

The International Communications Market 2008

7 Emerging Markets

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7.1 Emerging markets: Brazil, Russia, India and China

7.1.1 Introduction and summary

This section of the report examines developments in the communications sectors of the world's largest emerging economies, Brazil, Russia, India and China, collectively known as the BRIC nations. Together these countries account for 42% of the global population but only 14% (£120bn) of global communications industry revenue. As such they could well offer a significant growth opportunity for communications service operators in the future.

In contrast to most of the countries covered in the main section of this report, where communications markets have developed over several decades, a broad range of services have been deployed in the BRIC countries in a comparatively short period of time. Consumers have responded with rapid take-up of many of these services. While patterns of development for both the telecoms and broadcasting markets of BRIC countries differ from those in more mature markets, they also share key characteristics. For example, mobile is quickly emerging as the main method of voice telephony and, more recently, as a means of accessing internet services and email.

Some of the main points highlighted in this section include:

- Over 216 million new mobile subscriptions were added in the BRIC countries in 2007, a 17% rise on 2006 additions. The largest ever reported annual increase in new mobile connections in a country occurred in China in 2007 (88.2 million) with demand from consumers in smaller towns and rural areas driving much of this growth.
- Telecoms revenue grew by an average of 48% across the BRIC countries between 2004 and 2007, driven largely by growth in mobile services which made up over half (£53bn) of the telecoms revenue generated in the four countries in 2007.
- Take-up of mobile services has been rapid compared to fixed-line in the BRIC countries. This is particularly true in Russia, where penetration increased from 12% in 2002 to 123% in 2007, exceeding the 121% take-up in the UK.
- The average subscriber in China spends a similar proportion (24%) of total mobile spend on data services as the average UK consumer (24%). This contrasts with just 6% in India.
- Broadband penetration among the BRIC countries is low, averaging three connections per 100 population at the end of 2007, compared to 26 in the UK. Only three people in every 1000 had a fixed broadband subscription in India at the end of 2007 (just over 3 million connections); with 57.8 million people owning internet-enabled mobiles compared to 10.4 million fixed-internet subscribers²⁷; more people are able to access the internet on their mobile than over a fixed broadband connection.
- The number of TV households grew by over 50 million in China between 2002 and 2007, compared to an increase of just 600,000 in the UK.

²⁷ Telecom Regulatory Authority of India, Performance Indicators, Oct – Dec 2007, <http://www.trai.gov.in/trai/upload/Reports/41/preport10april08.pdf>

- Since 2002 television revenue across the BRIC countries has grown by an average of 19% annually, compared to 5% in the UK. Despite having the lowest revenue of the four countries (£2.4bn), Russia's TV industry increased fastest (32%). Growth was driven by rising income levels and the growing penetration of pay-TV, as IPTV and services from new satellite operators pushed down prices and stimulated take-up.
- The Russian radio market is the largest of the BRIC nations, with revenue of just over £300m in 2007, overtaking China, which had revenues of just under £300m. India was the fastest growing radio market from 2003 to 2007, expanding by an average of 52% per annum, albeit from a smaller base.

Figure 7.1 Key country data, 2007

Country statistics	Brazil	Russia	India	China	UK
Population (m)	194	141	1,129	1,322	61
Median age	28.6	24.8	24.8	33.2	39.9
Surface area (sq km, metres)	8.5 million	17.1 million	3.3 million	9.6 million	243.6k
GDP (£bn)	657	645	585	1,639	1,363
GNI*/per capita	£2,954	£3,778	£475	£1,179	£21,360
Telecoms					
Total industry revenue (£bn)	23.6	13.4	10.4	49.4	26.9
Revenue per capita	£122	£95	£9	£37	£443
Fixed lines per 100 population	20	32	4	28	56
Mobile connections per 100 population	63	123	21	40	121
Broadband connections per 100 population	4	4	0.3	5	26
Television					
Total industry revenue (£bn)	6.4	3.6	4.7	8.1	15.3
<i>from subscription</i>	2.5	0.5	3.0	3.8	6.3
<i>from public funding</i>	0.0	0.01	0.01	0.0	3.8
<i>from advertising</i>	3.9	3.1	1.6	4.3	5.2
Revenue per capita	£22.6	£17.2	£2.8	£4.2	£172
Largest TV platform	ATT	ATT	ACab	ATT	DTT
Proportion of homes	88%	55%	67%	56%	37%
Radio					
Total industry revenue (£m)	125	307	78	292	1,179
Revenue per capita	£0.7	£2.2	£0.1	£0.2	£21

Source: The World Bank, CIA Factbook, US Census Bureau

* Gross National Income

7.1.2 The telecoms industry in BRIC nations

The following section considers first the growth of mobile and fixed telecommunications markets before turning to the new opportunities available to operators through broadband and mobile data services.

7.1.2.1 Take-up of telecom services

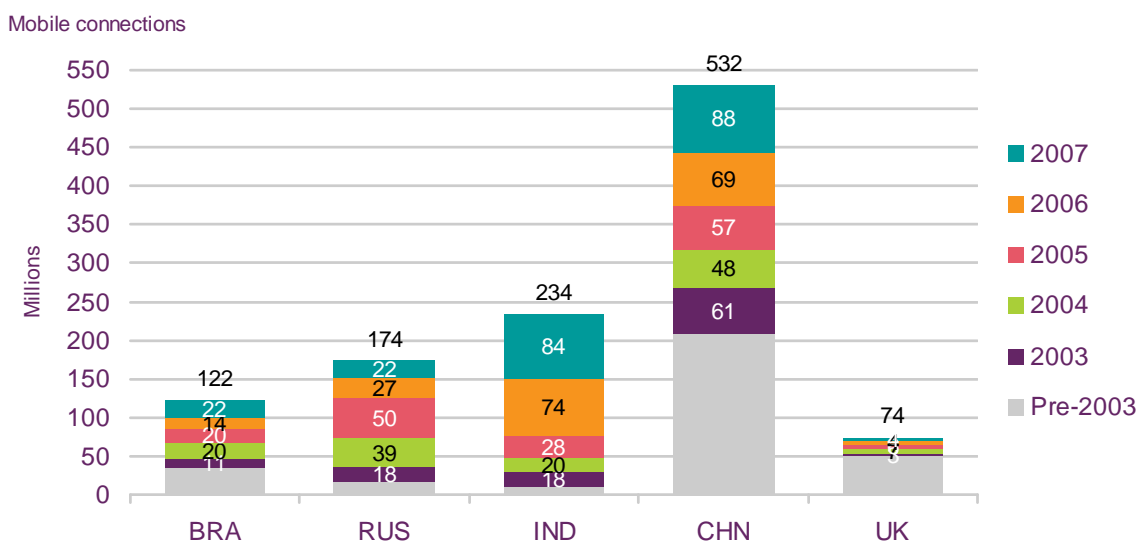
Growth in mobile connections accelerates in China, India and Brazil

