mobile phone/smartphone 437-866 in each market, tablet computer 171-476 in each market, games console attached to TV 59-189 in each market.

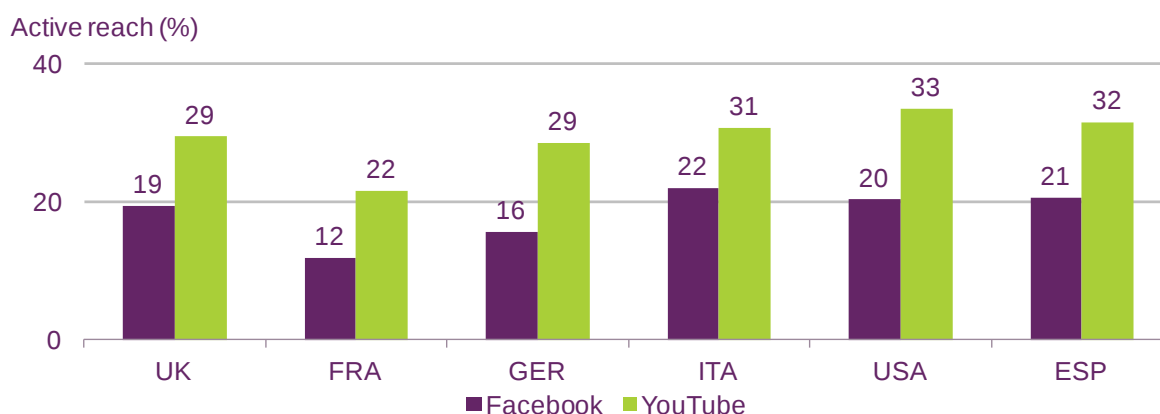
Q.15c What sorts of video content do you watch on each of your devices over the internet?

A third of mobile internet users in the US use YouTube to view online video

This analysis is restricted to the comparison of two websites, YouTube and Facebook, which have a worldwide reach across the majority of laptop and desktops users (see Figure 5.29 and Figure 5.33). Of the two, YouTube was the most popular website among mobile internet users for viewing online videos. YouTube was most popular in the US, where a third (33%) of mobile internet users visited the site at least once in August 2013, and least popular in France, where only around a fifth (22%) of mobile internet users did the same. YouTube's lead was narrowest in Italy, where 22% of mobile internet users visited Facebook to view online video content, compared to 31% who visited YouTube.

However, this analysis does not differentiate between video content hosted by Facebook, such as user-generated uploads, and video content shared on Facebook from sites like YouTube. Furthermore, the proportion of mobile internet users watching online video content using their handset is still a minority. Should this activity become more widely adopted, a greater range of video viewing sites may appear alongside the ones which are currently popular.

Figure 5.35 Active reach of selected websites for viewing online video on mobile



Source: comScore MobiLens, August 2013 (three-month average), mobile internet users aged 13+

Web-based videos were by far the most popular type of video content that consumers accessed on mobile

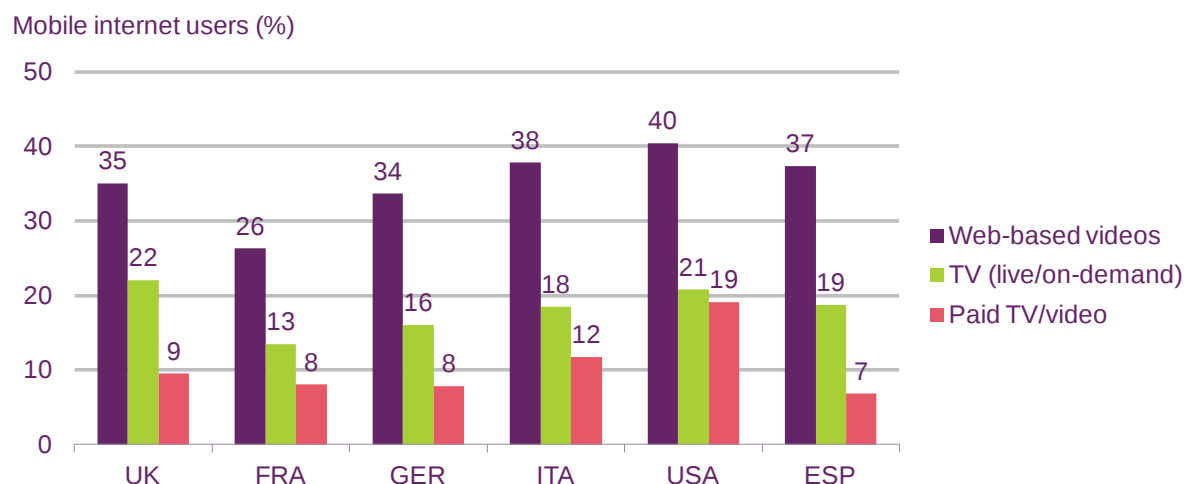
Mobile internet users were far more likely to access web-based videos than any other kind of TV or video content. 'Web-based video' refers to free videos or video clips on websites that are accessible using a browser or the website's application. The popularity of web-based video content among mobile internet users may be due to the short format of the video content on websites such as YouTube and Vimeo. These short clips are more practical than other forms of video to access using a mobile device. Watching short clips on mobile devices also uses less data than watching longer television programmes, which could deter consumers concerned about their mobile data use.

Respondents in the US were among the most likely to access all these types 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 countries in Figure 5.36, with mobile internet users in the UK more likely to watch TV using their handset (at 22%) than users in any of the other countries analysed.

Respondents in all of the comparator countries in Figure 5.36 were least likely to access paid TV or video using a mobile device. This could reflect the fact that mobile internet users

may be reluctant to pay for online video content, or that users may find it unsatisfactory to watch paid-for professional long-form content on mobile devices, which tend to have small screens. Consumers' attitudes to TV and audio-visual content are explored further in section 3.1.

Figure 5.36 Type of TV/video service accessed on mobile



Source: comScore MobiLens, August 2013 (three-month average), mobile internet users aged 13+

5.3.6 Online shopping

We consider online shopping and the delivery of physical goods in the *Market in context* chapter of this report in section 1.4. However, the following analysis looks at the purchase of, and subscriptions for, digital goods.

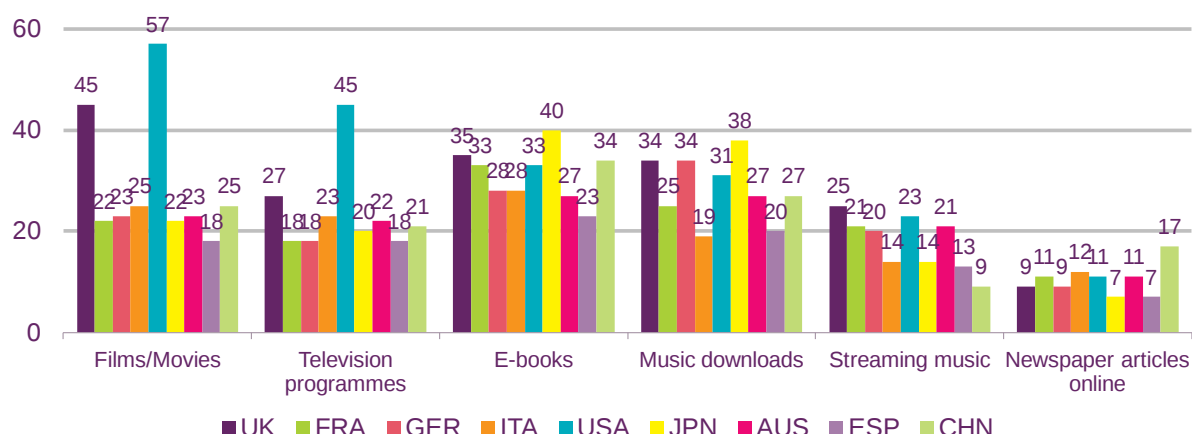
Users in the UK and the US were most likely to pay a subscription for TV, film, and music streaming services

Regular users in the UK and the US were the most likely to pay a subscription fee to access film and television content, across all of the comparator countries in Figure 5.37. Of all the respondents who accessed films weekly in the US, more than half (57%) paid a subscription fee for the service, as did 45% in the UK. These subscriptions are likely to relate to over-the-top (OTT) video content providers available in the US and the UK, such as Netflix and LoveFilm, but could also be the web-accessed services offered by pay-TV operators.

The UK was the country in which respondents who regularly streamed music were most likely to pay a subscription to a music streaming service. A quarter (25%) of regular users claimed to subscribe to a service, such as Spotify or Deezer, followed by 23% of regular music streamers in the US. Respondents across the majority of countries compared were least likely to pay a subscription fee to access newspaper articles online, with the exception of China, where subscriptions to music streaming services were less likely than subscriptions to online newspaper articles among regular users.

Figure 5.37 Proportion of regular users who pay a subscription fee for access

All respondents who access content type weekly or more (%)



Source: Ofcom consumer research September 2013

Base: All respondents who access films/ movies online 221-655, who access TV programmes online 309-804, who stream music online 205-877, who download music 110-622, who access newspaper articles online 506-728, who access e-books online 80-600

Q.13b Do you pay a subscription fee to access any of this content online?

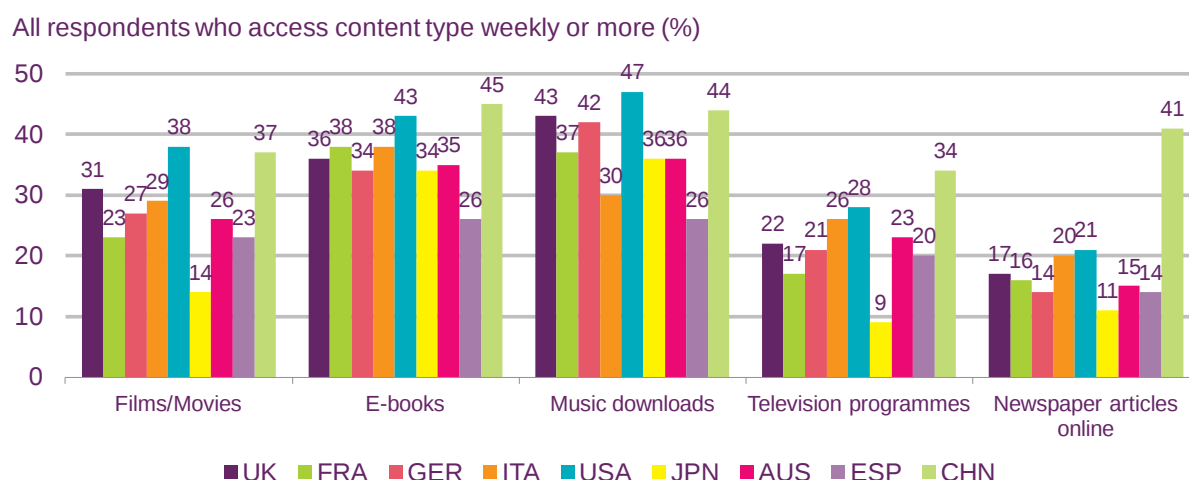
Users in the US and China were most likely to buy or rent content

Those who regularly accessed films, e-books, music downloads, TV programmes and newspaper articles in the US and China were the most likely to buy or rent these content types at least once a week. Just under half (47%) of regular music users in the US paid for music downloads at least once a week, while 44% of users in China and 43% of users in the UK did the same.

Respondents in Japan who regularly accessed film and television content were significantly less likely (14% and 9%) than respondents across all the other countries analysed to buy or rent this content at least once a week. In contrast, more than twice as many regular users bought or rented films at least once a week in the US (38%), China (37%) and the UK (31%).

However, the US and China differed most in regular users' propensity to buy or rent newspaper articles online. Two-fifths (41%) of regular users in China claimed to buy or rent this content at least once a week, in contrast to the US where half as many consumers did so (21%).

Figure 5.38 Proportion of regular users who buy or rent content at least once a week



Source: Ofcom consumer research September 2013

Base: All respondents who access films/ movies online 221-655, who access TV programmes online 309-804, who stream music online 205-877, who download music 110-622, who access newspaper articles online 506-728, who access e-books online 80-600

Q.13c Excluding any subscriptions, how often, if at all, do you buy or rent any of this content online?

5.3.7 Online news

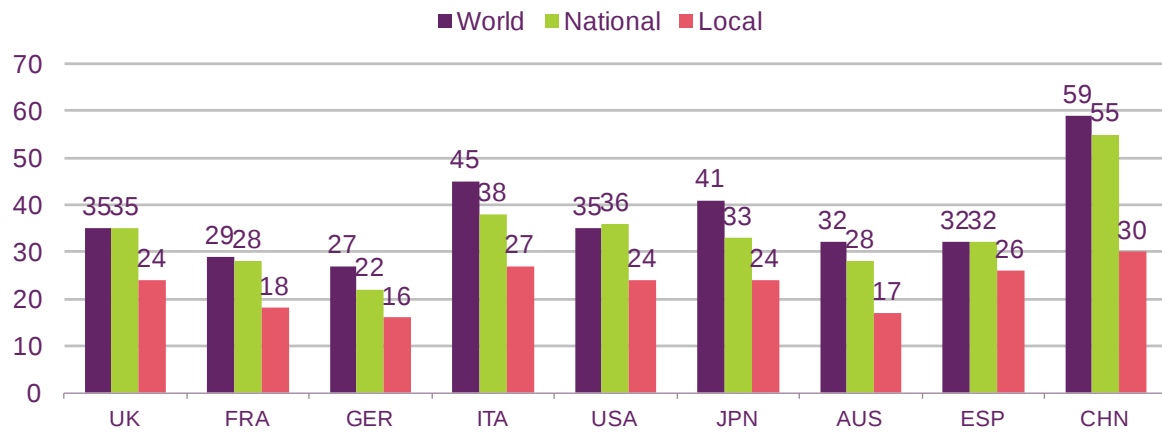
The internet is the primary source of national and world news for the majority of internet users in China.

Respondents 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 (59%) and national (55%) news. In comparison, only a minority of respondents in the other comparator countries considered the internet a primary source of world, national and local news. The internet was least likely to be considered the main source of all types of news in Germany.

The internet was more likely to be considered a primary source of world news than of national news in Italy (45% and 38%) and Japan (41% and 33%), while the proportion of claims were more similar among the remaining countries. Respondents in all of the comparator countries were least likely to consider the internet their primary source of local news. We cover news sources across all media in Section 1.7, News Consumption: The International Context.

Figure 5.39 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 September 2013.

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

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



International Communications Market Report 2013

6 Telecommunications 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 among our 17 comparator countries. The section is split into three parts:

- Key market developments – provides an overall context and highlights recent developments in international telecoms markets, including the deployment of NGA networks and the resulting growth in take-up of superfast broadband services, and changing patterns in consumers' use of traditional voice telephony services.
- The telecoms industry – provides a 'top-down' approach by looking at the telecoms sector from the perspective of industry data, and compares and contrasts trends in revenues and market structures across our comparator countries before looking specifically at fixed and mobile 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

Internet access has continued to grow and the ability to access online services has become an important part of consumers' lives. Figures from the United Nations' International Telecommunications Union (ITU) show that over 2.5 billion people (more than a third of the world's population) were accessing the internet in 2012, a 1.1 billion (83%) increase since 2007.⁶⁸

Take-up of fixed broadband services grew across all of the 17 countries that feature in our analysis in the five years to 2012. During this period, fixed broadband take-up increased from an average of eight connections per 100 people to 13 connections per 100 people among our comparator countries, and there was significant growth in fixed broadband take-up in the BRIC countries (Brazil, Russia, India and China), where average increases in the number of fixed broadband connections ranged from 21% to 37% a year.⁶⁹ The use of mobile data services has also increased rapidly over the same five-year period. Total revenues generated by mobile internet services in our non-BRIC comparator countries exceeded those generated by fixed broadband services in 2012, as in 2011.

Increasing smartphone take-up has been a key driver of growing mobile data use over established 2G and 3G networks and newly-deployed 4G LTE infrastructure: almost all of the people living in the 14 non-BRIC comparator countries for which we had mobile availability data had 2G mobile coverage in 2012, while around 95% had 3G coverage and 56% lived in areas with 4G LTE coverage at the end of 2012 (although the relatively high average for LTE services is mainly due to very large coverage in the US and, to a lesser extent, in Japan).

⁶⁸ http://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2013/ITU_Key_2005-2013_ICT_data.xls

⁶⁹ IDATE

The growing popularity of text-based communications services (such as SMS, email, instant messaging and communication over social media), many of which are provided over data connections, and high levels of mobile take-up, have contributed to a decline in the use of traditional fixed voice services in the majority of countries featured in this report. In some countries the shift away from voice services is more pronounced, and there is evidence of falling mobile and total voice call volumes.

In this section we examine two of the developments which are shaping telecoms markets, both in terms of industry structures and consumer behaviour:

- **The growth in superfast broadband take-up as next-generation access deployments gather pace.** We look at the deployment of superfast broadband services, and the extent to which they are being adopted by consumers across our comparator countries.
- **The continued erosion of voice services.** This section analyses the changes in the voice market and the extent to which consumers are migrating towards mobile and text-based communications services as an alternative to traditional fixed voice calls.

Figure 6.1 Key telecoms indicators: 2012

	UK	FRA	GER	ITA	USA	CAN	JPN	AUS
Telecoms service revenues (£bn)	28.1	27.7	32.8	21.1	190.8	22.6	92.4	17.1
Telecoms revenues per capita (£)	445	421	404	343	605	657	725	770
Fixed telephone lines per 100 popn	53	27	48	26	44	51	30	46
Monthly outbound fixed minutes per capita	135	140	183	104	124	-	37	50
Mobile connections per 100 population	132	111	139	159	104	81	101	139
Share of mobile post-pay connections	52	75	47	19	87	86	99	61
3G/4G as % of all connections	54	45	30	43	61	56	100	57
Monthly outbound mobile minutes per capita	174	151	113	196	608	364	95	165
Monthly outbound mobile messages per capita	226	232	61	130	579	234	0	107
Fixed broadband connections per 100 population	34	36	35	22	29	34	31	27
FTTx as a proportion of fixed broadband connections	5	4	1	3	9	1	59	2
Mobile broadband connections per 100 population	8	5	7	14	53	4	11	27
VoIP subscriptions per 100 population	7	34	14	9	13	14	24	15

	ESP	NED	SWE	IRL	POL	BRA	RUS	IND	CHN
Telecoms service revenues (£bn)	16.2	8.1	4.5	2.3	5	31.7	18.9	10.1	77.6
Telecoms revenues per capita (£)	344	483	489	474	131	158	133	8	58
Fixed telephone lines per 100 popn	40	23	55	35	14	22	30	3	21
Monthly outbound fixed minutes per capita	108	106	140	105	28	72	-	-	10
Mobile connections per 100 population	113	125	161	123	141	131	162	71	83
Share of mobile post-pay connections	67	75	69	40	46	19	4	4	35
3G/4G as % of all connections	70	39	89	74	31	20	25	3	21
Monthly outbound mobile minutes per capita	123	112	222	192	150	115	237	124	397
Monthly outbound mobile messages per capita	10	39	151	216	114	-	-	-	-
Fixed broadband connections per 100 population	24	41	34	23	15	9	19	1	13
FTTx as a proportion of fixed broadband connections	3	7	34	1	1	1	28	2	16
Mobile broadband connections per 100 population	5	7	23	12	11	-	-	-	-
VoIP subscriptions per 100 population	4	28	16	6	3	-	-	-	-

Source: IDATE / industry data / Ofcom

Note: Figures for the US include other forms of mobile text messaging than SMS and are not directly comparable to those for the other comparator countries

6.1.3 Superfast take-up grows as next-generation access deployments gather pace

The availability of networks capable of supporting superfast broadband services varies widely across our comparator countries

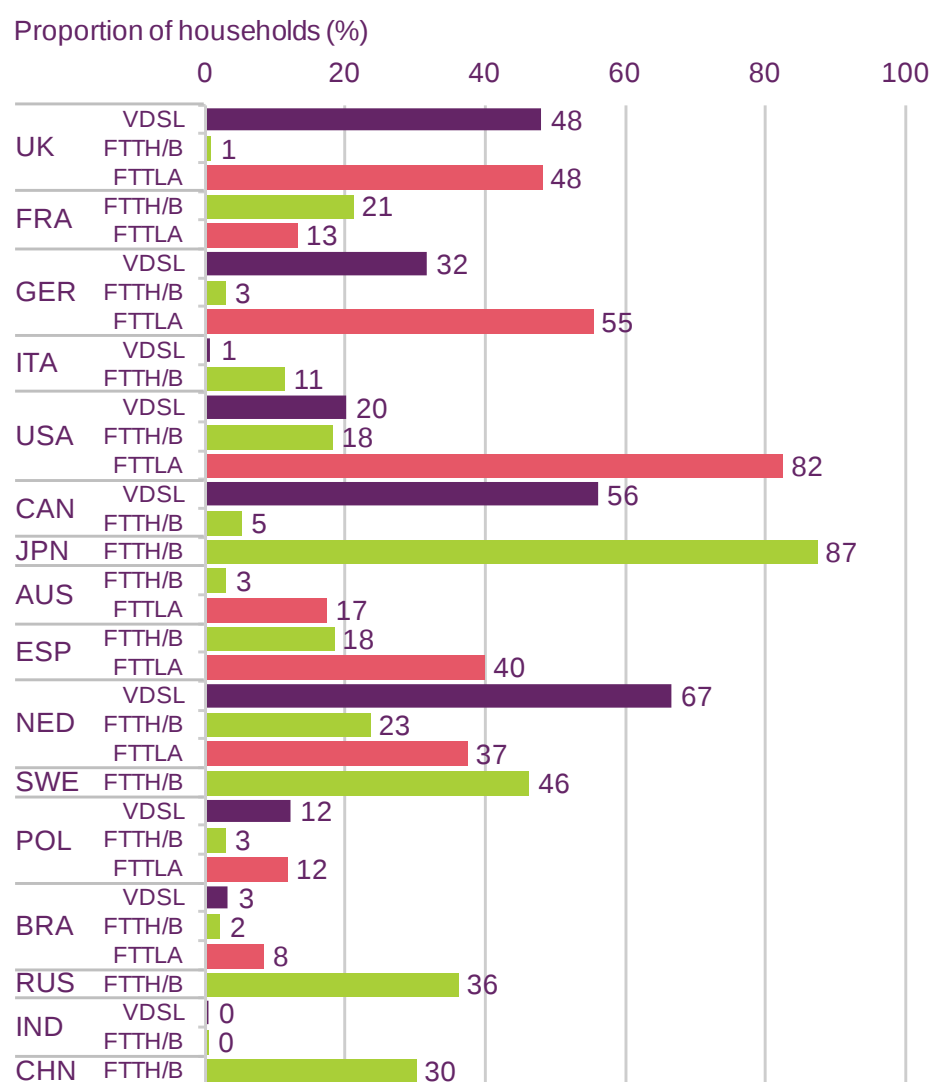
Superfast broadband services (i.e. those with an advertised speed of 'up to' 30Mbit/s or higher) are provided over next-generation access (NGA) networks. While Ofcom calculates the overall availability of NGA broadband networks in the UK by overlaying data on the availability of different NGA technologies (the latest available data shows that 73% of UK premises were in postcodes that were served by at least one NGA network in June 2013, up from 65% a year previously),⁷⁰ similar figures are not available for most comparator countries,⁷¹ so to compare NGA network availability we look at availability on a technology-by-technology basis.

Japan had the highest availability of fibre-to-the-home/building (FTTH/B) at the end of 2012, when 87% of homes were able to receive such services, the highest availability of any single NGA technology across our comparator countries (Figure 6.2). Superfast cable broadband (fibre-to-the-last-amplifier, or FTTLA) availability was highest in the US, at 82% of homes, while the Netherlands had the highest availability of the very-high-bit-rate digital subscriber line (VDSL) technology used in fibre-to-the-cabinet (FTTC) deployments (at 67% of homes). In the UK, the technologies with the highest availability were VDSL and FTTLA, both of which were available to around 48% of homes at the end of 2012, with the availability of VDSL having increased significantly over the last few years as a result of BT's roll-out of FTTC services. Australia, Poland, Italy, Brazil and India were the only comparator countries where no single NGA technology was available to more than 20% of households.

⁷⁰ Ofcom *Infrastructure Report 2013 Update*: <http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/infrastructure-report-2013/>

⁷¹ It is likely that the Netherlands has the highest overall NGA availability among these countries, as the European Commission's Digital Agenda Scoreboard 2013 shows that, taking all technologies into account, it had 98.4% NGA availability in 2012 (see "Broadband markets in the Netherlands - 2013 report" in the European Commission's Digital Agenda Scoreboard website: <https://ec.europa.eu/digital-agenda/en/scoreboard/netherlands>)

Figure 6.2 Availability of NGA networks: end 2012



Source: IDATE / industry data / Ofcom

The UK had the fifth highest take-up of NGA broadband among our comparator countries at the end of 2012

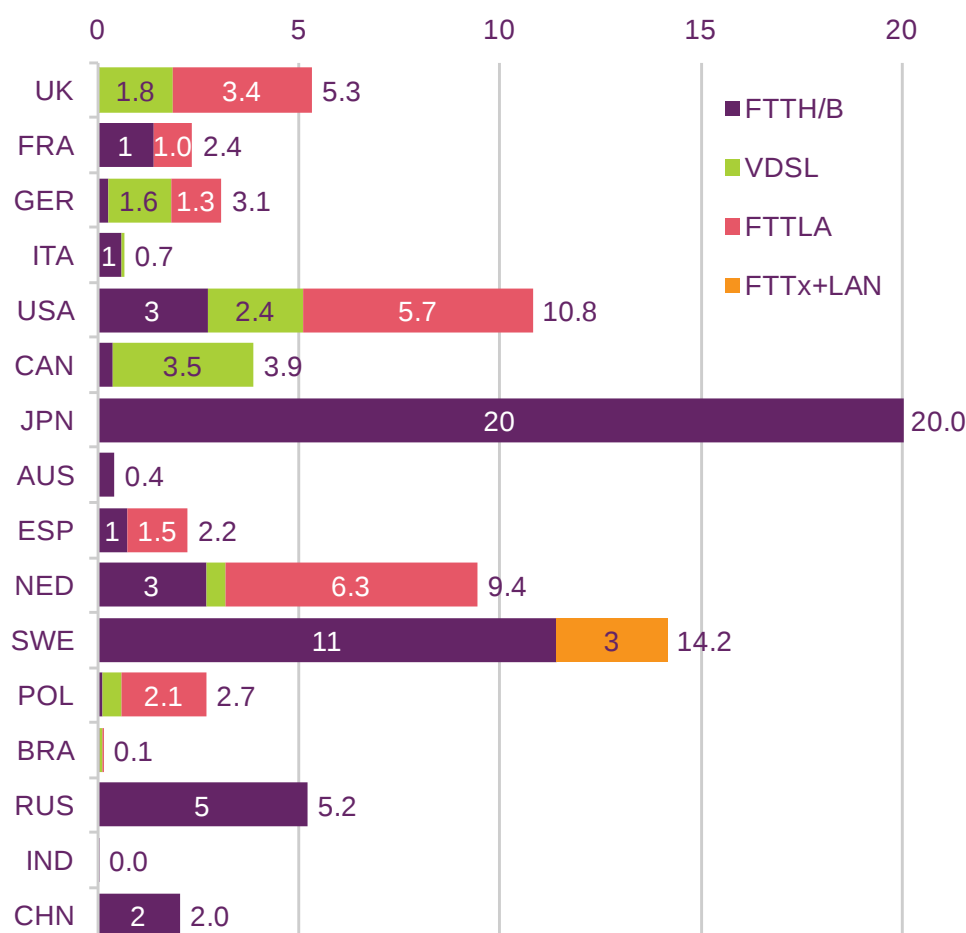
The widespread availability of NGA broadband in Japan (and in particular FTTH/B) contributed to it having the highest penetration of NGA broadband across the comparator countries for which we had data at the end of 2012, at 20.0 connections per 100 people (Figure 6.3). In Sweden, the country with the second highest NGA penetration (14.2 connections per 100 people), NGA services were provided using a mixture of FTTH/B and FTTx + LAN, an NGA technology which is not in widespread use in our other comparator countries, and which provides service over a fibre broadband connection which is then shared by many users over Ethernet cabling. This sharing of the FTTx connection means that the speeds provided by FTTx + LAN connections are typically much lower than those provided over a standard FTTH/B connection.

In the UK there were 5.3 NGA connections per 100 people at the end of 2012, most of which were DOCSIS3.0 FTTLA connections, provided over Virgin Media's cable network. NGA take-up in the UK was the fifth highest among the 16 countries for which figures were available. In Australia, Brazil and India, where NGA network availability was low, there was less than one NGA broadband connection per 100 people at the end of 2012, while among

the other EU5 countries NGA take-up ranged from 0.7 connections per 100 people in Italy (again, where availability is low) to 3.1 connections per 100 people in Germany, where VDSL services have been commercially available since 2007.

Figure 6.3 NGA connections per 100 people, by technology: 2012

Connections per 100 people



Source: FTTx Watch service, IDATE 2013 / industry data / Ofcom

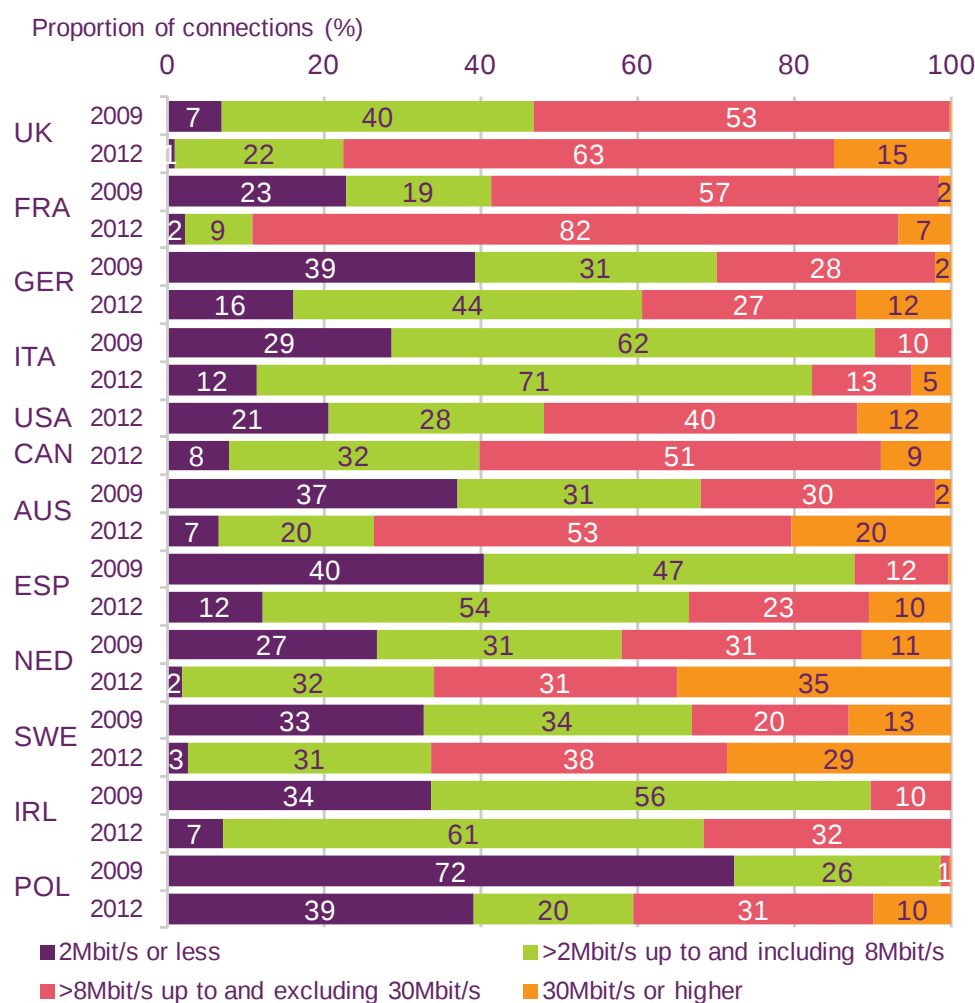
Fifteen per cent of UK fixed broadband connections were superfast at the end of 2012

The proportion of fixed broadband connections that were classed as being superfast (i.e. that had a headline speed of 30Mbit/s or higher) continued to grow in most of our comparator nations in 2012, and by the end of the year Ireland was the only comparator country where less than 5% of connections were superfast, largely as a result of the low availability of NGA networks (Figure 6.4). High NGA broadband take-up does not necessarily mean that superfast broadband take-up is high, as in some countries (for example, the US) ISPs use NGA networks to offer broadband services at sub-superfast speeds.

The nations with the largest proportions of connections that were superfast at the end of 2012 were Japan (which is not shown in the chart below as a full split of fixed broadband connections by headline speed is not available, at 64%), the Netherlands (35%) and Sweden (29%), which all benefit from high levels of next-generation access (NGA) availability. In the UK, 15% of connections were superfast at the end of 2012, the fourth highest proportion among the comparator countries for which we had data.

France had the highest proportion of fixed broadband connections with a headline speed above 8Mbit/s at the end of 2012 (89%), followed by the UK (78%). In both countries, this was because most fixed broadband connections are provided using ADSL2+ technology, which has a theoretical maximum speed of 24Mbit/s and is typically advertised with lower speeds (in the UK these services are usually marketed as being either 'up to' 14Mbit/s or 'up to' 16Mbit/s) as actual speeds are usually much lower than the theoretical maximum.⁷² Poland had the highest proportion of lower-speed connections (i.e. those advertised as being 'up to' 2Mbit/s or less), at 39%.

Figure 6.4 Fixed broadband connections, by headline speed: 2009 and 2012



Source: IDATE / Ofcom / operator data

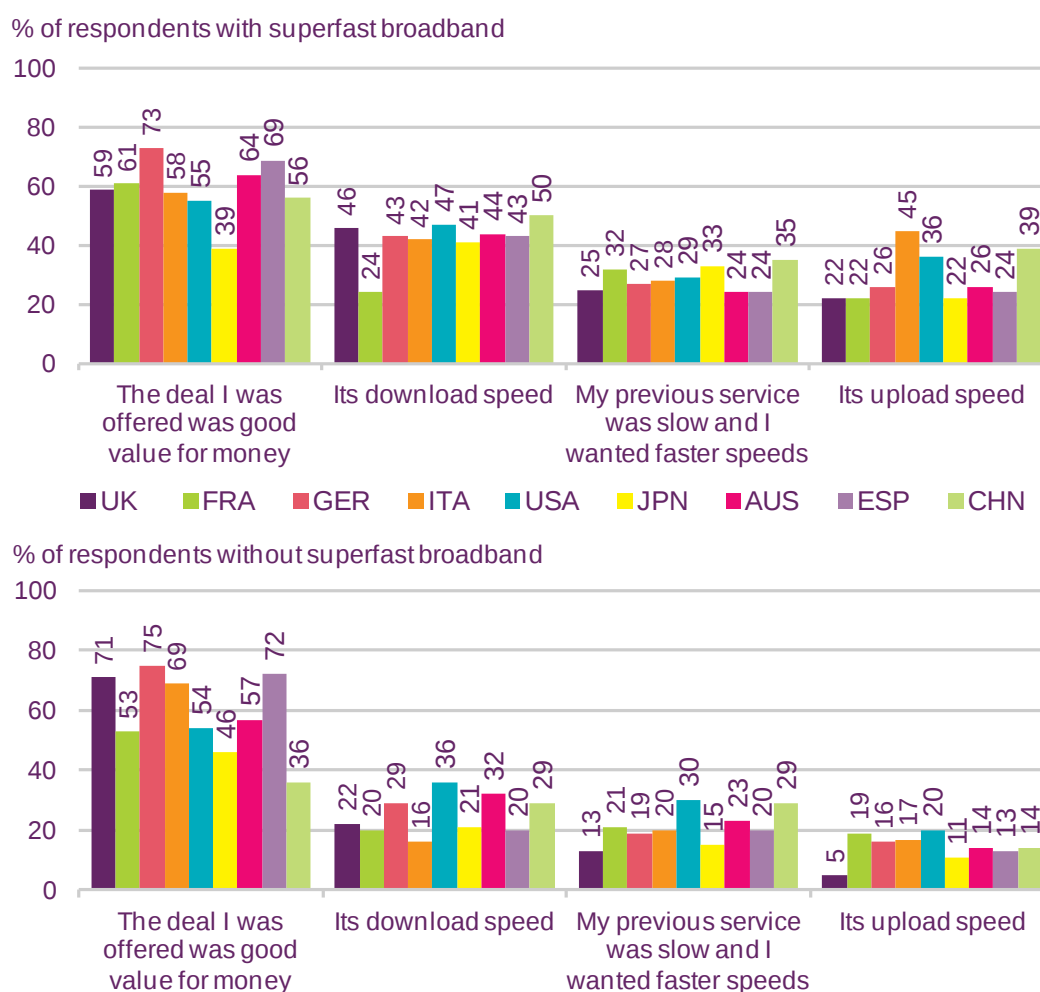
Price is the most important factor for most consumers when selecting a fixed broadband service

Ofcom research asked fixed broadband users about the factors that they took into consideration when selecting their current fixed broadband service. Price was the most frequently cited reason, among both superfast and non-superfast users, in all of the countries where the research was undertaken, apart from superfast broadband users in Japan, who were more likely to cite the speed of their service (Figure 6.5).

⁷² In the UK, Ofcom research conducted in May 2013 found that the average speed of uncapped ADSL2+ fixed broadband services was 6.5Mbit/s (<http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/broadband-speeds-may2013/>).

Non-superfast users were more likely than superfast users to say that price was a consideration when choosing their current service in most countries, unsurprising given that superfast services usually command a price premium over lower-bandwidth services. Superfast users in all countries except France were more likely to say that the download and/or upload speeds were reasons why they chose their current service, suggesting that consumers are happy to pay extra for the additional performance that superfast services provide.

Figure 6.5 Reason for choosing current fixed broadband service



Source: Ofcom research, September 2013

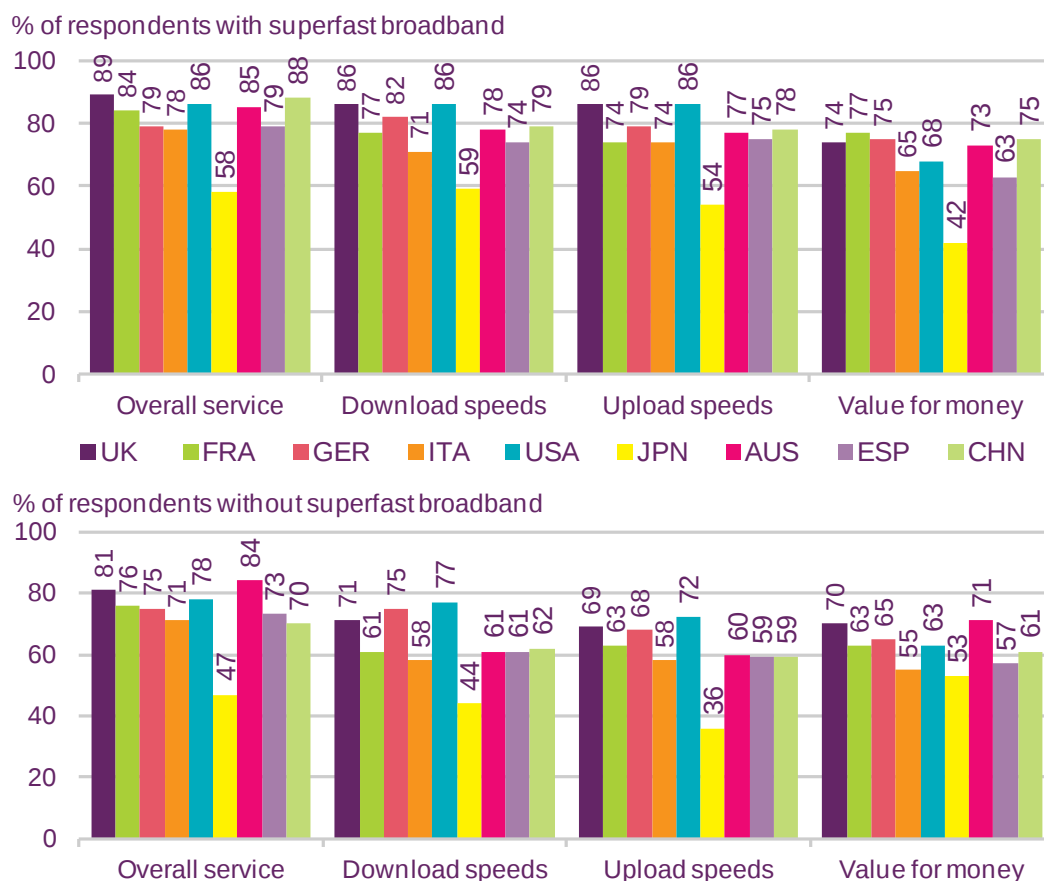
Overall levels of satisfaction with superfast broadband services were highest in the UK in 2013

We also asked superfast and non-superfast fixed broadband users in nine of our comparator countries about how satisfied they were with various aspects of their service (Figure 6.6). Overall satisfaction levels, along with satisfaction with downstream and upstream connection speeds, and the value for money of their service, were higher among superfast than non-superfast users in almost all cases. The only exception was in Japan, where superfast users were less likely than non-superfast users to be satisfied with the value for money of their service.

As shown in Figure 6.4, superfast users in Japan were the only users for whom price was not the most frequently-cited reason for choosing their service. Figure 6.26 shows that Japan

had the highest average revenue per fixed broadband connection in 2012, and it may be the case that while some superfast users in Japan were less concerned with price when they chose their service, others are unhappy about having to pay high prices for their broadband. In the UK, 89% of superfast broadband users were happy with their overall service in September 2013, the highest proportion among our comparator countries.

Figure 6.6 Satisfaction with current fixed broadband service



Source: Ofcom research, September 2013

6.1.4 The erosion of voice services continues

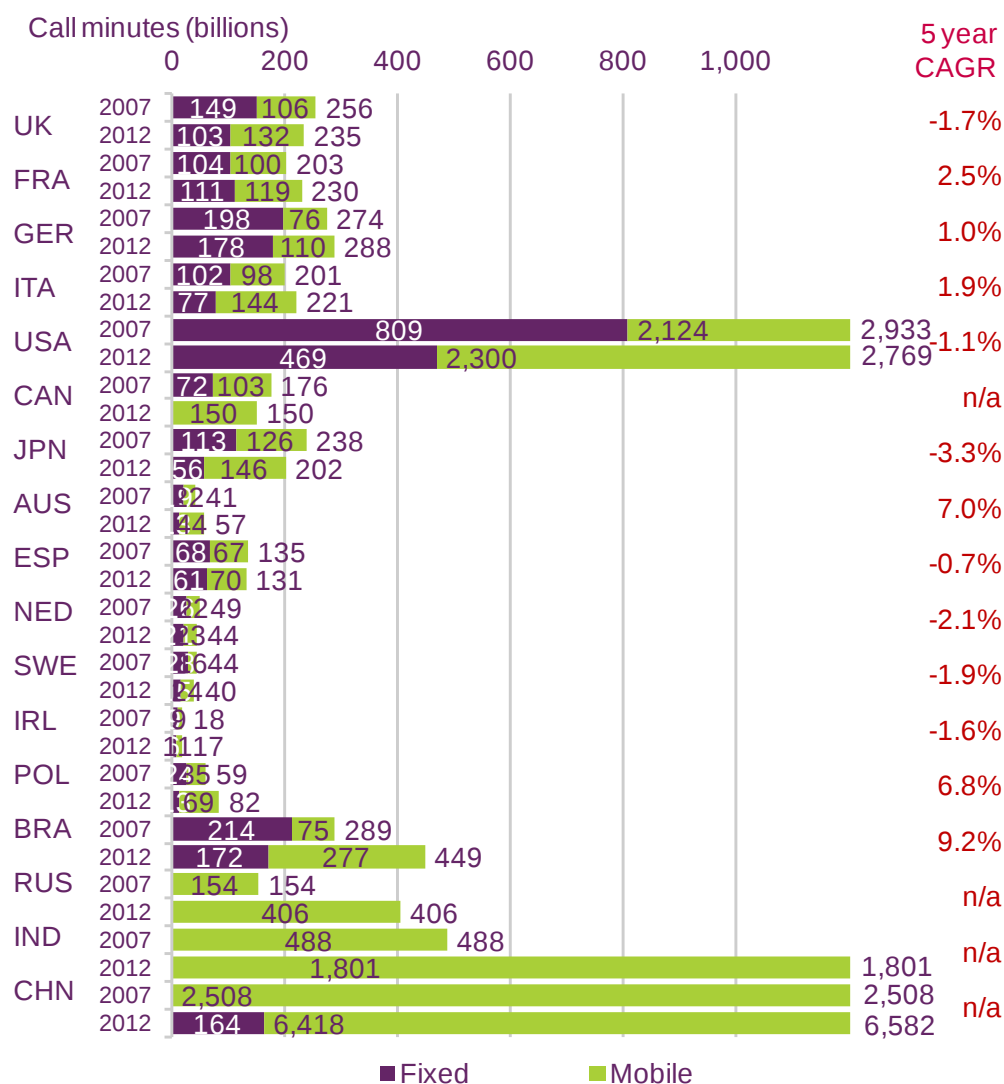
Fixed-to-mobile substitution continued in the five years to 2012

There has been a major shift in voice calling patterns across our comparator countries over the last decade, with falling fixed call volumes having been offset by increasing mobile call volumes. Figure 6.7 shows this over the last five years. Additionally, there is evidence that total voice call volumes are falling in some countries, as consumers substitute traditional fixed and mobile voice calls with text-based alternatives. The UK was one of seven comparator countries where total voice call volumes fell in the five years to 2012, with total call volumes falling by an average of 1.7% a year to 235 billion minutes over this period. The fall in total voice call volumes in the UK occurred despite mobile call volumes having increased by 25% to 132 billion minutes over the period; this increase was not sufficient to offset a 31% decline in fixed call volumes.