Figure 7.2 illustrates the rapid growth in the number of mobile subscribers in the BRIC countries compared to the UK. Over 216 million new mobile subscriptions were added in the BRIC countries in 2007 (representing over one-third of new mobile connections worldwide in 2007²⁸), a 17% rise on 2006 additions. This compared with an increase of 3.8 million in the UK, and 68 million in total across the 12 countries covered within the main body of this report.

The largest ever reported annual increase in new mobile connections in a country occurred in China in 2007 at 88.2 million, more than the total number of active subscriptions in the UK at the end of 2007 (74 million). Lower call tariffs and the introduction of free incoming calls have made mobile services affordable to a greater number of low-income consumers, particularly in the small towns and rural areas of the central and western regions of China, which account for the majority of recent new subscriptions. Similarly in Brazil and India, demand from consumers based outside the main cities accounted for the majority of new connections during 2007.

Growth has slowed in Russia since its 2005 peak, as penetration of mobile services in the major cities and regions nears saturation. However, penetration levels continue to grow especially in urban areas, reaching 174 mobile connections per 100 population in Moscow at the end of August 2008 and 159 in St Petersburg²⁹.

Figure 7.2 Mobile subscription growth: 2002 to 2007



Source: IDATE/ Ofcom

²⁸ The number of mobile subscribers increased from 2.7 billion at the end of 2006 to 3.3 billion at the end of 2007, <http://www.itu.int/ITU-D/ict/statistics/ict/index.html>

²⁹ Wireless Federation: <http://wirelessfederation.com/news/category/mobile-penetration/>

Recent developments in the Chinese mobile market

Restructuring

The long-anticipated restructuring of China's telecom operators - announced in May 2008 by the National Development and Reform Commission (NDRC), the Ministry of Industry and Information Technology (MIIT) and the Ministry of Finance (MoF) - is now under way.

The restructuring involves a merger of the country's six state-owned mobile phone and fixed-line operators into three nationwide carriers that offer both fixed-line and mobile services. It is projected to be complete by mid-October and involves:

- China Unicom merging with China Netcom and operating under the Unicom brand;
- China Telecom obtaining China Unicom's CDMA network assets;
- China Mobile acquiring China Railcom; and
- China Satcom selling its basic telecom services to China Telecom.

Although the impact of these changes are huge, this telecom restructuring has been expected by the industry for some time; it has been generally recognised that more competition is required, particularly in mobile telecoms, where China Mobile holds over two-thirds of subscriber market share.

Network sharing:

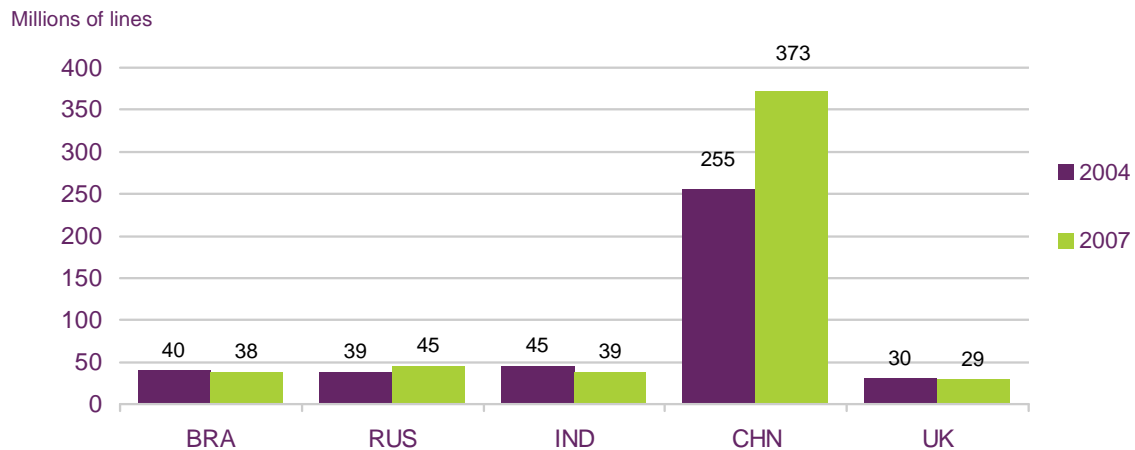
In a move designed to reduce infrastructure duplication, the Ministry of Industry and Information Technology (MIIT) has recently urged the country's three major telcos - China Mobile, China Unicom, and China Telecom - to share and jointly build core passive telecoms infrastructure.

All three remaining telcos face substantial network investment requirements as they move towards an integrated business platform and prepare for commercial 3G roll-out, so the infrastructure-sharing initiative will enable all three operators to reduce their capital expenditure (Capex) and operating expenditure (Opex) to some degree.

7.1.2.2 Strong fixed-line growth in Russia

The number of fixed lines in China increased by 47% between 2004 and 2007, although the rate of growth has slowed since 2006 as penetration started to saturate in residential areas, and as fixed-to-mobile substitution has accelerated. Similarly, increased use of mobile services in Brazil and India has led to a decline in the number of fixed lines. In Russia, however, high levels of mobile penetration do not appear to have diminished the national appetite for fixed-line services, which increased to 45 million in 2007, stimulated by government initiatives to introduce competition and lower tariffs.

Figure 7.3 Total fixed exchange lines (PSTN and ISDN): 2004 and 2007



Source: IDATE/ Ofcom

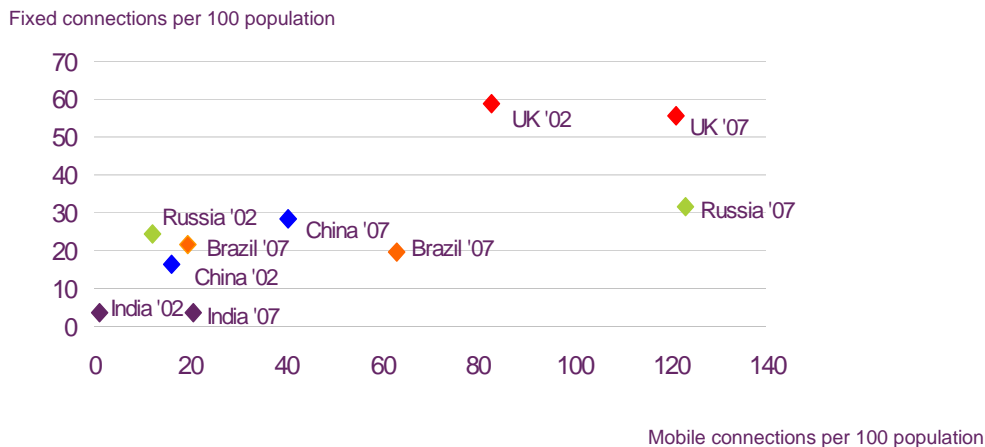
7.1.2.3 Mobile penetration in Russia greater than in the UK

Figure 7.4 highlights the significant changes in the penetration of fixed and mobile services in the BRIC countries and in the UK over the five-year period. Mobile take-up has been more rapid than fixed-line in Russia, rising from 12% in 2002 to 123% in 2007, overtaking UK penetration at 121%.

Slower levels of mobile adoption in China and India (in comparison to Brazil and Russia) are explained partly by a significant proportion of the population on low incomes being unable to afford a mobile handset or subscribe to a mobile service. In addition, the extensive rural communities, (particularly in India where 66% of the population live in rural areas, according to the 2001 census), mean that large amounts of investment are required to roll out network coverage.

The development of fixed-line services has been particularly slow to develop in Brazil and India, where the success of mobile services, (requiring less per-capita investment per fixed line) combined with a lack of competition from the private sector against state-owned providers, gives little incentive for existing fixed-line providers to invest in improving voice quality and extending coverage.

Figure 7.4 Mobile and fixed-line penetration: 2002 and 2007



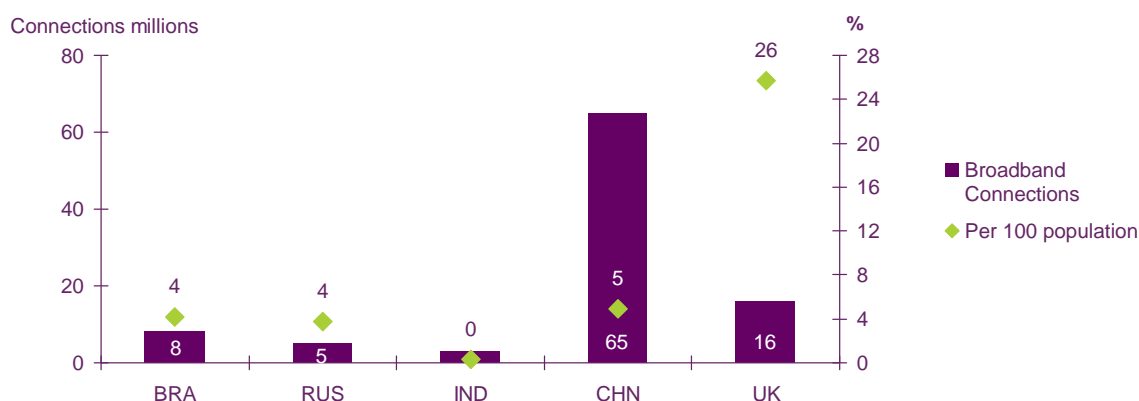
Source: IDATE/ Ofcom

7.1.2.4 Low uptake of fixed broadband presents opportunities for mobile

Broadband penetration among the BRIC countries is low, averaging three connections per 100 population at the end of 2007, compared to 26 in the UK. Limited availability and relatively high charges have largely confined take-up to urban areas, with most providers concentrating on the more lucrative business segment. Multi-occupancy units in the large cities offer a significant opportunity for rapid take-up in the future, although this can only be realised if the fixed-line infrastructure is already in place. The potential seems particularly great in China, which at the beginning of 2008 had the world's largest base of internet users (210 million³⁰) but only a third of these had broadband connections.

In India a lack of fixed-line availability and low PC penetration are the main reasons why only 0.3 people in every 100 had a fixed broadband subscription at the end of 2007 (just over 3 million connections). But significantly, many more people in India are able to access the internet over their mobile than over a fixed broadband connection; 57.8 million people had internet-enabled mobile handsets at the end of 2007, according to the Telecommunications Regulatory Authority of India (TRAI), compared to 10.4 million fixed-internet connections. There are high expectations that broadband access over wireless (using WCDMA, CDMA2000 1xEV-DO and WiMAX) will be the main driver of future broadband take-up, not just in India but also in smaller cities and rural areas in Brazil, Russia and China.