The highest average annual rate of decline in voice call volumes in the five years to 2012 was in Japan, at 3.3%, an overall decrease of 37 billion call minutes to 202 billion minutes of calls over the period. This decline was due to consumers in Japan having been users of data connections for messaging and VoIP for many years, and because traditional voice services

are comparatively expensive in Japan, making alternatives more attractive to consumers. Conversely, the highest average annual growth in total voice call volumes between 2007 and 2012 was in Brazil, at 9.2%, an increase of 160 billion call minutes to 449 billion minutes of calls as a result of strong growth in the number of mobile connections.⁷³

Figure 6.7 Total telecoms voice call volumes, by sector: 2007 to 2012



Source: IDATE / industry data / Ofcom

Note: Figures for USA, CAN and CHN include incoming calls

Germany was the only comparator country where over half of all voice call minutes originated on fixed lines in 2012

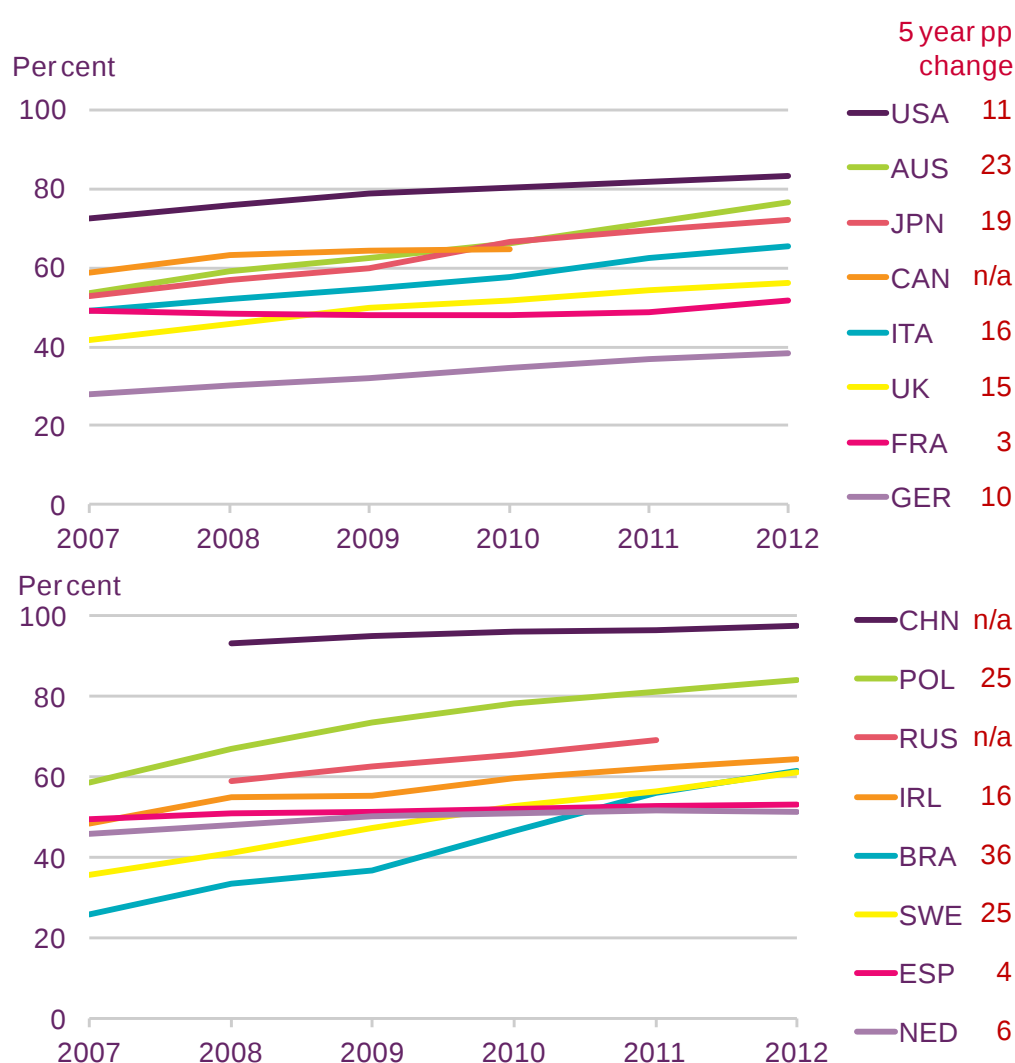
In all but one of the comparator countries for which we had data, over half of outgoing voice call minutes originated on mobile phones in 2012 (Figure 6.8). The sole exception was Germany, where 38% of calls were mobile-originated in 2012. Levels of mobile use are comparatively low in Germany as there is a large differential between the price of fixed and mobile calls (data provided to Ofcom by IDATE show that the average cost of a fixed call minute in Germany was 4.9 pence in 2012, compared to an average of 9.7 pence for mobile-

⁷³ Growth rates may have been higher in Russia, India and/or China; however, we do not have fixed call volume data for these countries.

originated calls). As a result, consumers in Germany are more likely to make calls from a landline than a mobile than in our other comparator countries.

China had the highest proportion of voice call minutes that originated on mobile networks among our comparator countries in 2012, at 98%, although this is partly because the mobile call volume data used to calculate the figures below also including incoming calls to mobiles (as is the case with the US and Japan). Among the comparator countries for which separate outgoing mobile call volume data were available, the proportion of voice call minutes originating on mobiles was highest in Poland in 2012, at 84%. In the UK, 56% of call minutes were mobile-originated in 2012, the fifth lowest proportion among the 14 countries for which we had data, despite this proportion having increased by 15 percentage points over the preceding five-year period. Brazil had the largest increase in the proportion of calls that originated on mobile phones between 2007 and 2012, a 36 percentage point increase from 26% to 62%.

Figure 6.8 Proportion of voice call minutes originating on mobiles: 2007 to 2012



Source: IDATE / industry data / Ofcom

Note: Figures for USA, CAN and CHN include incoming calls

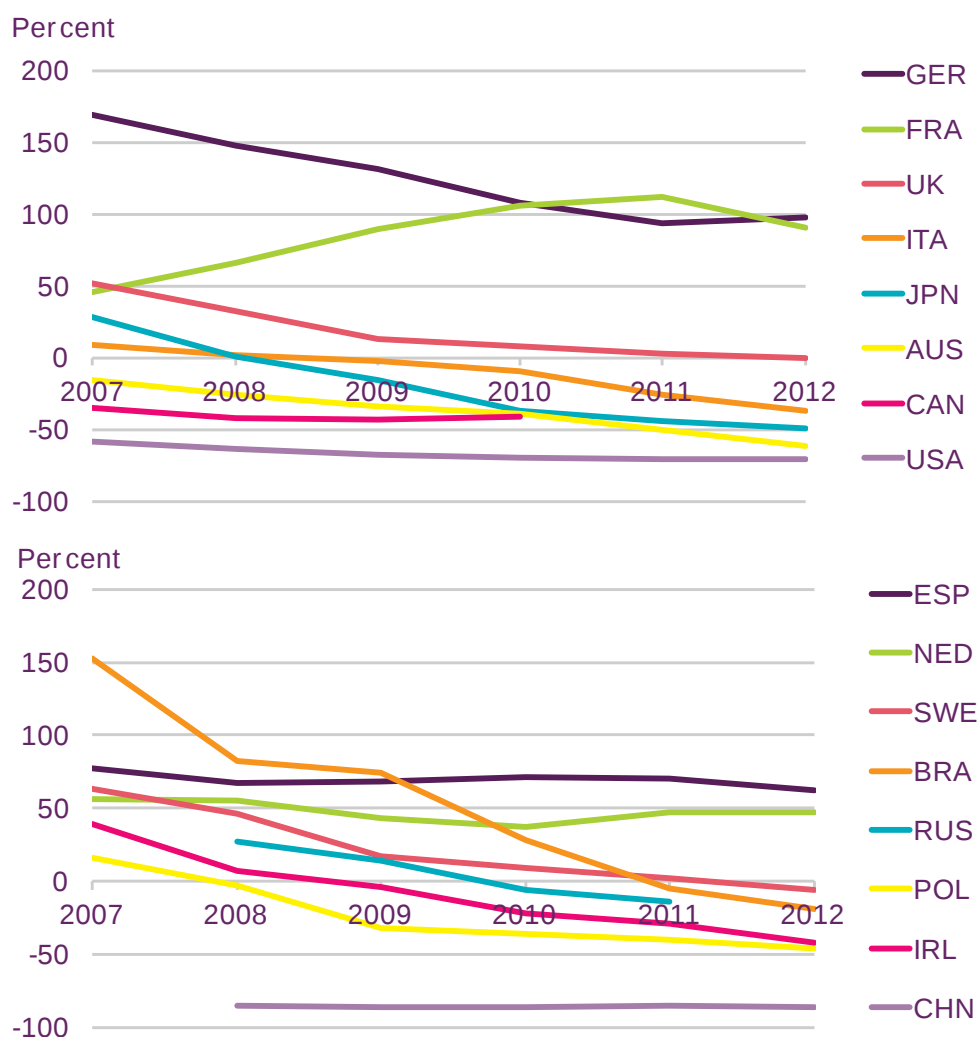
Mobile calls were cheaper than fixed calls in most comparator countries in 2012

Falling mobile prices have been a key reason behind increasing fixed-to-mobile substitution in recent years, and Figure 6.9 shows the average price premium of a mobile-originated voice call minute over a fixed network-originated voice call minute across our comparator countries. Where the value shown (the mobile price premium) is greater than zero, the price of a mobile-originated call minute was higher than that of a fixed call minute, on average. Likewise, where it is less than zero, a mobile call minute was, on average, cheaper than a fixed voice call minute. It should be noted that the average mobile pence-per-minute call charges used in the calculation of the mobile price premium is likely to be overstated, as it includes revenues relating to bundled mobile message and data allowances.

The average price of a mobile-originated voice call minute was higher than that of a fixed voice call minute in just four of the 14 comparator countries for which we had data in 2012. By way of comparison, this had been true in all but three comparator countries in 2007 (the US and Canada, where mobile customers are also charged for incoming calls, along with Australia). The highest mobile call premium in 2012 was in Germany, where the average cost of a mobile call minute was almost twice that of a fixed call minute; the mobile premium was 98%. The UK had the smallest difference between the average price of a fixed and mobile voice call minute among our comparator countries in 2012; the average price of a mobile call minute was 0.1% lower than that of a fixed call minute.

Among the other countries where the average price of a mobile call minute was less than that of a fixed call minute in 2012, the difference between the two ranged from 6% in Sweden (where 2012 was the first year in which the average price of a mobile call minute was lower than that of a fixed call minute) to 86% in China. The largest decline in the mobile premium in the five years to 2012 was in Brazil, where the average price of a mobile-originated call minute fell from being 153% higher than a fixed voice minute to being 19% lower, largely as a result of a fall in the average cost of a mobile call minute from 16 pence per minute to 5 pence per minute over the period.

Figure 6.9 Average price premium of a mobile voice call minute over a fixed call minute: 2007 to 2012



Source: IDATE / industry data / Ofcom

Note: The average fixed and mobile pence-per-minute values used to calculate the price premiums shown include the monthly access charge, and as such may include revenues relating to bundled mobile messaging and data services.

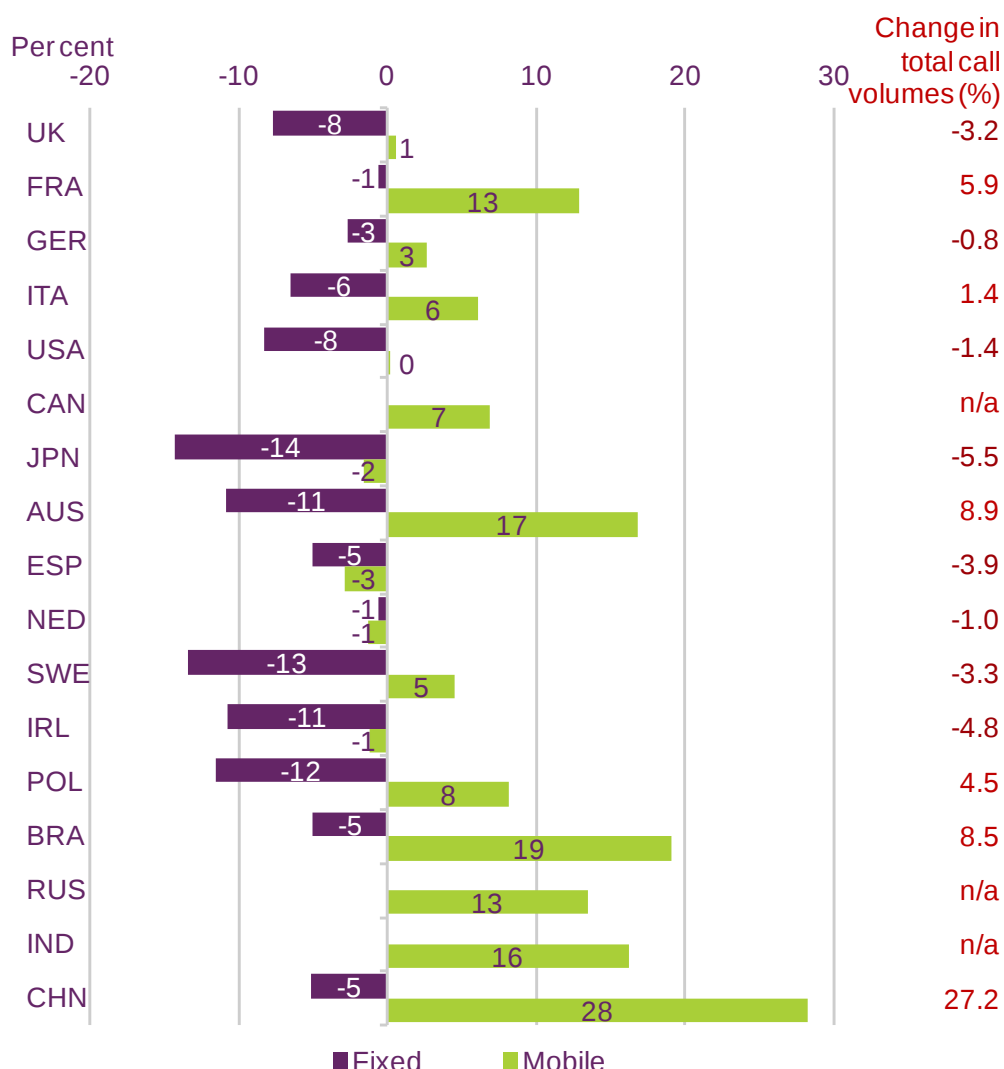
The UK was one of eight comparator countries where total voice call volumes fell in 2012

While fixed-to-mobile substitution has been evident for a number of years, a more recent trend in some markets has been falling total voice call minutes. Figure 6.10 shows the percentage changes in fixed, mobile and overall voice call volumes among our comparator countries in 2012. Fixed voice call volumes fell in all of the countries for which we had data, with the largest decline being a 14% fall in Japan during the year. Outgoing mobile voice call volumes fell in four comparator countries in 2012: Spain, Japan, the Netherlands and Ireland. The largest decrease was a 3% fall in Spain, which was partly due to consumers in Spain adjusting their use of mobile services in order to reduce their bills, in response to the economic downturn.

In 2012, total voice call volumes fell in eight of the 14 comparator countries for which we had both fixed and mobile call volume data. The UK was one of these countries, and during the

year an 8% fall in fixed voice call volumes was offset by a 1% increase in mobile call volumes, which resulted in a 3.2% fall in total voice call volumes. Among the other comparator countries where total voice call volumes fell in 2012, the annual decline ranged from a 0.8% fall in Germany to a 5.5% fall in Japan.

Figure 6.10 Change in fixed and mobile voice call volumes: 2012

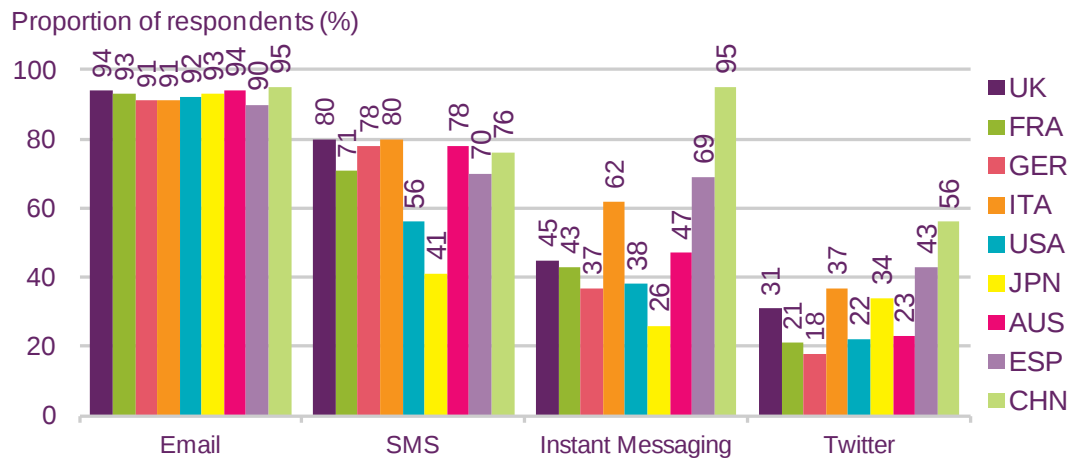


Source: IDATE / industry data / Ofcom

Consumers are substituting voice calls for text-based communication services

A key driver of the falling total voice call volumes which are evident in some comparator countries is increasing use of text-based forms of communication. Ofcom research undertaken in September 2013 indicates that 90% or more of respondents were users of email in all nine of the comparator countries included in the research (although these figures are likely to be overstated as the research was conducted online). Similarly, 70% or more of respondents in all of these countries except Japan (41%) and the US (56%) said that they sent and received SMS messages. Use of instant messaging services and Twitter, which are both relatively new services compared to email and SMS, were both higher than average in Italy, Spain and China (Figure 6.11).

Figure 6.11 Use of alternatives to traditional voice calls



Source: Ofcom research, September 2013

Base: All respondents

Note: Research conducted online

6.2 The telecoms industry

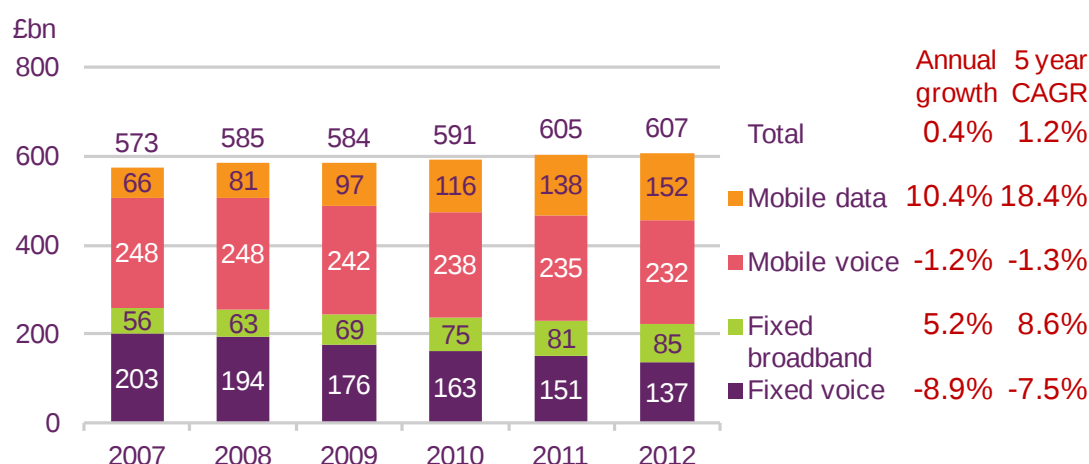
6.2.1 Market overview

Total comparator country telecoms revenues increased by 0.4% in 2012

Total telecoms revenues (from fixed voice, fixed broadband excluding access over leased lines, mobile voice and mobile data services) across all our comparator countries increased by 0.4% (£2bn) to £607bn in 2012 (Figure 6.12). Fixed voice revenues fell by 8.9% to £137bn during the year, reflecting falling call volumes (down 15.0%) and line numbers (down 3.2%). Total mobile revenues increased by 3.1% to £385bn during the year, as growth in mobile messaging and mobile internet revenues (up by 7.3% and 12.4% respectively) were offset by a 1.2% fall in mobile voice revenues. Fixed broadband revenues increased by 5.2% to £85bn, as the number of connections grew by 8.0% during the year to 500 million.

Overall, data services generated £237bn in revenues in 2012, an increase of 8.5% compared to 2011. This equated to 39.1% of total comparator country telecoms revenues, up from 36.2% in 2011 and 21.3% in 2007. Similarly, the proportion of data revenues that were generated by mobile data services (including mobile messaging) increased from 53.8% to 64.3% in the five years to 2012.

Figure 6.12 Total comparator country retail telecoms revenue, by sector: 2007 to 2012



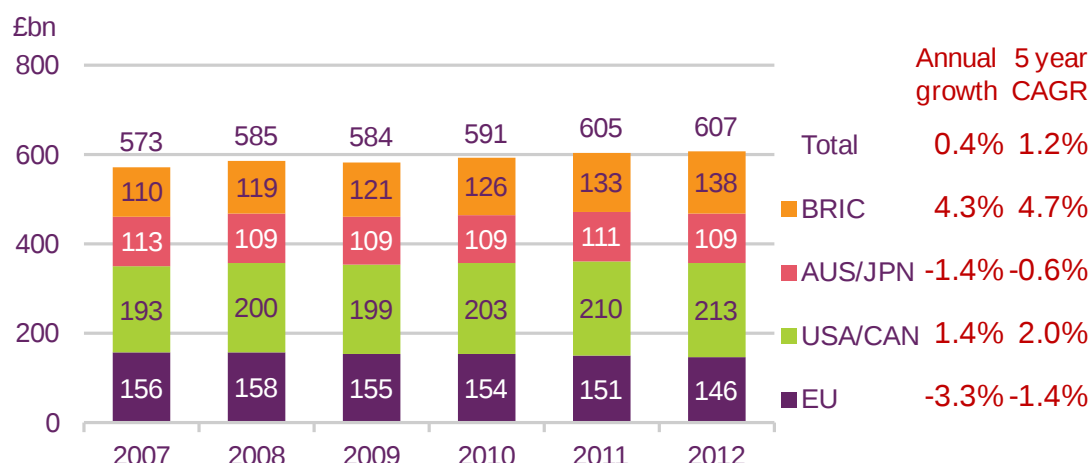
Source: IDATE / industry data / Ofcom

Note: Fixed broadband revenues exclude the BRIC countries; voice revenues include access/line rental revenues and may include revenues relating to bundled data services.

The largest increase in telecoms revenues was in the BRIC countries in 2012

The increase in total comparator country telecoms revenues in 2012 was due to revenue increases in the BRIC countries (up 4.3%) and the US/Canada (up 1.4%), as total revenues declined in our EU comparator countries (down 3.3%) and in Australia/Japan (down 1.4%) during the year (Figure 6.13). The increase in total comparator country telecoms revenues in 2012 was the third successive rise recorded following a small (0.3%) fall in revenues in 2009, which was to a large extent the result of the global economic downturn.

Figure 6.13 Total comparator country retail telecoms revenue, by country type: 2007 to 2012



Source: IDATE / industry data / Ofcom

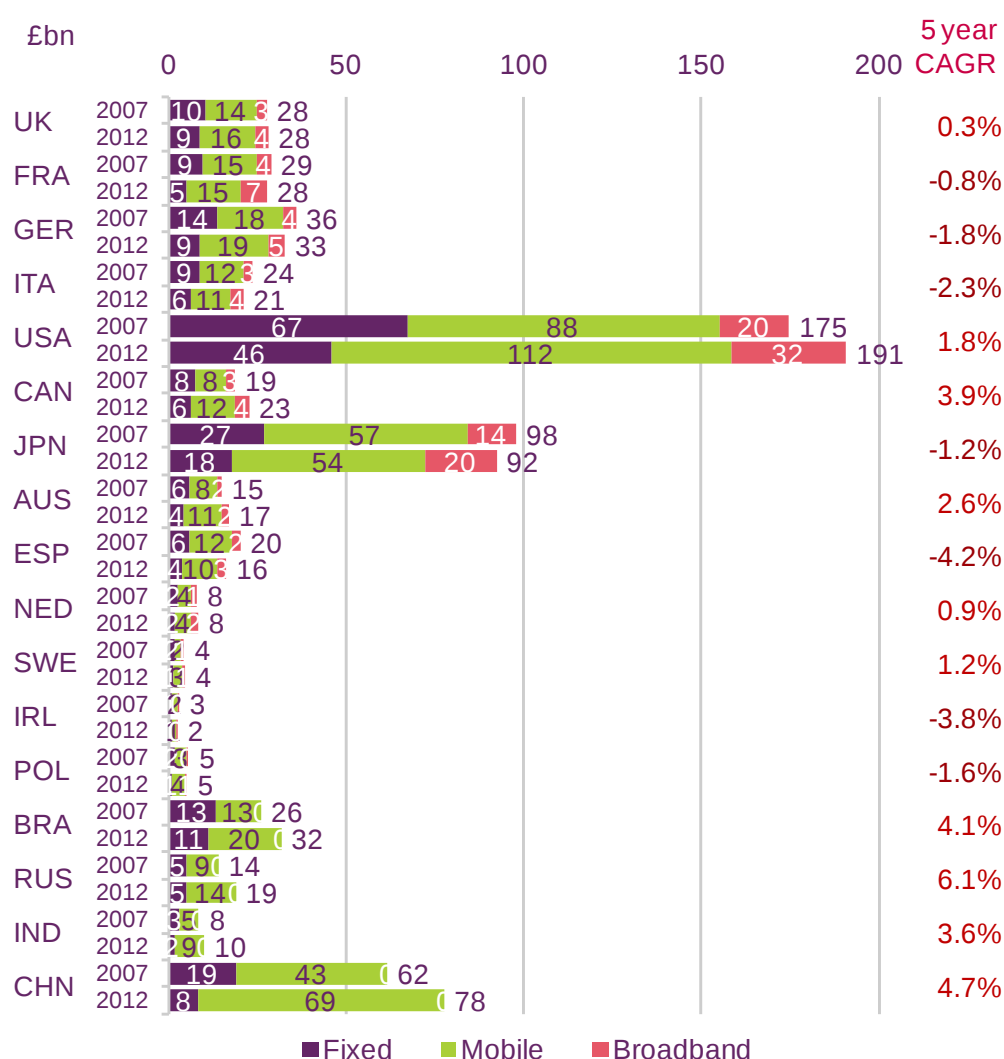
Note: Figures for the BRIC countries exclude fixed broadband revenues

Total UK telecoms revenues increased by an average of 0.3% a year in the five years to 2012

While total telecoms revenues increased in most of our 17 comparator countries between 2007 and 2012, they fell in seven countries over the period (Figure 6.14). The largest proportional fall was in Spain, where revenues fell by an average of 4.2% a year during this five-year period, partly as a result of the economic downturn, which has led to consumers seeking to reduce their spend on telecoms services. Revenue growth was strong in the BRIC countries, ranging from an average of 3.6% a year in India to 6.1% a year in Russia, due to increasing mobile use (over this period the number of mobile connections in the BRIC countries increased by 133% to 2.5 billion, while fixed voice revenues fell in all four of the BRIC countries).

In the UK, total telecoms revenues increased by an average of 0.3% a year between 2007 and 2012, as increasing mobile and fixed broadband revenues (up by averages of 2.2% and 4.7% a year respectively) were offset by falling fixed voice revenues (down by 4.0% a year). The increase in total telecoms revenues in the UK between 2007 and 2012 compares to an average annual fall of 1.8% across the other EU countries included in our analysis.

Figure 6.14 Telecoms service retail revenues, by sector: 2007 and 2012



Source: IDATE / industry data / Ofcom

Note: Figures for the BRIC countries exclude fixed broadband revenues

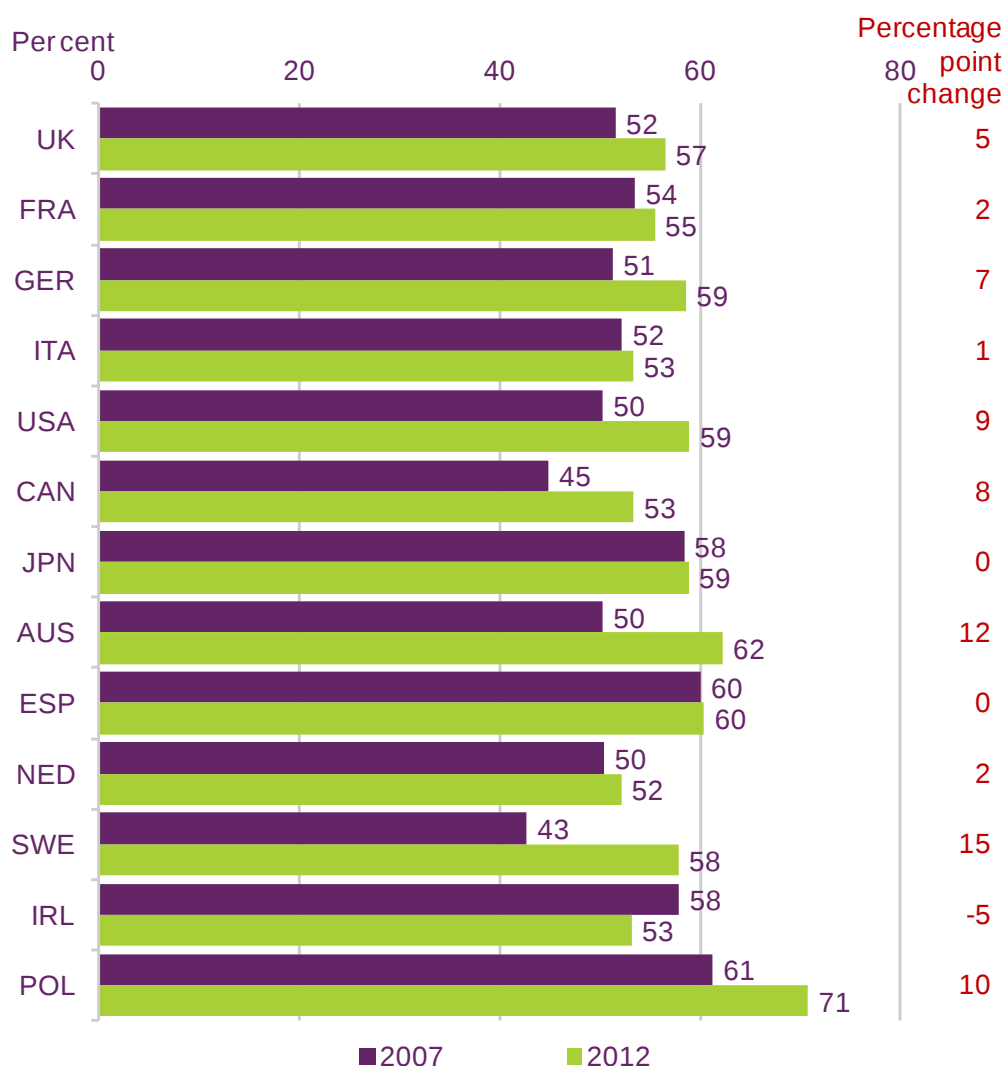
Mobile services generated 57% of total telecoms revenues in the UK in 2012

There was relatively little variation in the proportion of total telecoms revenues that were generated by mobile voice and data services among our comparator countries in 2012 (Figure 6.15). Of those nations for which data were available, the only countries where the proportion of telecoms revenues generated by mobile services was not between 50% and 60% were Spain, Australia and Poland, where the proportions were higher at 60.4%, 62.3% and 70.8% respectively (in the UK, mobile services generated 56.5% of total telecoms revenues in 2012, up from 51.6% in 2007).

In Australia and Poland, the proportion of total telecoms revenues that were generated by mobile services was high as a result of growing take-up of mobile services and increased levels of fixed-to-mobile substitution for both voice and data services. In Australia, mobile accounted for 77% of total call volumes in 2012, while in Poland (where fixed telecoms availability and take-up is low) the figure was 84% (the average across the comparator countries shown below for which separate outgoing mobile call volume data was available was 58%).

Additionally, mobile phone subscribers in Australia often choose to purchase an extra mobile broadband plan, and mobile broadband take-up in Australia is much higher than average (there were 39 mobile broadband connections per 100 households in Australia at the end of 2012, compared to an average of 20 per 100 households across our other non-BRIC comparator countries - excluding the US, where comparable figures were not available).

Figure 6.15 Mobile as a proportion of total telecoms revenues: 2007 and 2012



Source: IDATE / industry data / Ofcom

Mobile internet services generated £93bn in revenue in 2012

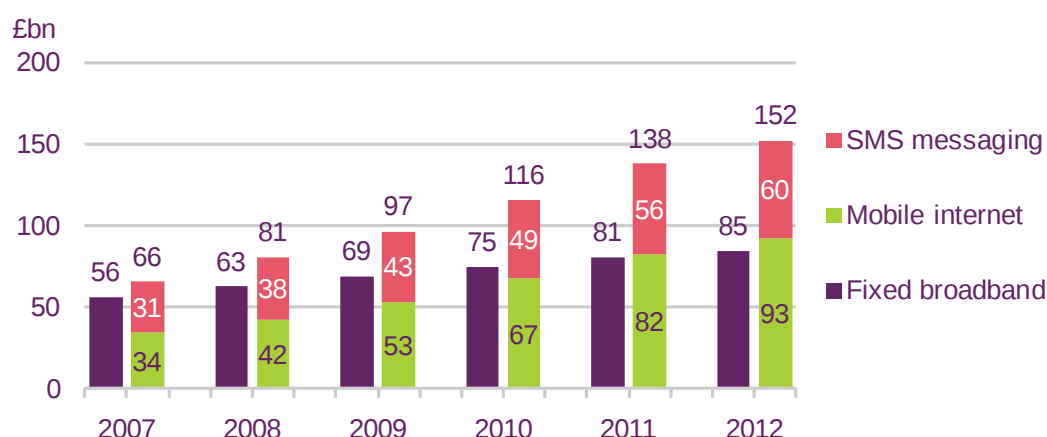
In total, mobile data services (which here include revenues from mobile messaging and mobile internet services) generated £152bn of revenue in our comparator countries in 2012, an increase of £14bn (10%) compared to 2011 (Figure 6.16). It should be noted that mobile data revenues are likely to be understated as they do not include revenue relating to mobile messaging and mobile internet use, which is included in the monthly fee for post-pay mobiles.

Mobile internet services generated £93bn in revenue in 2012, a £10bn (12%) increase compared to 2011 and £59bn more than in 2007, almost a three-fold increase. The growth in mobile internet revenues was a result of increasing mobile broadband take-up (in the five years to 2012 the number of dedicated mobile data connections among our non-BRIC

comparator countries increased from 12 million to 220 million) and growth in mobile data use on handsets, which was largely the result of increasing take-up of smartphones (see section 5.1.3 of this report for more details). Mobile internet services generated 61% of total mobile data revenues in 2012, a nine percentage point increase compared to 2007 and one percentage point higher than in 2011.

Fixed broadband revenue growth was slower than that of mobile data services in 2012, up by 5.2% to £85bn. In the five years to 2012, fixed broadband revenues increased by £29bn (50.7%) as a result of a 36% increase in the number of fixed broadband connections among our non-BRIC comparator countries between 2007 and 2012 (up from 194 million to 265 million), and a 4.1% increase in the average revenue per connection in these countries; to £27 per month.

Figure 6.16 Total fixed broadband and mobile data revenues: 2007 to 2012



Source: IDATE / industry data / Ofcom

Note: Excludes the BRIC countries

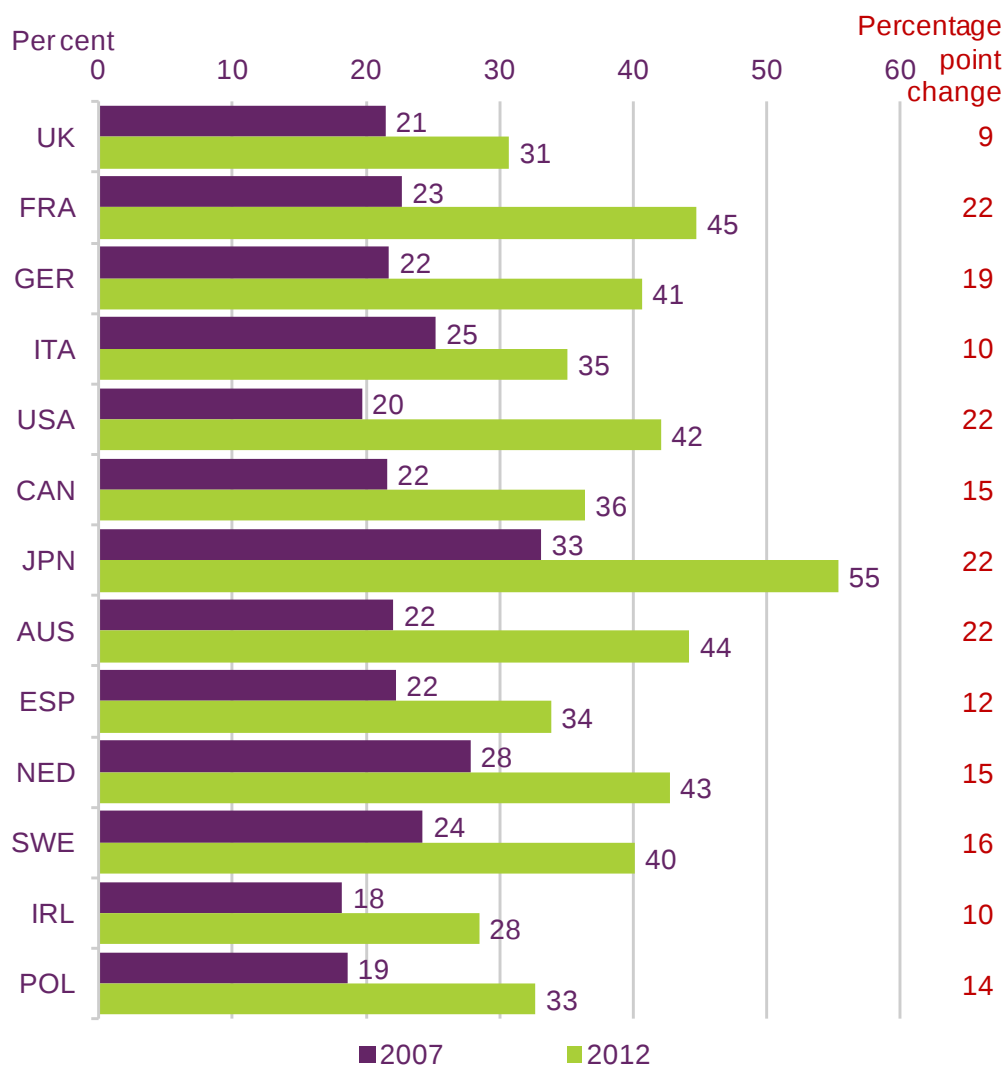
The UK had the second lowest proportion of total telecoms revenue generated by data services in 2012

The proportion of total telecoms revenue that was generated by fixed and mobile data services varied widely across those comparator countries for which figures were available (this analysis excludes the BRIC countries as no fixed broadband revenue data were available for them). The figures below exclude revenue from mobile messaging and data use in the allowances that are frequently included in post-pay mobile contract monthly access fees. The UK had the second lowest proportion (after Ireland) of total revenue generated by data services in 2012, at 31%, partly because the average revenue per fixed broadband connection in the UK in 2012 (£14.65 a month) was the third lowest among the comparator countries for which we have data (after Poland and Germany), and significantly lower than the £27.26 average across the comparator countries for which fixed broadband revenue data were available (Figure 6.17).

Japan had the highest proportion of total telecoms revenue generated by data services in 2012 (55%), as a result of the widespread use of mobile data services and the high take-up of fibre broadband (59% of fixed broadband connections in Japan were fibre-to-the-home or building at the end of 2012, compared to an average of 14% across all of our non-BRIC countries, and Japan had the highest average monthly revenue per fixed broadband connection across these countries at £43.82). France, the US, Japan and Australia had the largest increases in the proportion of total telecoms revenue generated by data services between 2007 and 2012, at 22 percentage points: in the UK the increase was nine

percentage points; the smallest increase across these 13 countries as a result of falling fixed broadband prices and the commonplace bundling of mobile data services with post-pay mobile tariffs (which means that these revenues are recorded as voice revenues rather than data revenues).

Figure 6.17 Data revenue as a proportion of total telecoms revenue: 2007 and 2012



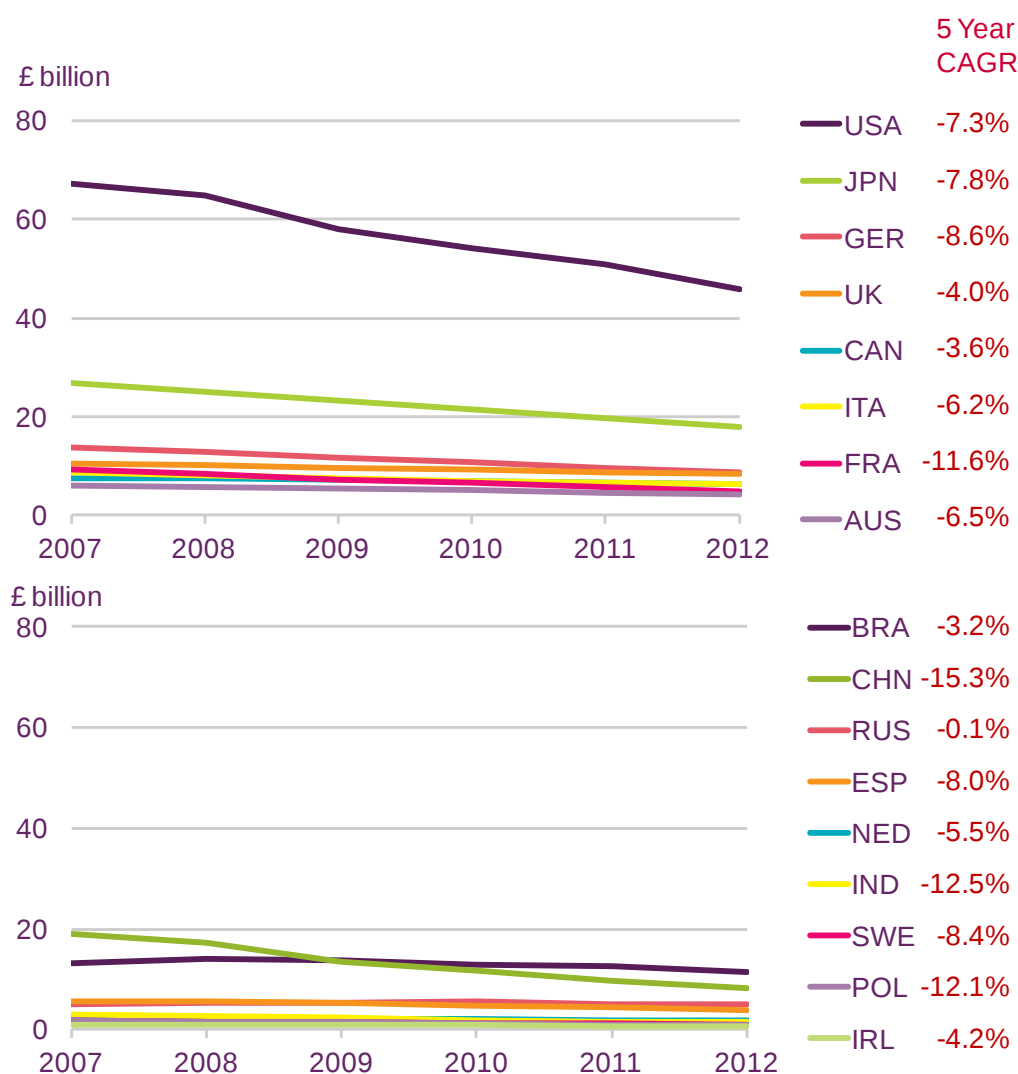
Source: IDATE / industry data / Ofcom

6.2.2 Fixed voice services

UK fixed voice revenues fell by an average of 4% per year in the five years to 2012

Retail fixed-line voice revenues fell by an average of 8.9% across the 17 comparator countries for which data were available in 2012 (Figure 6.18). This rate of decline was higher than the average annual fall of 7.5% in the five years to 2012, suggesting that the rate at which consumers are migrating from traditional fixed voice services to alternatives, including mobile voice calls and text-based forms of communication, such as SMS, email and instant messaging, has accelerated. Fixed voice revenues fell in all of our comparator countries, both in 2012 and over the five-year period, and the fastest rate of decline in 2012 was found in China, where revenues fell by 14.5% during the year. Outside the BRIC countries, the largest percentage falls during the year were in Spain (13.7%) and Poland (13.5%). In the UK, fixed voice revenues fell by 3.4% in 2012 and at an average annual rate of 4.0% between 2007 and 2012, largely as a result of falling fixed call volumes.