Figure 7.5 Broadband connections per 100 households, 2007



Source: IDATE/ Ofcom

7.1.3 Telecom revenues

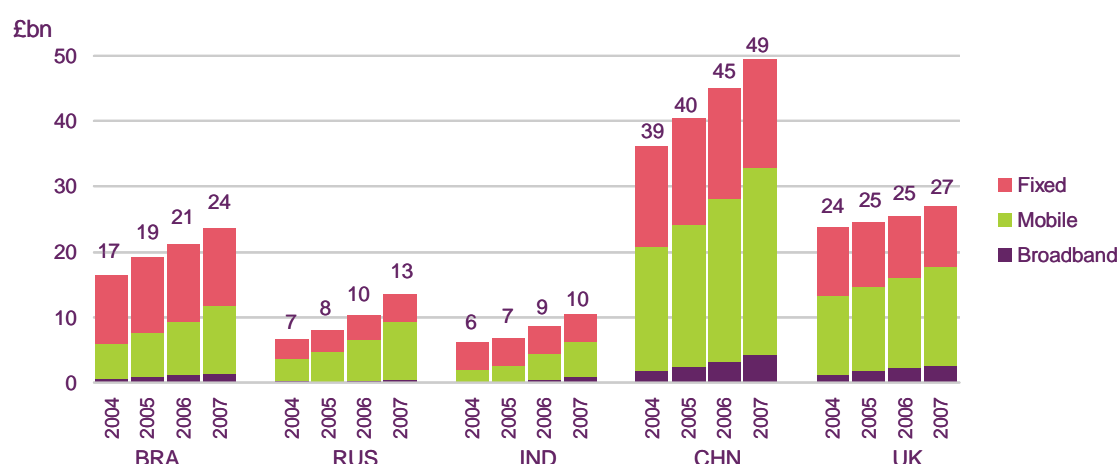
7.1.3.1 Mobile driving revenue growth

Telecoms revenue grew by an average of 48% across the BRIC countries between 2004 and 2007, driven largely by mobile services which made up over half (£53bn) of the total across the four countries in 2007. However, the contribution of mobile varies, accounting for two-thirds (66%) of revenue in Russia (reflecting its high mobile penetration) but less than one-half (44%) in Brazil (where a lack of competition in fixed and broadband services has allowed operators to charge high prices).

Broadband was the fastest growing telecoms revenue segment across the BRIC nations, up by 170% (albeit from a much smaller base than fixed or mobile). China accounted for 60% of the 2007 BRIC broadband total, followed by Brazil with 21%.

³⁰ China had 210 million internet users at the end of 2007, compared to 215 million in the USA. Based on 2007 growth rates, China overtook the USA in late January, early February 2008. Source: China Internet Network Information Centre: <http://www.cnnic.cn/uploadfiles/pdf/2008/2/29/104126.pdf>

Figure 7.6 Telecoms revenue by, service type: 2004-2007



Source: IDATE/ Ofcom

Note: Revenue excludes corporate data services and dial-up internet

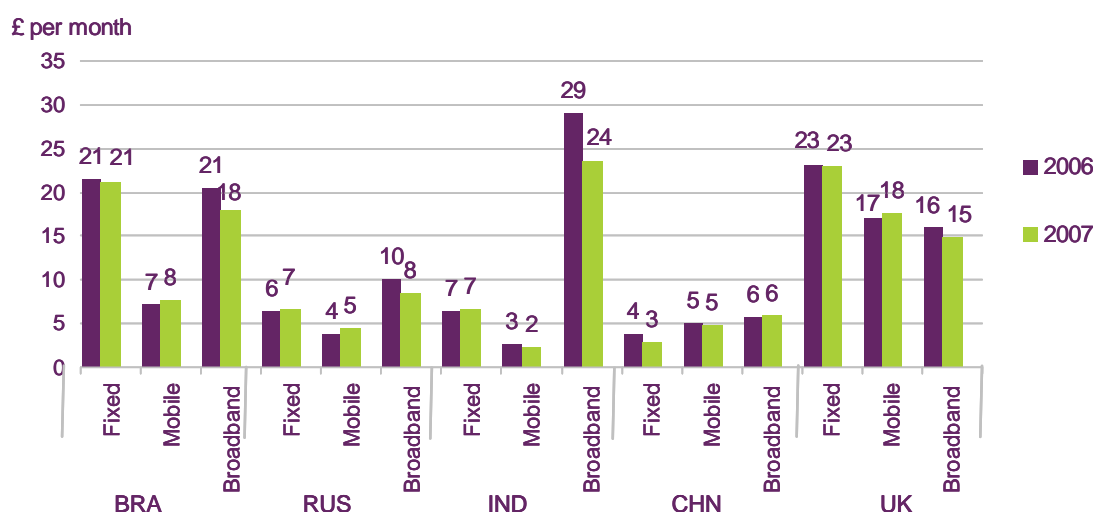
7.1.3.2 Revenue per mobile connection rose in Brazil and China during 2007

Revenue per mobile connection increased in Brazil and Russia in 2007 (as it did in the UK), reflecting rising incomes and growing use of mobile services in preference to fixed-line. By contrast, falling mobile prices in both China and India have contributed to a downward revenue trend.

Revenue per broadband connection declined in three of the emerging economies with the greatest decrease in India, falling by 19% to just under £24 per month. But in China, despite reductions in monthly ADSL access fees, average revenue per user (ARPU) still rose by £0.10 as consumers migrated to higher bandwidth services to accommodate the growing appetite for data-hungry content such as video and music downloads and online gaming.

Fixed-line revenue per connection was almost static between 2002 and 2007 in Brazil, India and China, but increased slightly in Russia, reflecting growth in the adoption of fixed-line services outside the major cities where price competition is not as intensive.

Figure 7.7 Average revenue per connection, by service type: 2006 and 2007



Source: IDATE/ Ofcom

Note: Revenue excludes corporate data services and dial-up internet

7.1.3.3 Mobile users in China spend similar proportion on mobile data as UK counterparts

The average UK mobile subscription generates between two and seven times more revenue per month than an equivalent in the BRIC countries. This largely reflects the lower prices required to reach populations with comparatively low disposable income in the developing countries, but high levels of multiple subscription ownership in Russia, India and China may also explain the difference.

Voice services accounted for the majority of mobile revenue in the BRIC nations (as they did in the UK) although data services are growing in importance. On average, across the BRIC nations, data accounted for 12% of 2007 mobile spend, compared to 10% in 2006. In China the pattern was much closer to that in the UK, with mobile data attracting 24% of total spend (compared to 25% in the UK). But in India, voice calls remain the dominant source of revenue, accounting for 94% of spend per subscriber.