Figure 6.18 Fixed line voice retail revenues: 2007 to 2012



Source: IDATE / industry data / Ofcom

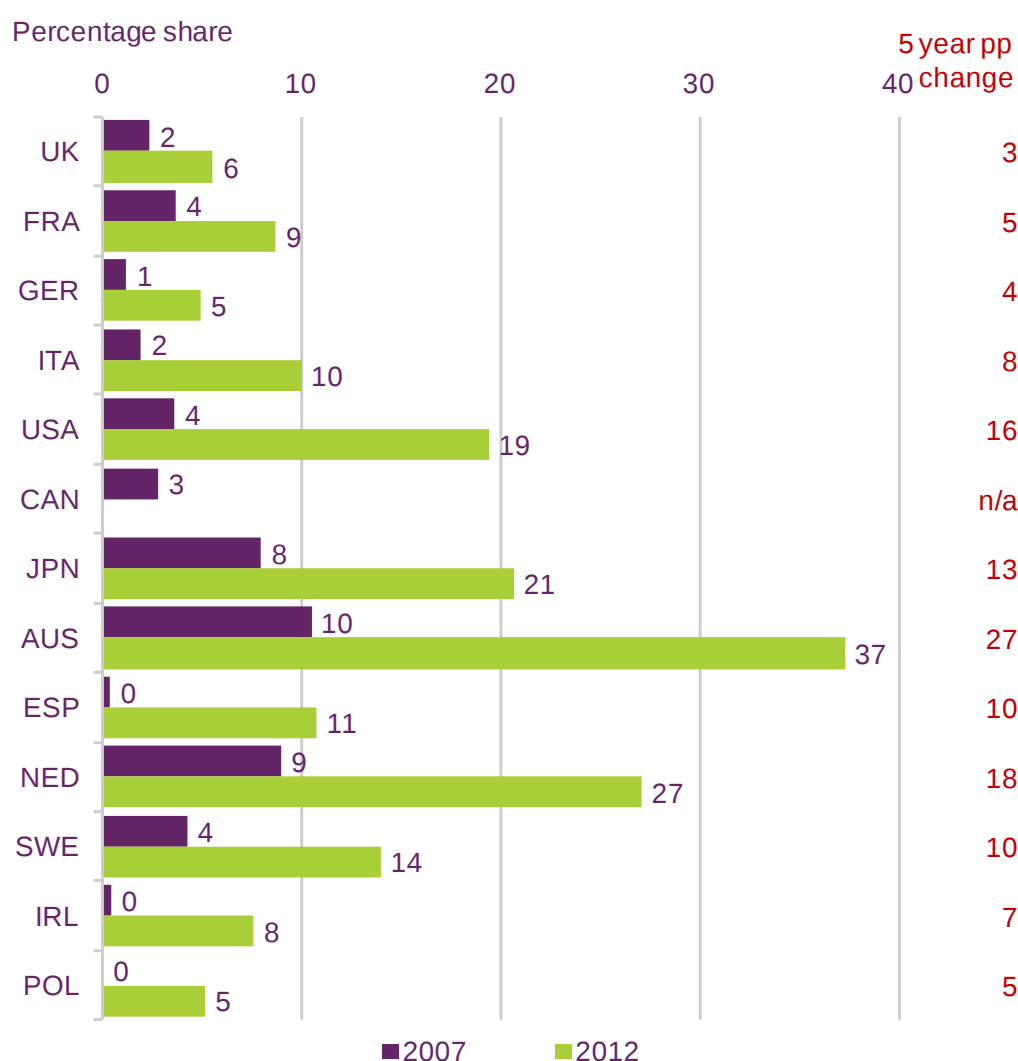
VoIP generated 37% of fixed voice revenues in Australia in 2012

VoIP services generated 37% of total fixed voice revenues in Australia, the largest proportion among all comparator countries in 2012 and a 27 percentage point increase

compared to five years previously (Figure 6.19). Managed VoIP telephony services have been successful in Australia, where there are a large number of providers offering a wide range of VoIP call packages. The Netherlands, where average revenue per VoIP user was high, also experienced a large increase in the proportion of fixed voice revenue generated by VoIP services over the period, up by 18 percentage points to 27%.

By comparison, the UK had a much smaller increase in the five years to 2012, a three percentage point increase to 6%: only Germany and Poland (both at 5%) had a lower proportion of fixed voice revenues generated by VoIP during the year. The use of managed VoIP services as an alternative to traditional voice services is low among residential consumers in the UK, and unlike many cable operators internationally, Virgin Media, the UK's largest cable provider, does not deliver fixed voice services using VoIP. As such, most managed VoIP use in the UK is among business users.

Figure 6.19 VoIP revenues as a proportion of fixed voice revenues: 2007 and 2012



Source: IDATE

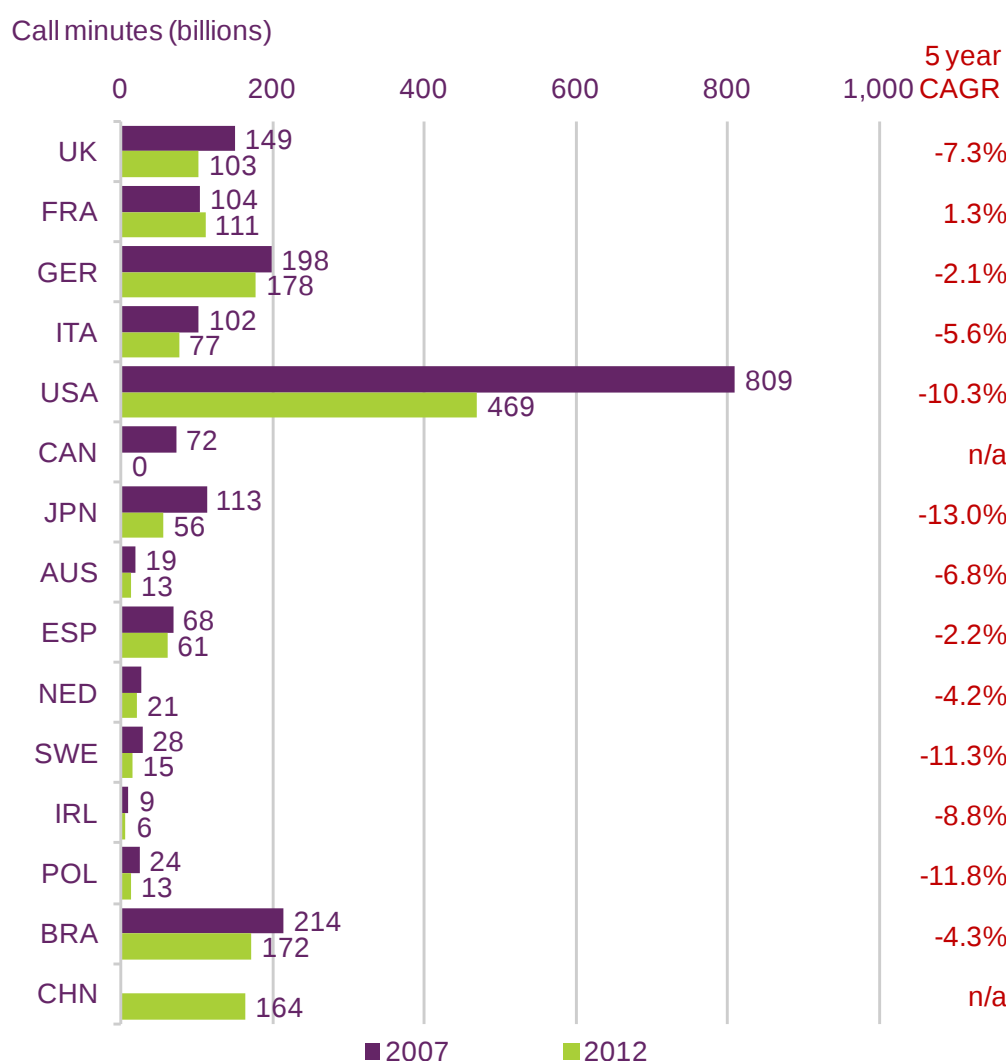
France was the only comparator country where fixed call volumes increased in the five years to 2012

Total fixed-line voice call volumes across those comparator countries for which call volume time series data were available fell by an average annual rate of 7.0% to 1.3 trillion call minutes between 2007 and 2012. France was the only comparator nation where fixed call

volumes increased over this period, up by an average annual rate of 1.3% to 111 billion minutes as a result of the availability of low-cost VoIP-based fixed telephony services (Figure 6.20).

In the UK, fixed voice call volumes fell at an average annual rate of 7.3% in the five years to 2012, the main reason being fixed-to-mobile substitution, although there have also been increases in the use of text-based communications services (such as email, SMS and instant messaging) and VoIP. The highest average annual rate of decline between 2007 and 2012 was in Japan, at 13.0%, where increasing use of mobiles and other alternatives to traditional fixed voice calls contributed to a 50% fall in voice call volumes to 56 billion minutes over the period.

Figure 6.20 Fixed line voice call volumes: 2007 and 2012



Source: IDATE / industry data / Ofcom

Note: Figures for USA and CAN exclude local and VoIP calls and include incoming mobile calls

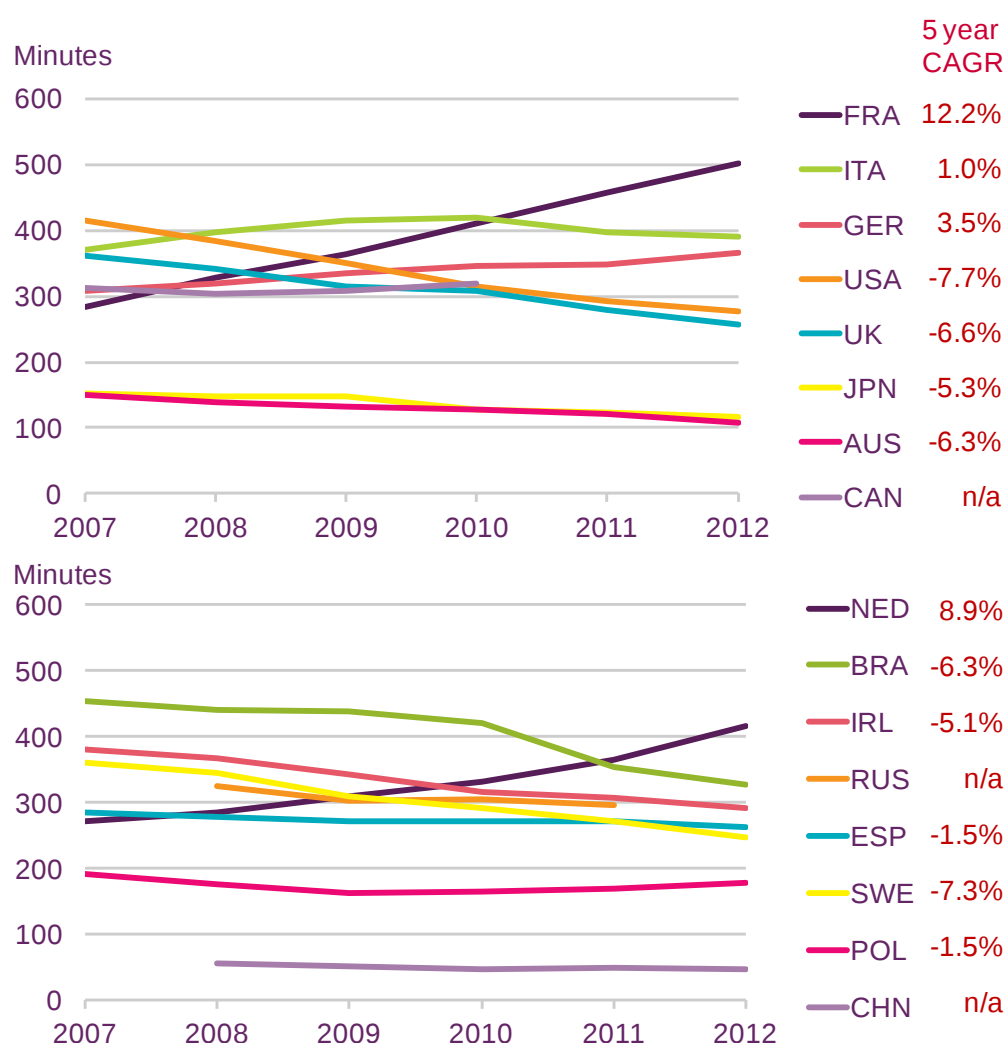
The US had the largest fall in outgoing voice call minutes per fixed line in the five years to 2012

Across the comparator countries for which data were available, the total number of outbound voice call minutes per fixed line fell by an average of 3.2% a year, to 262 minutes per month between 2007 and 2012 (Figure 6.21). It should be noted that the call volume data used to

calculate the figures below includes VoIP call volumes, whereas the fixed-line data excludes VoIP connections. As such, the call volumes per fixed line will be overstated in countries where VoIP services are available over naked DSL, fibre or cable broadband connections (such as France and the Netherlands) as these services generate call volumes, but do not include a traditional landline. Largely as a result of its high take-up of VoIP over broadband without a fixed line, France had the highest number of average call minutes per fixed line, at 502 minutes a month in 2012, more than ten times the 48 minutes per month in China, where average use per line was the lowest among our comparator nations.

Between 2007 and 2012 there were increases in average call volumes per fixed line in France (up by an average of 12.2% a year), the Netherlands (8.9% a year), Germany (3.5% a year) and Italy (1.0% a year). In France and the Netherlands this was due to increasing VoIP traffic and a fall in the number of traditional fixed lines, while in Germany a key driver of increasing use per line was growth in business call volumes. In the UK the average number of outgoing minutes per line fell from 361 minutes per month to 257 minutes per month in the five years to 2012, an average of 6.6% a year. Falling average use in the UK can be explained by growing fixed-to-mobile substitution and resilience in the number of fixed lines, which is partly because most UK homes need to have a fixed line in order to be able to access fixed broadband services (Figure 6.34).

Figure 6.21 Monthly outbound minutes per fixed line: 2007 to 2012



Source: IDATE / industry data / Ofcom

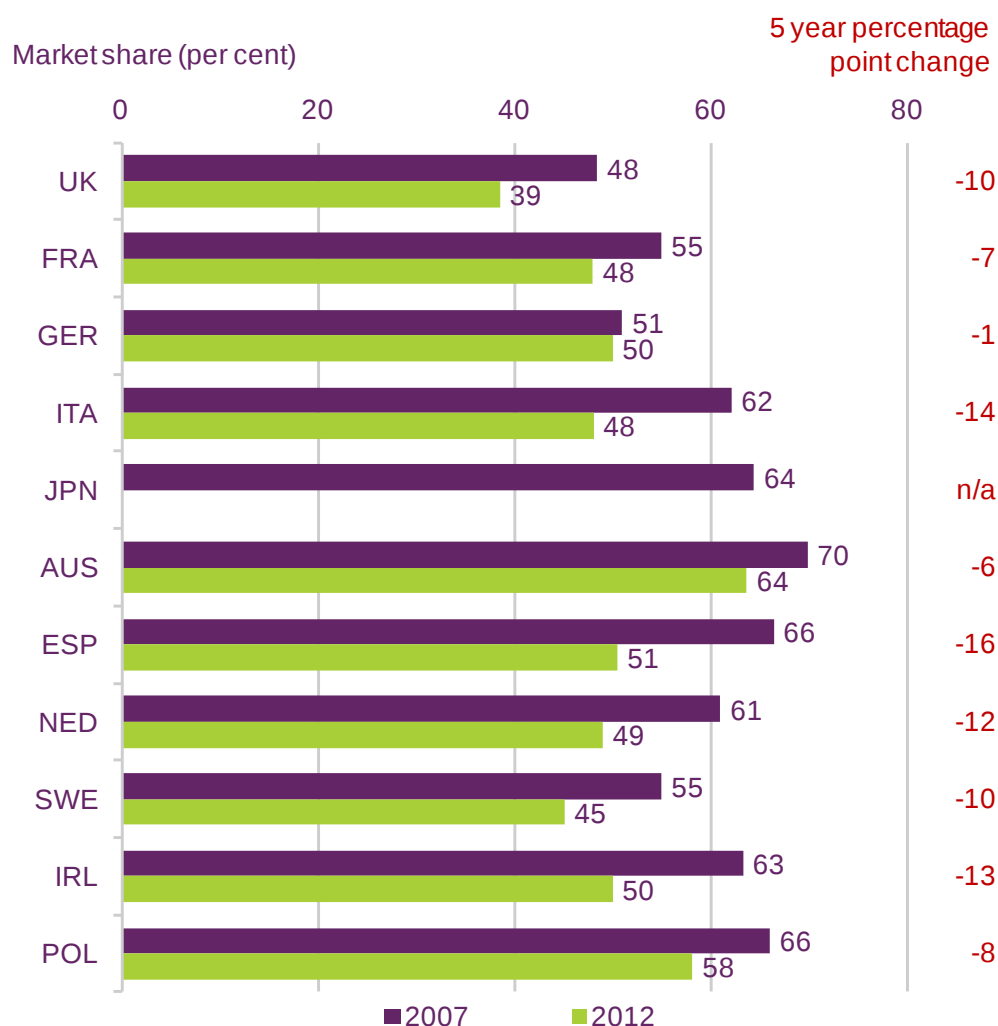
Note: Figures for USA and CAN exclude local and VoIP calls and include incoming mobile calls

BT's share of fixed voice call volumes was the lowest among the incumbent operators in our comparator countries in 2012

Across most of the comparator countries for which data were available, there were significant declines in the incumbent provider's share of fixed voice call volumes in the five years to 2012 (Figure 6.22). These falls ranged from a one percentage point drop in Deutsche Telekom's share of fixed voice call volumes in Germany (partly due to it offering its customers additional call packages in order to secure customer loyalty) to a 16 percentage point fall in Telefónica's share in Spain, where overall traffic has declined and this decline has been especially pronounced for Telefónica.

In the UK, BT's share of fixed-line voice call volumes decreased by ten percentage points to 39% between 2007 and 2012, with its share being the lowest among the incumbent operators in our comparator countries. The fall in BT's share of fixed call volumes is largely due to high levels of take-up of full-LLU-based fixed voice services, such as those offered by Sky and TalkTalk. Despite experiencing a six percentage point fall in its share of fixed voice call volumes between 2007 and 2012, Australia's incumbent operator, Telstra, had the highest share of fixed voice call volumes among the comparator countries for which we had data, at 64%. This was largely due to there being a lack of competition in the fixed-services sector until 1997, when Australia's telecommunications market was formally opened up to full competition.

Figure 6.22 Incumbent operator's share of fixed voice call volumes: 2007 and 2012



Source: IDATE / industry data / Ofcom

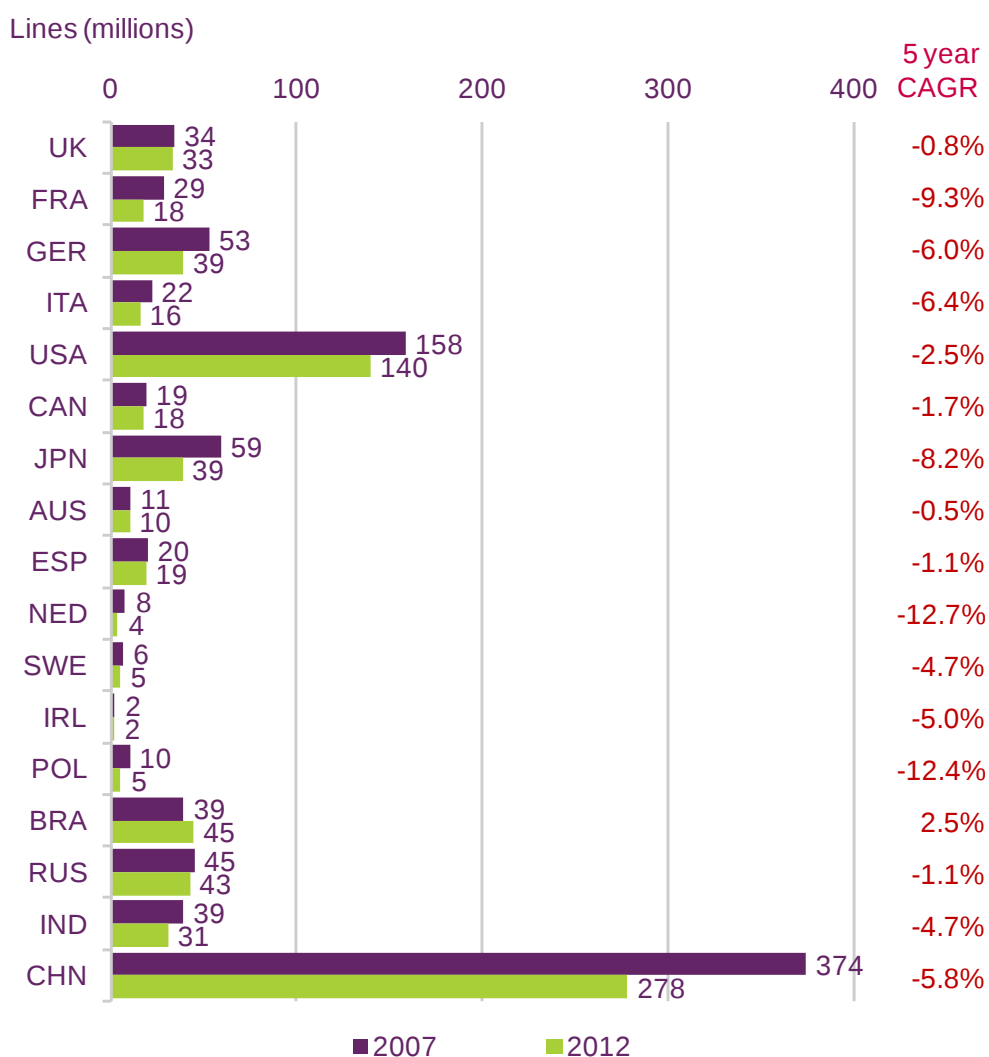
Brazil was the only comparator country where the number of fixed lines increased between 2007 and 2012

The total number of fixed exchange lines across our comparator countries fell by 20.1% to 743 million between 2007 and 2012 (Figure 6.23). Brazil was the only country which saw an increase in the number of fixed lines over this period, up by an average of 2.5% a year to 45 million exchange lines as a result of growth in the availability of fixed voice services (as a result of the deployment of fixed wireless networks),⁷⁴ along with its growing economy, falling prices and an increase in the number of households.

The fastest annual rate of decline in fixed exchange lines among our comparator countries was in the Netherlands, at 12.7%, followed by Poland at 12.4%, between 2007 and 2012. In both cases, these falls were partly a result of increasing levels of fixed-to-mobile substitution, although in the Netherlands the switch to VoIP-based fixed voice services provided over stand-alone cable broadband connections was also a contributory factor. In the UK, the number of fixed lines fell by one million to 33 million in the five years to 2012, an average annual fall of 0.8%. The fall in the number of fixed lines in the UK was largely due to a decline in the number of business lines.

⁷⁴ Fixed wireless networks use a wireless link rather than physical wiring to provide fixed voice and data services. The benefit of fixed wireless networks is that using wireless technology over the last mile makes network deployment much cheaper, as it is not necessary to run wiring to each customer's premises.

Figure 6.23 Fixed exchange lines: 2007 and 2012



Source: IDATE / industry data / Ofcom

6.2.3 Fixed broadband services

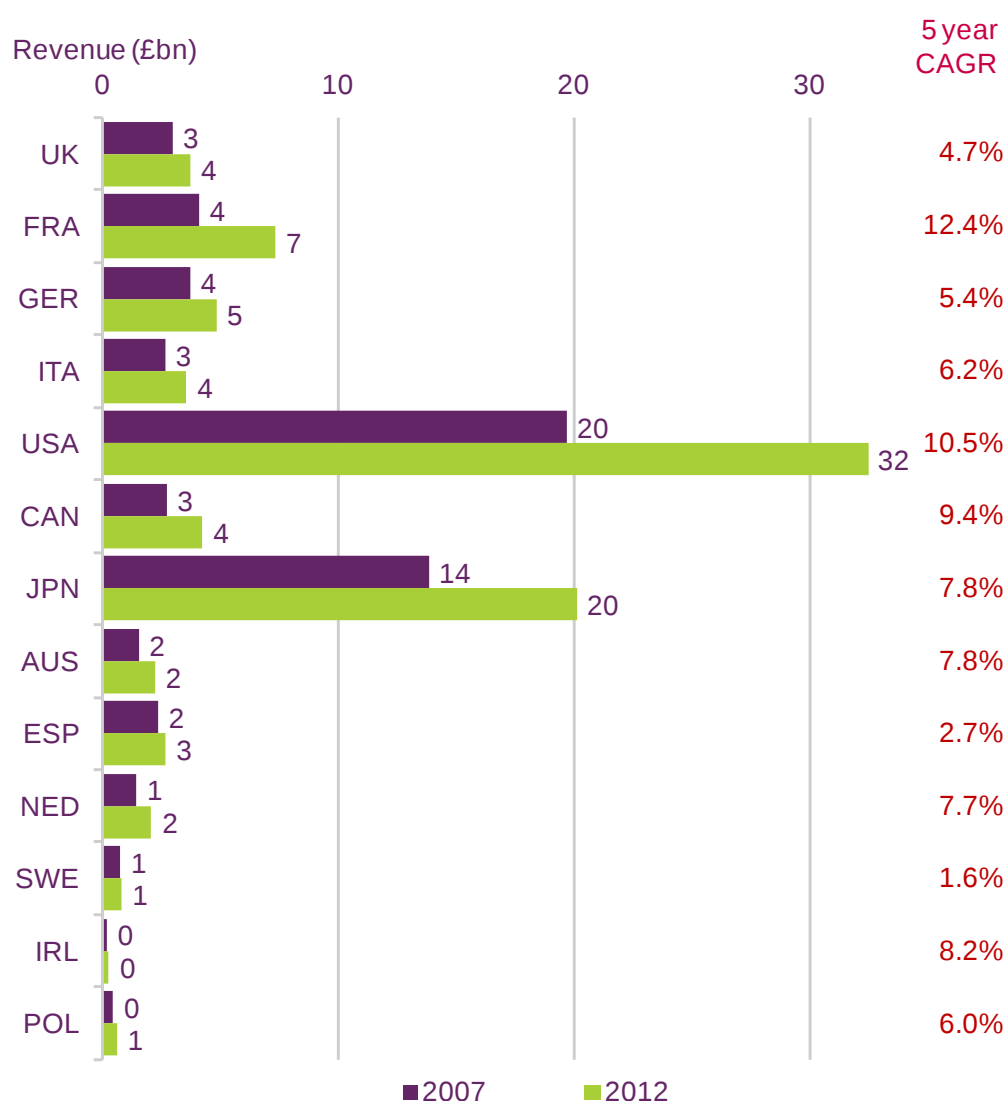
UK fixed broadband revenues grew by an average of 4.7% a year in the five years to 2012

Total fixed broadband revenues in the 13 comparator countries for which we have data increased by an annual average rate of 8.6% to £85bn in the five years to 2012 (Figure 6.24). France had the fastest average annual increase in fixed broadband revenues during this period, at 12.4%, partly as a result of a 52% increase in the number of fixed broadband connections; from 15.8 to 24.0 million during the period, but also because revenue data for France includes revenues relating to VoIP-based fixed voice and IPTV services, which are bundled with fixed broadband services.

Among the other comparator countries for which we had data, the lowest annual average fixed broadband revenue growth rates were in Sweden (where the fixed broadband market was already relatively mature in 2007), at 1.6%, and in Spain (where the average revenue per fixed broadband connection fell by a quarter over the period), at 2.7%. UK fixed broadband revenues increased at an average annual growth rate of 4.7% over the five-year period to 2012, the third-lowest growth among our comparator nations. The relatively low

increase in revenue growth in the UK over the period can be explained by falling prices (the average revenue per connection fell by 15% over this period).

Figure 6.24 Fixed broadband revenues: 2007 and 2012



Source: IDATE / industry data / Ofcom

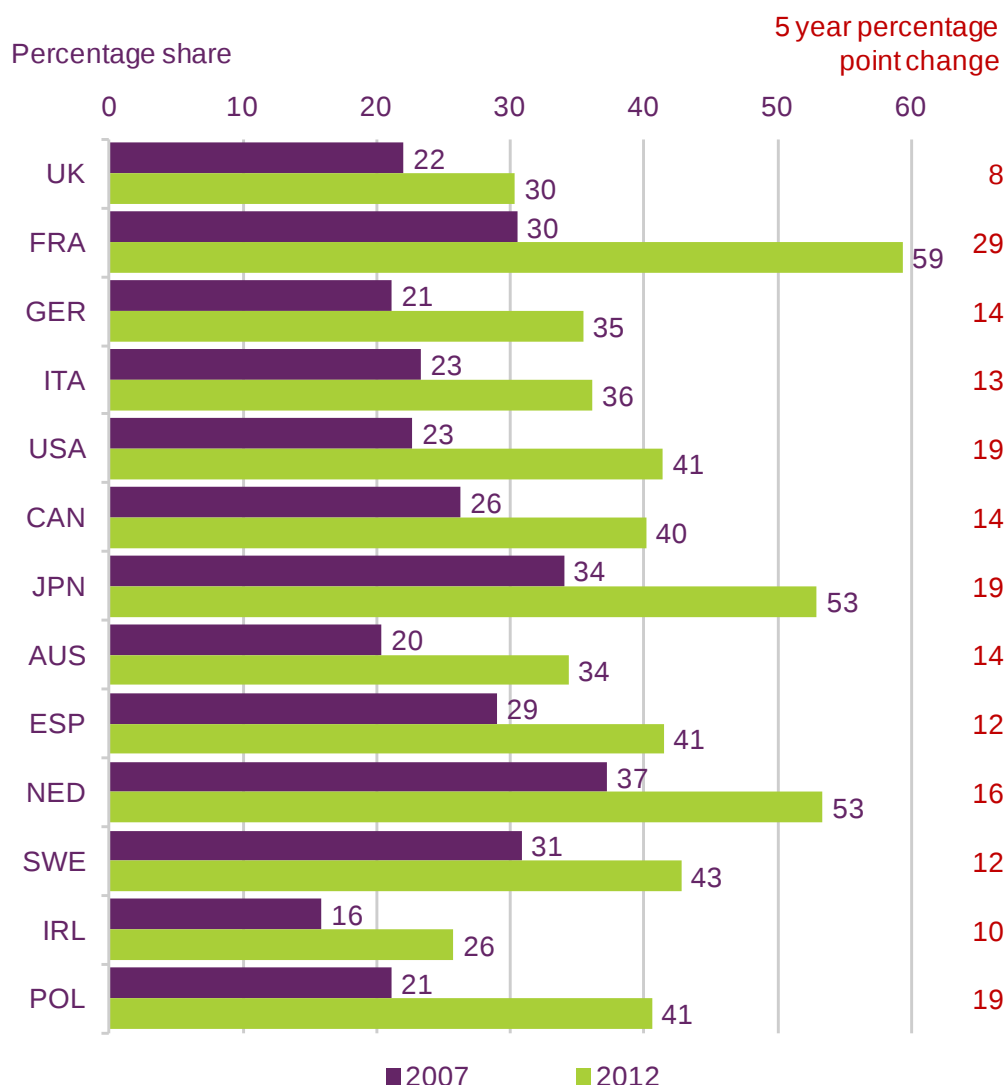
Fixed broadband revenues accounted for 30% of total UK fixed telecoms revenues in 2012

Broadband revenues accounted for 43% of total fixed telecoms revenues in 2012 across our non-BRIC comparator countries, up from 26% in 2007 (Figure 6.25). The proportion of total fixed telecoms revenues generated by fixed broadband services ranged from 26% in Ireland to 53% in Japan and the Netherlands and 59% in France (where, as mentioned previously, the figures are not directly comparable, as fixed broadband revenue data also include revenues from bundled VoIP and IPTV services). Fixed broadband tended to account for a higher proportion of fixed telecoms revenue in countries where naked DSL is available (such as France and the Netherlands), as consumers in these countries are able to purchase broadband services without needing to have a fixed line.

The UK had the second-lowest proportion of fixed telecoms revenue from fixed broadband services among our comparator countries in 2012, at 30%; it was low because the UK has low fixed broadband prices. Declining fixed broadband prices meant that the UK also had the

smallest increase in this proportion among our comparator countries in the five years to 2012, up just eight percentage points compared to increases of 19 percentage points in the US, Japan and Poland and 29 percentage points in France, where the largest increases among our comparator countries were found.

Figure 6.25 Fixed broadband as a proportion of total fixed revenues: 2007 to 2012



Source: IDATE / industry data / Ofcom

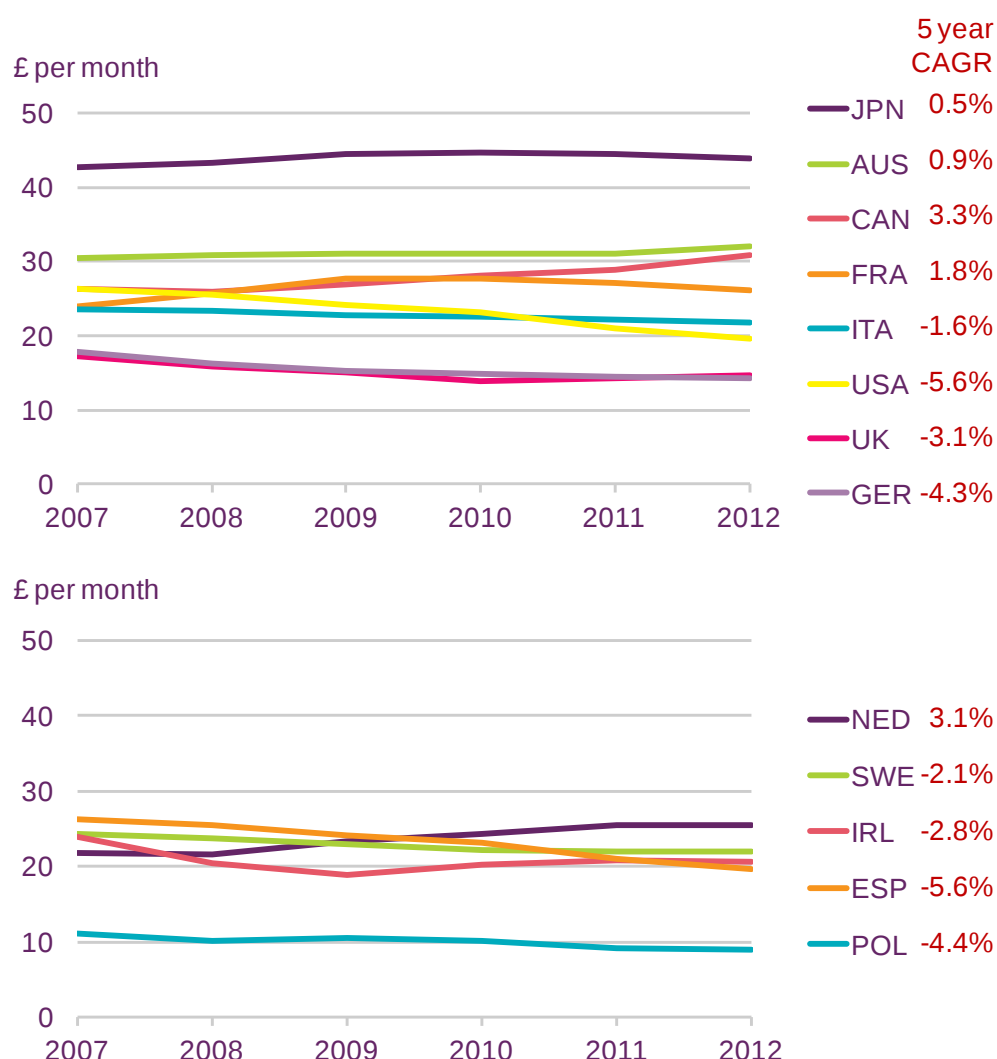
Note: FRA fixed broadband revenue include revenue from bundled VoIP and IPTV services

Average revenue per fixed broadband connection increased by an average of 3.1% a year in the UK between 2007 and 2012

Falling fixed broadband prices meant that average revenue per fixed broadband connection fell in most of our comparator countries between 2007 and 2012 (Figure 6.26). Among the five comparator countries where average revenue per connection increased during this period, Canada saw the highest average annual growth rate in retail broadband revenue per connection (3.3%) as a result of increased adoption of higher-bandwidth connections and the existence of tiered fixed broadband pricing based on bandwidth and use, followed by the Netherlands at 3.1%. Conversely, over the same period, the highest average annual rates of decline in average revenue per fixed broadband connection were in the US and Spain (both at 5.6% a year). In the UK, average revenue per connection fell by an average of 3.1% a year to £15 per month in the five years to 2012, although it has been increasing since 2010,

partly as a result of growth in the take-up of superfast broadband services (further information on superfast broadband services can be found in section 6.1.3 of this report).

Figure 6.26 Retail fixed broadband average revenue per connection: 2007 to 2012

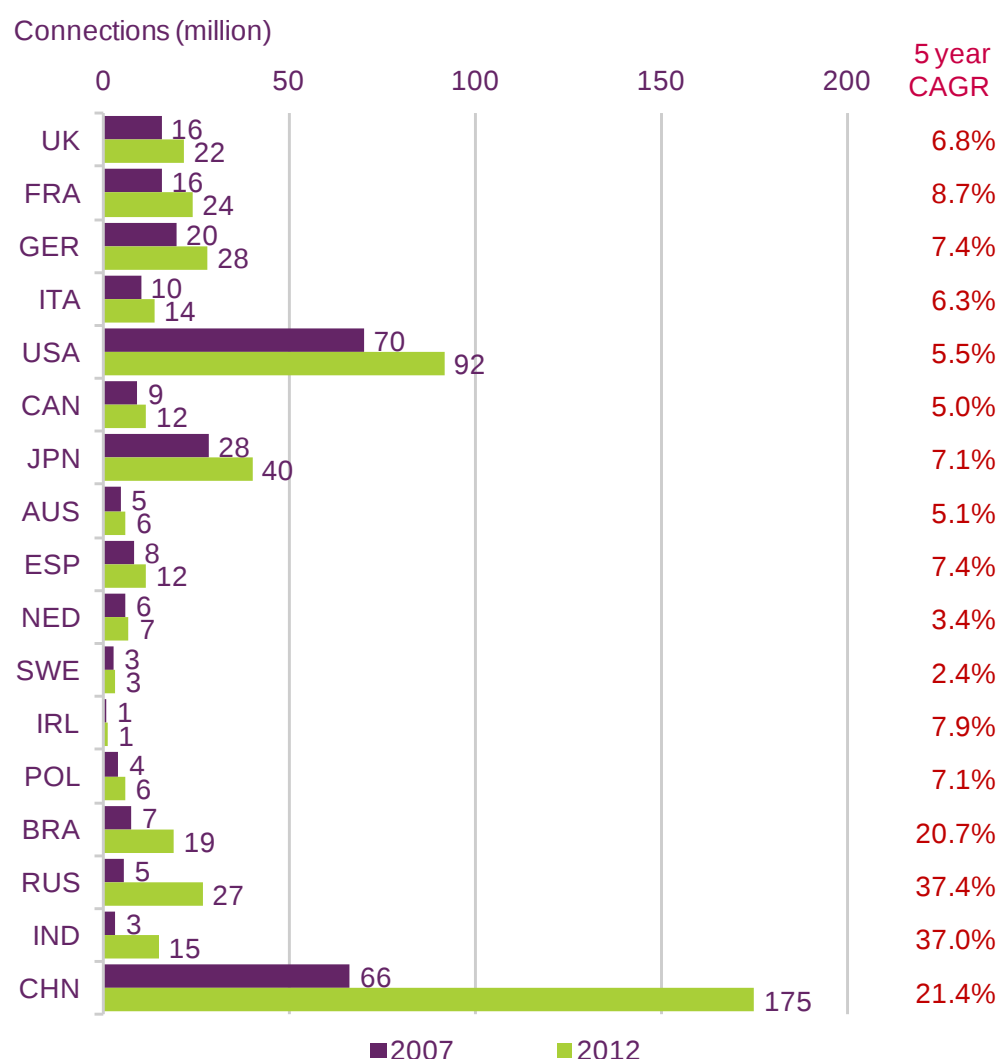


IDATE / industry data / Ofcom

The BRIC countries experienced the highest growth rates in fixed broadband connections in the five years to 2012

There were a total of 500 million fixed broadband connections across our comparator countries at the end of 2012, an increase of 223 million connections (80.7%) compared to five years previously (Figure 6.27). The average annual rate of growth in fixed broadband connections was highest in the BRIC countries in the five years to 2012, where it ranged from 20.7% in Brazil to 37.4% in Russia. The large increases in the number of fixed broadband connections among the BRIC countries are partly the result of a 'catch-up' effect, as fixed broadband penetration is much lower than in most of our other comparator countries. Among our non-BRIC countries, the highest average annual rate of growth in the number of fixed broadband connections between 2007 and 2012 was in France (8.7%), while the lowest was in Sweden (2.4%). In the UK, the total number of fixed broadband connections increased by six million to 22 million in the five years to 2012, an average annual growth rate of 6.8%).

Figure 6.27 Fixed broadband connections: 2007 to 2012



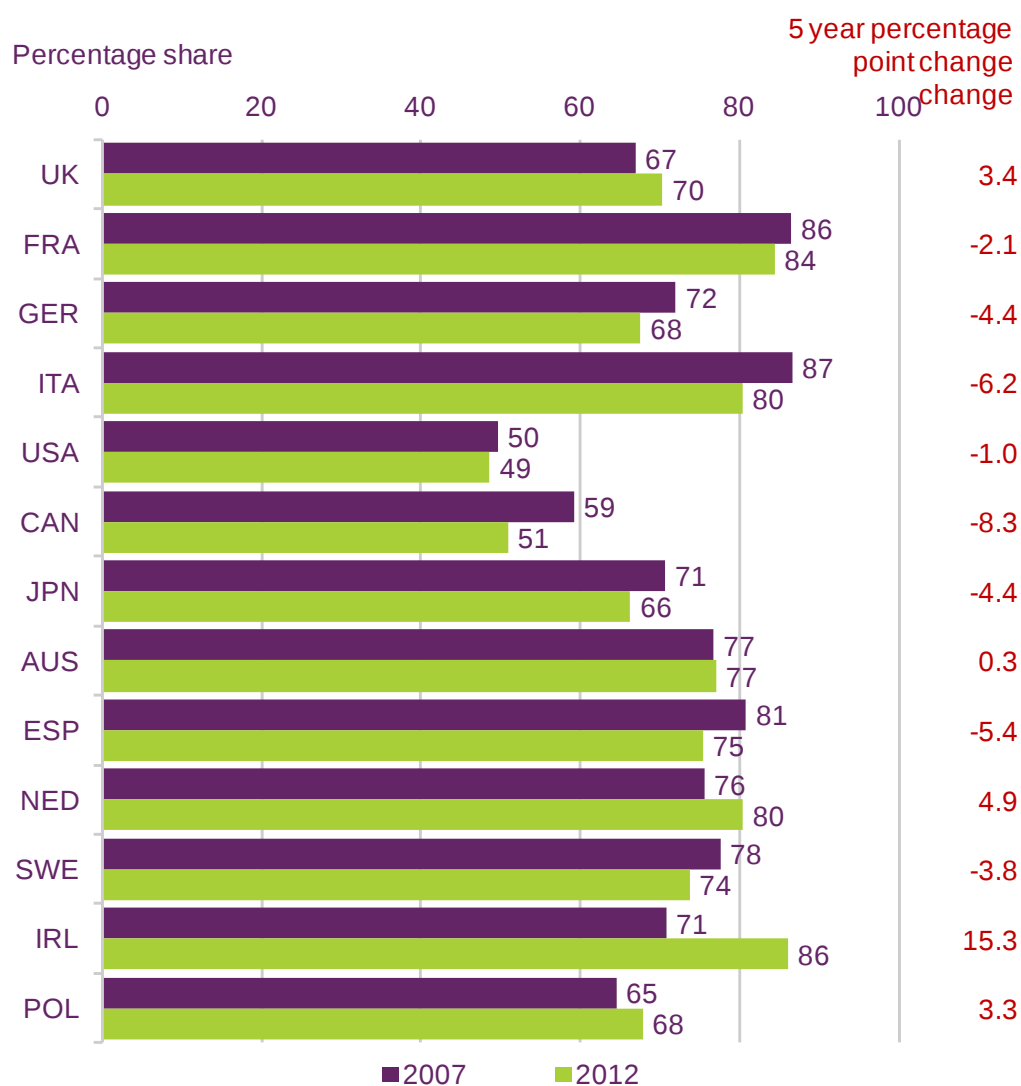
Source: IDATE / industry data / Ofcom

Ireland had the most concentrated fixed broadband market in 2012

The average combined retail connection share of the three largest broadband providers across the 13 comparator countries for which figures were available decreased by one percentage point to 64% in 2012, suggesting that retail broadband markets are becoming more competitive (Figure 6.28). Ireland had the most concentrated broadband market among our comparator countries in 2012, with its three largest ISPs (Eircom, UPC and Vodafone Ireland) having a combined share of fixed broadband connections of 86% in 2012. While Ireland's three largest ISPs had the highest fixed broadband connection share among our comparator countries in 2012, Japan's had the lowest combined share (apart from the US and Canada, where the existence of a large number of local infrastructure providers means the market share of the three largest providers is a less useful metric), at 66%.

Italy saw the largest decline in the retail connection share of the nation's three largest fixed broadband providers (Telecom Italia, Wind and FastWeb) in the five years to 2012, a fall of 6.2 percentage points to 80%; partly due to Vodafone having entered the market and gained a significant share of the market at the expense of Telecom Italia. In the UK, the connection share of the three largest fixed broadband providers was 70% at the end of 2012, a 3.4 percentage point increase compared to five years previously.

Figure 6.28 Retail connection share of the three largest fixed broadband providers: 2007 to 2012



Source: IDATE / industry data / Ofcom

6.2.4 Mobile voice and data services

Total comparator country mobile revenues increased by 3.1% in 2012

Total retail mobile revenues generated in our comparator countries increased by £11bn (3.1%) to £385bn in 2012 (Figure 6.29). This increase was lower than both the 5.5% revenue growth recorded in 2011 and the 4.2% average between 2007 and 2012, suggesting that growth is slowing as markets mature. The main drivers of increasing mobile revenue in 2012 were an £8bn (8.0%) increase in mobile revenues in the BRIC countries, as the result of a 119 million (5.1%) increase in the number of mobile subscribers during the year, and a £6bn (5.0%) increase in the US/Canada, which was driven by increasing mobile internet revenues. Total mobile revenues fell among our EU comparator countries and in Australia and Japan in 2012, with the rate of decline being higher in the EU (down 2.5% or £2bn) than in Australia/Japan (down 0.9% or (£1bn)). In both cases, the decline in revenues was as a result of falling prices, as the number of mobile connections, mobile internet revenues and volumes of outgoing calls and mobile messages all increased during the year.

Figure 6.29 Total comparator country retail mobile telecoms revenue, by country type: 2007 to 2012



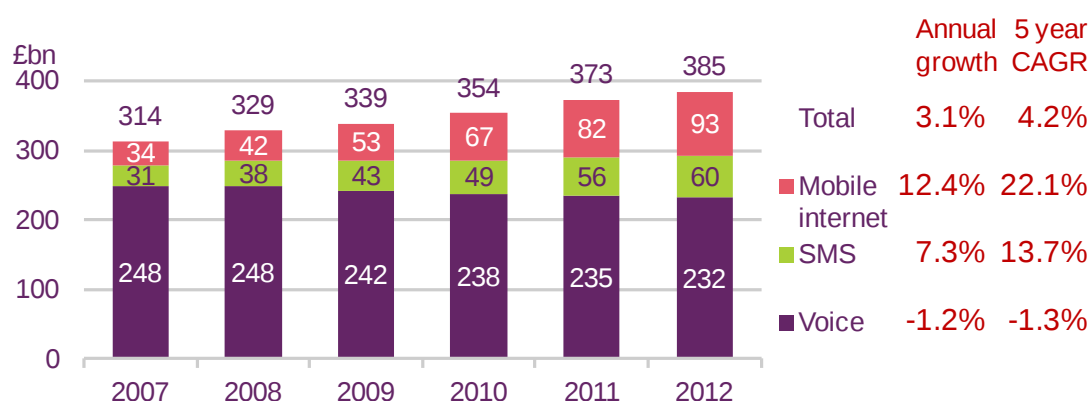
Source: IDATE / industry data / Ofcom

Mobile internet services generated a quarter of total mobile revenues in 2012

Mobile internet revenues increased by 12.4% to £93bn in 2012 as a result of increasing mobile broadband use and mobile data use on mobile handsets, in particular smartphones (as previously, mobile data revenues will be understated as revenues from monthly access fees, which frequently include an inclusive data allowance, are classed as being voice revenue in our data). Mobile internet services (which exclude mobile messaging services) generated just under a quarter (24%) of total mobile revenues in 2012, up from 22% in 2011 and just 11% in 2007 (Figure 6.30).

Total mobile voice revenues fell for the fourth successive year in 2012, down by 1.2% to £232bn as a result of falling prices (total mobile-originated voice call minutes increased by 17.3% to 12.2 trillion minutes during the year). SMS revenues increased during the year (by 7.3% to £60bn), although it is likely that this increase is because the SMS revenue figures below include mobile internet data for the BRIC countries (as total outgoing SMS message volumes in our comparator countries fell during the year). Overall, mobile data services (which include SMS and mobile internet) accounted for 39.6% of total retail mobile revenues in 2012, a 2.6 percentage point increase compared to 2011 and almost double the 2007 figure (20.9%).

Figure 6.30 Total comparator country retail mobile telecoms revenue, by sector: 2007 to 2012



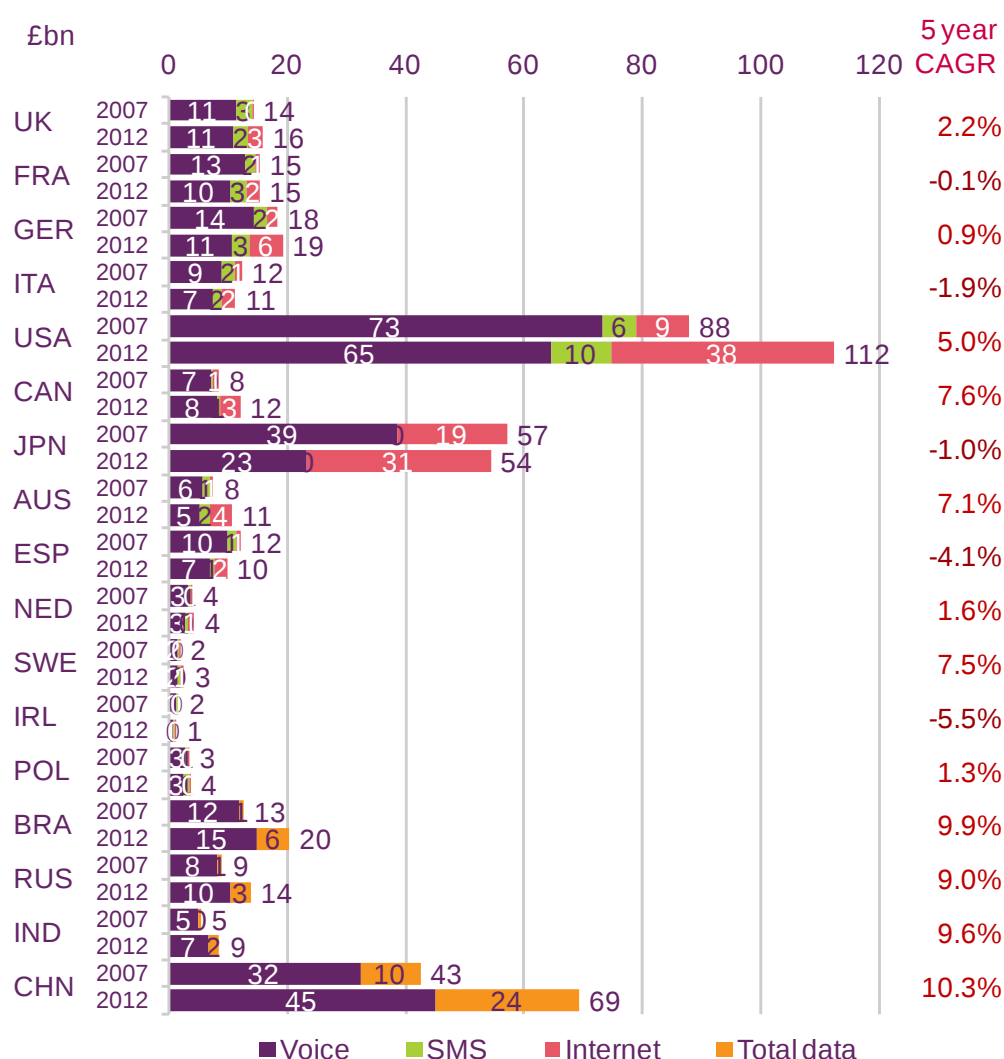
Source: IDATE / industry data / Ofcom

Sweden had the highest average mobile revenue growth between 2007 and 2012

Total retail mobile revenues among our comparator countries ranged from less than £1bn in Ireland to £112bn in the US in 2012. Revenues increased in all but five comparator countries between 2007 and 2012, the exceptions being France, Italy, Japan, Spain and Ireland, where declining revenues were due to falling prices (Figure 6.31). Canada had the highest average annual mobile revenue growth outside the BRIC countries during the five-year period, at 7.6%, due to growth in the number of mobile connections and increasing revenues from both mobile voice and data services, including mobile broadband. Mobile services generated £16bn of revenue in the UK in 2012, with the average revenue increase in the previous five-year period having been less than a third that in Canada, at 2.2% a year.

There were significant revenue shifts in some of our comparator countries in 2012, with mobile revenues falling by 10.4% in Spain and increasing by 10.5% in Brazil during the year. The main driver of falling mobile revenues in Spain is likely to have been consumers changing their spending habits in response to the economic downturn, while in Brazil increasing revenues were largely due to a 75% increase in mobile data revenue in 2012. Revenue growth in the UK was 2.8% during the year, with data revenue growth (5.1%) being higher than voice revenue growth (1.8%).

Figure 6.31 Retail mobile revenues, by service and country: 2007 and 2012

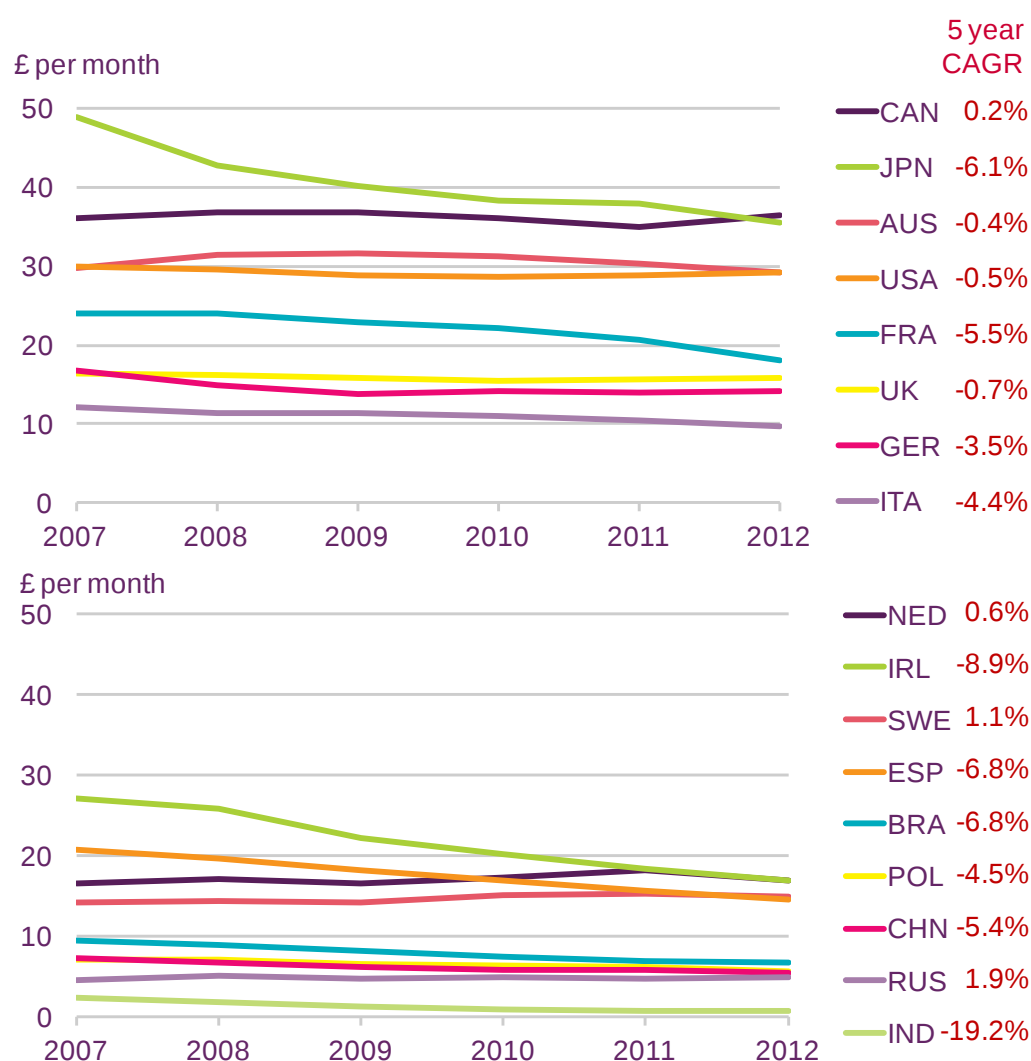


Source: IDATE / industry data / Ofcom

Canada had the highest average revenue per mobile connection in 2012

Average monthly retail revenue per mobile connection in Canada (£36.40) overtook that in Japan (£35.57) to become the highest average spend among our comparator countries in 2012 (Figure 6.32). Average revenue per connection increased by 4.0% in Canada during the year as a result of an 7.2% increase in average mobile data spend per connection, combined with a 2.5% increase in mobile voice revenues per connection, while average revenue per connection fell by 6.0% in Japan during the year. In the UK, the average revenue per mobile connection was £15.90 in 2012. This was the eighth highest value across our comparator countries that year, and 1.8% higher than in 2011. Other than Canada and the UK, the only other comparator countries where average spend per connection increased in 2012 were Germany, the US and India.

Figure 6.32 Average monthly revenue per mobile connection: 2007 to 2012



Source: IDATE / industry data / Ofcom

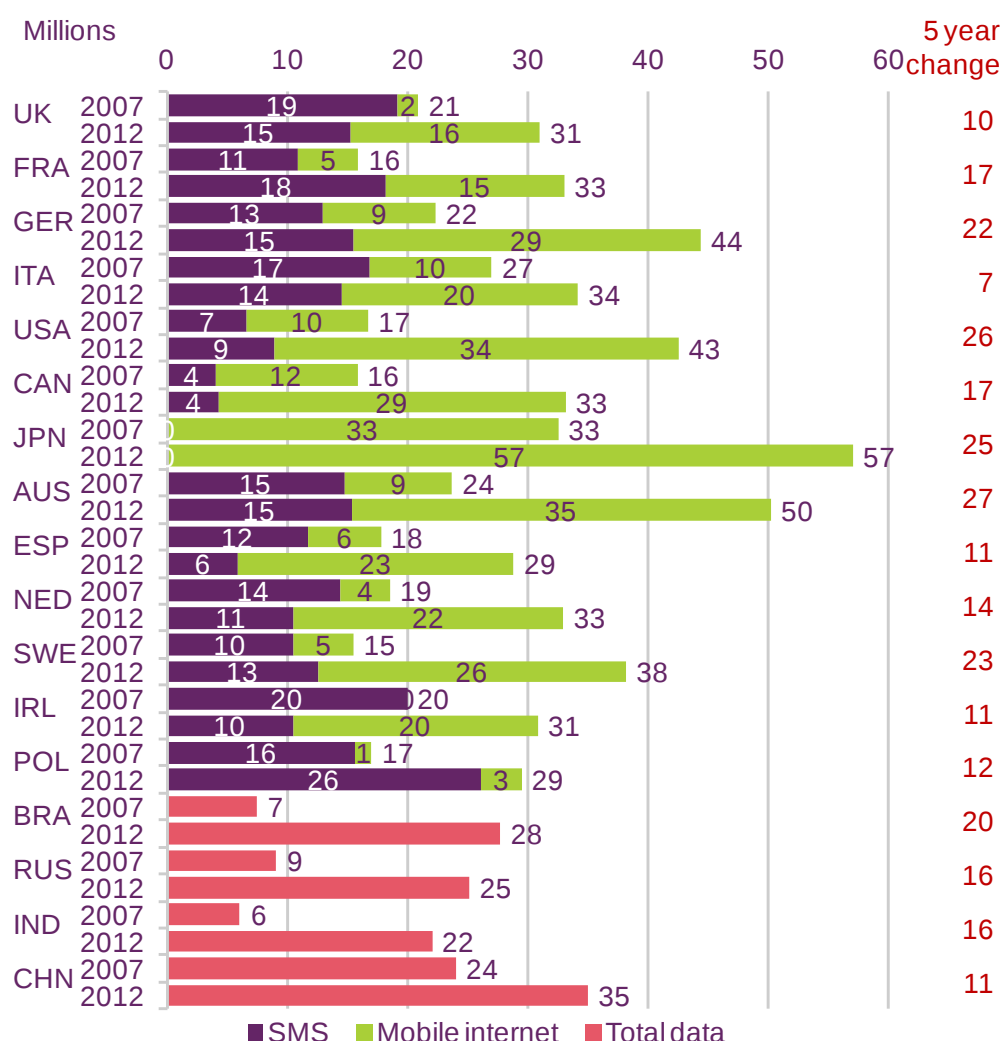
Data services contributed 31% of total UK mobile revenues in 2013

In the five years to 2012, the proportion of mobile revenues generated by mobile data services (which here include mobile internet and mobile messaging, including SMS) increased by 19 percentage points to 40% among the comparator countries for which we have figures (Figure 6.33). The figures below are likely to be understated as they exclude revenues from inclusive SMS and data allowances that are frequently bundled with monthly line rental fees.

Japan and Australia were the only comparator countries where mobile internet services contributed over half of mobile revenue in 2012 (at 57.0% and 50.2% respectively). In Japan, this was as a result of mobile data services having been established for some time, with NTT DoCoMo having launched i-mode mobile data services in 2000, while in Australia mobile broadband take-up is very high (see Figure 6.39). Conversely, data services contributed the lowest proportion of mobile revenue in India in 2012, at 22.0%. The largest increase in the proportion of mobile revenues generated by data services across all our comparator countries in the five years to 2012 was in Australia (up by 27 percentage points), followed by the US (an increase of 26 percentage points 43%). The smallest percentage growth was in

Italy, at seven percentage points, three percentage points lower than the ten percentage point increase recorded in the UK.

Figure 6.33 Data as a proportion of total mobile service revenues: 2007 and 2012



Source: IDATE / industry data / Ofcom

Note: Excludes SMS revenues. CHN, USA and CAN data for total mobile service revenues includes revenues from incoming calls

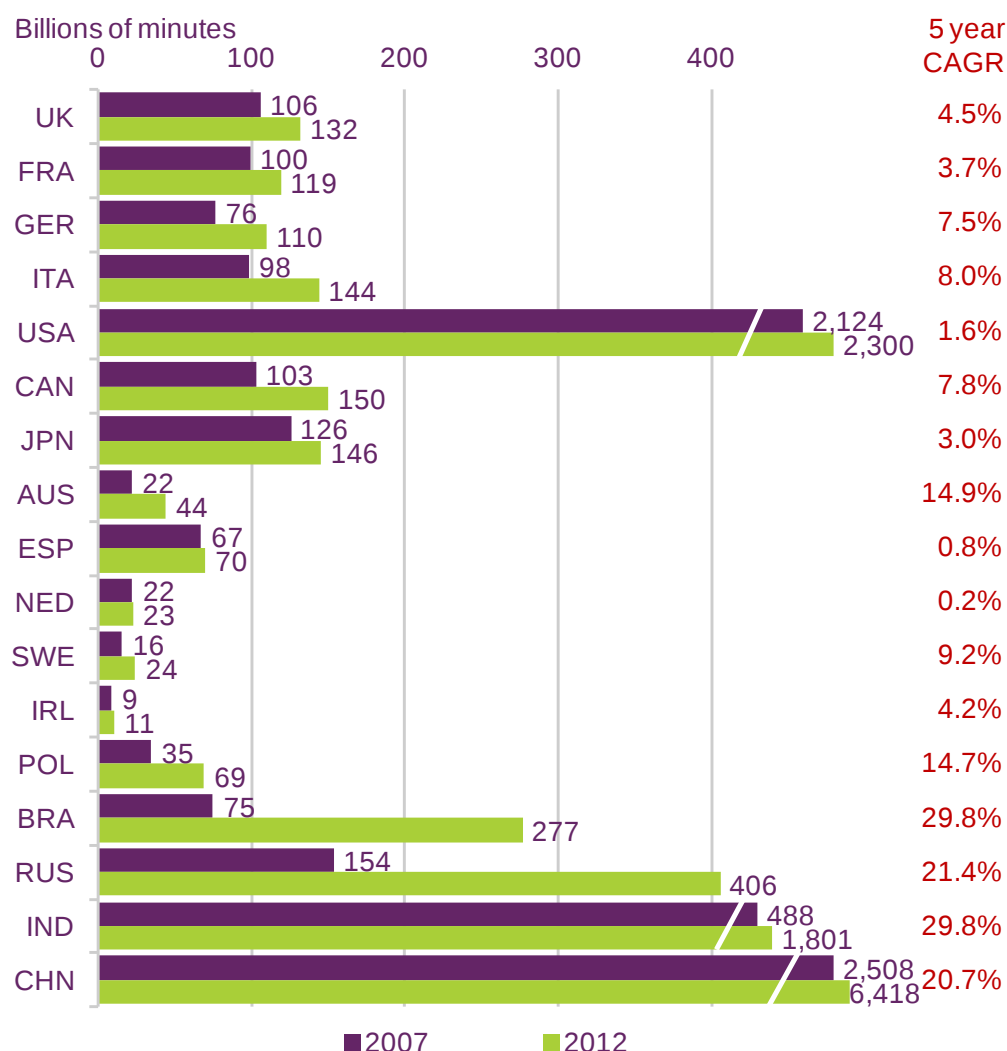
Mobile voice call volumes increased by 0.5% in the UK in 2012

Mobile voice volumes increased by 0.5% in the UK in 2012, a faster rate than the 0.2% increase recorded in 2011 (Figure 6.34). The largest decline in mobile voice call volumes was in Spain in 2012, a 2.9% fall to 70 billion minutes, which can be partly attributed to the economic situation there. In contrast, a number of non-BRIC countries showed substantial mobile call volume growth in 2012, the largest increases being in France (12.9%) and Australia (16.8%), both of which were higher than these countries' respective average annual growth rates between 2007 and 2012. It is unexpected to see such large increases in call volumes in mature telecommunications markets; however, other non-BRIC comparator countries such as Poland (8.2%), Canada (6.9%) and Italy (6.1%) also showed strong growth in mobile voice call volumes during the year.

Among the BRIC countries, mobile call volumes continued to increase rapidly, driven by increasing numbers of mobile connections. China experienced the highest growth, with an

increase of 28.3% in 2012, followed by Brazil (19.1%), India (16.2%) and Russia (13.5%). Apart from China, the rate at which mobile voice call volumes are growing is beginning to slow in the BRIC countries, with Brazil, Russia and India's mobile call volume growth rates in 2012 being lower than their average rates between 2007 and 2012.

Figure 6.34 Mobile voice call volumes: 2007 and 2012



Source: IDATE / industry data / Ofcom

Note: Figures for USA, CAN and CHN include incoming calls

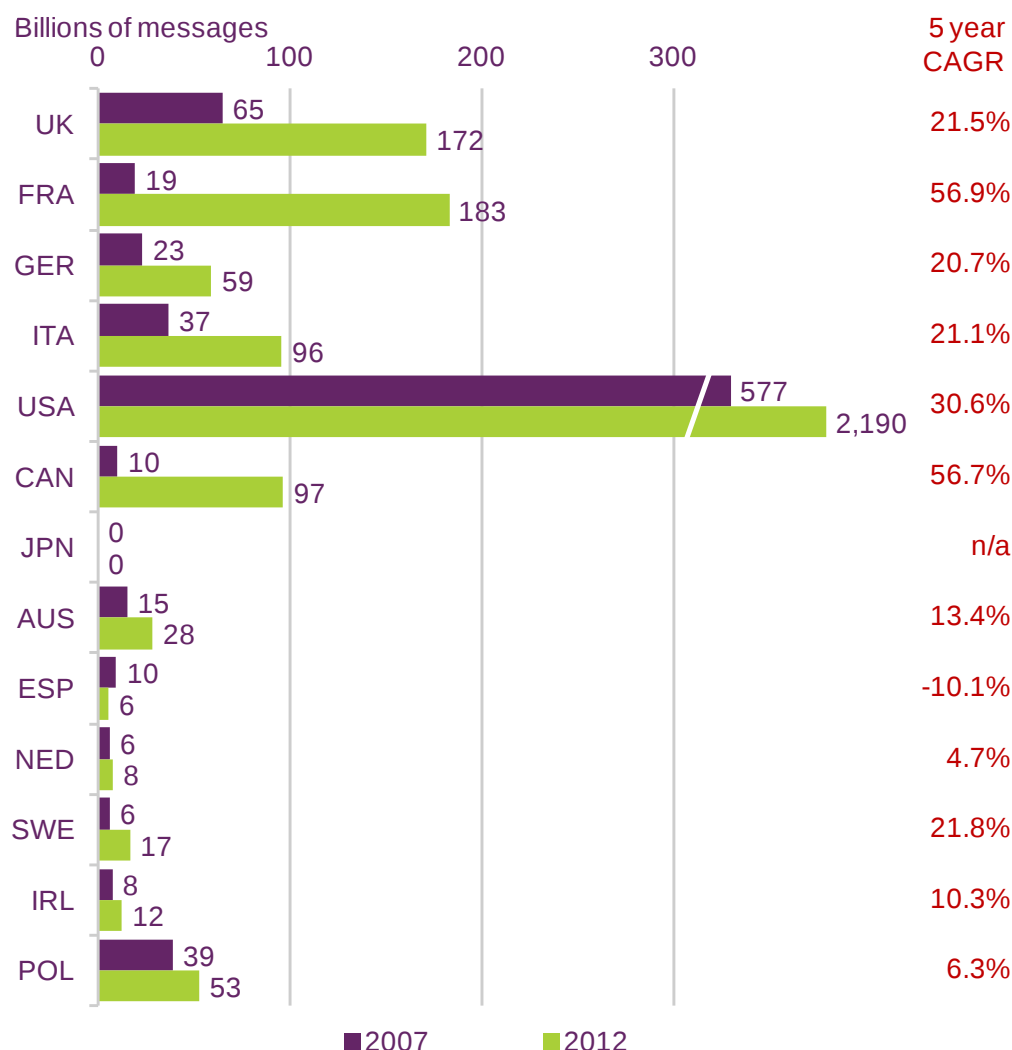
Mobile messaging volumes fell in the US, Sweden, Spain and the Netherlands in 2012

In most comparator countries, either mobile messaging volume growth is slowing, or message volumes are falling (Figure 6.35). Spain was the only comparator country where messaging volumes declined in the five years between 2007 and 2012, falling by an average of 10.1% a year over this period; SMS is relatively unattractive to consumers in Spain because prices are high (the average price of an SMS message in Spain in 2012 was 10.3 pence, compared to an average of 2.0 pence across all of our EU comparator countries). There were year-on-year declines in mobile messaging volumes in the US, Sweden, Spain and the Netherlands in 2012, with total message volumes falling by 4.9% in the US, 10.9% in Sweden, 24.6% in Spain and by 28.9% in the Netherlands.

But in other countries there was strong messaging volume growth: Canada saw a huge increase in mobile messaging, with volumes increasing from ten billion messages to 97

billion in the five years to 2012, an average annual growth rate of 56.7%, while message volumes in France increased at a compound average annual growth rate of 56.9% over the same period, the highest of any comparator country, as a result of the introduction of low-cost tariffs offering a large number of, or unlimited, inclusive messages. However, message volume growth is slowing (or the volume of outgoing messages is falling) in all of our comparator countries, as increasing smartphone take-up means that more mobile users now have access to alternatives to traditional mobile messaging, such as email and instant messaging (see Figure 6.58).

Figure 6.35 Mobile messaging volumes: 2007 and 2012



Source: IDATE / industry data / Ofcom

Note: Includes SMS and MMS messages. MMS messaging volume figures were not available for Italy, Australia and the Netherlands. Figures for the US include other forms of mobile text messaging than SMS and are not directly comparable to those for the other comparator countries.

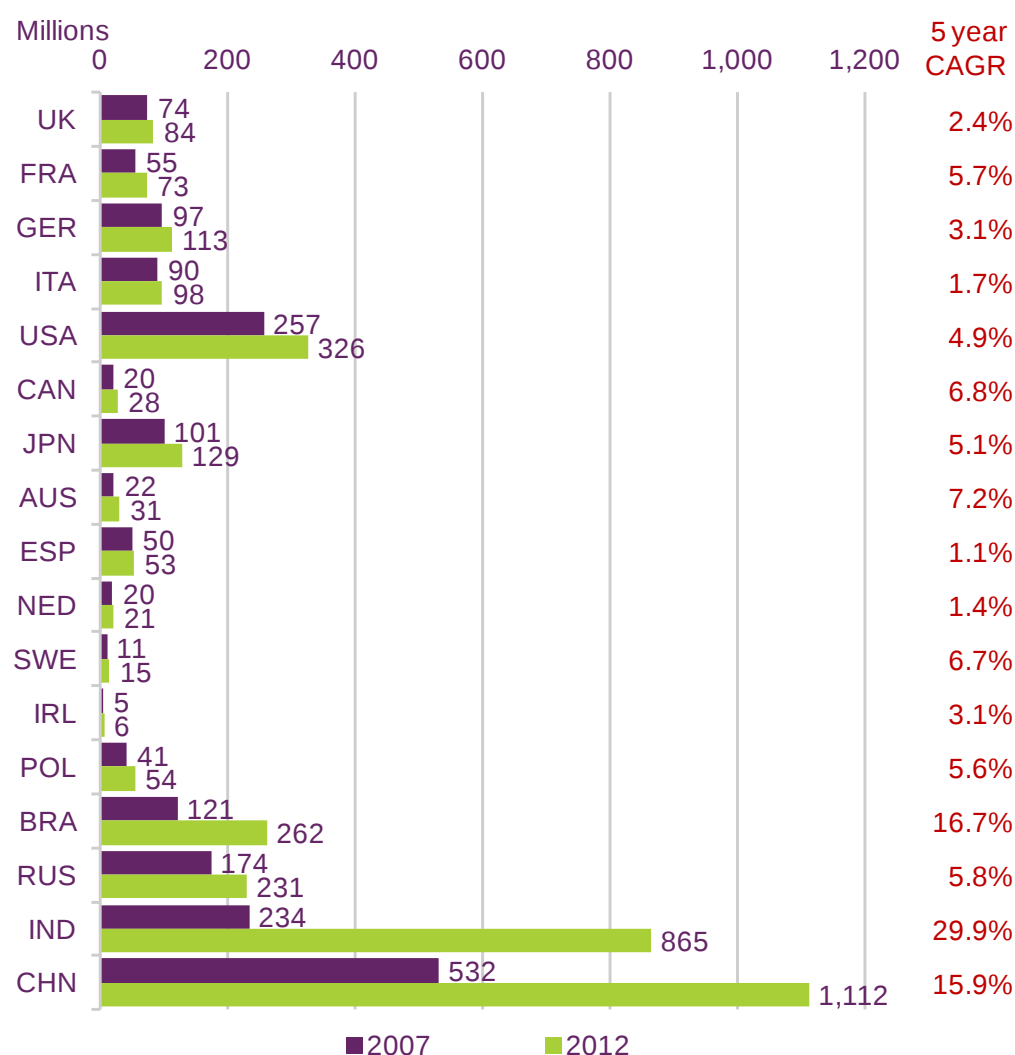
The number of mobile connections more than doubled in China between 2007 and 2012

Growth in the number of mobile connections has slowed in many comparator countries over recent years, as markets have reached maturity. In mature markets, increasing numbers of mobile connections per person has driven growth, whereas in markets that are less mature (such as those in the BRIC countries) growth is mainly a result of an increase in the number of people using mobile services. In our non-BRIC comparator countries, the average mobile

connection growth between 2007 and 2012 averaged 4.1%, with UK growing by an average of 2.4% a year, the fourth lowest rate among our comparator countries after Spain (1.1%), the Netherlands (1.4%) and Italy (1.7%).

Among the BRIC countries, the annual average growth rate over the same period was 18.4%, with China doubling its number of mobile connections from 532 million to 1.1 billion (a compound annual growth rate of 15.9%) between 2007 and 2012 (Figure 6.36). However, the rate of subscriber growth is slowing in the BRIC countries, and in India there was a 3.3% decrease in the number of mobile connections in 2012 as a result of mobile providers de-activating inactive or very low usage the SIMs. In Brazil, Russia and China mobile subscriber growth rates in 2012 were all below their respective five-year compound annual growth rates, suggesting that the mobile markets in these countries may be approaching maturity.

Figure 6.36 Mobile connections: 2007 and 2012



Source: IDATE / industry data / Ofcom

The proportion of mobile connections that are post-pay increased in most of our comparator countries in 2012

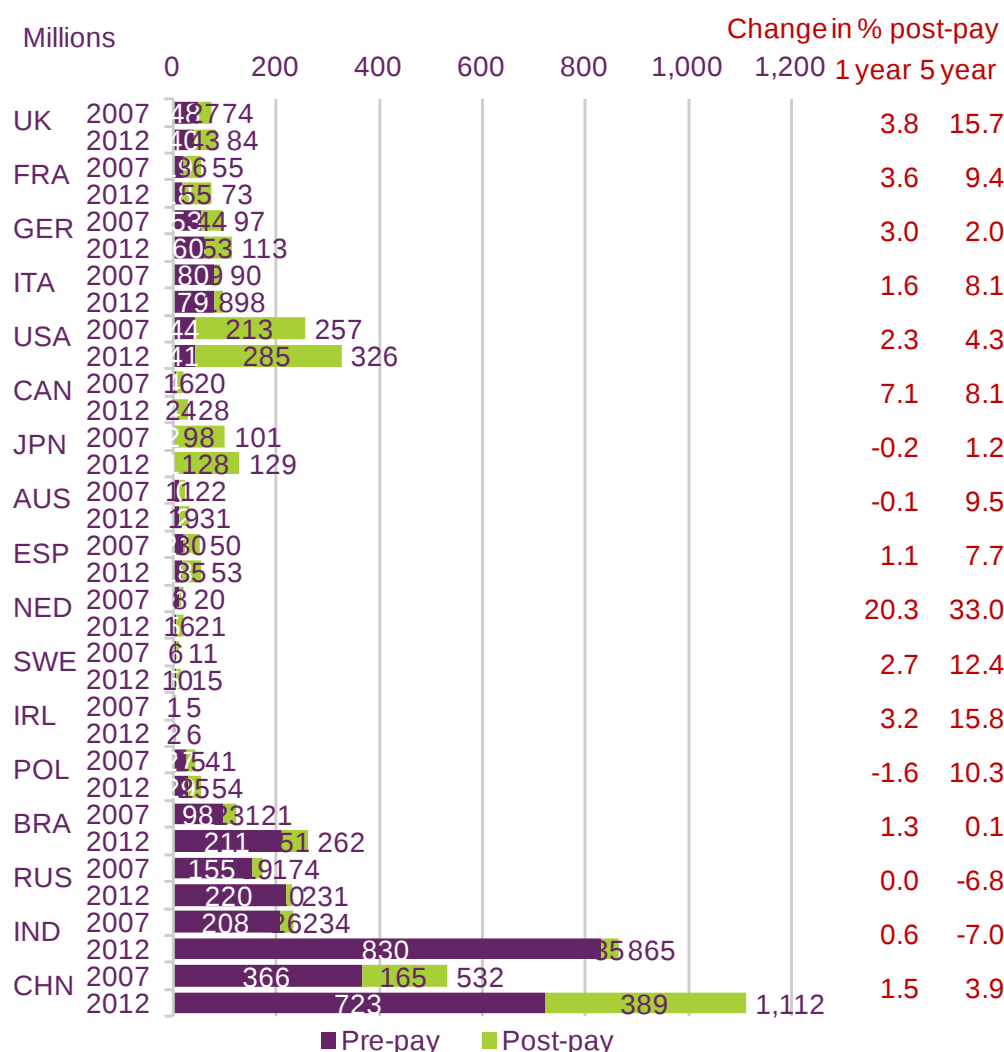
Where growth in the number of mobile connections is low, operators may aim to increase revenues per user by migrating customers onto monthly contracts, which are likely to increase customer lifetime value by encouraging higher usage and reducing churn. The proportion of mobile subscribers with post-pay (monthly) contracts, rather than pre-pay (pay-

as-you-go) connections, grew in all of our comparator countries except Poland, Japan and Australia in 2012 (Figure 6.37).

The UK was one of nine comparator countries (along with France, the US, Canada, Japan, Australia, Spain, the Netherlands and Sweden) where there were more post-pay connections than pre-pay connections at the end of 2012. In the UK, the proportion of mobile connections that are post-pay has increased since 2007, and at the end of 2012 there were more post-pay mobile connections (43 million) than pre-pay connections (40 million), the first time this had been the case in over a decade.

The proportion of total connections that were post-pay increased in all but two of our comparator countries between 2007 and 2012. In India it fell by 7.0 percentage points, and Russia it was down 6.8 percentage points. In developing markets such as these, consumers may prefer to take pre-pay mobile services as they give them more flexibility due to the lack of an ongoing financial obligation. Conversely, the largest increase in the proportion of connections that were post-pay in the five years to 2012 was a 33.0 percentage point increase, to 75%, in the Netherlands (in the UK the increase over the same period was 15.7 percentage points, to 52%).

Figure 6.37 Mobile connections, by type: 2007 and 2012



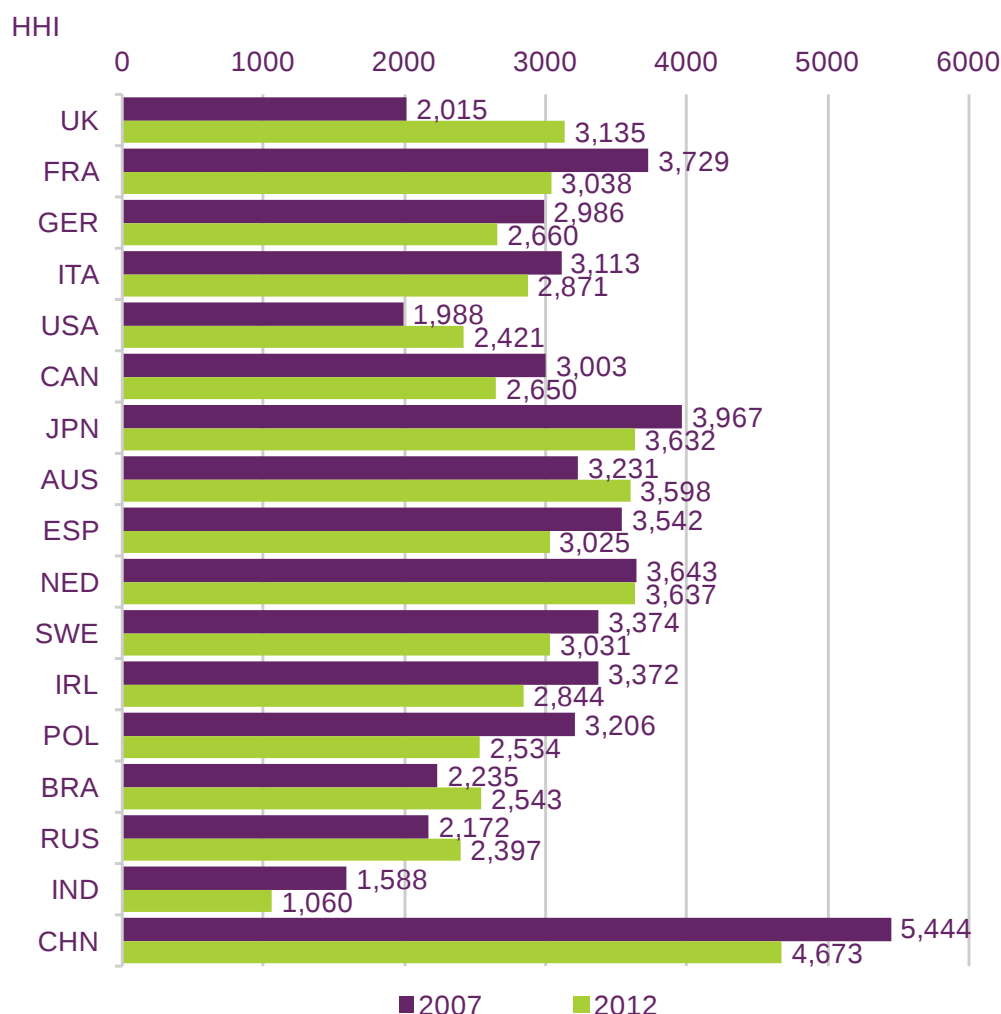
Source: IDATE / industry data / Ofcom

China had the most concentrated mobile market in 2012

The Herfindahl-Hirschman Index of market concentration (HHI) is a measure of the concentration of a market, calculated using the market share of individual operators. The HHI scale ranges from 0 for a perfectly competitive market (i.e. one with a large number of competitors with an equal small market share) to 10,000 for a single-player monopoly (Figure 6.38).

China had the most concentrated market in terms of mobile subscribers at the end of 2012, with a HHI index of 4,673. This is because only three mobile operators (China Mobile, China Unicom and China Telecom) are authorised to provide mobile services in China. Conversely, the lowest market concentration was found in India with a HHI index of 1,060, which is because India has a highly fragmented mobile market with many small regional providers. Having had the third least-concentrated mobile market at the end of 2007, the UK had the fifth most-concentrated market at the end of 2012. This increase in market concentration was a result of the merger of the UK operations of Orange and T-Mobile to form Everything Everywhere (EE) in 2010.

Figure 6.38 Herfindahl-Hirschman index of mobile concentration: 2007 and 2012

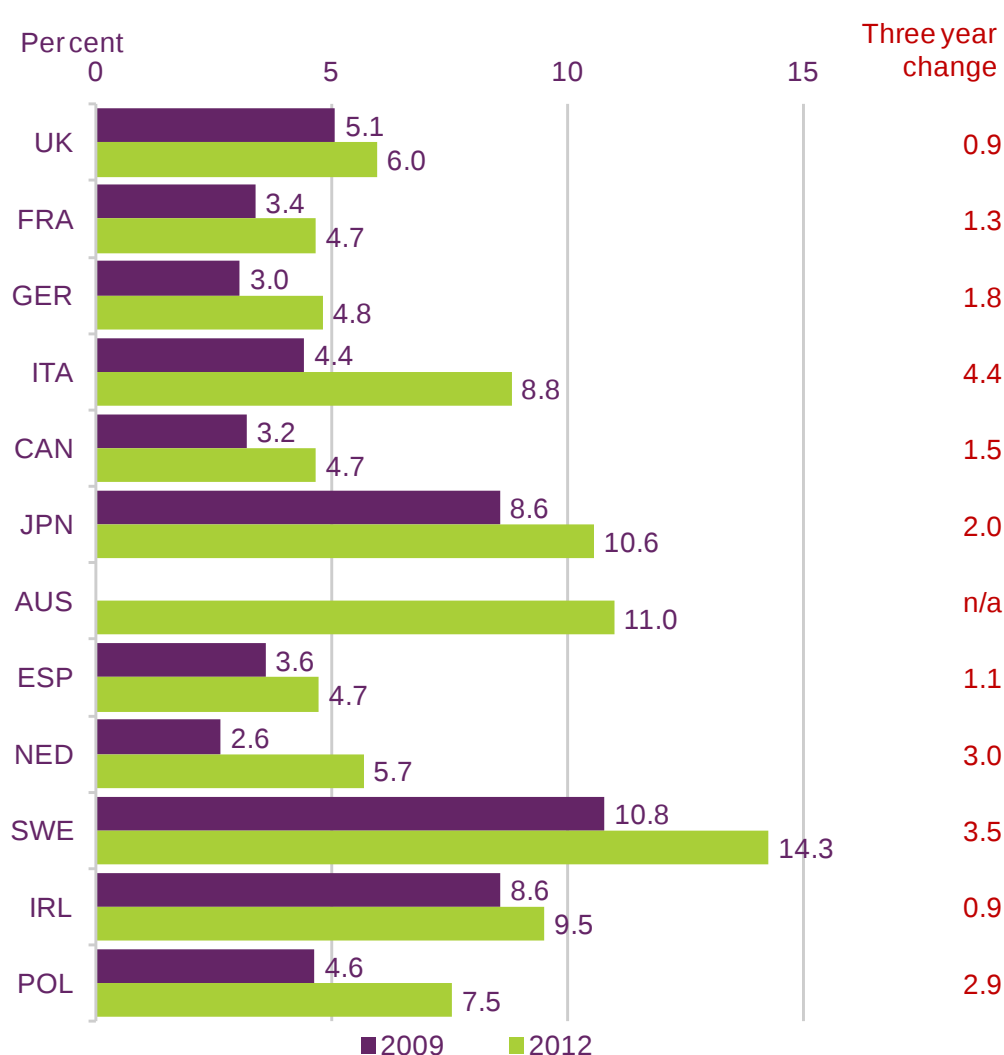


Source: IDATE

Australia had the highest proportion of mobile connections that were data-only

At the end of 2012, the proportion of total mobile connections that were dedicated mobile data connections (such as mobile broadband datacards, dongles or SIMs) ranged from 4.7% in France, Spain and Canada to 14.3% in Sweden among the comparator countries for which data were available (Figure 6.39). The fastest growth in the proportion of mobile connections that were mobile broadband in the three years to 2012 was in Italy, where it increased by 4.4 percentage points to 8.8%. In the UK there were 5.0 million active UK mobile broadband connections at the end of 2012, equivalent to 6.0% of total mobile subscriptions, compared to 4.1 million (5.1% of the total) at the end of 2009. This represents the smallest increase in the proportion of mobile connections that were dedicated mobile broadband data connections between 2009 and 2012, across our comparator countries.

Figure 6.39 Mobile broadband as a proportion of total mobile connections: 2009 and 2012



Source: IDATE / industry data / Ofcom

Note: Data for the US includes mobile data access on a mobile handset, and is therefore not directly comparable with the rest of the data shown above.

6.3 The telecoms user

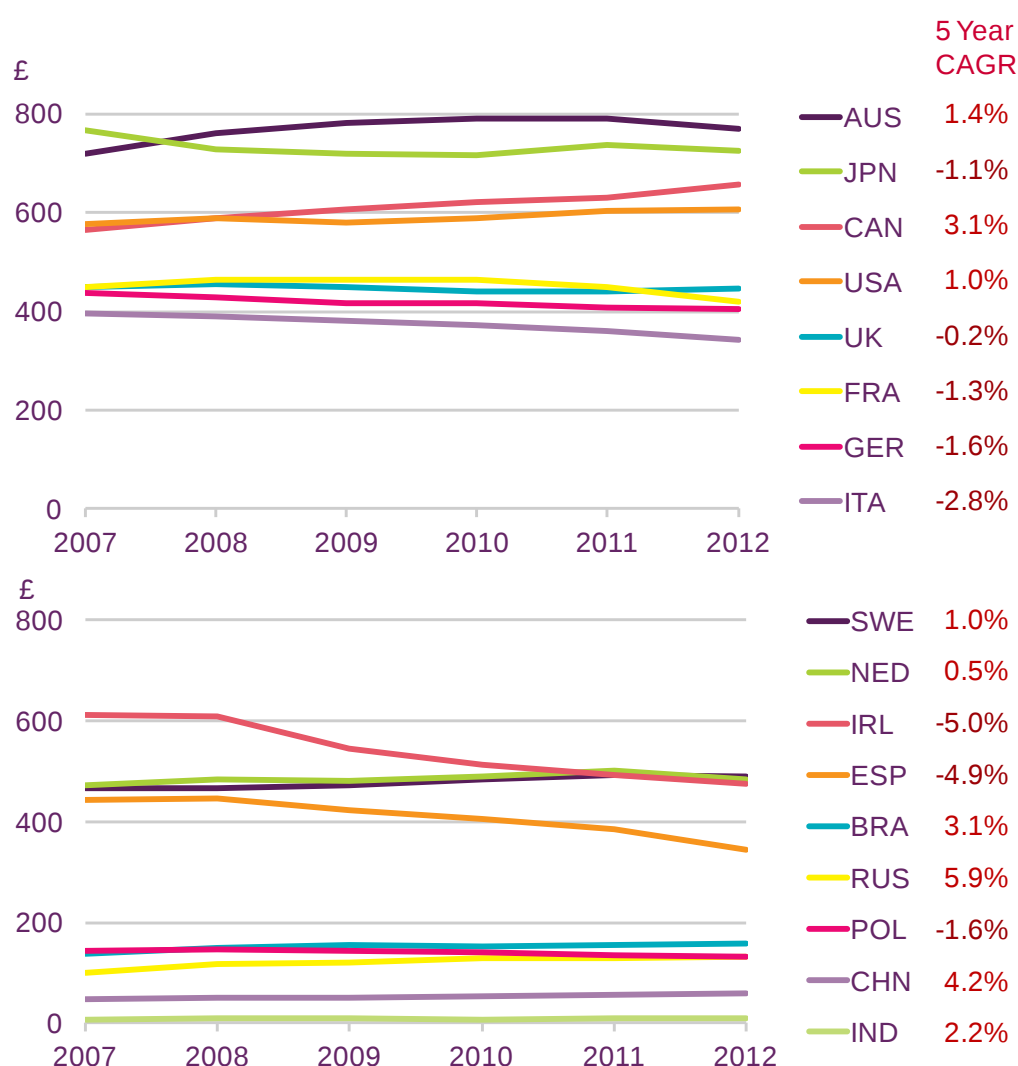
6.3.1 Overview

Average per-capita telecoms spend fell by an average of 0.2% a year in the UK in the five years to 2012

There was wide variation in average spend per head on telecoms services among our comparator countries in 2012, with average spend ranging from just £8 a year in India to almost one hundred times as much (£770 a year) in Australia (Figure 6.40). Average per-capita telecoms spend fell in eight of our comparator countries between 2007 and 2012, with the change in average spend ranging from an average annual fall of 5.0% a year in Ireland (as a result of falling mobile connections and prices) to an average increase of 5.9% a year in Russia, which was to a large extent a result of a 32% increase in the number of mobile connections during the period.