The majority of mobile data revenue in every BRIC country comes from text messaging, although revenue from 'colour ring back tone' services³¹ (where a caller hears the receiver's favourite music rather than a standard ringtone) also accounts for a significant proportion in China (16% of China Mobile's mobile data revenue).

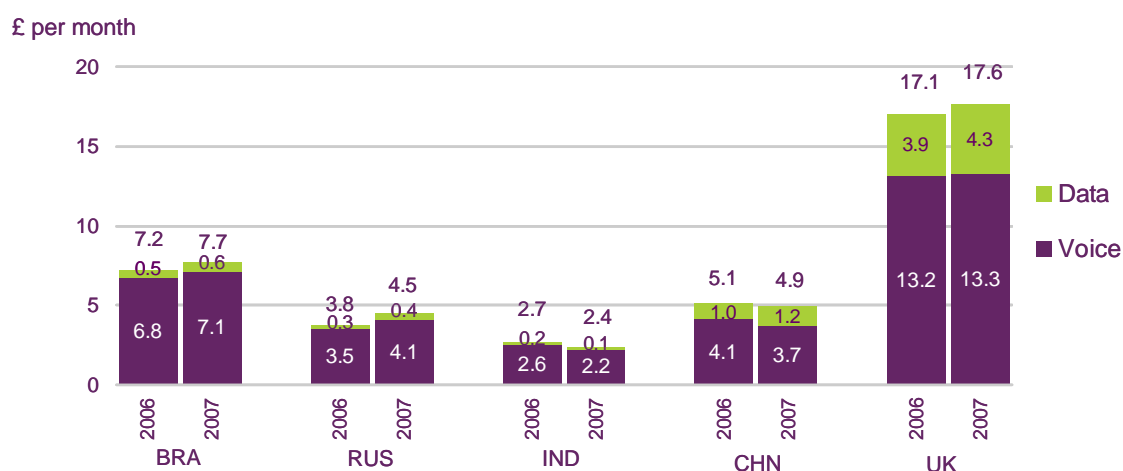
Increasing use of SMS in Brazil and Russia is the probable reason behind the £0.10 increase in data ARPU during 2007. However, the launch of 3G services (using WCDMA) towards the end of 2007 in both countries may stimulate future demand for mobile internet and multimedia services

In China and India, full commercial 3G services have yet to be introduced. Trials of TD-SCDMA, the first 3G technology to be approved by the Chinese authorities, are already under way, but the assumption is that the government will issue three 3G licences to cover all three 3G standards (WCDMA, CDMA2000 and TD-SCDMA), although no date has yet been set for their award. In India commercial 3G licences are due to be awarded to private

³¹ Allows users to customise what a caller to their mobile number hears. Instead of a familiar ringtone, a particular music, message or other personalised audio content is heard by the calling party while they wait for the call to be answered.

companies at the beginning of 2009; state-owned mobile operators BSNL and MTNL have already been granted 3G licences.

Figure 7.8 Mobile data and voice ARPU: 2006 and 2007



Source: IDATE/ Ofcom

7.1.4 The television industry in BRIC nations

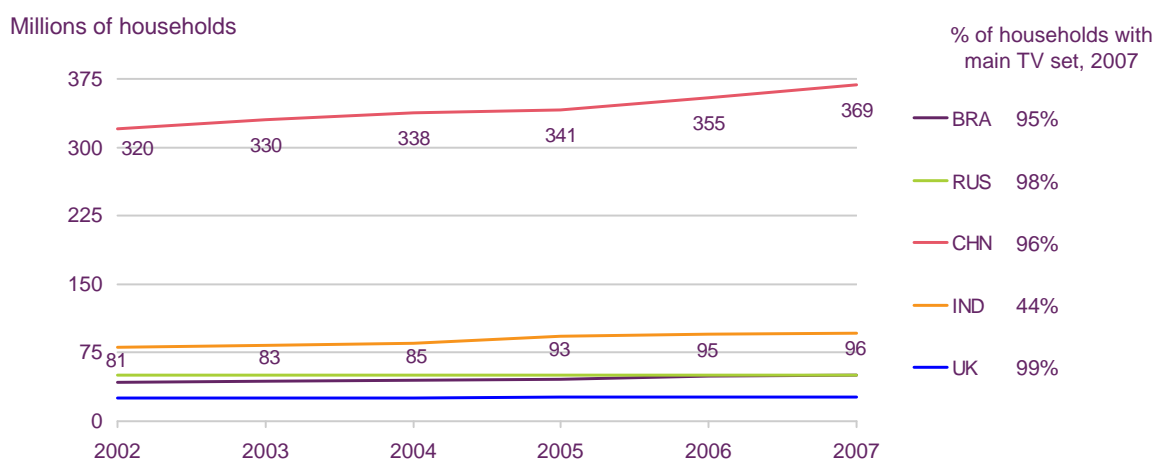
The following section outlines the main developments in television platform adoption and revenue growth in each country, in addition to the progress being made in the BRIC countries towards digital switchover.

7.1.4.2 Take-up of television services

Over half a billion TV households in four emerging markets

The total number of households with a television set across the four BRIC countries totalled nearly 600 million in 2007 and there is near-universal penetration in Brazil, Russia and China. (The number of TV households grew by over 50 million in China between 2002 and 2007 compared to just 600,000 in the UK - Figure 7.9). However, in India the high number of people in the average household, the significant level of piracy and large-scale under-reporting of subscribers by cable operators, combine to bring the reported proportion of households with a TV connection down to just half that of the other BRIC countries and the UK.