In the UK, average per-capita spend on telecoms services was £445 a year in 2012, the eighth highest among our comparator countries and £5 a year (1.0%) higher than it had been in 2011, as a result of growth in the number of mobile and fixed broadband connections, along with increasing use of mobile data services and take-up of superfast broadband. Despite this increase in 2012, average spend per head in the UK in 2012 was lower than it had been in 2007 (£450) because of declining fixed voice use and falling fixed broadband and mobile prices over the intervening period.

Figure 6.40 Total per-capita telecoms service revenue: 2007 to 2012



Source: IDATE / industry data / Ofcom

Note: Includes spend by businesses, and is therefore not representative of average consumer spend.

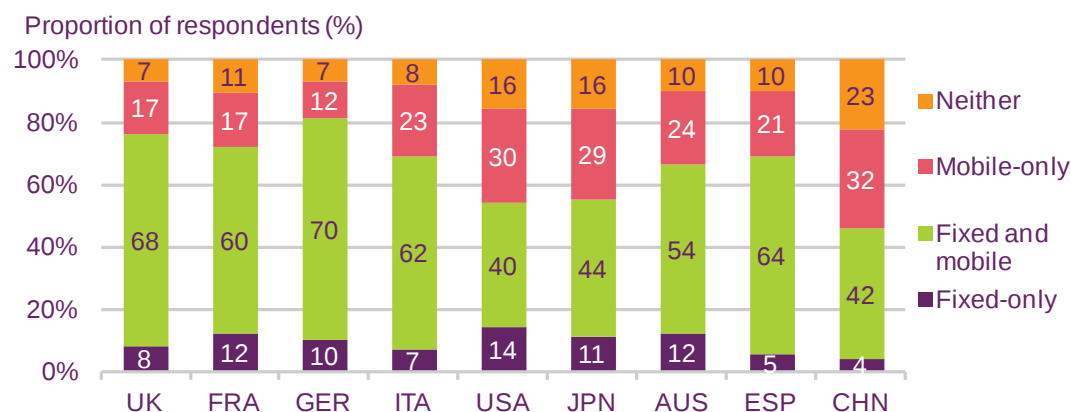
Around three in ten respondents in China, Italy and the US lived in mobile-only homes in September 2013

Ofcom research conducted in September 2013 asked respondents whether they were regular users of fixed and mobile telephony services (Figure 6.41). This research was undertaken online, so the results may not be representative of each country's population as a whole (particularly true for China, where internet access tends to be concentrated in urban areas).

China was the only country where less than half of respondents (46%) said that they used fixed telephony services regularly (i.e. at least once a week), with just under a third of respondents in China (32%) saying that they used only mobile telephony services on a regular basis, the highest proportion among the nine countries in which the research took place. In the UK, 85% of respondents said they used mobile services regularly, the joint highest proportion among our countries, along with Italy and Spain. Conversely, levels of mobile use were lowest in the US, where just 70% of respondents said that they regularly used a mobile phone.

The proportion of respondents who were regular users of both fixed and mobile telephony ranged from 40% in the US to 70% in Germany (in the UK it was 68%, the second highest proportion among our comparator countries). Conversely, the proportion of people who said that they did not regularly use either fixed or mobile telephony services ranged from 7% in the UK and Germany to 23% in China.

Figure 6.41 Regular use of fixed and mobile telephony services



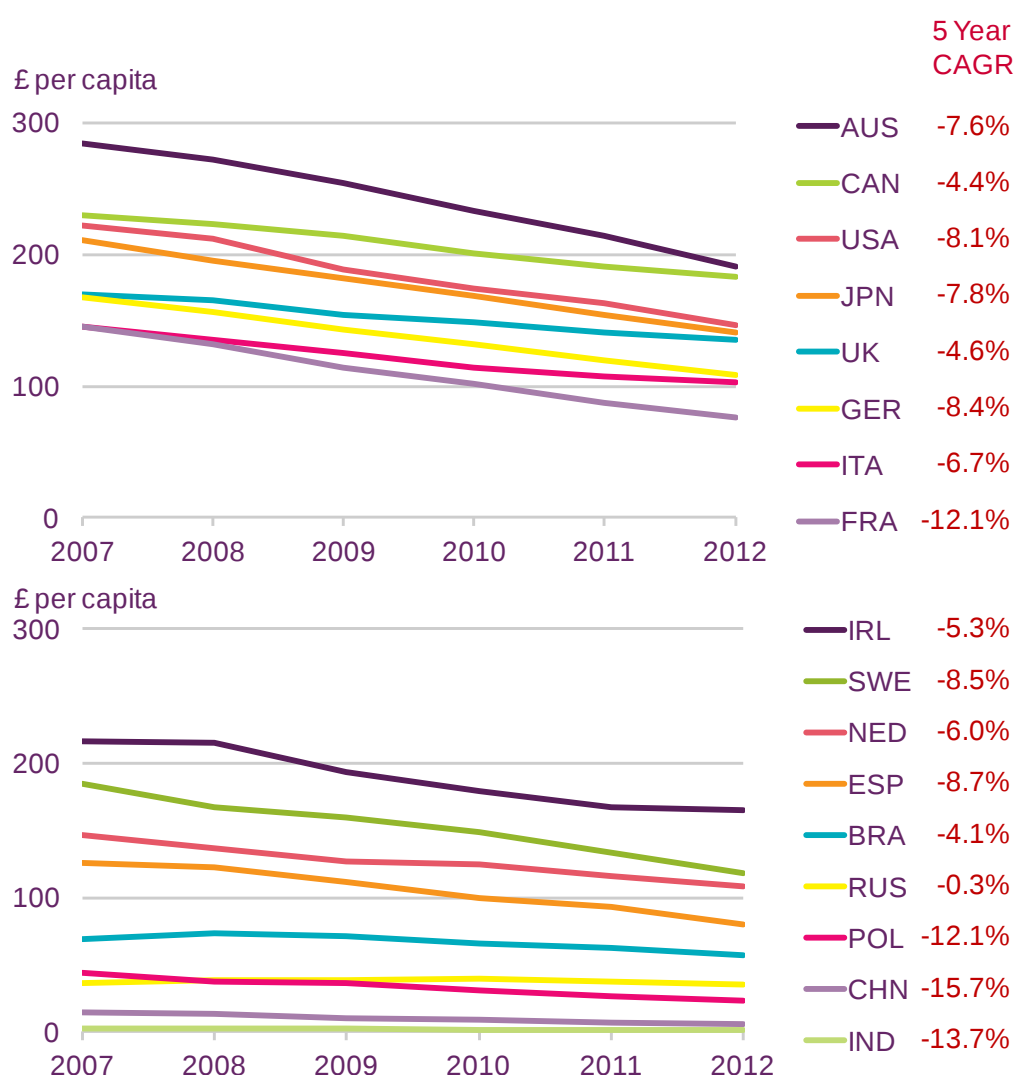
Source: Ofcom research, September 2013

6.3.2 Fixed voice services

Average per-capita fixed line spend fell across all of our comparator nations between 2007 and 2012

Average spend per head on fixed voice services fell in all of our comparator countries in the five years to 2012, with the average across all 17 countries falling by an average of 8.2% a year to £36 per person over the period (Figure 6.42). The lowest rate of decline in average per-capita spend in the five years to 2012 was in Russia, at 0.3% a year, while the rate of decline was highest in China, at 15.7% a year, due to high levels of fixed-to-mobile substitution. In 2012, average per-capita fixed voice expenditure ranged from £1 a year in India (where there were just three fixed lines per 100 people) to £191 per person in Australia (where there were 46 fixed lines per 100 people). In the UK, the average spend per person on fixed voice services was £135 in 2012, while the average annual rate of decline in the preceding five-year period was 4.6%.

Figure 6.42 Average per-capita fixed voice revenue: 2007 to 2012



Source: IDATE / industry data / Ofcom

The average cost of a fixed voice call minute was highest in Japan in 2012

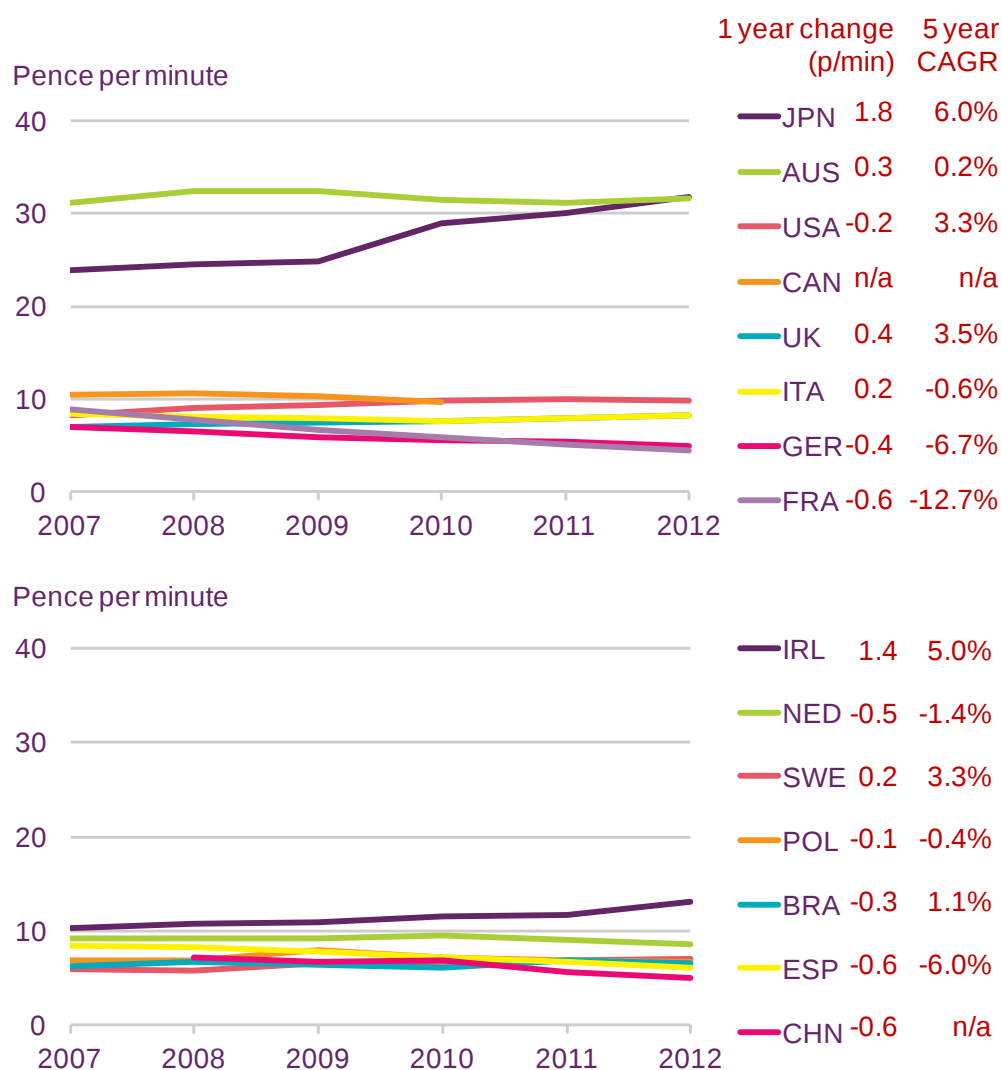
We are able to calculate the average cost of a fixed voice call minute by dividing total fixed voice revenues (including the line rental fee) by the number of outgoing call minutes from fixed phones. It should be noted that the average call cost figures below will be understated where a bundled allowance of fixed calls is included in the monthly fee for another communications service (usually fixed broadband) and none of this revenue is allocated to fixed voice services.

Japan had the highest average cost for an outgoing fixed voice call across the comparator countries for which data were available in 2012, when the average was 31.9 pence per minute (Figure 6.43). This was an increase of 1.8 pence per minute compared to 2011, which meant that the average cost of a call minute in Japan overtook that in Australia (31.6 pence per minute), where average fixed voice prices had previously been highest. The highest average rate of decline between 2007 and 2012 was in France, where the cost of a fixed call minute fell by an average of 12.7% 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 in the UK increased at an average annual growth rate of 3.5%, to 8.3 pence between 2007 and 2012, the sixth-highest average among our comparator countries. The

main driver of this increase was a significant fall in call volumes per line during this period, by 29%, to 257 minutes per month.

Further information on communications service pricing can be found in Section 2.1 of this report.

Figure 6.43 Average cost of a fixed voice call minute: 2007 to 2012



Source: IDATE / industry data / Ofcom

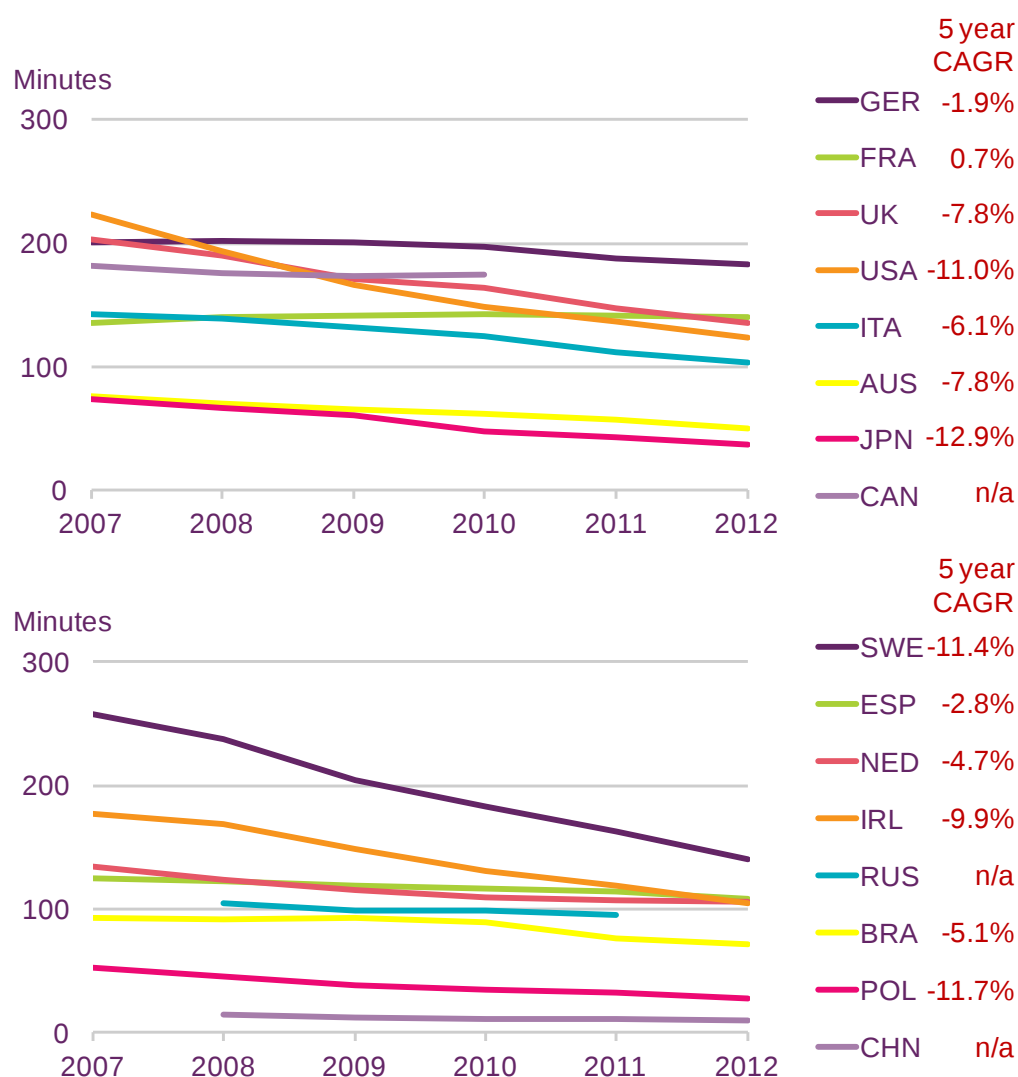
France had the only increase in average per-capita monthly fixed voice call minutes between 2007 and 2012

France was the only comparator country where the average volume of fixed-originated voice calls per head increased between 2007 and 2012, growing by an average of 0.7% a year to 140 minutes per person per month (Figure 6.44). This was despite falling per-capita outbound fixed call figures from 2010 onwards, which offset the increases in average use recorded between 2007 and 2010. The average volume of outgoing fixed-line calls per person was lowest (among those comparator countries for which we had data) in China, at ten minutes per month in 2012. It was highest in Germany at 183 minutes per month in 2012, while in the UK, the average person made 135 minutes of outgoing fixed voice calls

per month in 2012, the fourth highest figure after Germany, France and Sweden. Average use in the UK in 2012 was 8.2% lower than the 147 minutes per person per month figure for 2011, and 33% lower than the 203-minute average recorded in 2007.

Germany, where the fixed market has proved to be comparatively resilient, and the use of mobile services is comparatively low, particularly among businesses, had the lowest average annual decline in per-capita fixed call volumes between 2007 and 2012, at 1.9%. In comparison, Japan had the largest average annual decline in per-capita fixed voice call use in the five years to 2012, at 12.9%, because voice calls are comparatively expensive in Japan, and consumers are using IP-based forms of communication such as push-to-talk, instant messaging and social networks as alternatives to voice calls.

Figure 6.44 Monthly fixed voice call minutes per head: 2007 to 2012



Source: IDATE / industry data / Ofcom

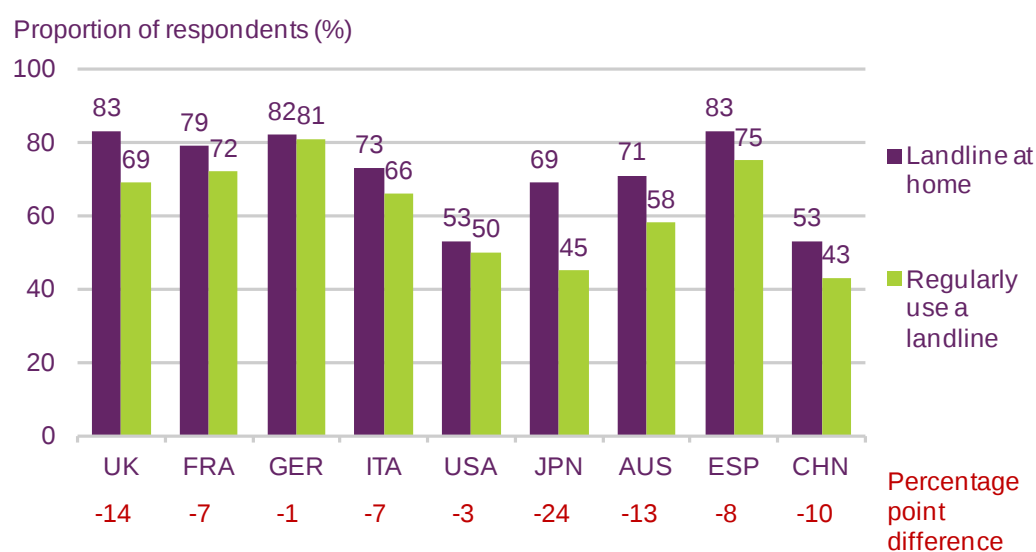
Fourteen per cent of people in the UK with a home phone do not use landline services regularly

In many countries, a landline is required in order to be able to access fixed broadband services (in the UK, Virgin Media, whose cable network passes just under half of UK premises, is the only ISP that offers broadband which does not need a fixed line). As a

result, some consumers with a fixed broadband connection may have a fixed voice telephony line that they never, or rarely, use. Ofcom research in September 2012 asked consumers in nine of our comparator countries whether they had a landline at home, and if they were regular users of fixed telephony services.

The proportion of respondents with a landline at home ranged from 53% in the US and China to 83% in the UK and Spain, while the proportion who said that they regularly used a landline ranged from 43% in China to 81% in Germany (in the UK it was 69%). Japan had the largest difference between the proportions of people who had a home landline and who used landline services regularly, at 24 percentage points, while in the UK the difference was 14 percentage points, the second largest among our nine countries. The smallest difference was in Germany, at just one percentage point.

Figure 6.45 Household take-up and personal use of fixed telephony services



Source: Ofcom research, September 2013

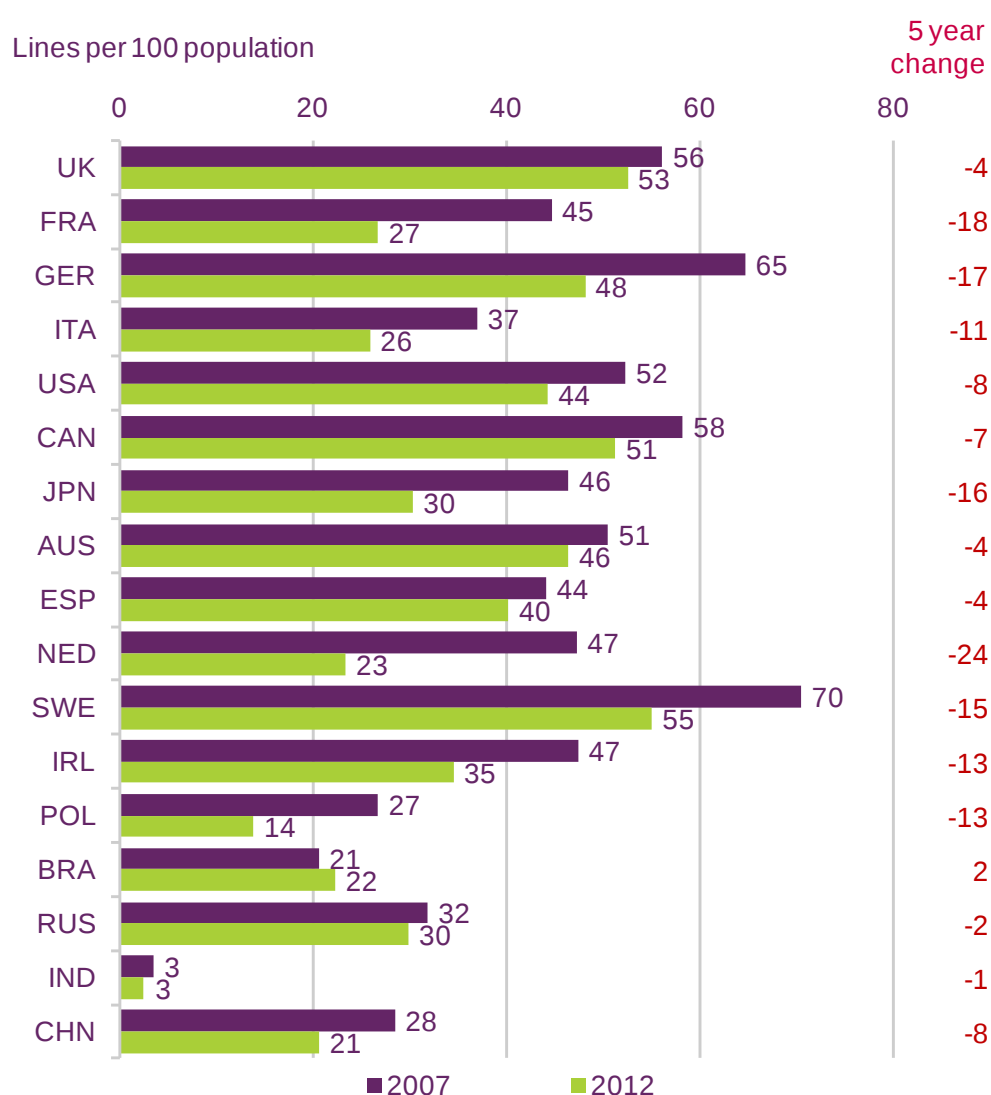
Base: All respondents

Brazil was the only country to have seen an increase in fixed voice connections per 100 people between 2007 and 2012

Brazil was the only comparator country where the number of fixed lines per 100 people (including business and residential lines) increased in the five years to 2012, with a rise of two lines per 100 people to 22 per 100 over the period (Figure 6.46). This increase was partly due to the growing availability of fixed telephony services, a result of the deployment of fixed-wireless networks. In the UK there were 53 fixed lines per 100 people at the end of December 2012, a fall of four per 100 compared to five years previously. The figure for the UK was the second highest among our comparator nations after Sweden, where there were 55 fixed lines per 100 people at the end of 2012.

The lowest numbers of fixed-line connections per 100 people among our comparator countries were in India (three per 100) and Poland (14 per 100) in 2012, in both cases largely due to the low availability of fixed telecoms networks. The largest fall in the number of fixed lines per 100 people in the five years to 2012 among our comparator countries was in the Netherlands (down from 47 lines to 23). This decrease was primarily due to continued growth in the use of managed VoIP services over naked DSL and cable (Figure 6.19 shows that VoIP contributed 27% of total retail fixed voice revenues for the Netherlands in 2012).

Figure 6.46 Fixed telephony lines per 100 population: 2007 and 2012



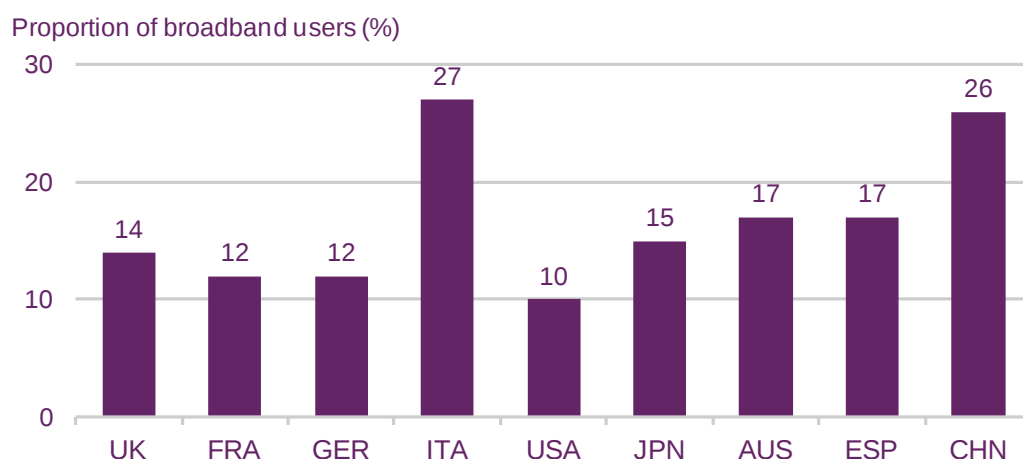
Source: IDATE / industry data / Ofcom

Over a quarter of fixed broadband users in Italy and China regularly make voice calls over their connection

Ofcom research indicates that fixed broadband users in Italy and China were more likely to regularly (i.e. at least once a week) use their connection to make VoIP calls than those in the other comparator countries where the research was conducted (Figure 6.47). In both Italy (27%) and China (26%), over a quarter of fixed broadband users made voice calls over their connections, more than twice the proportions in the US (10%), France and Germany (both 12%), where the use of VoIP was lowest. It should be noted that these figures may be understated, as some users of managed VoIP services (i.e. where an ISP provides a voice service over the broadband connection) may not be aware that they are using a VoIP service.

In the UK, 14% of fixed broadband users were regular users of VoIP, the fourth lowest proportion among the countries for which we have data. VoIP use has historically been quite low in the UK, partly as a result of the UK's comparatively low fixed and mobile voice call prices, with fixed and mobile tariffs typically offering unlimited calls for some call types, or a large number of inclusive call minutes.

Figure 6.47 Proportion of fixed broadband users who regularly use their connection to make voice calls



Source: Ofcom research, September 2013

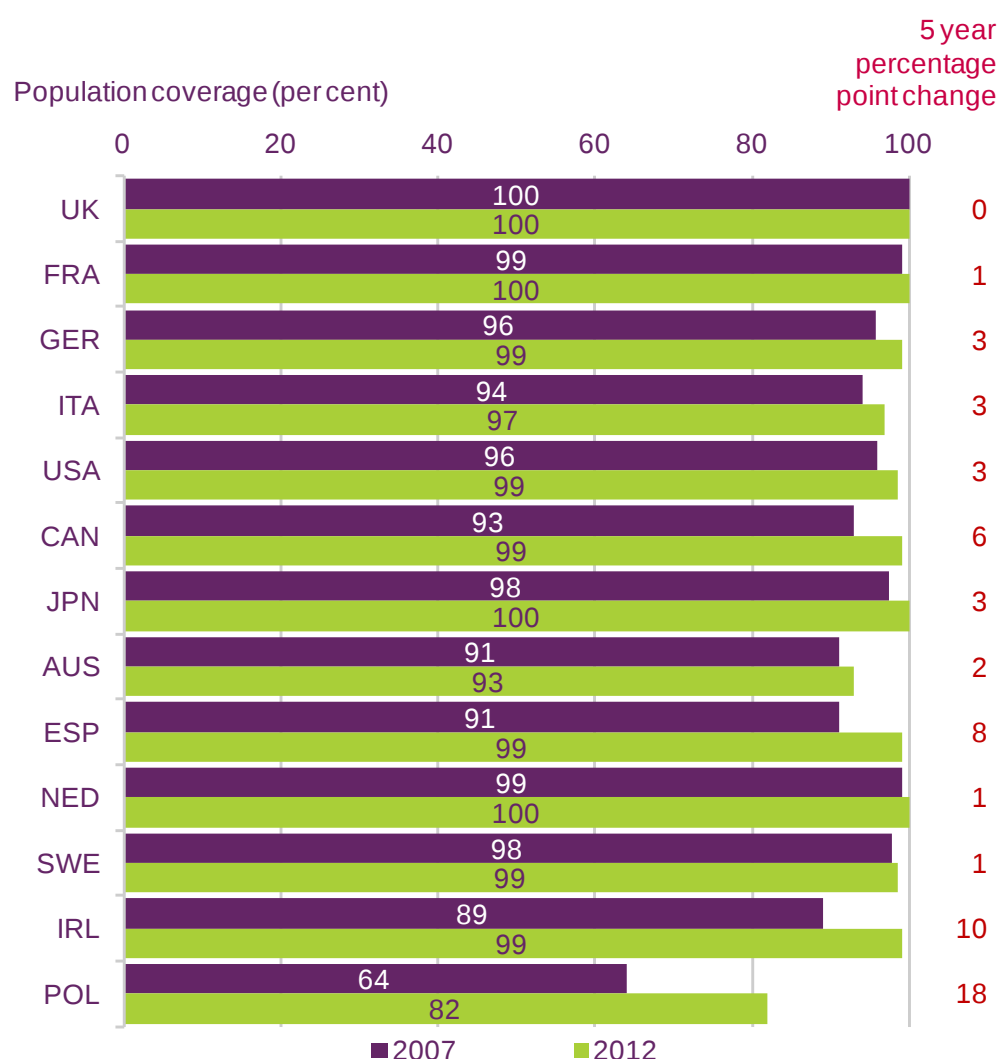
Base: All those with a fixed broadband connection

6.3.3 Fixed broadband services

The majority of comparator countries had fixed broadband coverage of 97% or more in 2012

Most people in our comparator nations could access fixed broadband services at the end of 2012, with Australia (93%) and Poland (82%) being the only countries where less than 95% of the population could receive them (Figure 6.48). In the UK, virtually all of the population have been able to access ADSL-based fixed broadband services for a number of years, and fixed broadband availability was similarly high in France, Japan and the Netherlands at the end of 2012. Poland and Ireland saw the highest percentage increase in fixed broadband availability over the five-year period to 2012, with the proportion of the population living in areas where fixed broadband was available increasing by 18 percentage points in Poland and by ten percentage points (to 99%) in Ireland.

Figure 6.48 Fixed broadband availability: 2007 and 2012



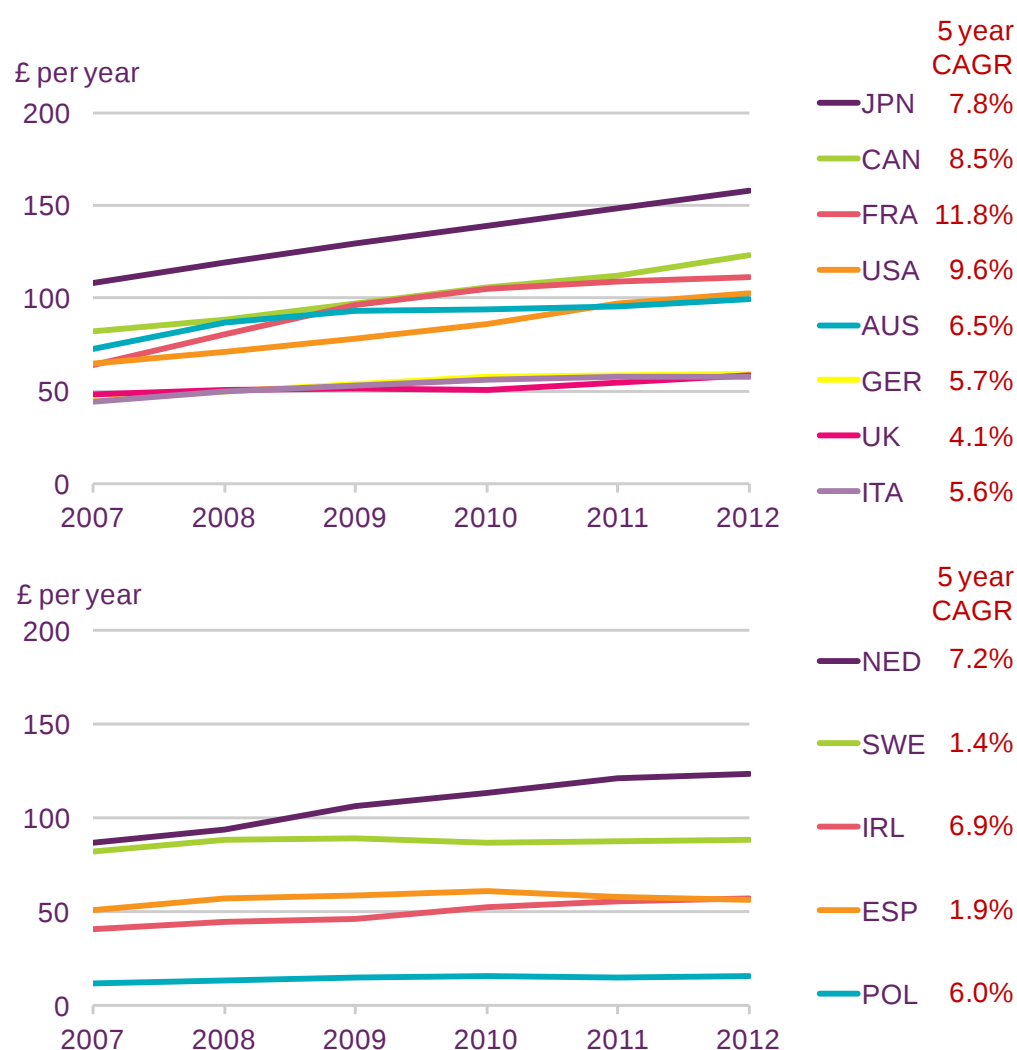
Source: IDATE / industry data / Ofcom

France had the fastest average annual increase in per-capita fixed broadband revenue between 2007 and 2012

The average expenditure per head on fixed broadband services increased in all of the comparator countries for which data were available in the five years to 2012 (Figure 6.49). The largest increase over this period was in France, with an average annual growth rate of 11.8%, partly due to the inclusion of revenues from bundled VoIP and IPTV services in fixed broadband revenues. Conversely, the smallest average annual increase between 2007 and 2012 was in Sweden, at 1.4%, because Sweden's fixed broadband market was already relatively mature in 2007.

Average per-capita fixed broadband spend in 2012 was highest in Japan (where there is widespread adoption of high-speed fibre-based services), at £158. The lowest spend was in Poland, at £13, where the fixed broadband market is less developed, and the proportion of lower-speed connections is high (as shown in Figure 6.4, 59% of connections in Poland had headline speeds of 'up to' 8Mbit/s or less at the end of 2012).

Figure 6.49 Average per-capita fixed broadband revenue: 2007 to 2012



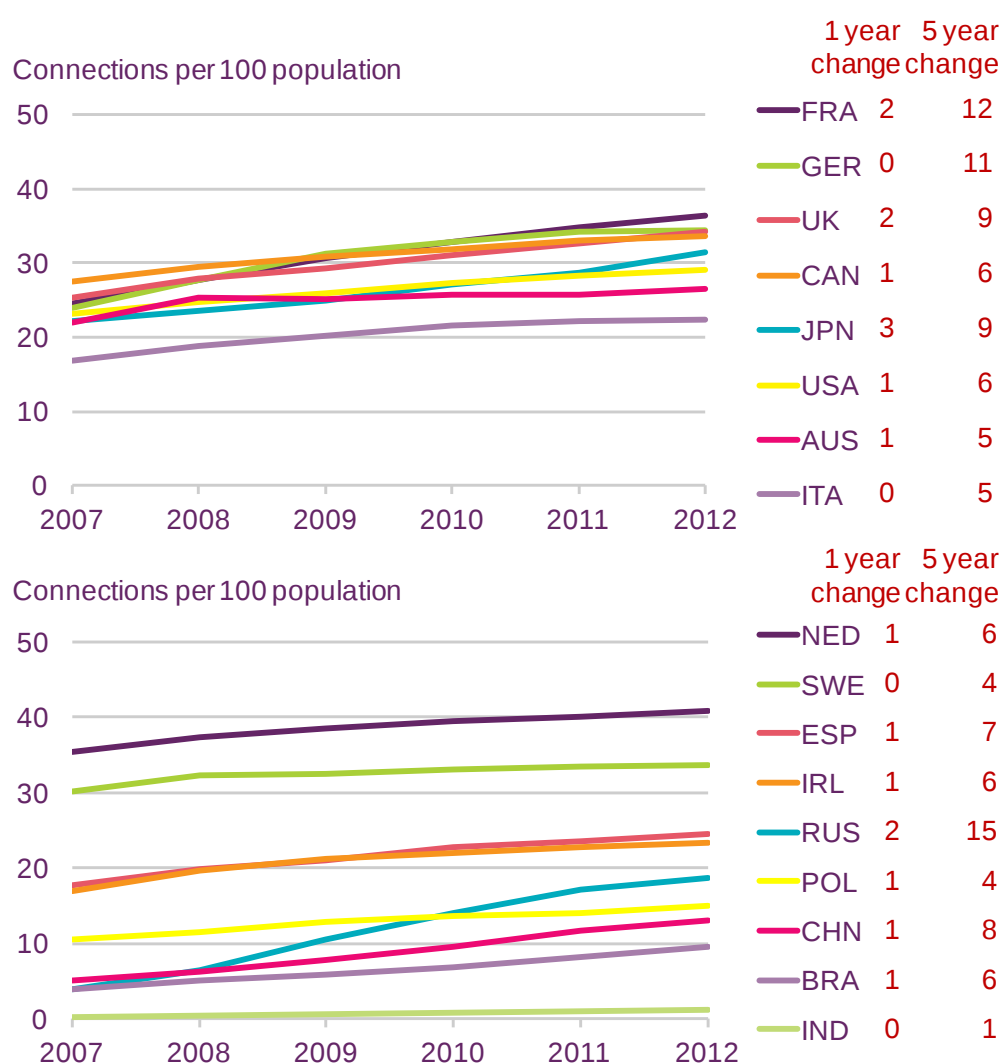
Source: IDATE / industry data / Ofcom

The BRIC countries had the highest percentage increases in fixed broadband connections per 100 people in the five-year period to 2012

The number of fixed broadband connections per 100 people in 2012 ranged from just one per 100 people in India to 41 in the Netherlands among our 17 comparator countries (Figure 6.50). Fixed broadband take-up in the Netherlands has been the highest among our comparator countries for some time, while India's comparatively low figure take-up is due to the availability of fixed broadband services being concentrated in urban areas (its large rural population is unable to access services), as well as the affordability of services and the devices required to use them.

In the UK, there were 34 fixed broadband connections per 100 people at the end of 2012, the joint fourth highest figure after the Netherlands, France (with 36 connections per 100 people) and Germany (35 per 100). Russia had the largest increase in the number of fixed broadband connections per 100 people among our 17 comparator countries between 2007 and 2012, up from four to 19 connections per 100 people.

Figure 6.50 Fixed broadband connections per 100 population: 2007 to 2012



Source: IDATE / industry data / Ofcom

6.3.4 Mobile voice and data services

Over 90% of the population in Sweden and the US could receive 4G LTE mobile services at the end of 2012

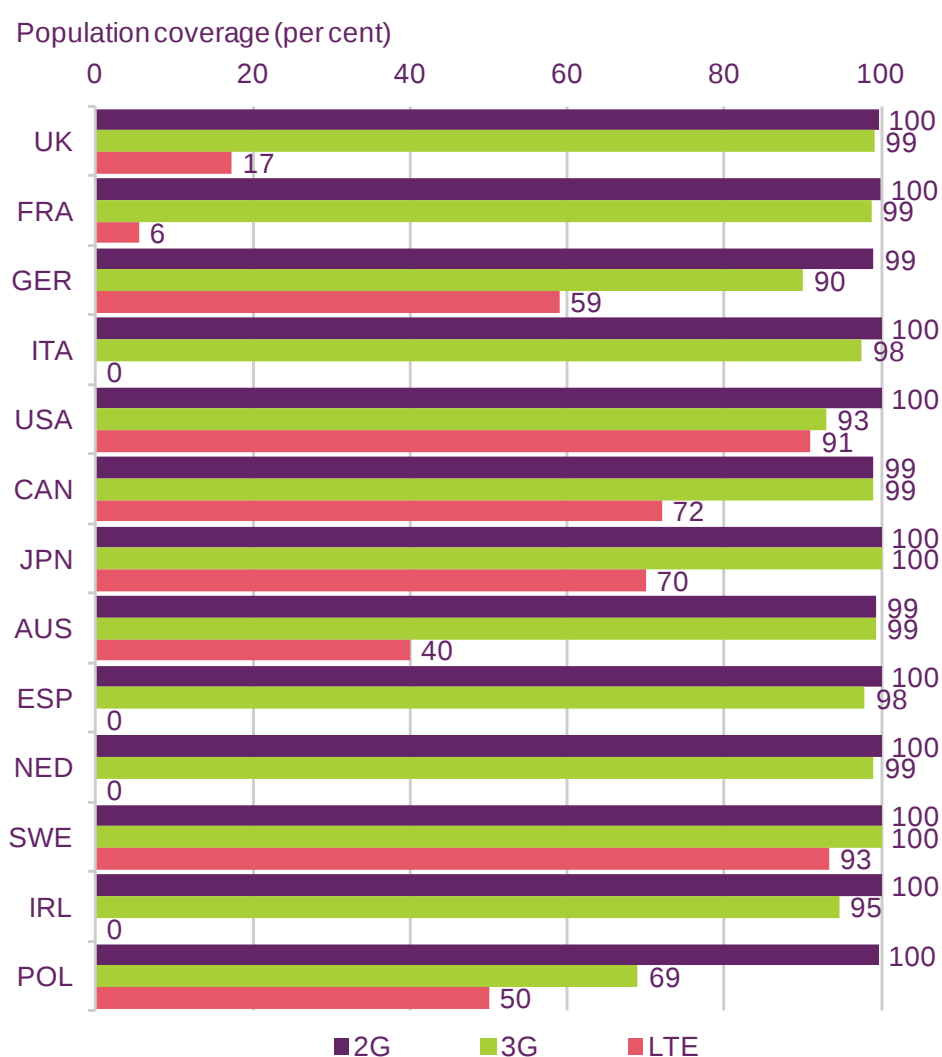
By the end of 2012, almost all people living in the comparator countries for which data were available lived in areas where mobile services of some description were available (Figure 6.51). According to data provided by IDATE, the proportion of the population living in areas where 2G mobile services were available was around 100% in all of these countries except Germany, Canada and Australia, where it was slightly lower, at 99%. Third-generation (3G) mobile population coverage was also high in most countries, at 95% or higher in all of the countries for which data were available, except Poland, Germany and the US, at 69%, 90% and 93% respectively (in the UK it was 99%).

3G availability was lower than average in Poland, due to mobile network operators moving directly to LTE and skipping 3G deployment, while in Germany one reason why 3G availability is comparatively low is that each licence holder has an obligation to cover only at least 50% of the population" (with no guidance regarding overlapping). In the US, the

availability figures below exclude CDMA EV-DO rev A and EVDO1x coverage, and if these technologies are taken into account, 3G coverage was around 99%.

The differences between countries in the proportions of the population that are able to receive 4G long term evolution (LTE) mobile services, were much more marked. While LTE services were available to over 90% of people living in Sweden and the US, services had not yet launched in Italy, Spain and the Netherlands. In the UK, where EE was the sole provider of 4G LTE services between October 2012 and August 2013, IDATE estimates that 17% of the population were able to receive a 4G service at the end of 2012. In October 2013 EE announced that its 4G LTE network covered 60% of the UK population, and that it planned to cover 98% of the UK population by the end of 2014,⁷⁵ while Vodafone,⁷⁶ O2⁷⁷ and Three⁷⁸ plan to have similar coverage by 2015. Further information on 4G mobile services can be found in section 1.5 of this report.

Figure 6.51 2G, 3G and LTE mobile network availability: end of 2012



Source: IDATE

⁷⁵ <https://explore.ee.co.uk/our-company/newsroom/ee-unveils-the-best-value-4g-plans-in-europe-on-the-world-s-fastest-network-0>

⁷⁶ <http://www.vodafone.co.uk/cs/groups/configfiles/documents/contentdocuments/vftst044690.pdf>

⁷⁷ <http://www.o2.co.uk/network/future>

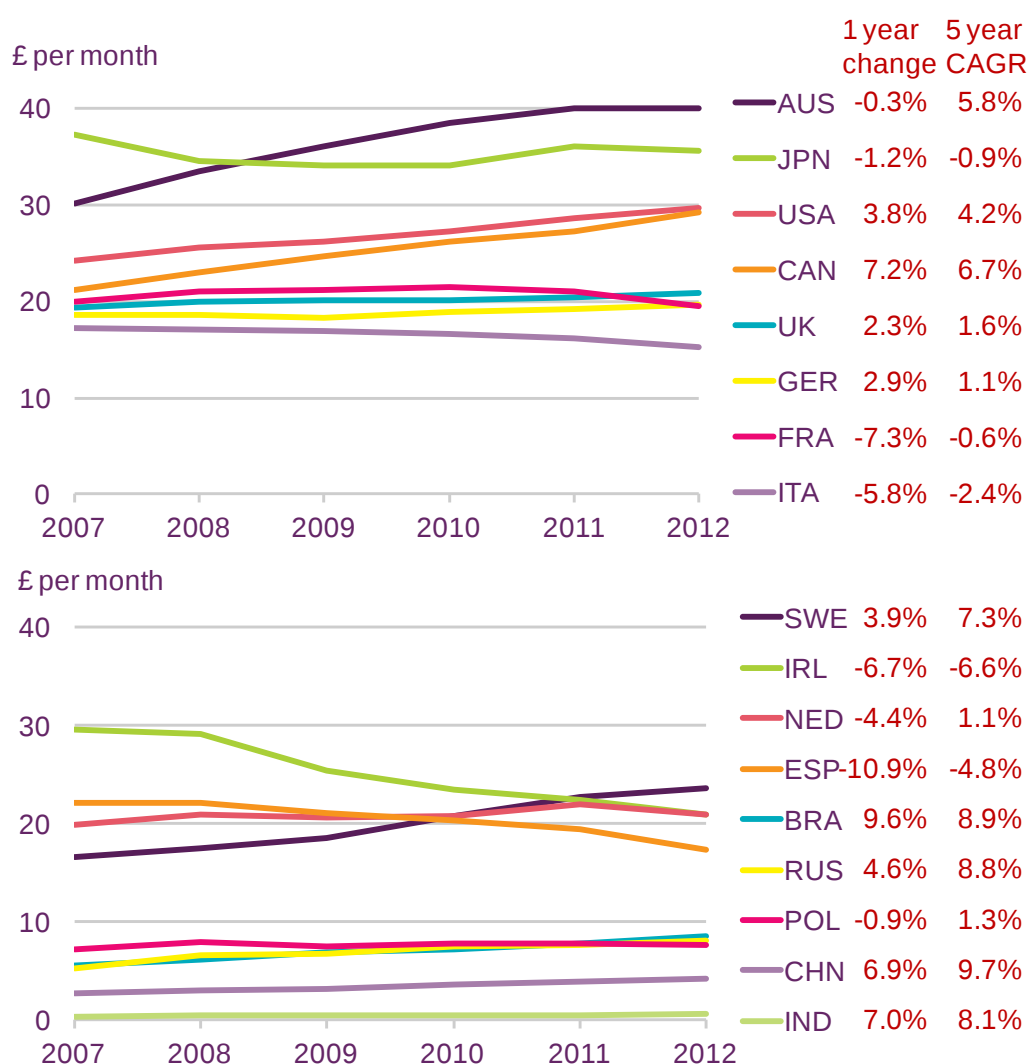
⁷⁸ <http://blog.three.co.uk/2013/08/29/get-ready-for-4g/>

Average per-capita mobile spend increased by 2.3% in the UK in 2012

Average monthly spend per head on mobile services fell in eight of our 17 comparator countries in 2012 (Figure 6.52). The main driver of declining per-capita mobile spend in these countries is falling prices (although average call minutes and SMS use fell in some countries, as is shown in Figure 6.56 and Figure 6.57), which were partly offset by increasing revenues from mobile internet services as a result of growth in the number of dedicated mobile data connections and increasing smartphone take-up.

Among those countries where average mobile spend declined in 2012, the fall ranged from a 0.3% fall to £40 a month in Australia (where average spend was highest in 2012) to a 10.9% fall in Spain (where average per-capita monthly outgoing mobile call minutes and average SMS messages fell by 3.5% and 25.1% respectively during the year). In the UK (where average per-capita call and message use both fell slightly during the year), average monthly mobile spend was £21 per person per month in 2012, a 2.3% increase compared to 2011 and the eighth highest average across our comparator countries, among which average per-capita spend was lowest in India, at just £1 per month.

Figure 6.52 Average per-capita monthly retail mobile revenue: 2007 to 2012



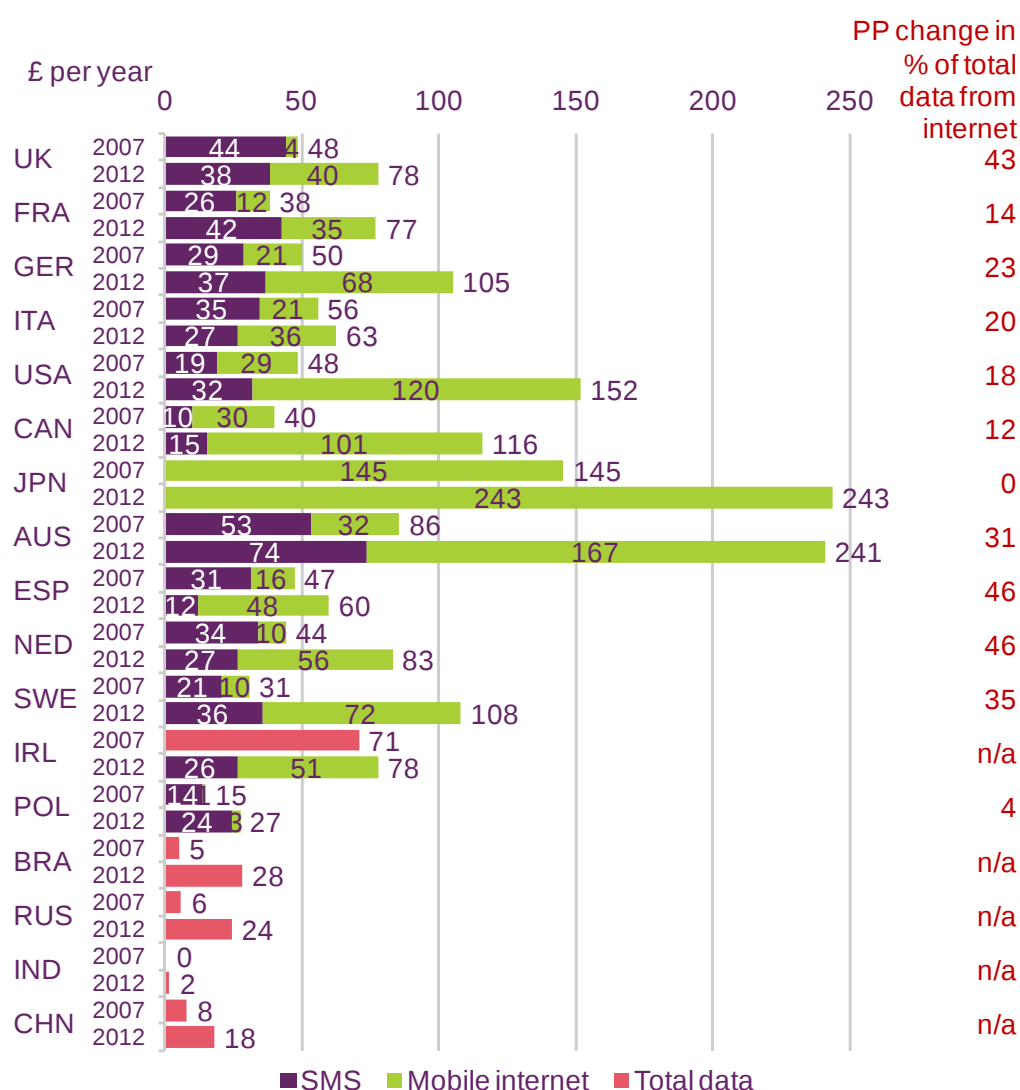
Source: IDATE / industry data / Ofcom

Average per-capita mobile data spend increased in all of our comparator countries between 2007 and 2012

Average spend per head on mobile data services (which includes SMS messaging and other mobile data services, referred to as 'mobile internet') increased in all of our comparator countries in the five years to 2012 (Figure 6.53). As previously, the figures below will be understated as they exclude revenues relating to SMS and data allowances that are bundled with monthly line rental fees. While average per-capita spend on SMS messaging increased in seven of the 13 comparator countries for which data were available in the five years to 2012 (it fell by 14% in the UK) the main driver of increasing mobile data spend was a rise in mobile internet use as a result of growing smartphone and mobile broadband use.

In 2012, the average per-capita spend on mobile internet services (which excludes SMS) ranged from £3 a year in Poland, where the availability of 3G networks is low (see Figure 6.51) to £243 a year in Japan, among the countries for which the split was available (in the UK it was £40 a year, although this figure will be understated as it excludes revenues from bundled data services). The proportion of total mobile data spend that was generated by mobile internet services ranged from 11% in Poland to 100% in Japan in 2012 (in the UK it was 51%), while the change in this proportion over the previous five years ranged from no change in Japan (where SMS is not commonly used) to 46 percentage point increases (to 80% and 68% respectively) in Spain and the Netherlands.

Figure 6.53 Per-capita mobile data average revenue: 2007 and 2012



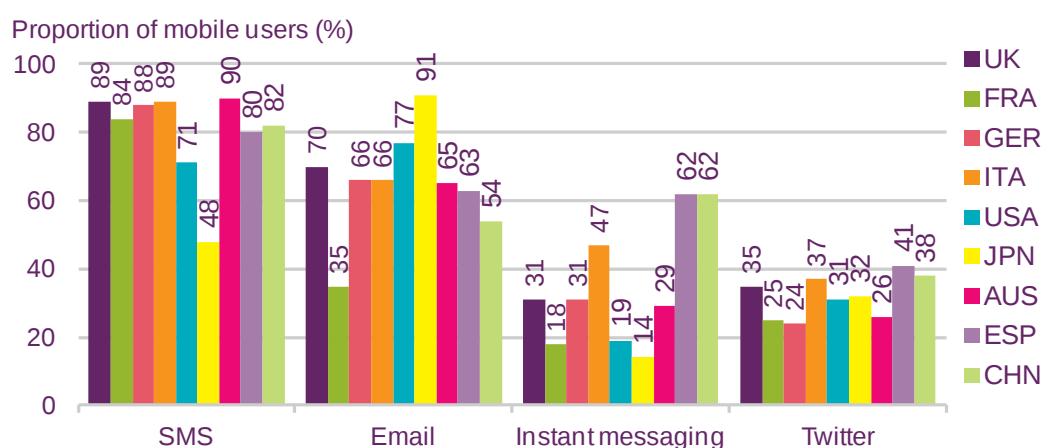
Source: IDATE / industry data / Ofcom

Increasing smartphone take-up has resulted in widespread use of mobile data services

Figure 6.54 shows the proportion of mobile users in nine of our comparator countries who used a number of common mobile data services. SMS use was widespread in most countries, with Japan being the only nation where less than half of mobile users used SMS. In fact, SMS is rarely used in Japan at all, and it is probable that the 48% figure shown below is overstated, possibly because respondents have confused it with another form of text-based mobile communication. Consumers in Japan tend to use email rather than SMS, and this is reflected in Japan having the highest use of email on mobile devices across our comparator countries, at 91%.

Claimed use of instant messaging services on mobiles were highest in Spain and China (both 62%); these levels of use were at least twice those in all of the other countries for which figures were available except Italy (47%). The proportion of mobile users who said that they used Twitter to post messages ('tweet') ranged from 24% in Germany to 41% in Spain (in the UK it was 35%).

Figure 6.54 Use of data services on mobile phones



Source: Ofcom research, September 2013

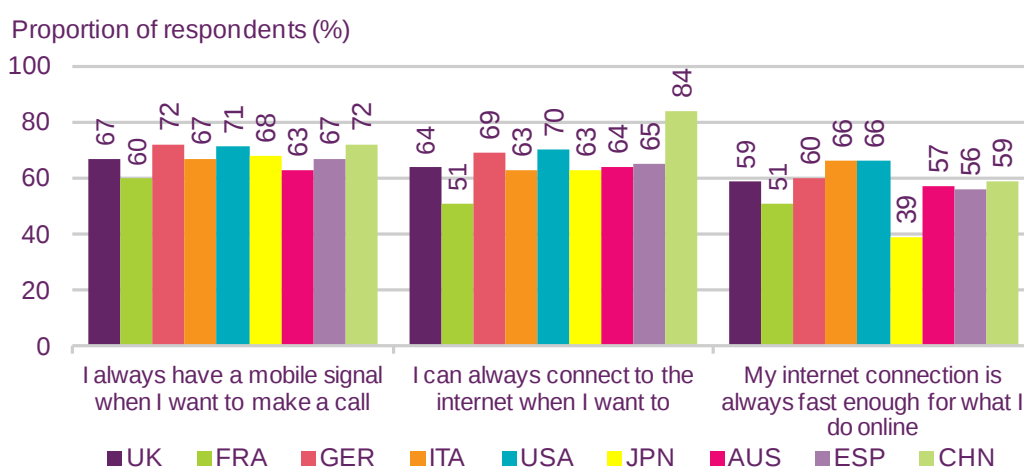
Base: All respondents with a mobile phone

There is little variation by country in smartphone users' ability to access mobile services

Ofcom research asked mobile users in nine of our comparator countries about their ability to connect to their mobile network. There was relatively little variation in the percentage of mobile users who said they always had a mobile signal when they wanted to make a call, ranging from 60% in France to 72% in Germany and China. It should be noted that the research was undertaken online, meaning that the results for China (where household internet take-up tends to be concentrated in large cities) may not to be representative of the country as a whole.

France had the lowest percentage of smartphone users who said that they could always connect to the internet using their mobile phone when they wanted to, at 51% (among the other comparator countries this proportion ranged from 63% in Italy and Japan to 84% in China). Japan was the only country where less than half of mobile subscribers (39%) said that their mobile internet connection was fast enough for their needs, while this proportion was highest in Italy and the US, in both cases at 66%.

Figure 6.55 Smartphone connectivity



Source: Ofcom research, September 2013

Base: All respondents with a smartphone

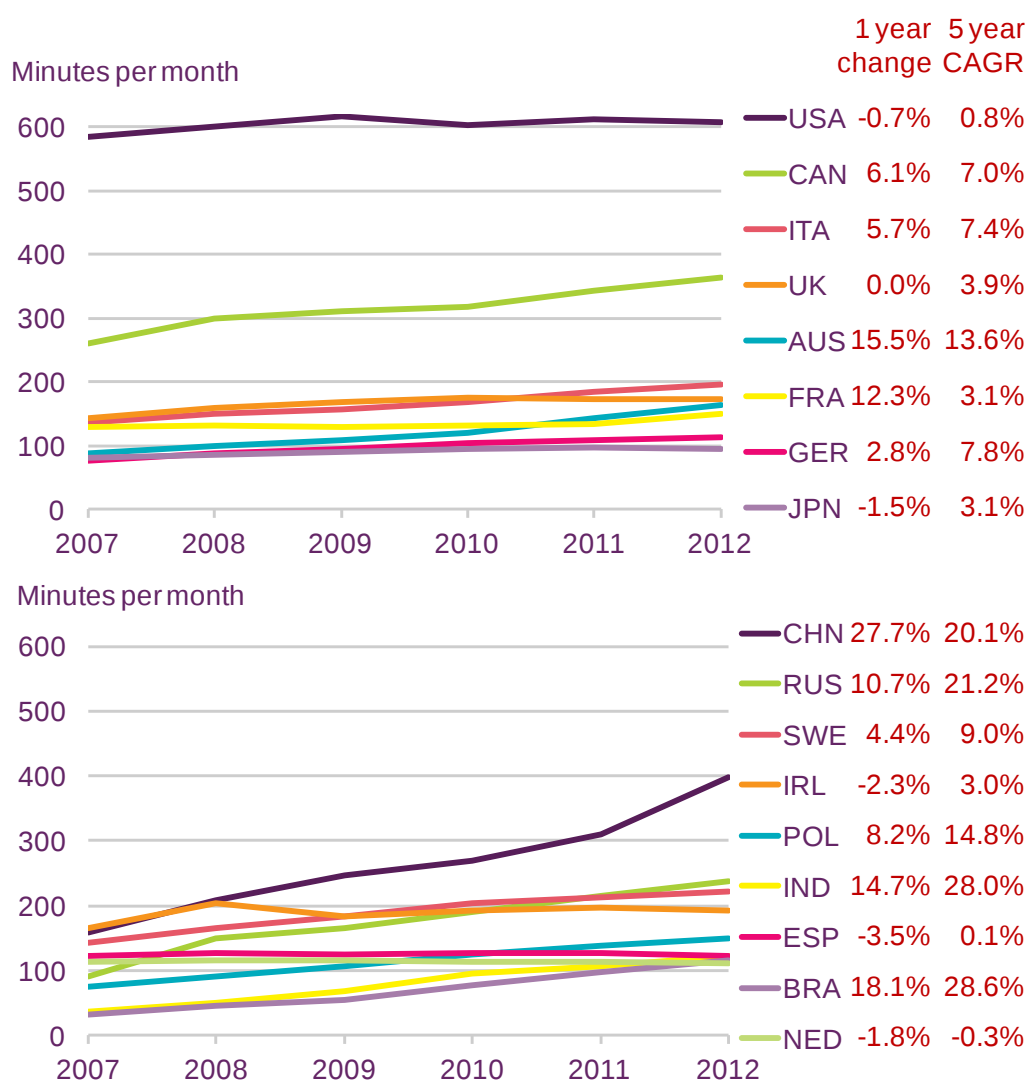
Note: "I always have a mobile signal..." figures include all mobile phone users.

The UK was one of six comparator countries where average per-capita mobile call minutes fell in 2012

Average monthly outgoing mobile call minutes per head were highest in the US, Canada and China in 2012, as figures for these countries also include incoming call minutes (Figure 6.56).

Among the countries for which separate outgoing mobile call volume figures were available, average per-capita minutes ranged from 95 per month in Japan (where data-based services such as email and instant messaging are frequently used as a substitute for traditional voice calls) to 237 per month in Russia (where mobile voice prices and fixed voice use are low). In the UK people made an average of 174 minutes of outgoing fixed voice call minutes per month, the fifth highest figure among the countries compared). Average per-capita call minutes fell in five comparator countries in 2012, although these falls were relatively small, ranging from 0.7% in the US to 3.5% in Spain (average use was unchanged in the UK during the year).

Figure 6.56 Average per-capita monthly mobile voice call minutes: 2007 to 2012



Source: IDATE / industry data / Ofcom

Note: Figures for USA, CAN and CHN also include incoming call minutes

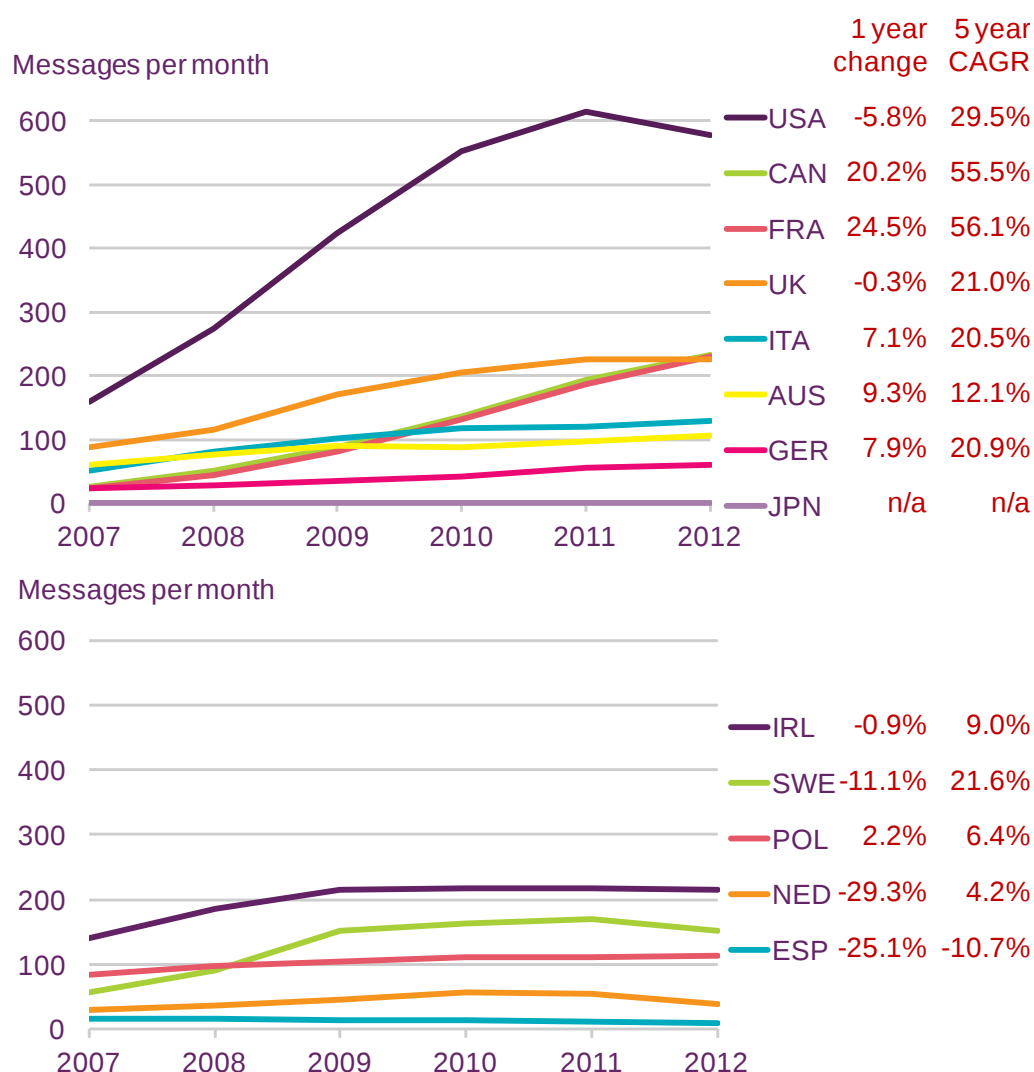
People in the US sent more than twice as many mobile messages per month than those in any other comparator country in 2012

Average monthly mobile messages per head showed wide variation among our comparator countries in 2012, ranging from zero per month in Japan to 579 per month in the US, where the message volume data includes forms of mobile text messaging other than SMS (Figure 6.57).⁷⁹ Average per-capita mobile messaging fell in six of our comparator countries, including the UK, in 2012, with the main reason being increased smartphone take-up, as these devices enable consumers to use other forms of communication (such as email, instant messaging, over-the-top messaging services such as *WhatsApp* and *Viber*, and the messaging services on social networking sites) as alternatives to SMS (see Figure 6.58).

The rate of decline in average per-capita SMS use was highest in Spain in 2012, at 25.1%, although lower average use in Spain (as a result of high SMS prices) meant that the fall was equivalent to only three messages per person per month. In terms of messages sent, the largest fall in 2012 was in the US (a decline of 35 messages per person per month, or 5.8%) while in the UK it was just one message per person (0.3%) to 226 messages per month, the fourth highest usage level among our comparator countries. France had the largest increase in average SMS use per person during 2012, up by 46 messages per month (24.5%) to 232 per person, as a result of the increasing availability of tariffs with large numbers of inclusive SMS messages.

⁷⁹ SMS was the text messaging standard introduced with GSM, while other modes are used with other mobile technologies.

Figure 6.57 Average per-capita monthly mobile text messages: 2007 to 2012



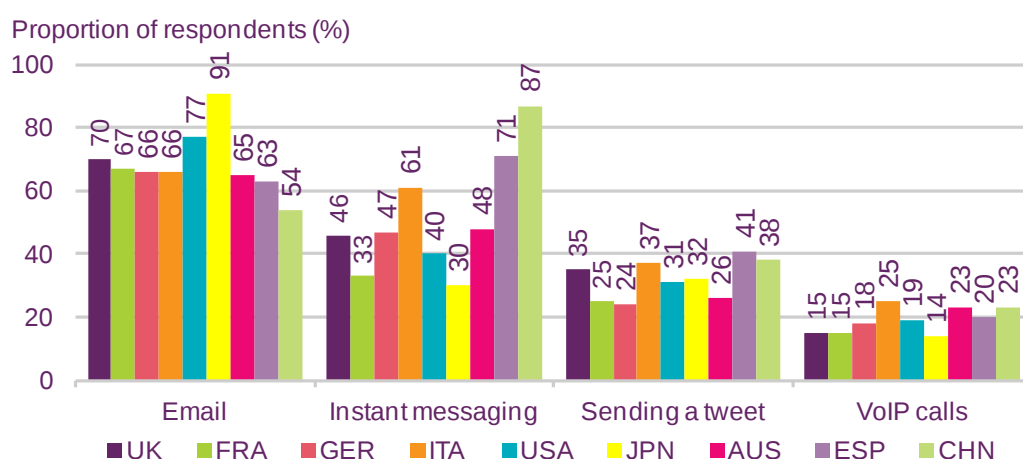
Source: IDATE / industry data / Ofcom

Over 90% of mobile internet users in Japan use their mobile to send and receive emails

Ofcom research asked mobile internet users in nine of our comparator countries about which methods of communication, other than voice calls and SMS/MMS, they used their mobile handsets for (Figure 6.58). In all nine of these countries, more than half of mobile internet users said that they used their mobile handset to send and receive emails, with this proportion ranging from 54% in China to 91% in Japan (in the UK it was 70%).

The proportion of mobile data users who said that they used their handset to send and receive email was higher than for any of the other activities outlined below in all countries except Spain and China, where the use of instant messaging (IM) services was more prevalent. In Spain 71% of respondents used IM, while in China the proportion was even higher, at 87%. Use of micro-blogging site Twitter, and voice VoIP calls on a mobile handset, tended to be lower than use of email and IM, with Twitter use ranging from 24% of mobile data users in Germany to 41% in Spain, and mobile VoIP use ranging from 14% in Japan to 25% in Italy.

Figure 6.58 Activities undertaken on a mobile phone



Source: Ofcom research, September 2013

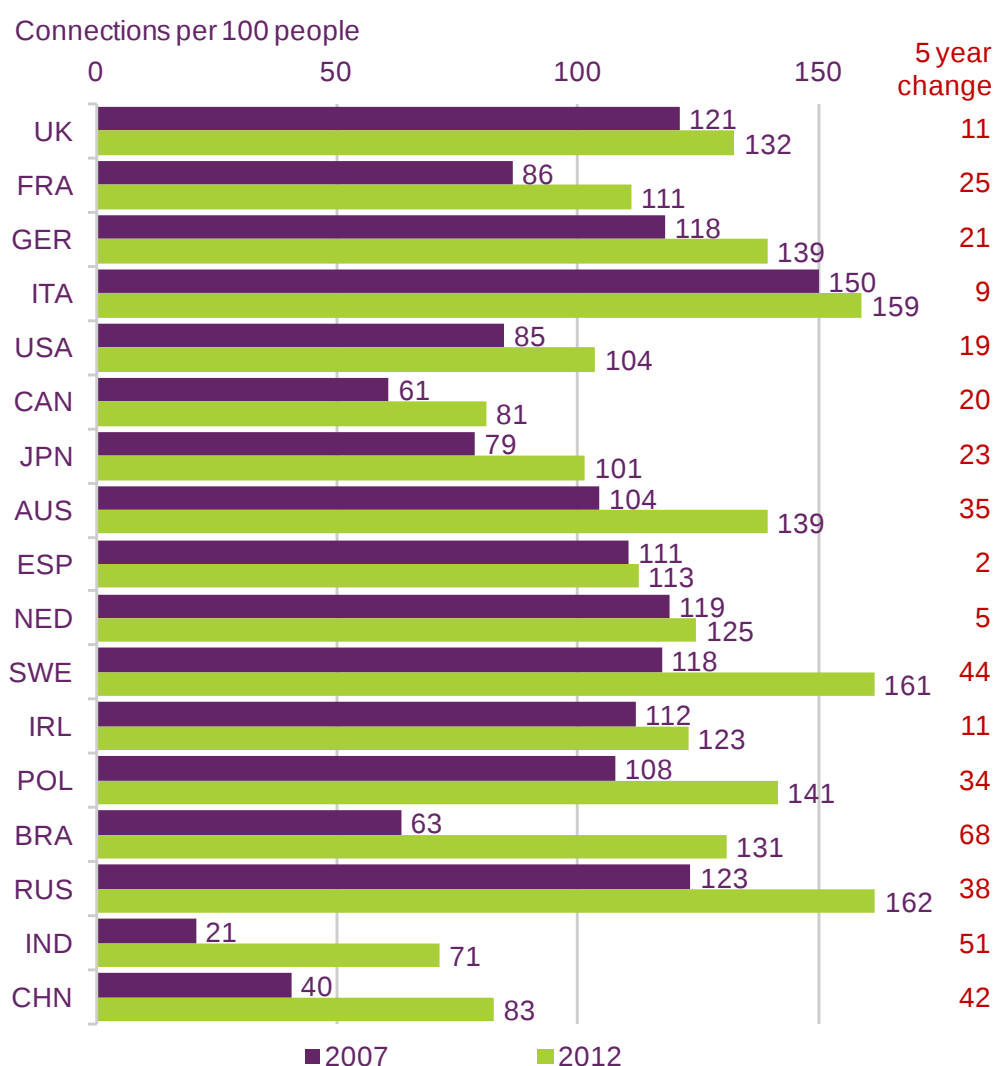
Base: All respondents who access the internet on a mobile phone

Russia, Sweden and Italy had more than 1.5 mobile connections per person at the end of 2012

The prevalence of consumers having more than one mobile SIM (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 pre-pay SIM cards) resulted in there being more than one mobile connection per person in all of our comparator countries except China and India at the end of 2012 (Figure 6.59).

Russia, where many people have more than one pre-pay mobile connection, had the highest number of mobile connections per person at the end of 2012, at 162 per 100, closely followed by Sweden (where mobile broadband penetration is comparatively high, as shown in Figure 6.60) at 161 per 100. Russia was one of five comparator countries (along with Spain, India, Ireland and Germany) where the number of mobile connections per 100 people fell in 2012, with the largest fall being a decline of 13, to 125 connections per 100 people in Spain, as a result of people changing their consumption habits in response to the economic downturn. In the UK there were 132 mobile connections per 100 people at the end of 2012, an increase of one connection per 100 people compared to 2011.

Figure 6.59 Mobile connections per 100 people: 2007 and 2012



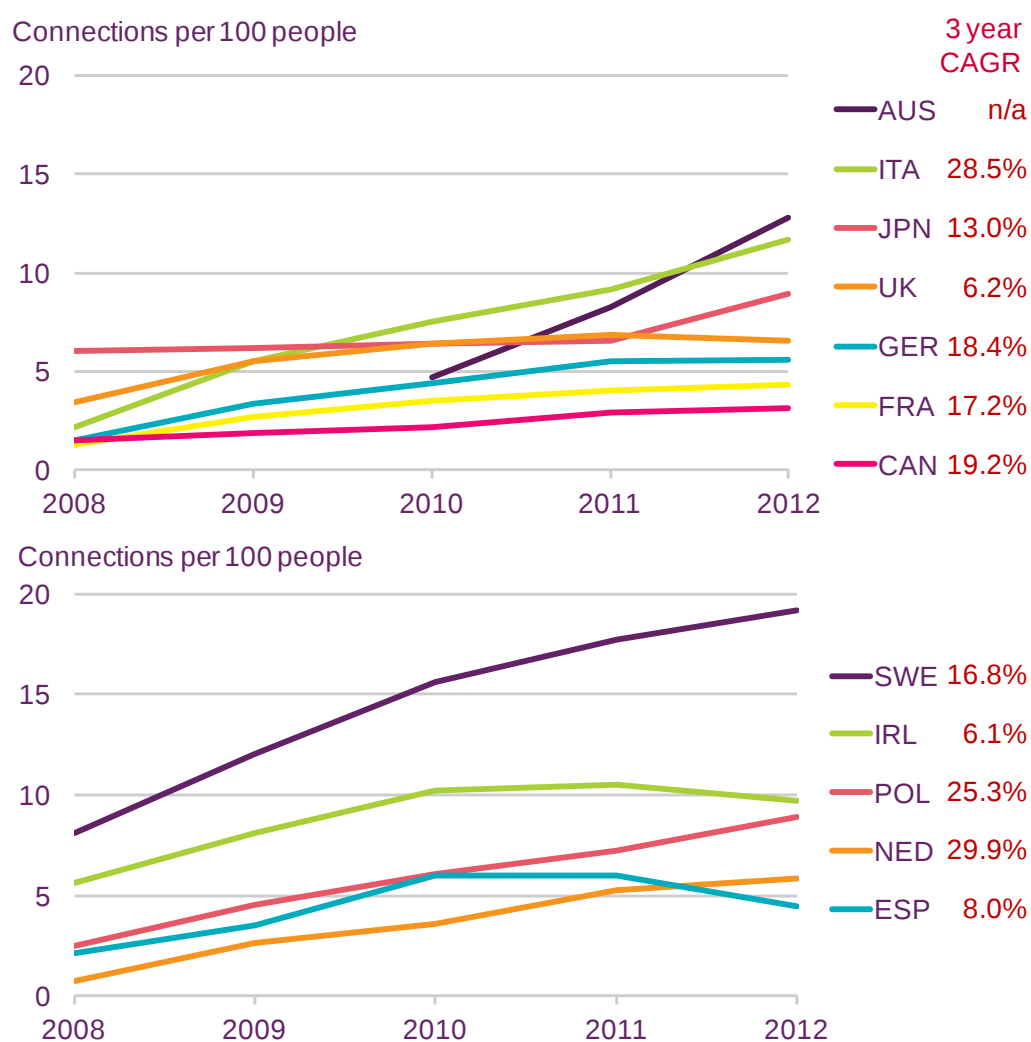
Source: IDATE / industry data / Ofcom

Use of data-only mobile broadband connections was highest in Sweden in 2012

Figure 6.60 shows the number of dedicated data-only mobile broadband connections (such as mobile 'dongles', datacards or tablet connections) per 100 people across our comparator countries. Sweden had the highest number of connections per 100 people at the end of 2012, at 19 per 100 people. Use was also high in Australia and Italy, where there were 13 and 12 connections per 100 people respectively, while take-up was lowest in Canada at just three connections per 100 people.

High mobile broadband take-up in Sweden is due to the growth in the number of LTE connections (LTE services were launched in 2009 in Sweden, much earlier than in any other EU country). In comparison, the low level of mobile broadband penetration in Canada is due to high mobile data prices and the late deployment of 3G. Mobile broadband penetration fell for the first time in three of our comparator countries in 2012 (Spain, down by two connections to four connections per 100 people, Ireland; down one to ten connections per 100 and the UK, where it fell by less than one connection per 100, to seven per 100). These falls are probably because consumers are using the internet on smartphones to access data services on the go, rather than using dedicated mobile data connections.

Figure 6.60 Mobile broadband connections per 100 people: 2008 to 2012



Source: IDATE / industry data / Ofcom

Note: Figures for the US include mobile data access on a mobile handset

6.4 Communications infrastructure availability in high-density areas

In its 2013/14 Annual Plan, Ofcom committed to undertake further research into the effect of communications infrastructure availability on high-density areas, including cities and towns. We will use this research, together with the conclusions of our work on the availability of communications services in the nations, which we published on 16 May 2013⁸⁰ and which looked primarily at the provision of services in rural areas, to help us understand the needs of different parts of the UK regarding communications services, how the market has delivered, and the impact of selected public interventions.

As part of this research, Ofcom commissioned 11 case studies of UK cities, identifying the availability of communications services and the factors driving this. The key findings of this research were published in Ofcom's Communications Market Report on 1 August 2013 alongside the full report, which can be found on Ofcom's website.⁸¹

6.4.1 Background

Following this report, Ofcom commissioned further research to examine the availability of communications services in six international cities across four continents. This research provides an assessment of the extent to which people living in these cities benefit from communications technologies, infrastructure and services, and what non-commercial factors, if any, are driving these differences.

The relevant cities are listed below, and were chosen to represent a range of urban populations across the world.

- Chicago, USA
- Hamburg, Germany
- Lagos, Nigeria
- Milan, Italy
- Seoul, South Korea
- Warsaw, Poland

The full report can be found on Ofcom's website.⁸²

6.4.2 Summary of key findings

- **First generation broadband services providing speeds of over 2Mbit/s are widely available in all cities with the exception of Lagos.** Development of both the fixed telephony and fixed broadband markets in Nigeria has been hampered by poor management of telecoms infrastructure, unreliable power supply and low personal computer penetration.

⁸⁰ <http://stakeholders.ofcom.org.uk/market-data-research/market-data/economic-geography/>

⁸¹ <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr13/uk/>

⁸² <http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/icmr/cities-infrastructure-cmr13.pdf>

- **Next-generation access (NGA) broadband services capable of providing over 30Mbit/s download speeds are increasingly becoming available.** With the exception of Lagos, more than half of the population of every city are able to access an NGA service.

Figure 6.61 First-generation and NGA broadband coverage in five of the six cities

City	First-generation broadband coverage	Current NGA broadband coverage
Chicago	99%	98%
Hamburg	100%	95%
Milan	100%	55% (as at end 2011)
Seoul	100%	Over 90%
Warsaw	100%	>95%

Source: Analysys Mason

The other main findings of the report are set out below.

- Copper network DSL infrastructure remains the dominant architecture for fixed broadband networks.
- The majority of the operators (especially the incumbents) in most of the cities have maintained their market share utilising DSL infrastructure and also have plans to upgrade their networks to VDSL-based fibre-to-the-cabinet (FTTC) infrastructure
- Availability of NGA fibre-to-the-home (FTTH) infrastructure is also increasing with operators in Hamburg, Milan, Seoul and Warsaw extending their FTTH network
- Cable infrastructure plays an important role in the availability of high-speed broadband infrastructure, although Lagos and Milan are exceptions as they have no cable network deployments
- All the cities have launched, or plan to launch public sector based Wi-Fi initiatives to provide either free or subsidised Wi-Fi access to residents and/or visitors
- 4G services are available from at least two mobile network operators in all six international cities
- Public policy and intervention initiatives have influenced, or continue to influence, availability of infrastructure and encouragement of take-up of communications services in all cities. For example, the Gigabit Squared Chicago initiative aims to deploy NGA in nine demonstration neighbourhoods, connected together with the excess fibre capacity that will be leased from the City's own fibre network. In Seoul, residents will have benefitted from the government certification scheme, set up in 1999, for buildings with over 20 households and 3,300sqm, providing potential householders with a clear indication of the standard of the in-building cabling, and the likely broadband speeds that it can support.



International Communications Market Report 2013

7 Post

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7.1 Key market developments in post

7.1.1 Introduction

The chapter includes an overview and country-level analysis of the mail markets and the use of mail in our comparator countries. It focuses on three topics – key market developments in the sector, industry volume and revenues, and consumer research into the use of post.

- The *Key market developments* section looks at recent pricing trends, and presents a comparison of consumer stamp prices in our comparator countries.
- The *Post industry* section looks at volume and revenue trends over the past five years.
- The *Post and the residential consumer* section looks at consumer trends in sending and receiving mail, and consumers' perceived reliance on post as a way of communicating.

Figure 7.1 Industry metrics and summary

	UK	FRA	GER	ITA	USA	CAN	JPN	AUS	ESP	NED	SWE	IRE	POL	BRA	RUS	IND	CHI
Domestic addressed mail revenues (£bn)	7.2	7.1	7.1	3.1	29.9	2.3	13.9	1.5	1.5	2.3	1.2	0.4	0.7	2.6	0.7	0.3	2.4
Mail revenues per capita (£)	113.6	108.6	87.66	50.4	94.9	67.5	109.3	68.5	36.1	135.9	127.4	86.5	18.7	12.9	4.7	0.3	1.8
Domestic mail volumes (billion items)	15.7	16.5	16.8	3.9	155.3	5.9	18.9	4.6	4.3	4.2	2.6	0.6	1.9	8.7	2.9	5.8	27.5
Mail volumes per capita	247.9	250.1	206.6	64.3	492.7	171.5	147.8	215.4	94.5	253.0	290.3	130.1	49.9	43.3	20.6	4.6	20.4
Standard (C5) domestic stamp price (£)	0.60	1.26	1.18	1.71	0.96	0.85	1.11	0.79	0.73	1.46	1.12	0.49	0.46	0.55	0.78	0.30	0.60
Average number of items sent in a month	4.7	4.4	4.9	3.8	5.6	n/a	2.3	3.4	5.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.5

Source: WIK / Ofcom analysis / Ofcom consumer research September 2013

Note: Standard letter is based on C5 envelope, 229x162x5 <=100g

Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

7.1.2 The UK is among the cheapest countries in Europe to send a standard sized (C5) letter

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 7.2 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 British Sterling using the International Monetary Fund average exchange rates for 2012. The prices of the products are compared as they were published on the operators' websites on 31 October 2013, 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 7.2 Delivery specifications for the fastest letter mail product

UK	FRA	GER	ITA	USA	CAN	JPN	AUS	ESP	NED	SWE	IRL	POL	BRA	RUS	IND	CHN
D+1	D+1	D+1	D+1	D+3	D+2-4	Variable	Variable	D+3	D+1	D+1	D+1	D+1	D+2-5	Variable	Variable	Variable

Source: WIK

Note: Delivery targets in Canada, 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;⁸³ and
- **a large letter** – based on a C4 envelope, 324mm by 224mm by 25mm, weighing 101-150g.

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 and Russia.

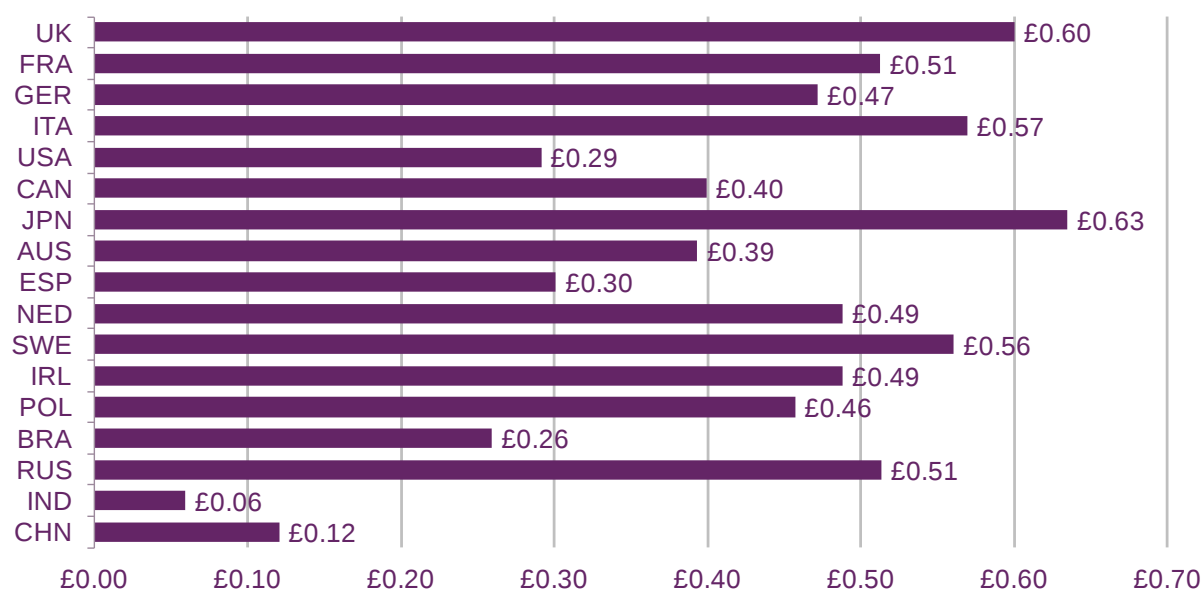
Japan and the UK are the most expensive countries in which to send a small letter

At 63p, Japan is the most expensive country in which to send a small letter, followed closely by the UK (60p). Among the European comparators, the UK is the most expensive country, followed by Italy (57p) and Sweden (56p). The cheapest country in which to send a small letter is India, where it costs 6p, followed by China (12p).

Outside the BRIC countries, the US has the lowest price for sending a small letter (29p), closely followed by Spain (30p). As shown in Figure 7.2, both of these countries have a D+3 delivery standard for their fastest available letter product.