Figure 7.9 TV households: 2002 - 2007

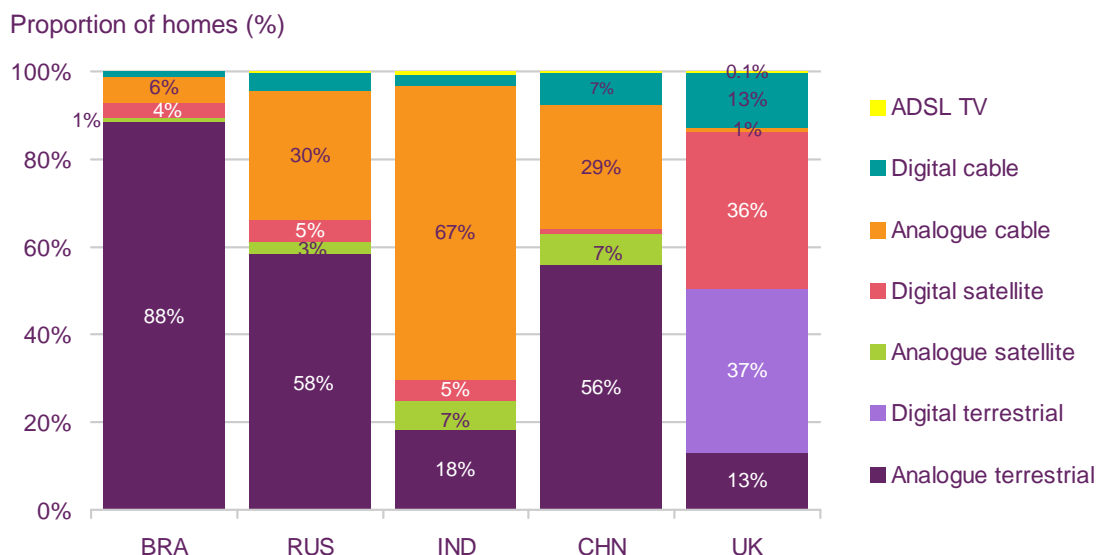


Source: IDATE / industry data / Ofcom

Terrestrial television main method of reception in all but India

Analogue television (terrestrial or cable) remains the most popular means of reception in the BRIC countries (Figure 7.10). Over 80% of homes in Brazil and just over half in Russia and China are connected to an analogue terrestrial (ATT) device, with almost all remaining homes connected to analogue cable. People in India are more likely to have analogue cable, with take-up running at 67% in 2007 and ATT accounting for an additional 18% of households. Analogue satellite services are in the minority across BRIC countries, accounting for 7% of households in India and in China, while Russia and India have the highest proportion of devices connected to digital satellite services at 5%, up from 2% in 2006.

Figure 7.10 Reception devices connected to the main television set: 2007



Source: IDATE / industry data / Ofcom

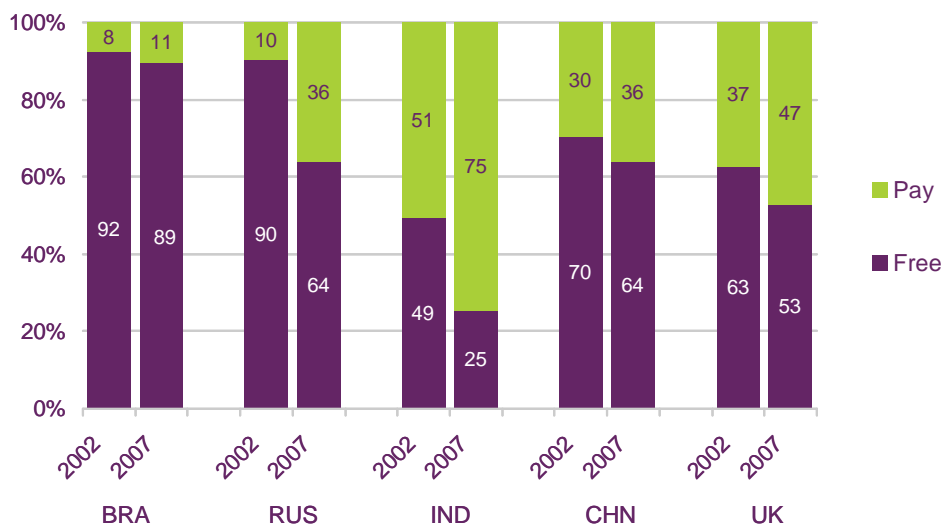
Pay-TV accounts for one-third of Russian market

The propensity of people to pay for additional television channels varies significantly between the BRIC countries. Relatively high take-up of analogue cable in India has meant

that, historically, a large proportion of households have received pay-TV services. Rising income levels and the launch of conditional access for cable has further increased the penetration of pay-TV services to three-quarters of Indian households.

The dominance of analogue terrestrial reception in Brazil, Russia and China explains why take-up of pay-TV services is lower in those countries. But there has been an increase in the proportion of households receiving pay-TV in Russia since 2002, as new pay-satellite TV operators have lowered their prices and IPTV services have grown in popularity. In Brazil and China, by contrast, growth in pay-TV penetration has remained comparatively low. In China, the availability of a large number of free-to-view channels from CCTV may make it difficult to persuade people to pay for additional channels (in a similar fashion to free TV in Germany).

Figure 7.11 Proportion of households with FTA versus pay television: 2002 and 2007



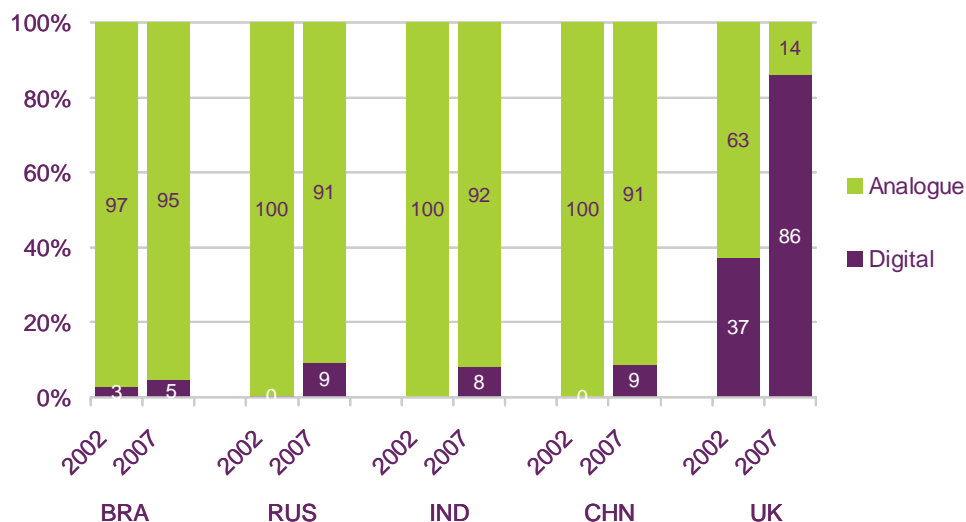
Source: IDATE / industry data / Ofcom

Slow progress in move to digital television

The number of households with a digital television platform remained below 10% in all of the BRIC countries during 2007. Despite government initiatives to encourage digital adoption, the shift from analogue has been relatively slow, with consumers on low incomes showing little appetite to pay for digital equipment that does not deliver much more than they can already receive.