⁸³ Most greetings cards in the UK are no larger than a C5 envelope

Figure 7.3 Stamp prices for small (DL) letters



Source: WIK / Ofcom analysis

Note: Small letter is based on DL envelope, 110x220x5 <=20g;

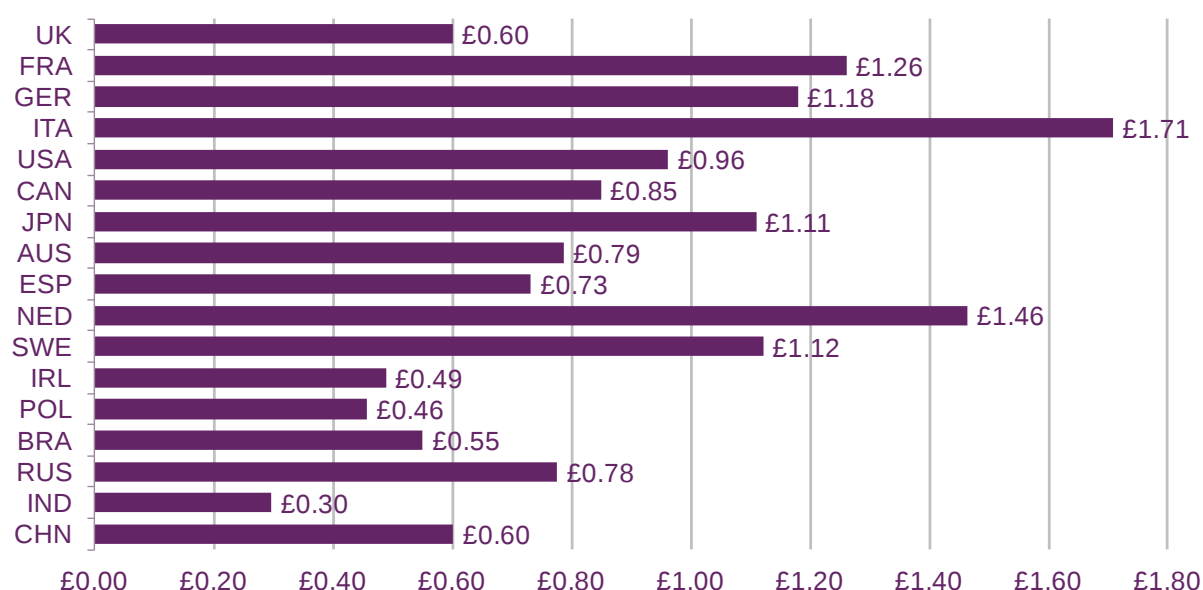
Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

The UK is one of the cheapest countries in Europe in which to send a domestic standard sized letter

It costs 60p to send a First Class standard sized letter in the UK, the same price as in China. Among our European comparators, it is cheaper to send a letter with the same dimensions only in Ireland (49p) and Poland (46p). In the majority of our European comparator countries, it costs more than £1 to send a standard sized letter. The most expensive country is Italy (£1.71) where the price increased by 40% in 2013, followed by the Netherlands (£1.46).

The reason that the UK is more expensive for a small letter and cheaper for a standard sized letter is due to the different tariff structures that 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 is charged for items which weigh in excess of 20g or exceed the dimensions of a DL envelope. In the UK, there is not a separate price for a small letter, so the price is the same for a small or a standard sized letter.

Figure 7.4 Stamp prices for standard (C5) letters



Source: WIK / Ofcom analysis

Note: Standard letter is based on C5 envelope, 229x162x5 <=100g

Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

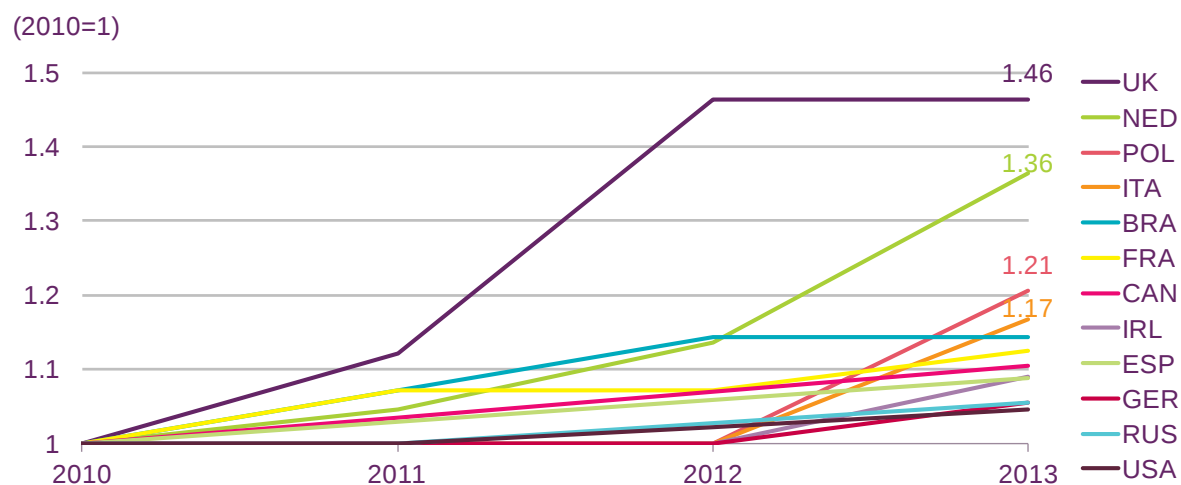
The price to send a standard sized letter has risen in twelve of our comparator countries in the past three years

Figure 7.5 shows the nominal trend in the price to send a standard sized letter since 2010. Current and previous years are indexed to 2010 prices in each of the comparator countries where prices have increased.

The largest proportional increase has been in the UK, where the price of a First Class stamp is 46% more expensive than in 2010. Prices in the UK have risen every year except 2013, with the largest and most recent increase taking place in April 2012.

In the Netherlands, the price to send a standard letter has increased each year, with the most recent increase being the largest. The price to send a standard letter in the Netherlands is 36% higher than in 2010. Prices have increased on an annual basis in both Canada and Spain, while prices increased in 2013 for the first time for a number of years in Germany, Italy, Ireland and Poland.

Figure 7.5 Increase in stamp price for the fastest available standard sized (C5) letter since 2010



Source: WIK / Ofcom analysis.

Note: Figures are nominal. See Figure 7.2 for delivery specification.

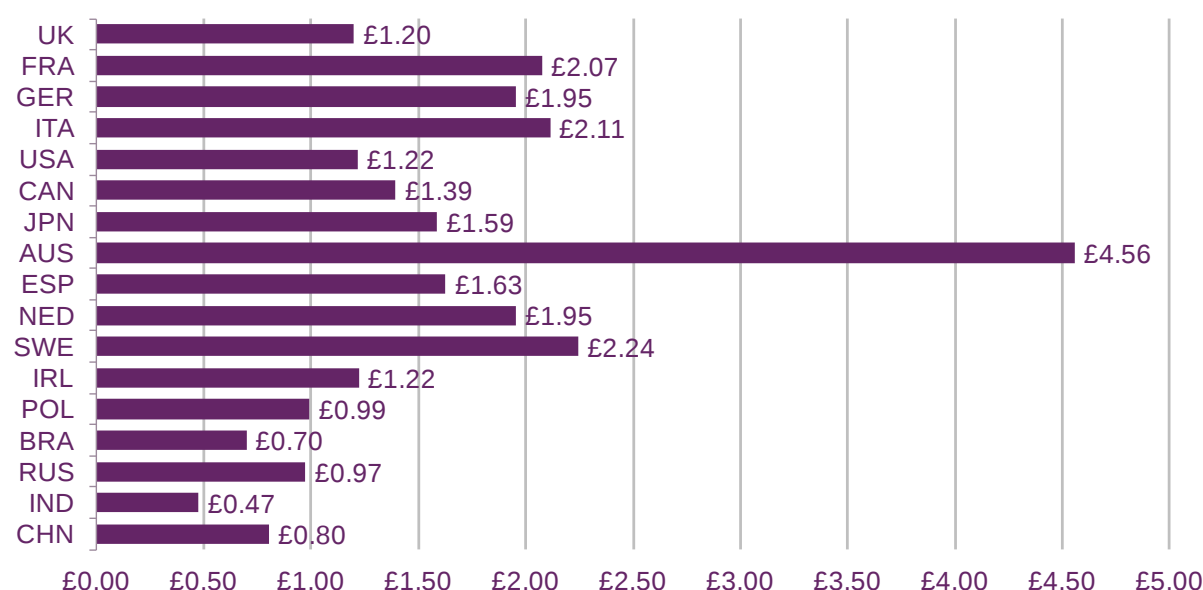
Note: Standard letter is based on C5 envelope, 229x162x5 <=100g

Poland is the cheapest country in Europe to send a large letter (99p), followed by the UK (£1.20)

The price to send a large letter in the UK (£1.20) is broadly similar to the price in the US and Ireland, where it costs £1.22. The lowest price overall is India (47p), followed by Brazil (70p). The most expensive overall is Australia (£4.56). 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.

Excepting Australia, Sweden is the most expensive country in which to send a large letter (£2.24).

Figure 7.6 Stamp prices for large domestic letters



Source: WIK / Ofcom analysis

Note: Large letter is based on C4 envelope, 324*224*25 101g-150g

Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

Among our comparator countries which offer Second Class equivalent products, Poland is among the cheapest to send almost 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 First and Second Class are available in the UK. Alongside the UK, this choice is available only to consumers in France, Sweden, Poland and Russia. These are almost all D+3 products, with the exception of France and Russia, as shown in Figure 7.7.

Figure 7.7 Delivery specifications for the Second Class equivalent letter product

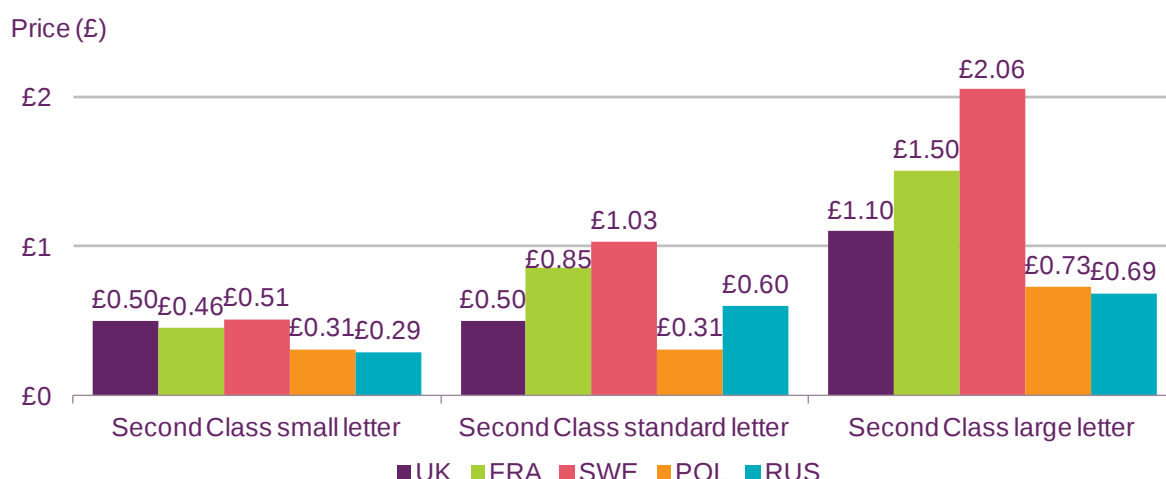
UK	FRA	SWE	POL	RUS
D+3	D+3-4	D+3	D+3	Variable

Source: WIK

Note: Delivery targets in Russia are dependent on the point of origin and destination.

As Figure 7.8 shows, the UK is the second most expensive place to send a Second Class small letter (50p) only 1p less than in Sweden. As is the case with First Class stamp prices by format, the UK is among the cheapest for sending a standard and large letter. Again, this is due to tariff structures, with the price threshold beginning at a higher-weight step in the UK when compared to other countries.

Figure 7.8 Stamp prices for Second Class domestic letters



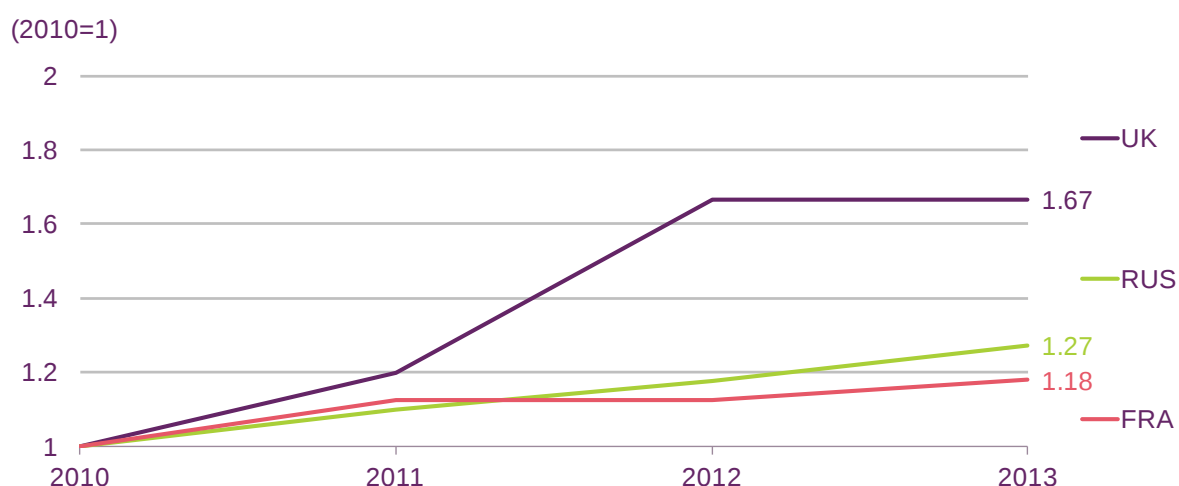
Source: WIK / Ofcom analysis

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 British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

Of our comparator countries which offer Second Class products, the UK, Russia and France have all increased prices since 2010. As with First Class, the largest proportional price increase was in the UK, where the Second Class standard letter price increased by 67% between 2010 and 2013, with the largest increase taking place in April 2012. Prices in Russia have increased by 27% over the same period, and have risen by 18% in France.

Despite the large proportional price increase, in 2013 it was still cheaper to send a Second Class standard letter in the UK than in France.

Figure 7.9 Increase in Second Class stamp price for a standard sized (C5) letter since 2010



Source: WIK / Ofcom analysis.

Note: Figures are nominal. See Figure 7.7 for delivery specification.

7.2 The post industry

7.2.1 Introduction

This section examines volume and revenue trends across the countries analysed in this report. The main findings include:

- **Mail volumes across our comparator countries have declined by 16.7% since 2008.** The overall trend is driven by North America, which accounts for 58% of total volumes among our comparators, where volume decline was 21.3%.
- **Revenue has fallen, but at a slower rate than volumes.** Total mail revenues among our comparator countries fell by 10.7% between 2008 and 2012. The fastest decline was in North America, where mail revenue declined by 19.4%. This compares to a decline of 9.7% among our European comparators, and growth of 29.6% in the BRIC countries.
- **The UK and the BRICs were the only countries where revenue increased in 2012.** Mail revenue in the UK increased by 7.2% in 2012, driven by price increases by Royal Mail and a continued change in the mix of mail due to online shopping. The only other countries where revenue grew year on year were the BRICs, with the fastest growth happening in China (12.6%).
- **China and Germany were the only countries where mail volumes grew in 2012.** Mail volume in the UK fell by 5.9% in 2012, slightly greater than the decline in the US and the Netherlands (5.3%), and Canada (5.1%). Mail volume decline was especially pronounced in southern Europe.

7.2.2 Mail revenues and volumes across our comparator countries

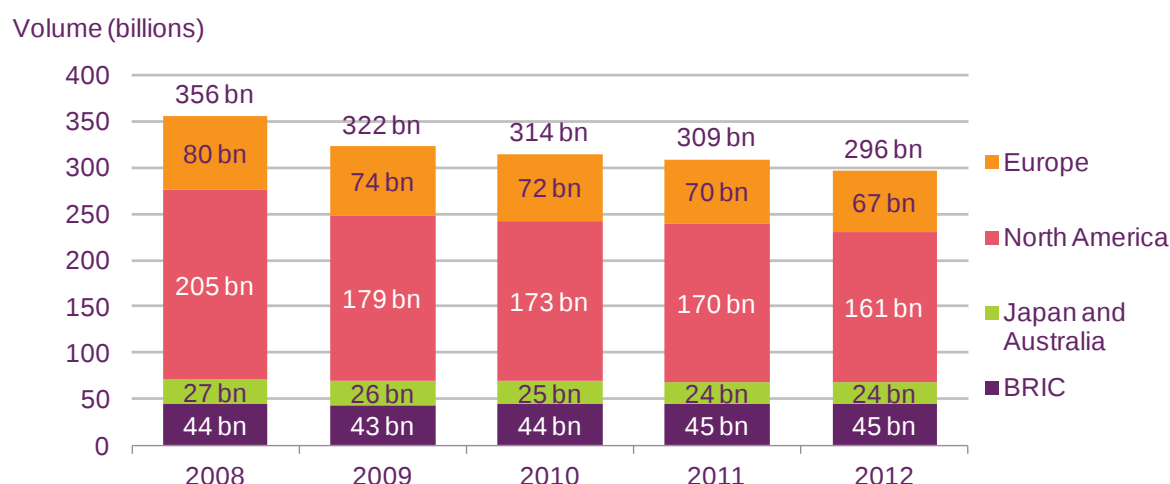
Ofcom commissioned WIK-Consult to provide a range of metrics for the postal industry in our comparator countries. For the majority of the volume and revenue metrics, we have concentrated on addressed letter mail as much as possible. However, differences between countries mean that in some cases the categories of mail that are included are not an exact match. Where information is available only for the financial year, we have used estimates to provide a calendar year figure. Finally, in the few cases where data are not available, market estimates based on long-term trends and local insight have been used.

Mail volumes across our comparator countries have declined by 16.7% since 2007

Across our comparator countries, mail volumes have fallen by 16.7% in the past five years. The overall trend is driven by North America, which accounts for 58% of total volumes among our comparators, where volume decline was 21.3%. The rate of decline is less pronounced among our European comparators, where volumes have fallen by 16.6% over this period.

Mail volume was fairly stable among the BRIC countries, with the small increase of 1.2% driven by economic growth in China. As shown in Figure 7.15, volumes in Brazil have been relatively stable, while those in Russia and India have fallen.

Figure 7.10 Total mail volumes in our comparator countries: 2008-2012



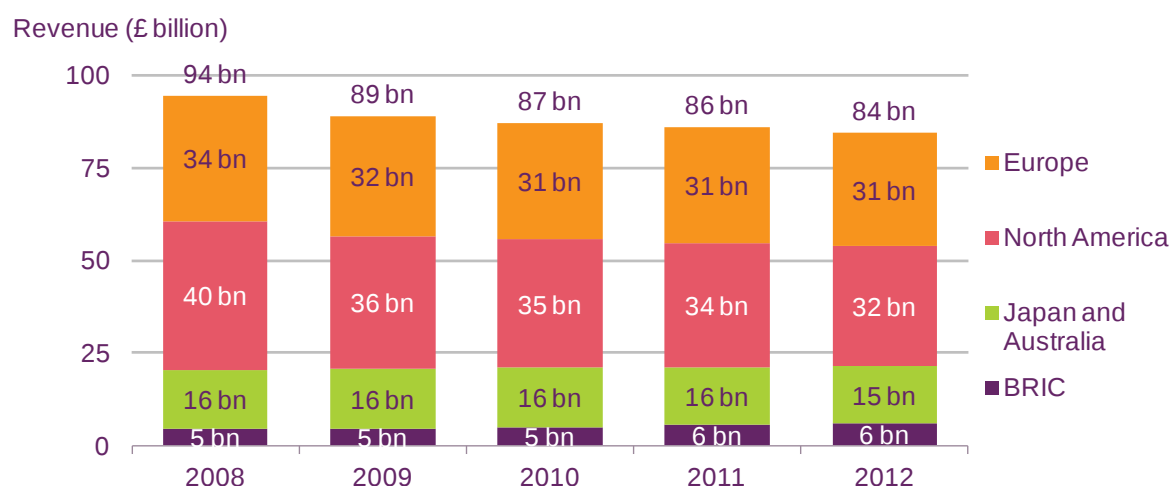
Source: WIK / Ofcom analysis

Revenue has fallen, but at a slower rate than volumes

Total mail revenues among our comparator countries fell by 10.7% between 2008 and 2012. The fastest decline was in North America, where mail revenue declined by 19.4%. This compares to a decline of 9.7% among our European comparators, and growth of 29.6% in the BRIC countries. Revenue increased in all of the BRIC countries.

Although North America accounts for 58% of the volume when our comparators are aggregated, it accounts for just 38% of total revenue. This is due to the lower cost of posting in the US, as shown in the domestic prices in section 7.1.2.

Figure 7.11 Total mail revenues in our comparator countries: 2008-2012



Source: WIK / Ofcom analysis

Note: Figures are nominal. Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

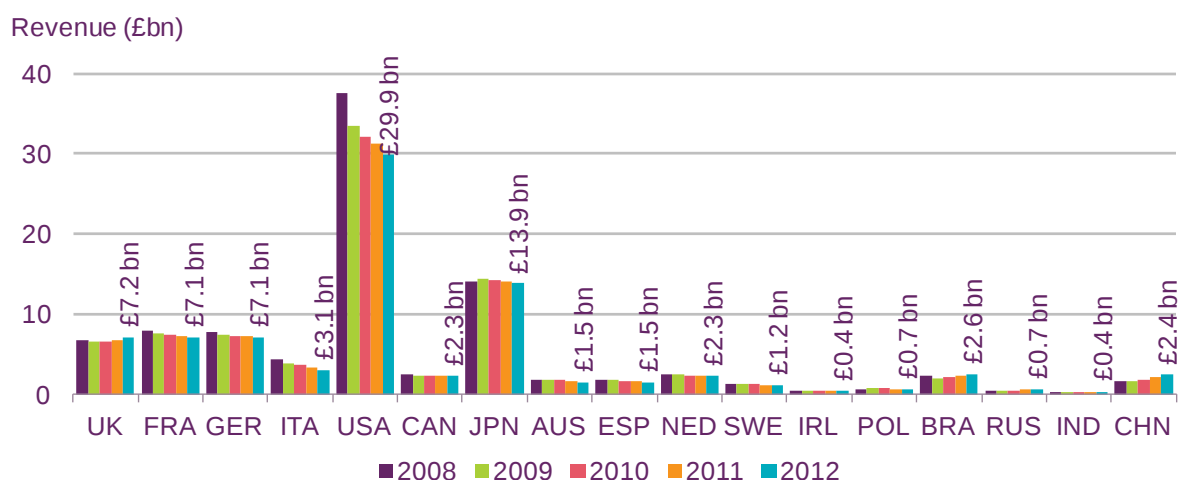
7.2.3 Mail revenues in our comparator countries

Revenues continued to decline across our comparator countries, falling by 1.7% on average in 2012

The trend of falling revenues continued across our comparators in 2012, with the exception of the UK and the BRICs. Revenue increased for the second consecutive year in the UK, driven by price increases and an increase in parcels, driven by online shopping.

Across our European comparators, the UK has the largest mail market in terms of revenue, just ahead of France and Germany. The US has the largest mail market of all our comparators.

Figure 7.12 Revenue: 2008-2012



Source: WIK / Ofcom analysis

Note: Figures are nominal. Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

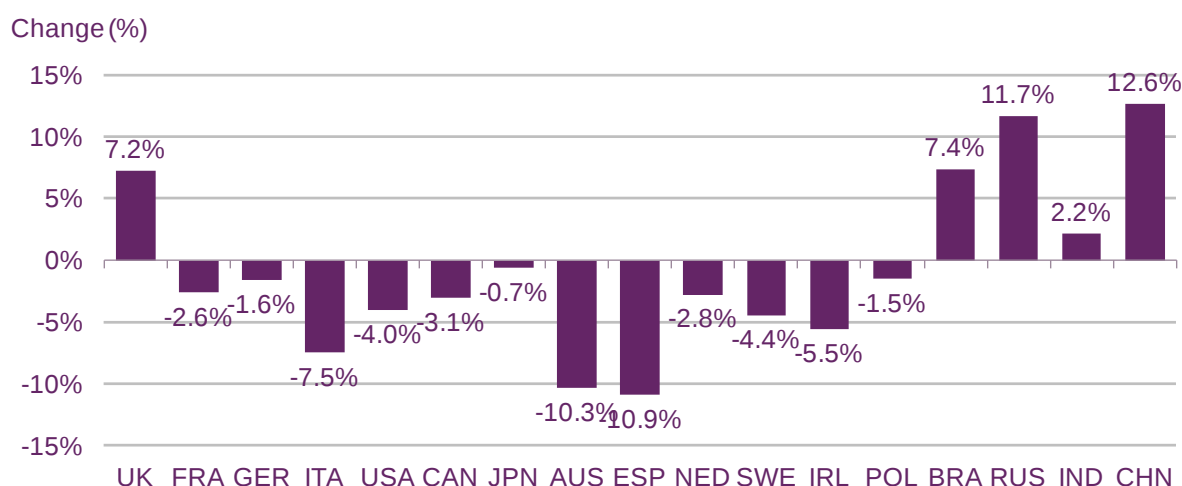
The UK and the BRICs are the only countries where revenue increased in 2012

Mail revenue in the UK increased by 7.2% in 2012, driven by price increases by Royal Mail and a continued change in the mix of mail due to online shopping. The only other countries where revenue grew year on year were the BRICs, with the fastest growth happening in China (12.6%). Economic growth in China has led to increased mail volume and revenue, while the 11.7% growth in Russia is partly due to price rises and increasing use of Russian Post's First Class mail product, which was introduced in 2006.

The largest decline in mail revenue was in Australia, where revenues fell by 10.3%. Australia Post states that this is due to falling volumes, and stamp prices remaining the same for the past three years.⁸⁴

⁸⁴ Australia Post, *Growth in the digital economy & StarTrack acquisition boost Australia Post's income*, 18 October 2013, <http://auspost.com.au/about-us/annual-report-results-2013.html>

Figure 7.13 Proportional change in mail revenue: 2011-2012



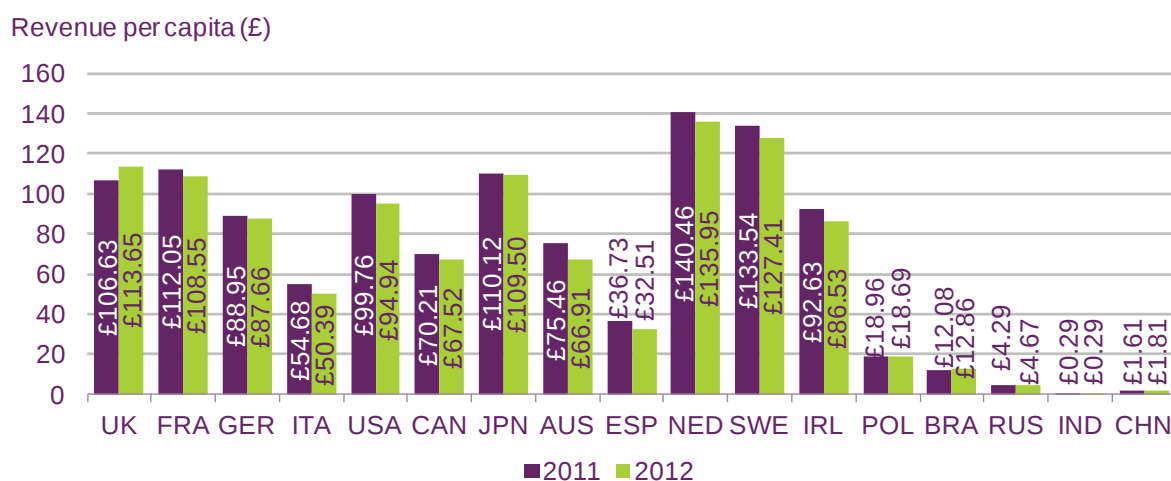
Source: WIK / Ofcom analysis

Note: Figures are nominal.

Adjusting for population size, the Netherlands has the largest mail market by value, followed by Sweden and the UK

Revenue per head of population in the Netherlands was £135.95 in 2012, down slightly from £140.46 the previous year. This was followed by Sweden at £127.41, then the UK at £113.65. Within Europe, the lowest revenue per head of population was in Poland, (£18.89), Spain (£32.51) and Italy (£50.39).

Figure 7.14 Revenues per head of population



Source: WIK / Ofcom analysis

Note: Figures are nominal. Values converted from the local currency unit to British Sterling (£1 = €1.229 / US\$1.580 / CAN\$1.578 / ¥126.042 / AUS\$1.526 / SEK10.702 / PLN5.144 / BRL3.087 / RUB48.716 / INR84.413 / CNY9.971)

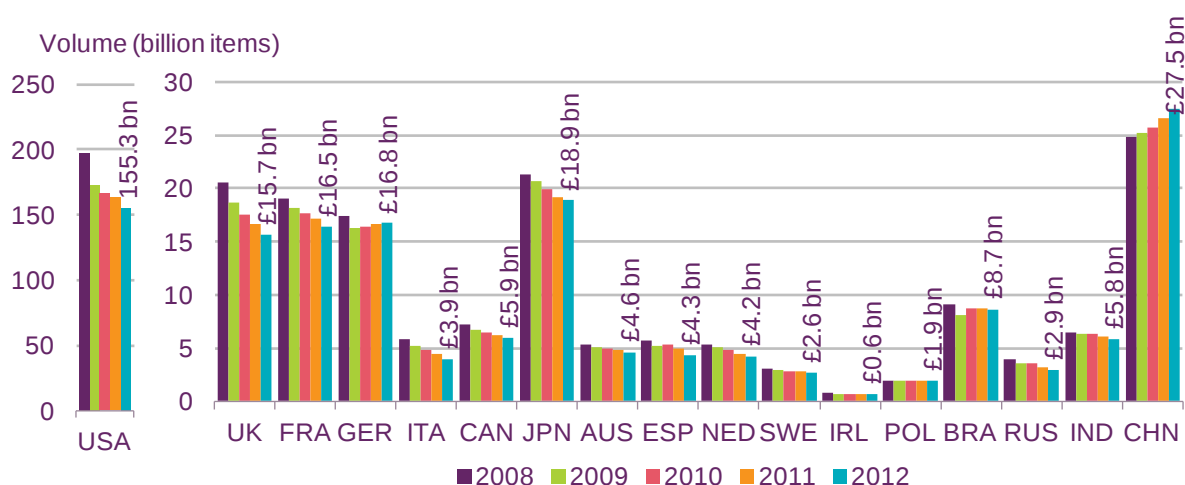
7.2.4 Mail volumes in our comparator countries

Mail volumes have fallen by an average 4.0% year on year

As shown in Figure 7.10 and Figure 7.15, volumes continued to fall in 2012, with every country except China and Germany seeing a decline in mail volumes. Structural decline in the mail market is now a long-term trend, as growth in broadband take-up continues to lead to the electronic substitution of traditional mail.

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 comparators. Although there has been little or no growth in volumes (with the exception of China), the rate of decline in many countries has slowed since 2009.

Figure 7.15 Mail volumes: 2008-2012



Source: WIK / Ofcom analysis

China and Germany are the only countries where mail volumes grew in 2012

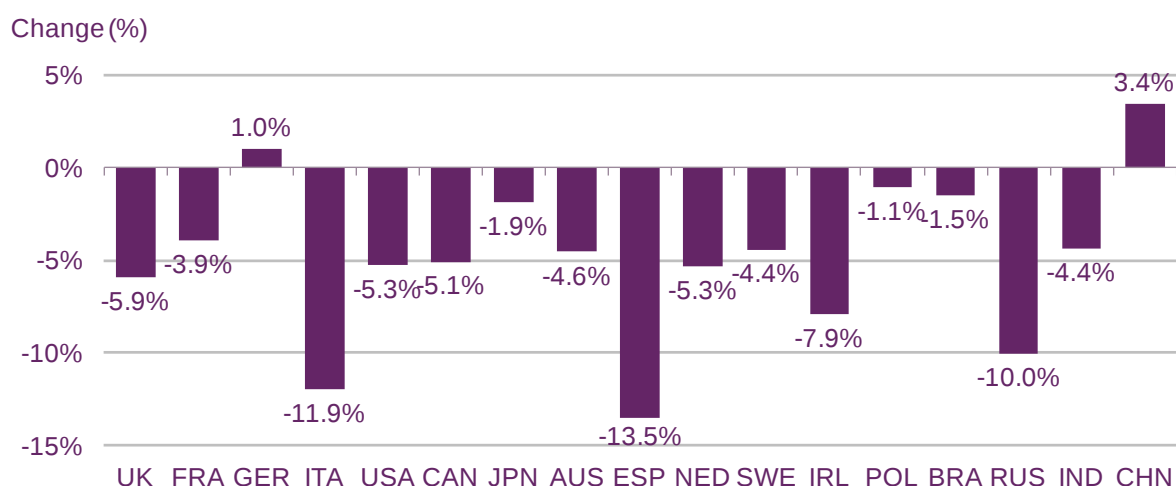
Mail volume in the UK fell by 5.9% in 2012, slightly greater than the decline in the US and the Netherlands (5.3%), and Canada (5.1%). Mail volume decline was especially pronounced in southern Europe. In Italy and Spain volumes fell by 11.9% and 13.5%; the difficult economic environment has accelerated volume decline.

Volumes were more stable in Poland, Brazil and Japan. While volumes in Poland and Brazil were relatively steady between 2008 and 2012, in Japan the average rate of decline was around 3% per year. The smaller proportional decline in Japan for 2012 may indicate a continued slowing of the rate of decline.

While volume fell by 4.4% in India in 2012, this may not accurately reflect market demand. Private courier firms operate within cities, delivering written and printed communications, but not calling them 'letters'. There has been growth in the volume of mail that these couriers are delivering. The Consumer Postal Council estimates that the private courier market in India is growing at between 20% and 25% a year.⁸⁵

⁸⁵ Consumer Postal Council, *Index of Postal Freedom 2012*, http://www.postalconsumers.org/postal_freedom_index/images/2012_CPC_IPF_WEB.pdf

Figure 7.16 Proportional change in mail volume: 2011-2012



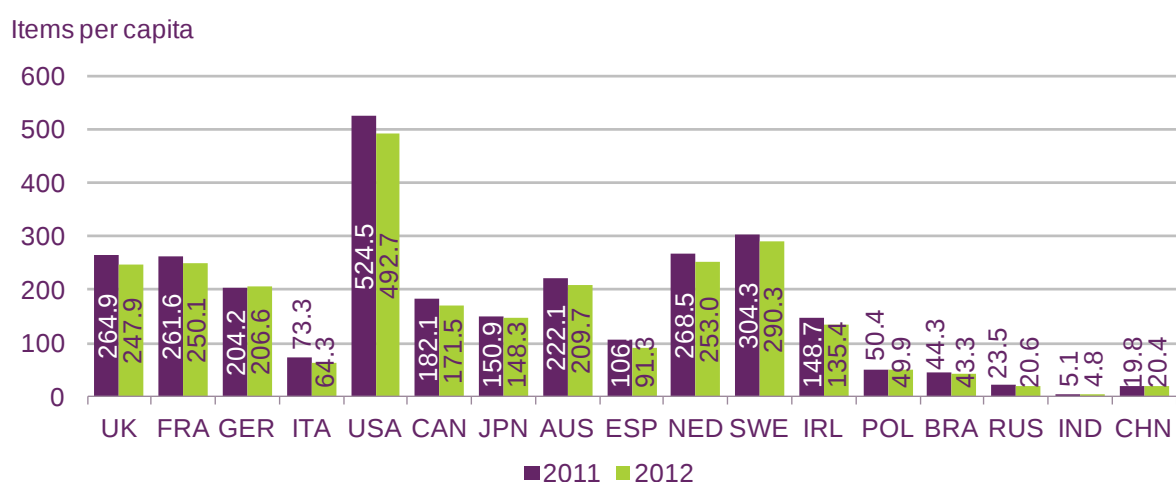
Source: WIK / Ofcom analysis

Mail volume per head of population is highest in the US

The mail market in the US is the largest in the world, in terms of both volume and revenue, and it has the highest number of items per head of population. In 2012 in the US there were 492.7 items per person, far higher than in any other country, but down from 524.5 items per person in 2011. Sweden had the next highest volume per head of population (290.3), followed by the Netherlands (253). The comparable figure for the UK was 247.9, slightly lower than in France (250.1).

Figure 7.14 shows that revenue per head of population is far higher in the Netherlands and Sweden than it is in the US, despite the high volume per head of population in the US. As shown in our analysis in 7.1.2, it is cheaper to send mail in the US than in the Netherlands and Sweden, 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 7.17 Volumes per head of population



Source: WIK / Ofcom analysis

7.2.5 Applications of mail

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, the following section provides information on the growth of the parcel market in the countries where this information is available. It also looks at the proportion of the mail market which is accounted for by parcels and direct mail in a number of our comparator countries.

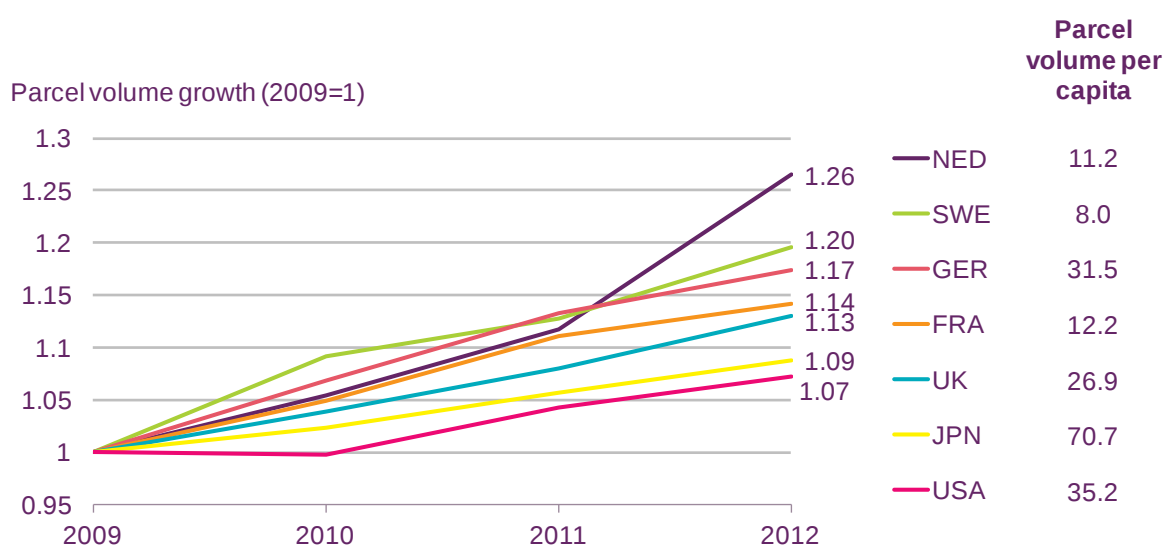
Growth in parcel volumes since 2009 is highest in the Netherlands, Sweden and Germany.

Between 2009 and 2012, parcel volumes grew across all of our comparator countries in Figure 7.18. The largest increases were in the Netherlands (26%) and Sweden (20%), while growth in parcel volumes in the UK was 13% over this period. Although growth in the UK was slower than in these countries, parcel volume per head of population is higher, reflecting the higher levels of online retail in the UK.

Parcel volume per head of population is highest in Japan, where almost 9 billion parcels were sent in 2012. This compares to around 1.7 billion parcels in the UK for the same period.

It should be noted that the UK figure is based on information published by PricewaterhouseCoopers in its *Outlook for UK mail volumes to 2023* report, and annual growth rates calculated by Nomura Equity Research in its November 2013 analysis of Royal Mail and the UK mail market, and is not based on a single source of industry data.

Figure 7.18 Parcel volume growth: 2009-2012



Source: WIK / Ofcom analysis

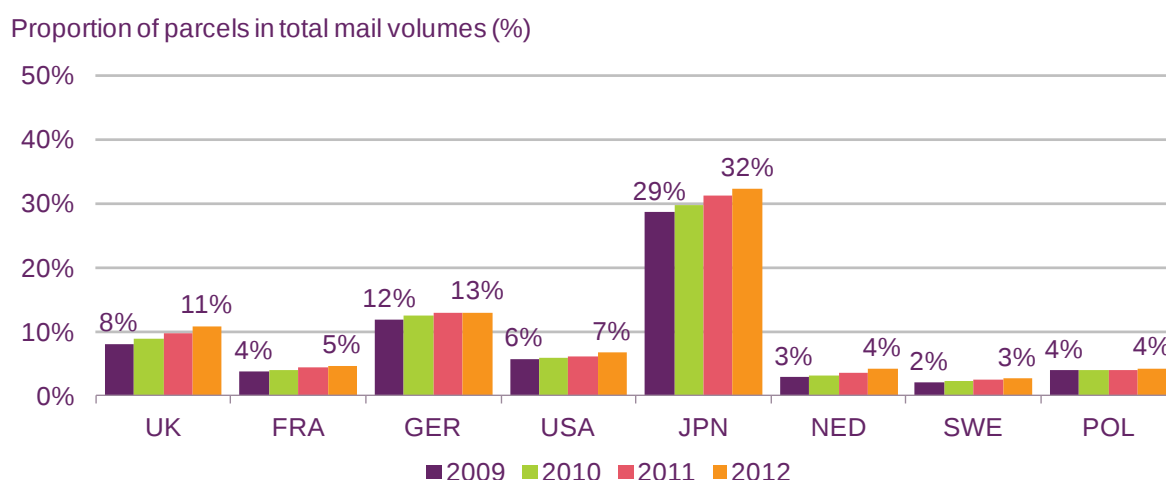
Note: UK figures based on estimates from PricewaterhouseCoopers: *The outlook for UK mail volumes to 2023*, 15 July 2013, and information from Nomura Equity Research

As letter volumes decline, parcels make more of a contribution to total mail volumes

In the UK in 2012, PricewaterhouseCoopers estimated that parcels made up 11% of total mail volumes. This has increased by 1pp each year since 2009. 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 high, with almost a third of all mail made up of parcels.

Figure 7.19 Proportion of parcels in total mail: 2009:2012



Source: WIK / Ofcom analysis

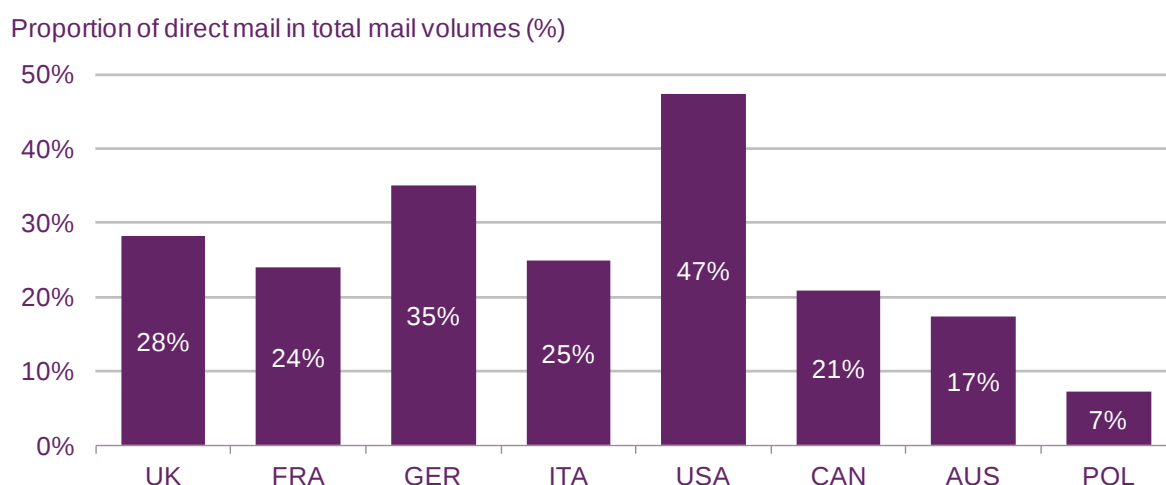
Note: UK figures based on estimates from PricewaterhouseCoopers: The outlook for UK mail volumes to 2023, 15 July 2013, and information from Nomura Equity Research

Almost half of mail in the US is direct mail, compared to less than 30% in the UK

Figure 7.20 shows the proportion 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 47% of total mail in 2012 was direct mail. This is also demonstrated in our consumer research; as Figure 7.28 shows, 46% of residential consumers in the US had received direct mail in the past week.

Direct mail accounts for 35% of total mail in Germany, the second highest among our comparator countries, followed by the UK, where 28% of total volumes are direct mail.

Figure 7.20 Proportion of direct mail in total mail: 2012



Source: WIK / Ofcom analysis / PricewaterhouseCoopers, The outlook for UK mail volumes to 2023, 15 July 2013

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 key findings in this section are:

- **One in four (23%) of the online population in the UK had not sent an item in the past month.** This compares to 16% in France, and almost one-fifth in Germany (18%) and China (19%). In the US and Australia around three in ten had not sent anything in the past month, while people online in Spain and Italy were the least likely to have sent an item in the past 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 (84%) respondents in France had sent this type of mail, while seven in ten (69%) in the US had done so. Just under half of respondents in the UK had sent mail to businesses in the past month.
- **A higher proportion of online UK adults send invitations, greetings cards or postcards than in the other countries that we surveyed.** More than a third (35%) of respondents in the UK had sent this type of mail in the past month. Those in Germany were least likely to have sent greetings cards, with around a fifth (18%) doing so.
- **People in the UK receive more items of mail in a week than those in Italy, Australia and Spain.** The average number of items received in the UK was 6.8, on a par with Germany (6.4), but far less than the amount received by respondents in France, where the average figure was highest, at 12.5.
- **In all of the countries we surveyed, people were more likely to receive business mail than personal mail.** In almost all of our comparator countries, eight in ten respondents had received mail from businesses in the past month.
- **The UK is among the countries where most consumers had received a parcel in the past month.** Six in ten (61%) people claimed to have received parcels, on a par with France and Germany. Those in Italy and Spain were the least likely to have received a parcel in the past month.
- **Six in ten UK respondents claimed to be reliant on post as a way of communicating.** A high proportion of those in the UK, Italy, the US, and Australia claim to be reliant on post as a way of communicating, at around six in ten people. Consumers in Japan (19%) and Spain (28%) were the least likely to say that they were reliant on post as a means of communication.

7.3.2 Items sent in the past month

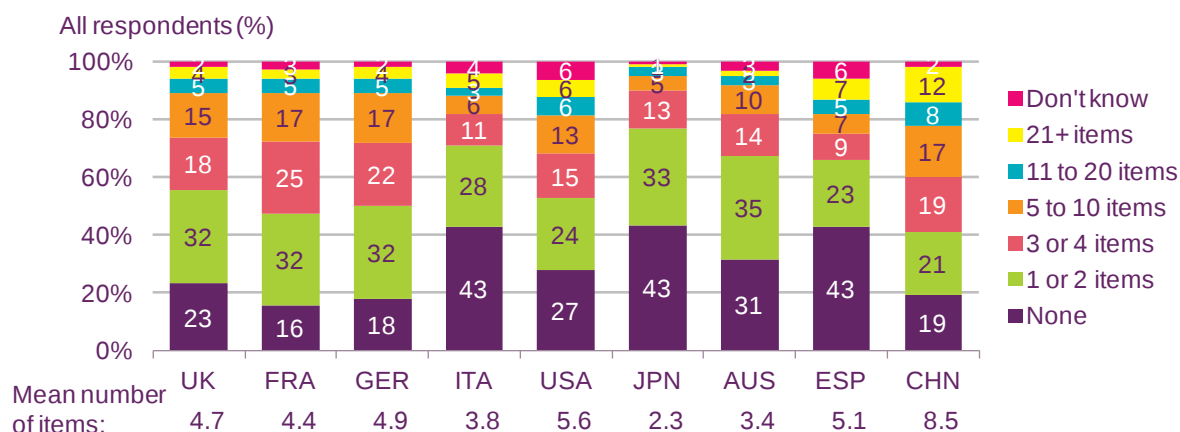
A quarter (23%) of the online population in the UK had not sent an item in the past month.