Households in Brazil were the least likely to have converted their main sets to digital - just 5% had done so by the end of 2007 (and only 9%, 8% and 9% respectively in Russia, India and China) although the launch of the country's first digital terrestrial TV service in December 2007 may change this. In China take-up of digital television remains low, but the rate of digital conversion has been higher than that in the UK, growing from just 300,000 households in 2002 to 32 million in 2007.

Figure 7.12 Proportion of households connected to digital and analogue platforms: 2002 and 2007



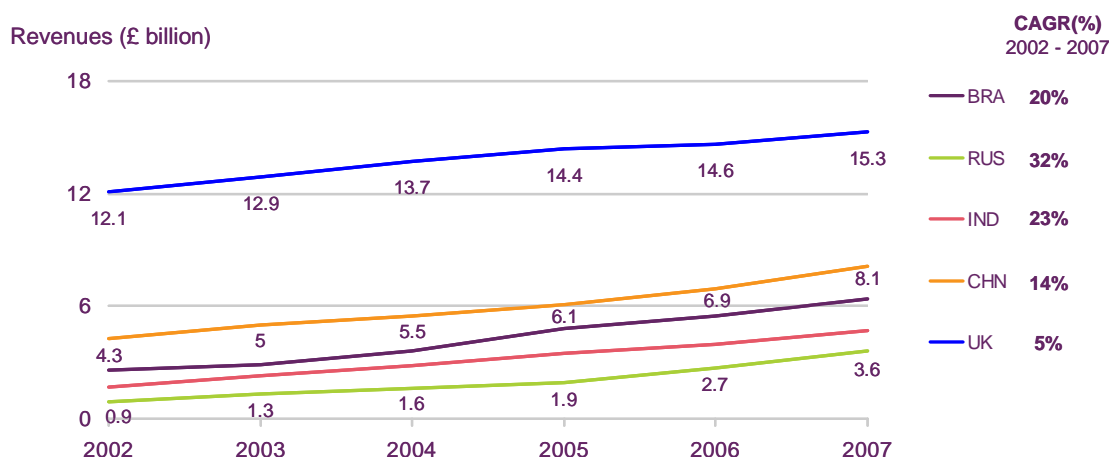
Source: IDATE / industry data / Ofcom

7.1.5 Television revenues

7.1.5.1 Revenue growth fastest in Russia

Since 2002 television revenue growth across the BRIC countries has been brisk, growing by an average of 19% annually (from £9bn to £23bn in total), compared to 5% in the UK. Russia's TV industry rose the fastest (32% per annum), driven by rising income levels and the growing penetration of pay-TV services. Pay-TV service adoption also boosted income in India and Brazil, with revenue rising by 23% and 20% respectively over the same period. The Chinese TV industry grew more gradually (at 14%), reflecting China's slower adoption of pay-TV services.

Figure 7.13 Television industry revenue, 2002 - 2007



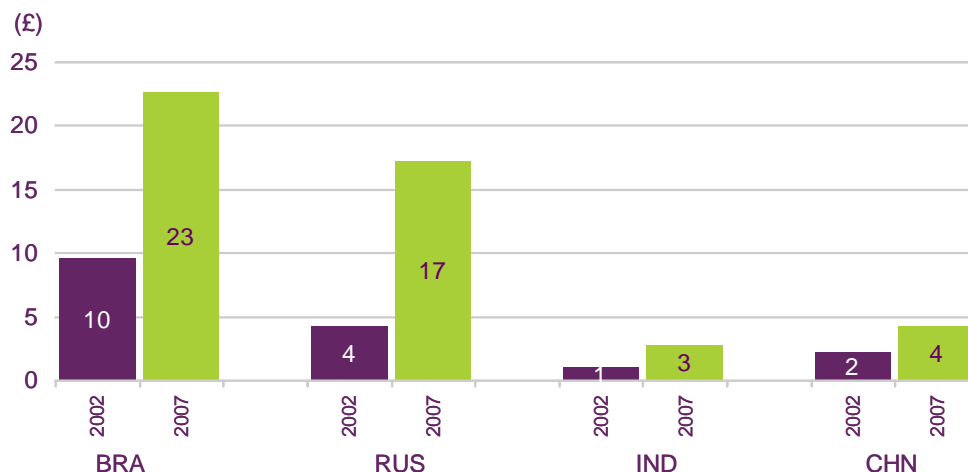
Source: IDATE / industry data / Ofcom

7.1.5.2 Revenues per head in BRIC countries lower than in other comparator countries

Revenue per head more than doubled in Brazil, India and China, and quadrupled in Russia from 2002 to 2007, with growth driven by rising income levels and by the availability of more

channels on a wider range of platforms. Revenue per capita was lowest in China, at £4 per head of population in 2007, and highest in Brazil at £23. Revenue per head in all four countries remains substantially below that of the UK (£172) and the other eleven countries covered in the main body of this report (ranging from £109 in France and Italy to £221 in the US).