One in four (23%) of the online UK population had not sent any items through the post in the past month. This compares to 16% in France, and almost one fifth in Germany (18%) and China (19%). In the US and Australia, around three in ten had not sent anything in the past

month, while people in Spain and Italy were the least likely; here, 43% claimed not to have sent a single item.

Those in the UK were the most likely to have sent one or two items in the past month, with one in three (32%) doing this. This was the same as France and Germany, and broadly similar to Japan (33%) and Australia (35%). We look at the *types* of mail that people are sending in section 7.3.3.

Figure 7.21 Approximate number of items of post sent per month



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.P1 Approximately how many items of post - including letters, cards and parcels - have you personally sent in the last month?

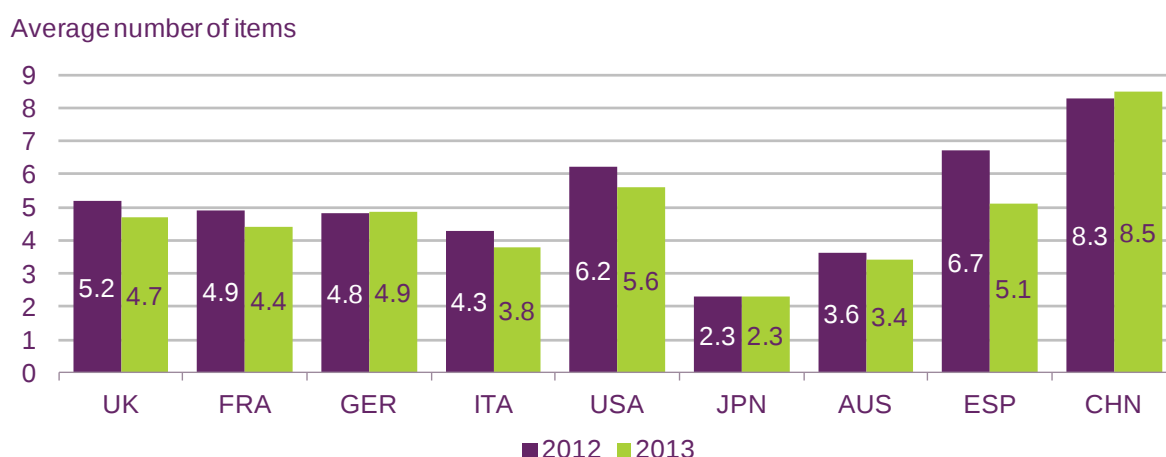
People in the UK send a similar number of items as those in France and Germany

The average number of items sent by online consumers each month in the UK was 4.7,⁸⁶ similar to levels in France (4.4) and Germany (4.9). (Figure 7.22) Respondents in Japan sent the lowest average number of items (2.3). With the exception of China, where our online research methodology means that the findings are representative of early adopters in urban areas, rather than the whole population (see our research methodology in Appendix A), the country in which consumers sent the highest average number of items of post per month was the US (5.6).

The average number of items sent in a month has remained broadly similar among all of our comparator countries, with the exception of Spain, where people claim to be sending 1.6 fewer items than in the previous year.

⁸⁶ Our UK *Communications Market Report* states that consumers sent an average of 7.0 items each month. The data presented in the UK report are sourced from our residential tracking survey. Differences in sample sizes, questionnaire design, the time the fieldwork is undertaken and methodology between research projects mean that results can often differ.

Figure 7.22 Average number of items of post sent per month



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.P1 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

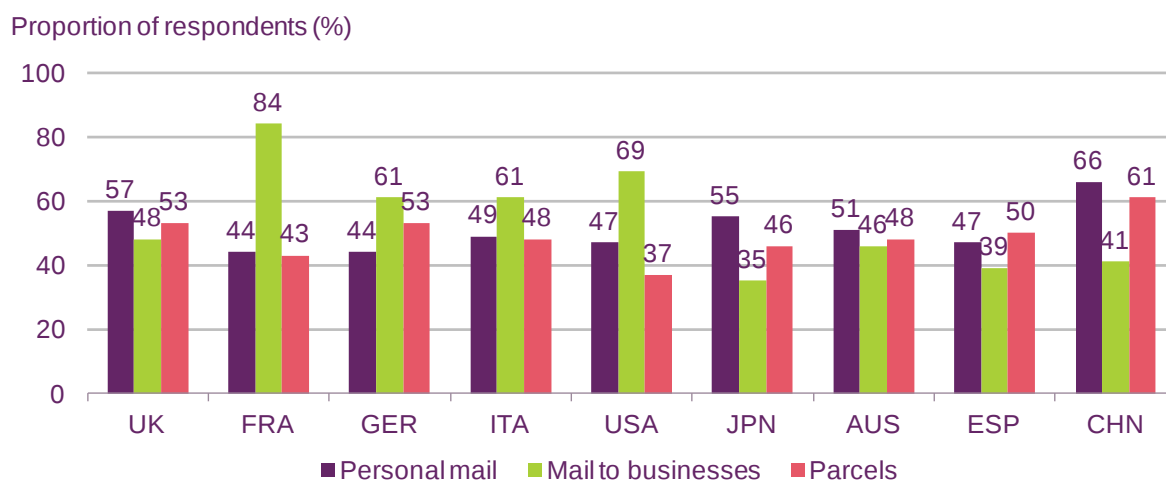
People in France and the US are the most likely to send mail to businesses, while those in the UK and Japan are more likely to send personal mail

Figure 7.23 illustrates the type of items which consumers had sent in the past month. It shows that, with the exception of China, consumers in the UK (57%) and Japan (55%) were more likely to have sent personal letters in the past month than those in any of the other countries surveyed. Over half of respondents in the UK had sent a parcel in the past month, among the highest of our comparator countries.

More than eight in ten (84%) respondents in France had sent mail to businesses, while seven in ten (69%) of those in the US had done so. Just under half of those in the UK (48%) had sent mail to businesses in the past month. Those in Japan were least likely to send mail to businesses, with around a third (35%) doing so in the past month.

In France, Germany, Italy and the US, people were more likely to have sent mail to businesses than to have sent personal mail or parcels.

Figure 7.23 Categories of post sent in the past month: personal mail, mail to businesses, and parcels



Source: Ofcom consumer research September 2013

Base: All respondents who have sent any items of post in the last month, UK=744, FRA=814, GER=804, ITA=525, USA=656, JPN=560, AUS=663, ESP=514, CHN=780.

Q.C5 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.

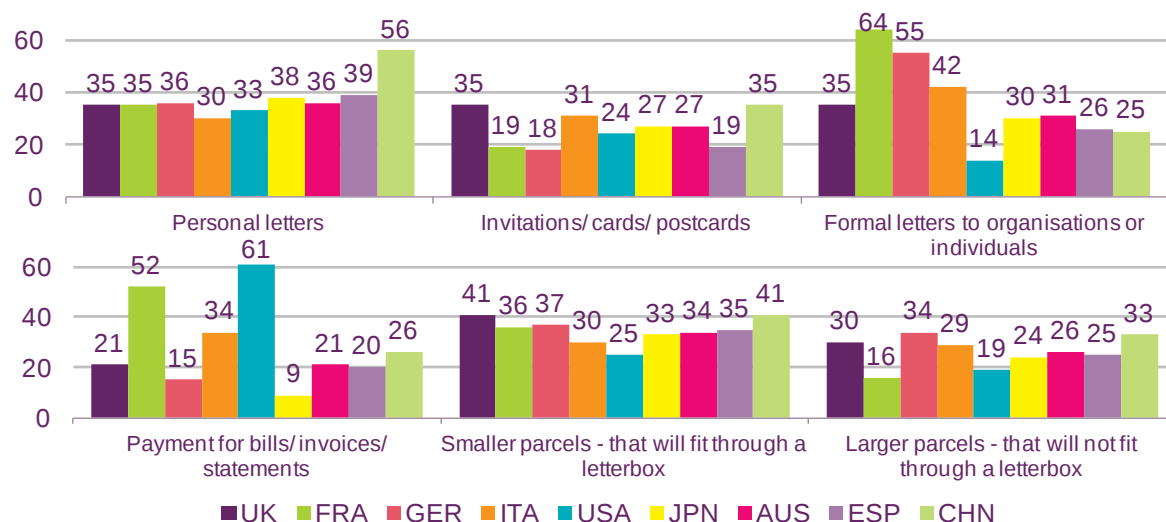
More than a third (35%) of respondents in the UK had sent greetings cards or invitations in the past month. Those in Germany were least likely to have sent greetings cards, with around a fifth (18%) doing so, on a par with France and Spain.

The high proportion of mail sent to businesses by consumers in France and the US, shown in Figure 7.23, is split by type in Figure 7.24. 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. Over half (52%) of respondents in France, and six in ten (61%) in the US, had done this, compared to a fifth (21%) in the UK and less than one in ten in Japan (9%).

Our respondents in France and the US are less likely to say that they use online banking. Just over half of those in France (53%) and the US (56%) claimed regularly to use their internet connection for online banking, compared to seven in ten (72%) in the UK. While this may help explain why people in the France and US are more likely to pay bills through the post, the trend is not consistent across all of our comparator countries. In Japan, for example, although a smaller proportion of internet users regularly do online banking (34%), less than one in ten pay bills through the post.

Figure 7.24 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 September 2013

Base: All respondents who have sent any items of post in the last month, UK=744, FRA=814, GER=804, ITA=525, USA=656, JPN=560, AUS=663, ESP=514, CHN=780.

Q.C5 Which of these types of mail would you say you have personally sent in the last month by post?

7.3.4 Items received in the past week

People in the UK receive more items of mail in a week than those in Italy, Australia and Spain.

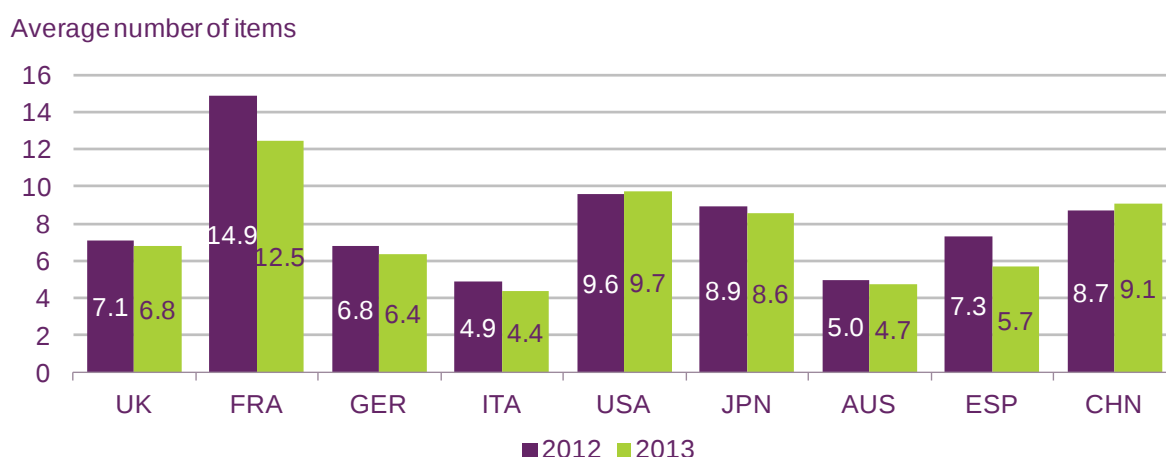
The average number of items received by people in the UK was 6.8, on a par with Germany (6.4), but far less than in France.

Across all of the countries that we surveyed, consumers in France claimed to have received the most items in the past week, at 12.5, almost double the average number of items received by people in the UK (6.8). The equivalent figure for the US was also relatively high (9.7). Respondents in Italy and Australia received the fewest items: 4.4 and 4.7 items per week respectively.

The average number of items received has remained relatively stable, year on year, in all of our comparator countries. There are two exceptions: France, where people claim to be receiving an average of 2.4 fewer items than in 2012, and Spain, where people claim to receive 1.6 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 France. 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. While we asked specifically about addressed mail, it is possible that consumers in France included unaddressed mail or newspapers, which are not included in our industry figures.

Figure 7.25 Number of items received in the past week



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

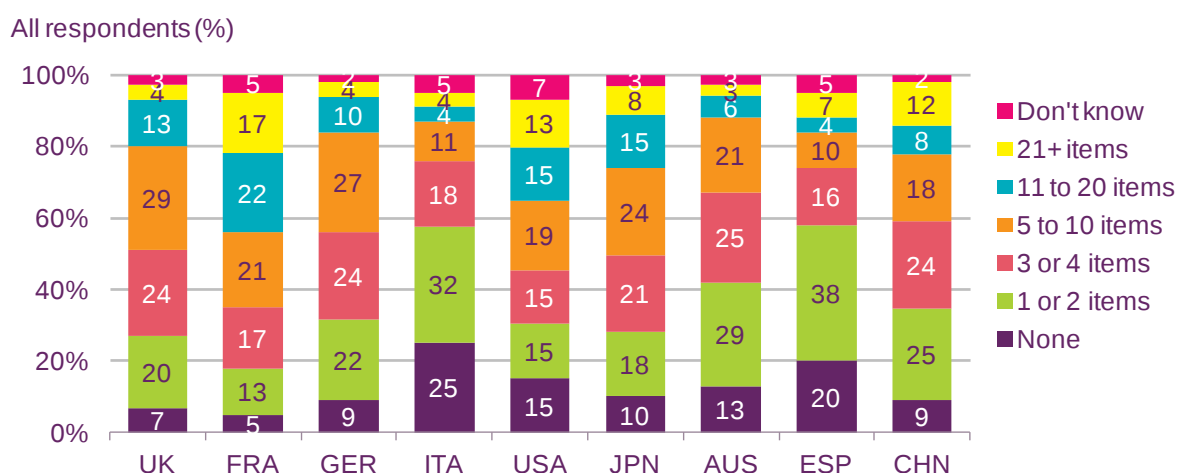
Q.D1 Approximately how many items of post - including letters, cards and parcels - have you personally received in the last week?

One quarter of consumers in Italy and a fifth of those in Spain had received no post in the past week

People in Italy and Spain were the most likely to have received no post at all in the past week, with a quarter (25%) in Spain and a fifth (20%) in Italy saying that they had not received a single item. They were also more likely than those in the other countries to say that they had received just one, or two, items. Around a third (32%) of consumers in Italy said they had received one or two items, almost four in ten (38%) of those in Spain said the same. In the UK, 20% had received one or two items in the past week.

The high average number of items received in France (Figure 7.25) is due to the large proportion of people who receive over 11 items each week. Thirty-nine per cent of respondents in France had received over 11 items; more than double the proportion of people in the UK (17%) who had done so.

Figure 7.26 Approximate number of items of post received in the past week



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.D1 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 all of our comparator countries, people are more likely to receive mail from businesses than from other people

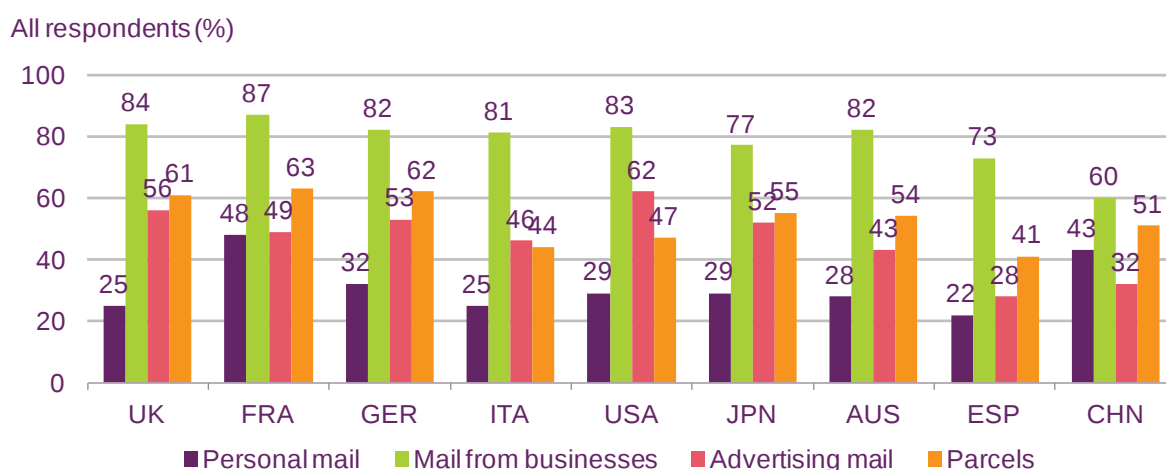
Across all of the countries that we surveyed, people are more likely to receive mail from businesses than personal mail. In almost all of the countries (Figure 7.27), more than four in five of respondents had received mail from businesses. This was particularly high in France, where 87% of people had received business-originated mail.

In most of the countries surveyed, around half the respondents had received advertising mail. Those in Spain and China were the exception, with only around three in ten receiving marketing communications. People in the US were the most likely to receive advertising through the post, with six in ten (62%) saying that they had received it, followed by the UK (56%). The US was the only country surveyed where people were more likely to have received advertising than parcels.

Consumers in the UK, France and Germany were the most likely to have received a parcel in the past week, with around six in ten of people saying they had received a small or large parcel. A large proportion of people in these countries are online shoppers; attitudes to online retail are explored in detail in 1.4 of this report.

The proportion of people who had received personal mail in the past week was lowest in Spain (22%), the UK (25%) and Italy (25%). France had the highest proportion of people who had received personal mail, with almost half (48%) saying that they had received it.

Figure 7.27 Categories of items received in the past week



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.D4 Which of these types of items would you say you have personally received through the post in the last month?

People in the US and the UK are the most likely to have received direct mail in the past week

As shown in Figure 7.27, 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 (46%) 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 (40%) saying that they had done so. Those least likely to have received direct mail were consumers in Spain (11%).

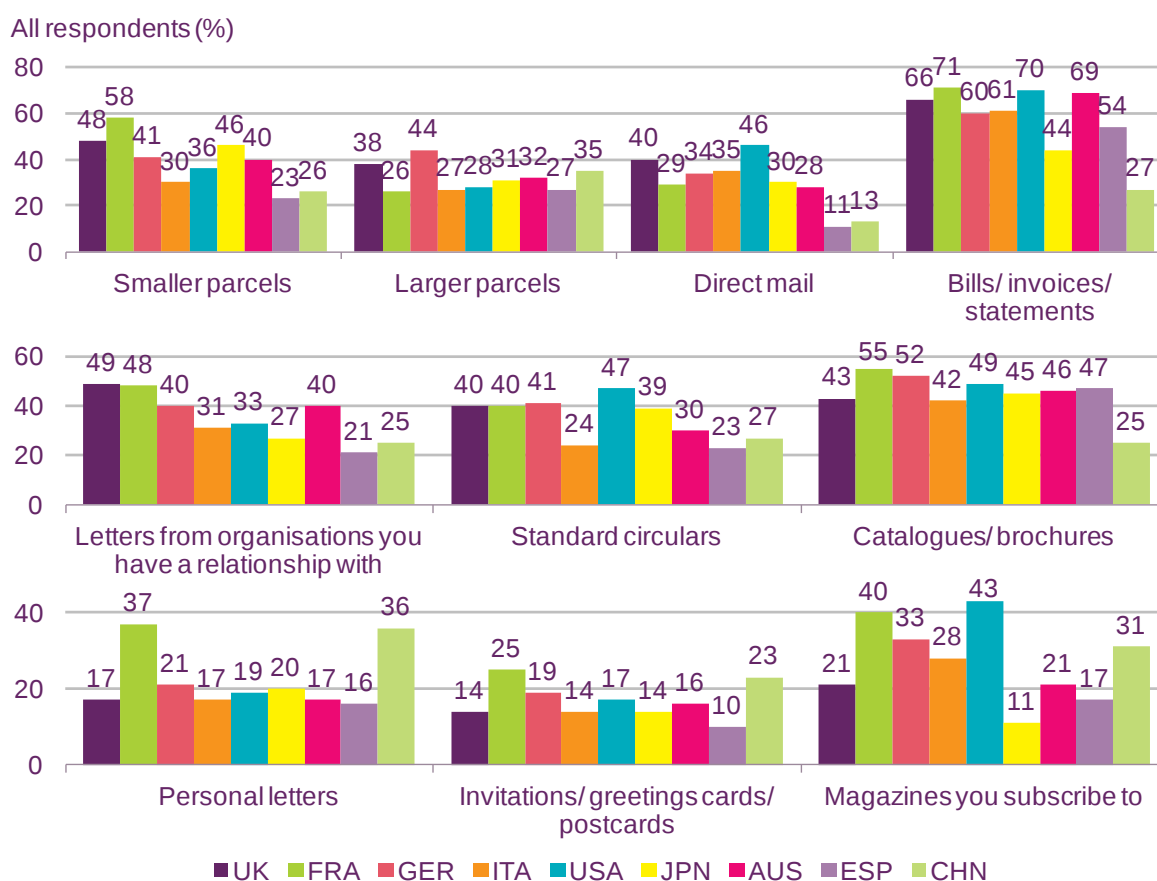
Although more of the total volume of mail in Germany is accounted for by direct mail than in the UK, (Figure 7.20) fewer respondents in Germany claimed to have received direct mail in the past week. This may be because a higher proportion of direct mail in Germany is sent to businesses, while our research 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. In the UK, two in three (66%) people had received this type of mail. Around seven in ten had received this type of mail in France, the US and Australia. In Japan, people were as likely to receive catalogues or brochures, and smaller parcels, as transactional mail.

People in France were more likely than those in any other country to have received personal letters, with over a third (35%) saying that they had had a personal letter in the past week. Those in the UK were among the least likely to have received a personal letter, with less than a fifth (17%) saying that they had received this type of mail. People in France were also more likely to have received a small parcel in the past week.

Consumers in the US are the most likely to have received a magazine that they subscribe to in the past week, of all the countries surveyed (43%), followed by consumers in France (40%). The least likely consumers to have received magazines are those in Japan (11%). One fifth (21%) of consumers in the UK claimed to have received a magazine they subscribe to in the past week.

Figure 7.28 Types of mail received in the past week



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, FRA=1007, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.D4 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

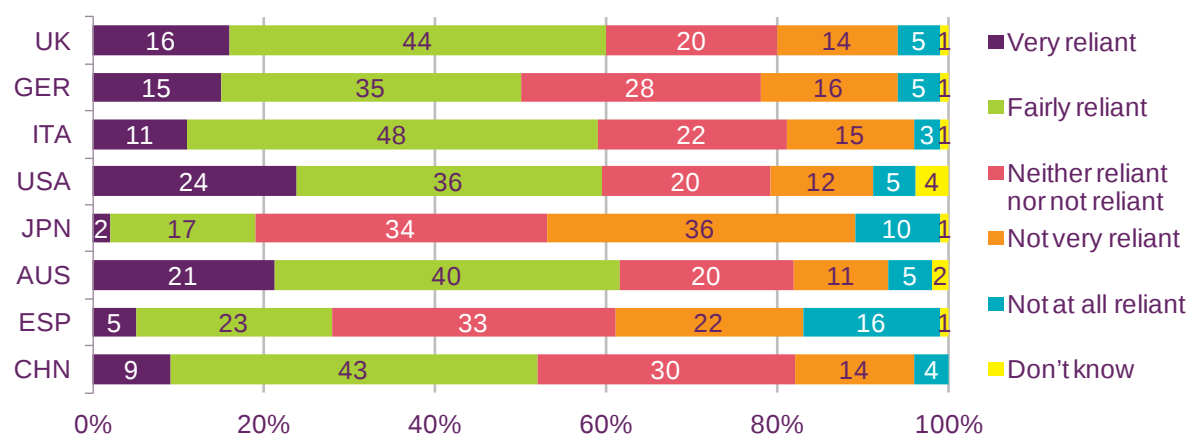
Six in ten UK respondents claimed to be reliant on post as a way of communicating

A high proportion of those in the UK, Italy, the US, and Australia claim to be reliant on post as a way of communicating, at around six in ten people. In China and Germany half of those surveyed said they were reliant on post.

Consumers in Japan (19%) and Spain (28%) were the least likely to say that they were reliant on post as a means of communication. Only 2% of respondents in Japan said that they were “very reliant” on post.

Figure 7.29 Reliance of post as a way of communicating

All respondents (%)



Source: Ofcom consumer research September 2013

Base: All respondents, UK=1000, GER=1010, ITA=1010, USA=1004, JPN=1005, AUS=1007, ESP=1020, CHN=1007.

Q.E1 How reliant would you say you are on post as a way of communicating?

Note: France removed from analysis due to an inconsistency in the translation of the questionnaire.



The Communications Market 2013

Appendix A – Consumer research methodology

Appendix A: Consumer research methodology

Introduction

This section describes the methodology used for the 2013 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, Germany, France, Italy, Spain, the US, Japan, China, and Australia. As in previous years, the research looked at the ownership and use of communications services and devices such as TV, mobile, fixed landline and internet. In addition, it explored the changing nature of communication, and use of connected devices and postal services, online shopping and take up of 4G and Superfast Broadband in the various markets.

The 2013 research comprised 9,070 interviews completed in September and October 2013. Six previous waves of the research have been undertaken (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 2013, 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 9,070 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.

The quotas in the 2013 wave of the research are based on ComScore's quotas of online populations from 2012.

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	1000	1007	1010	1010	1004	1005	1007	1020	1007
Weighted total	1000	1000	1000	1000	1000	1000	1000	1000	1000
Male	507	514	523	531	479	571	513	526	557
Female	493	486	477	469	521	429	487	474	443
18-24 yrs	170	153	144	143	139	139	164	162	267
25-34 yrs	206	192	178	234	195	210	216	265	308
35-44 yrs	198	202	194	276	205	250	214	263	242
45-54 yrs	193	183	223	217	194	183	184	181	109
55-64 yrs	114	97	170	62	126	90	112	84	64
65+ yrs	119	173	91	68	141	128	110	45	10

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 2013 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	370,501	378,822	199,510	359,455	1,195,946	34,708	135,497	322,883	133,777

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 2013

Appendix B – Comparative international pricing methodology

Appendix B: comparative international pricing methodology

Introduction and objectives

For the 2012 international price benchmarking we used the same methodology as that deployed in previous reports, although some updates were made to the baskets 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 baskets 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 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 television element included the licence fee (where applicable), a digital receiver and, for some baskets, 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 baskets was adjusted to ensure that it was aligned with average use across the households.

Mobile handsets, broadband routers, digital set-top boxes and DVRs are included within the baskets (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 2012 and again in July 2013, 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 2013 consisted of:

- 644 fixed voice tariffs;
- 307 fixed broadband tariffs;
- 4,173 mobile tariffs;
- 648 mobile broadband tariffs;
- 311 television tariffs; and

- 3,205 multi-play bundle tariff options.

Our model identifies the tariffs that offer the lowest price for meeting the requirements of each of the households' baskets.

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 2013.

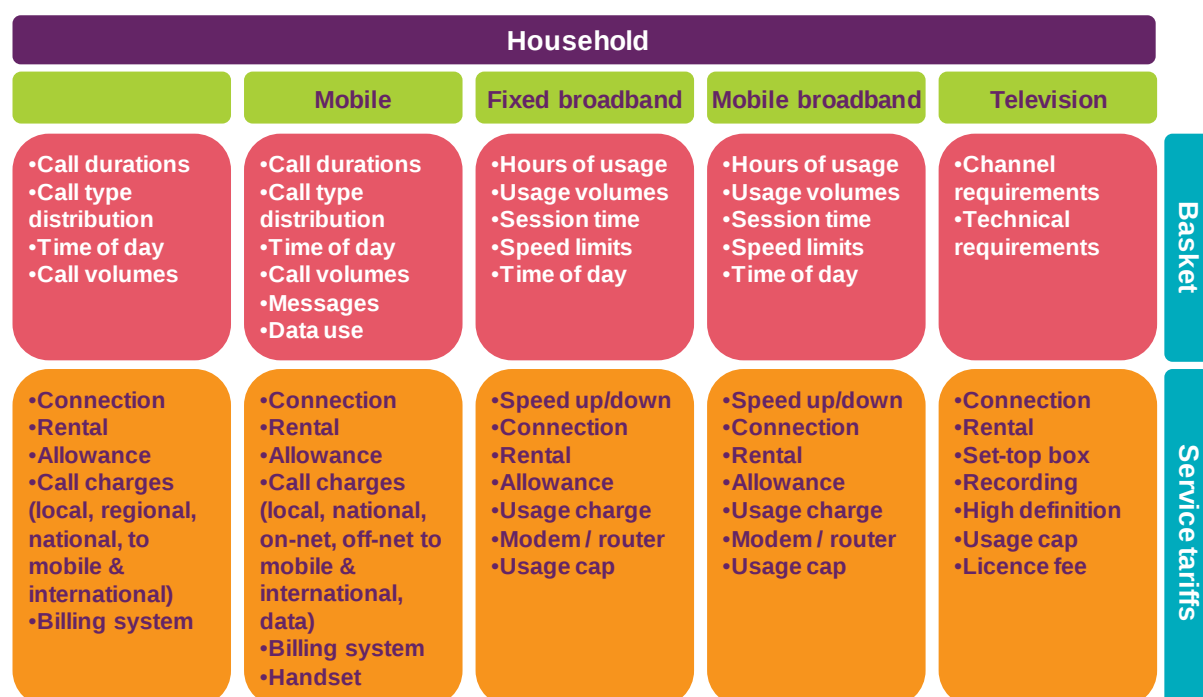
In order to provide both an illustration of representative prices for the individual services in each country, and an illustration of the best value that consumers could get for their full 'basket' of services, we have provided two types of analysis for each basket:

- the first, which we call 'average single-service' 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 'best offer' 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 baskets 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 which recoup the value of the hardware throughout the course of a contract.

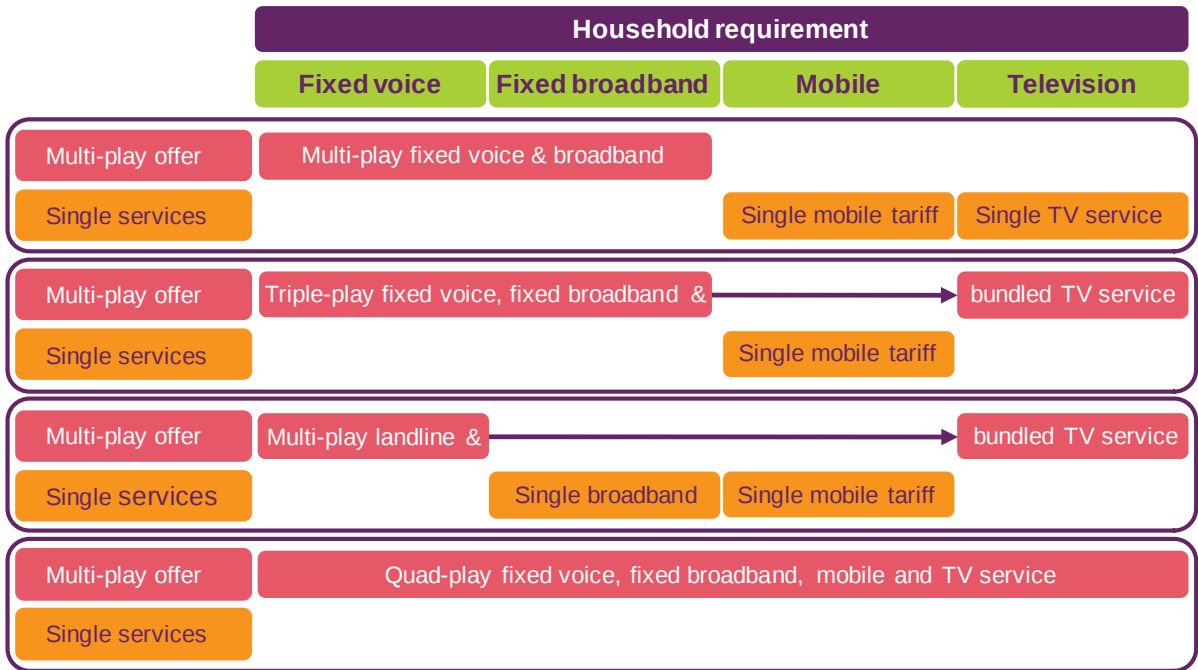
Multi-play service offerings

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 single-service 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 single-service tariffs in each market. Where the multi-play offer does not cover the household requirement for a particular service,

a suitable single-service 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 single-service offers



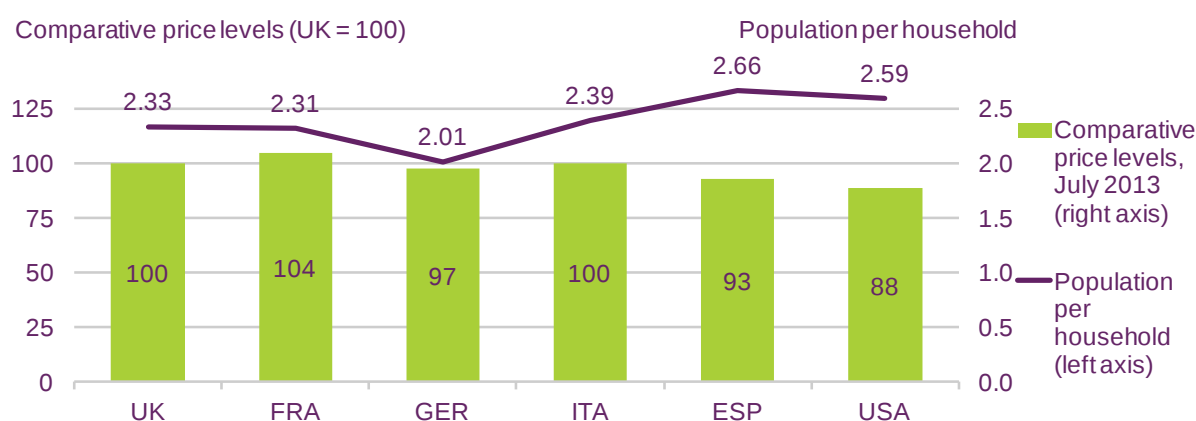
Source: Teligen

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 and July 2013, 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 basket 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	None	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	Low 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 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:
 - o Local calls
 - o Regional calls

- o National calls
- o Calls to mobiles (for each network, weighted)
- o 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	2	2	n/a	2	2	Mins
International	6	6	n/a	6	6	Mins
Destination weights						
Local	67	70	n/a	68	60	%
Regional	10	8	n/a	9	7	%
National	16	13	n/a	14	13	%
Fixed to	7	7	n/a	7	12	%
International	0	2	n/a	2	8	%
Time of day weights						
Day	58.3	58.3	n/a	59.2	55.5	%
Evening	24.5	24.5	n/a	24.9	25.0	%
Weekend	17.2	17.2	n/a	15.9	19.5	%
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.

Tariff packages offering free or reduced-price calls to specific destinations or selectable numbers are not considered.

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
 - o Local calls
 - o National calls
 - o On-net calls to mobiles
 - o Off-net calls to mobiles (for each network, weighted)
 - o Voicemail calls
 - o International calls to ten destinations
 - o Data use
 - o 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.

The effect of free or discounted calls to specific destinations or selectable numbers is not included.

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 and cable. Wireless broadband is also included wherever possible, although these services are most often provided by mobile service providers. 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
 - o Usage time allowance
 - o Usage time limit
 - o Usage time charge (per minute or hour beyond allowance)
 - o Usage data volume allowance
 - o Usage data volume limit
 - o Usage data volume charge (per MB or GB beyond allowance)
 - o 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	10	160	50	50
Usage volume (GB/month)	n/a	15	50	25	5
Session duration (mins)	n/a	20	20	20	20
Minimum speed (Mbit/s)	n/a	4	1	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 2012 and July 2013). 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 single-service 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

	Basket1	Basket2	Basket3	Basket4	Basket5
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 2013 and exchange rates as at 1 July 2013.

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 2013 and applied it to 2012 data.

Figure 9.13 Purchasing power parity conversion rates

Country	Currency	Exchange rate August 2012 to July 2013 (£)	Comparative price level (July 2013)	PPP adjusted rate (£)
UK	GBP (£)	1.00	100.00	100.00
FRA	EUR (€)	1.17	104.42	122.10
GER	EUR (€)	1.17	97.35	113.82
ITA	EUR (€)	1.17	100.00	116.93
ESP	EUR (€)	1.17	92.92	108.65
USA	USD (\$)	1.52	88.50	134.65

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 single-service' 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 'best offer' 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.

Single-service 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 single-service 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 'best offer' 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 'best offer' 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 single-service 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 single-service 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 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, 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 2013 and applied it to 2012 data. This means that there may be some distortions in the relative positions of countries compared to the findings in 2011. The prices quoted are in nominal terms.



The Communications Market 2013

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. Furthermore, in the metrics covered by this chapter there was a greater proportion of cases of outlying data on China. 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 (section 1.1.2 and section 1.1.3 **Error! Reference source not found.**)
- Differences in consumer behaviour, lifestyle and attitudes (section 1.1.4 **Error! Reference source not found.**)

China as a country and a communications market

Demographic and economic factors

China is the world's most populous country, with 1.3 billion⁸⁷ people. The population of China is therefore very diverse – there are 56 recognised ethnic groups⁸⁸ and 14 main languages, with many more dialects spoken⁸⁹. China is large and geographically diverse, with 31 provinces, autonomous regions and municipalities.

Economic and social development varies greatly across the country, with the eastern provinces (including the cities of Beijing, Shanghai, Tianjin, Guangzhou and Shenzhen) accounting for a greater share of employment (48.5%) and gross domestic product (53.1%) than the central, western and north-eastern provinces, which have smaller centres of population. Half of China's population live in rural areas.⁹⁰

Household income also varies by region. PPP-adjusted GDP per capita⁹¹ is \$9,300 (£5,886) 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 29th highest out of

⁸⁷ <http://data.worldbank.org/indicator/SP.POP.TOTL>

⁸⁸ <http://www.china.org.cn/e-white/20050301/index.htm>

⁸⁹ <http://www.omniglot.com/chinese/spoken.htm> and <http://www.ethnologue.com/country/CN>

⁹⁰ National Bureau of Statistics of China, *China Statistical Yearbook 2012*,

⁹¹ 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>

136 countries using the Gini index⁹², compared with the US in 41st and the UK in 60th. A higher ranking equates to a more unequal distribution of income. Across the country as a whole, more than one in eight citizens (13.4%) are below the poverty line⁹³.

Service availability and take-up

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 DSL⁹⁴. In some rural regions, broadband is not available to all citizens.

Many of China's citizens do not own a PC and less than two in five citizens access the internet at all⁹⁵. At the end of 2011, there were just 136 million rural internet users, suggesting that 82% of the rural population in China do not use the internet. Figures from the China Internet Network Information Centre state that rural internet users make up only 26.5% of the online population, despite making up the majority of citizens by number.⁹⁶

Correspondingly, China's take-up of broadband is low: there are only 13 fixed broadband connections for every 100 head of population in China (compared to 29 connections per 100 in the US and 34 connections per 100 in the UK).

Low broadband take-up in China is in some cases due to a lack of a phone line; this varies across China. In some western and central provinces, there are fewer than 70 telephone connections per 100 people (both fixed and mobile), while the equivalent number for China as a whole is 94.⁹⁷

It is worth noting that China's consumers are particularly mobile-centric, compared to other countries. There were 1.1 billion mobile connections in China at the end of 2012, a compound annual growth rate of 13.8% for the period 2008-2012. Ninety-seven per cent of phone calls by volume originate from a mobile⁹⁸ 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.

Our research methodology in China

Because of the large and diverse population, conducting survey research⁹⁹ in China is extremely challenging and our research results have some limitations. For example, our

⁹² <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html>

⁹³ <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html>

⁹⁴ Digital subscriber line.

⁹⁵ Computer Network Information Center, July 2012

⁹⁶ China Internet Network Information Centre, *Statistical Report on Internet Development in China*

⁹⁷ National Bureau of Statistics of China, *China Statistical Yearbook 2012*, <http://www.stats.gov.cn/tjsj/ndsj/2012/indexeh.htm> [accessed 26 November 2013]

⁹⁸ Includes incoming mobile calls. This is discussed in more detail in the Telecoms and Networks chapter.

⁹⁹ More details on our consumer research, including demographics, can be found in the report annexes.

questionnaire was translated into Chinese Mandarin, so approximately 30% of the population (those who do not speak Mandarin¹⁰⁰) 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.

Internet users in China are predominantly urban-based with higher incomes¹⁰¹ and are likely to be early adopters of technology. Eighty-two 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 four charts – one from each of the sections in 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 smartphone (88%), laptop (88%) and tablet computer (57%) owners 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).

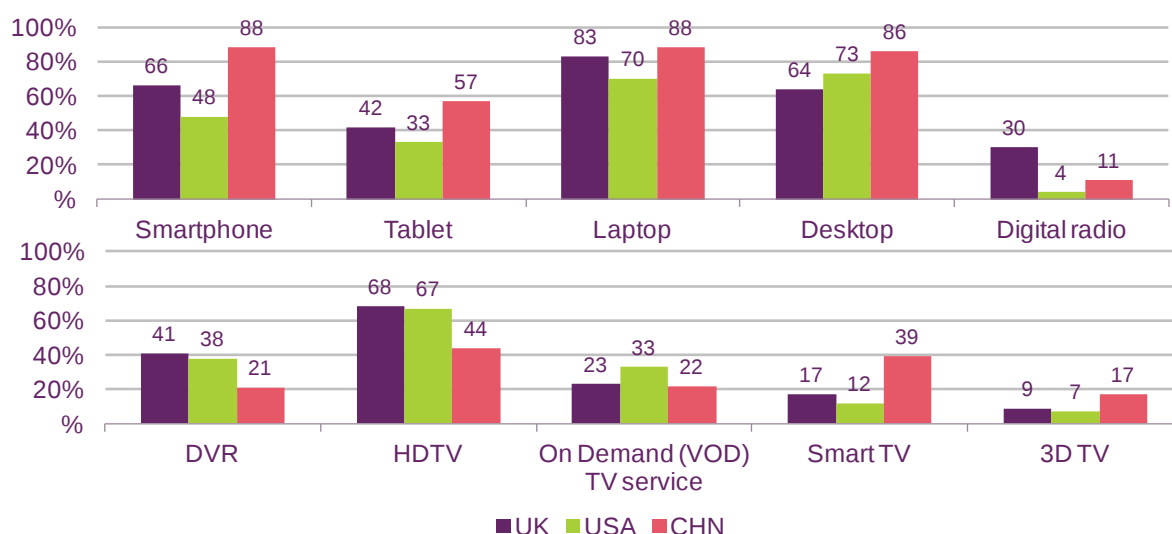
The consumer research may reflect a voracious appetite for the latest consumer devices among the young, urban, wealthier segments of China's population. China is now the second largest market by revenue¹⁰² for Apple – the manufacturer of the iPhone smartphone and the iPad tablet. Figure 10.1

¹⁰⁰ <http://www.thecim.org/3857/?=7-reasons-cantonese-dying-mandarin-king/>

¹⁰¹ China Internet Network Information Centre, *Statistical Report on Internet Development in China*, July 2013, <http://www1.cnnic.cn/IDR/ReportDownloads/201310/P020131029430558704972.pdf> [accessed 26 November 2013]

¹⁰² <http://techcrunch.com/2012/04/24/apples-iphone-sales-in-china-are-up-by-fivefold-from-a-year-ago/>

Figure 10.1 Take-up of communications devices among internet users in the UK, the US and China



Source: Ofcom consumer research, September 2013

Base: All respondents UK=1000, USA=1004, CHN=1007

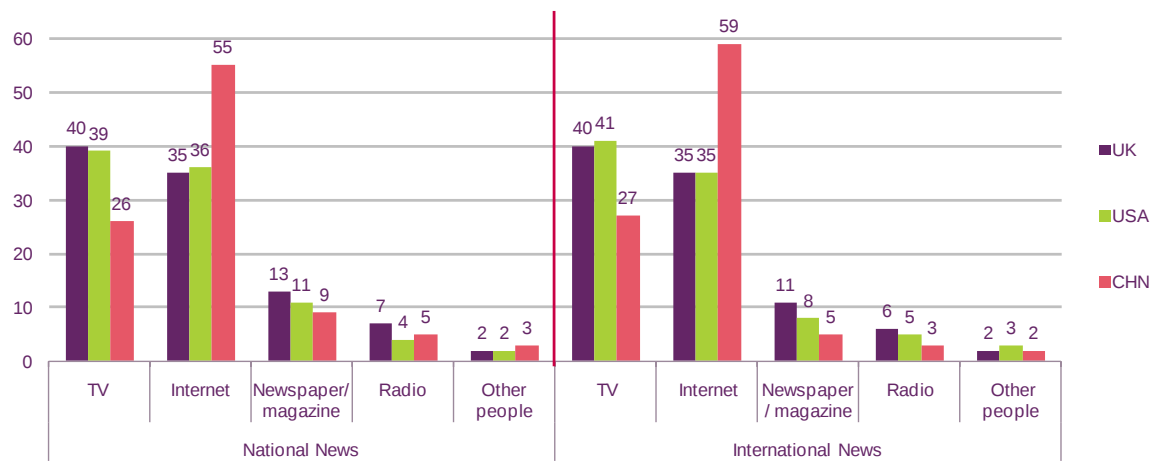
Q: Which of the following devices do you own and personally use?

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 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 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.

¹⁰³ *International Online News Consumption*, Communications Chambers, January 2012

Figure 10.2 Claimed main sources of news, by platform



Source: Ofcom, consumer research, September 2013

Base: All respondents, UK=1000, USA=1004, CHN=1007

Q: Which, if any, is your main source of news for the following information?



The International Communications Market 2013

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 standalone 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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