Figure 7.14 Television industry revenue per head: 2002 and 2007

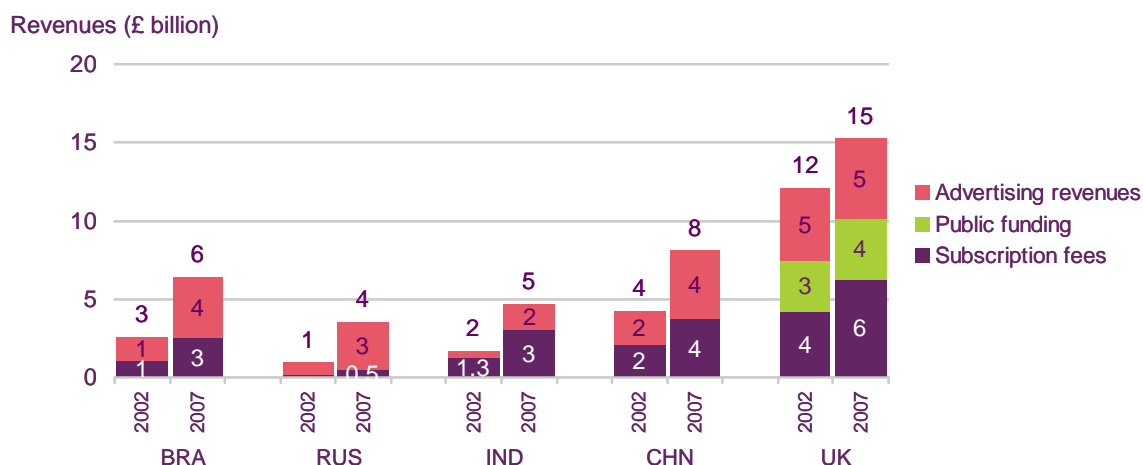


Source: IDATE / industry data / Ofcom

7.1.5.3 Advertising is the largest revenue contributor in all BRIC countries except India

Advertising is the main source of television revenue in all BRIC countries, having expanded particularly rapidly in Brazil, Russia and China since 2002, reflecting the greater commercialisation of the television industry and the growing attractiveness of the medium to advertisers in these countries. In India, however, high levels of pay television take-up mean that total industry revenue is dominated by income from subscriptions, which accounts for two-thirds of the total.

Figure 7.15 Television industry revenue, by source: 2002 and 2007



Source: IDATE / industry data / Ofcom

7.1.6 The radio industry in BRIC nations

In nations where TV ownership is not universal, radio can play a more prominent role in media consumption and as a primary source of daily news. Radio services are on the increase in the BRIC countries, with more stations being licensed on both analogue and digital formats. Radio ownership is also increasing as receiver costs fall. In some cases, such as in Russia, public broadcasters are finding their share of the audience reduced as more private and local area stations go live. This part of the BRIC countries' section gives a general overview on radio listening trends and then focuses on the main activities in the development of digital radio services.

7.1.6.1 Radio listening

Radio station choice increasing in BRIC countries

Radio listening is growing in **India**; the audience in 2007 was estimated to have reached 700 million people - almost double the audience ten years previously. Similarly, ownership of radio sets had increased to around 250 million, again doubling in ten years. According to an AIR survey carried out in December 2007, 97% of people in rural areas claimed to listen to the radio at least once a week. Deregulation of the FM market has led to the arrival of 250 new stations in India, with another 75 planning to launch over the next couple of years, providing a boost to radio listening.

The services of public radio operator All India Radio (AIR or Akashvani) cover around 99% of the population and include 231 stations providing services in 22 languages and 146 dialects. On an average day, around 357 million people, equivalent to almost a third of the population, listen to AIR radio services. Fifty-two per cent of the Indian population say they listen to primary station AIR; this is higher in rural areas (55%) than urban areas (50%). AIR's largest FM radio station 'Rainbow' is aimed at a younger audience and is available to over 900 million people, with a reach of 49.5% in 2007.

Satellite radio is also available in India, with 164,000 subscribers to the WorldSpace service by the second quarter of 2008. These listeners have access to 62 different satellite radio channels, and AIR also provides 20 satellite radio channels.

In **Russia**, radio services cover over 96% of the population. There are around 700 stations broadcasting and over 60 million radio receivers in the market. The All-Russia State Television and Radio Company (VGTRK), is the state-owned television and radio broadcaster. VGTRK runs the Russia TV channel, RTR, which covers around 90% of the Russian population and provides 80 local TV channels. It also operates national radio stations such as Radio Russia and Radio Mayak and the international service Voice of Russia.

In 2007 VGTRK stations' share of radio listening was 28%, down by 6% on last year and down from a 49% share in 1999. This is largely due to the growth in commercial listening, with new commercial and regional stations gaining share in recent years, following awards of new frequencies. The main PSB stations are Radio Russia, which held a 15% share of listening in 2007, and Radio Mayak with a 10% share. Radio Mayak has changed its format to appeal more to younger listeners; its content now focuses on news and talk-based programming, which has increased listening among the 12-29 age group.

The coverage of terrestrial radio in **China** is estimated to be 95%, with over 500 million radio receivers in the market. Average time spent listening to the radio is around an hour a day, with 75% of radio listening in the home. By 2005 the radio audience was over 420 million, or almost a third of the population, listening on a daily basis. Increasing car ownership and take-up of portable and in-home radio devices, combined with the 2008 Olympics, was

expected to provide a boost to radio listening in China and a corresponding rise in advertising revenue.

Listening share in China is generally split three ways - national stations attract around 15% of listener hours, while regional stations in the provinces account for a further 60% and local municipal stations account for the remaining 25%. China National Radio (CNR) and China Radio International (CRI) are two main state-owned national radio broadcasting networks. CNR currently broadcasts nine main channels across China, with content covering news, business, music, entertainment programmes and stations aimed at ethnic groups within China. CRI launched a new radio station in July 2006 called CRI Olympic Radio, broadcasting on AM from Beijing.

In **Brazil** there are over 2000 radio stations on air, and around 75 million radio receivers in the market. This compares to around 60 million TV sets and around 120 TV stations. Radio listeners in Brazil in the main cities also have access to HD (Hybrid Digital) Radio services, with around 30 million people now having potential access to 25 HD stations. Main stations in Brazil include Rádio Nacional and news station CBN which operates in larger cities including São Paulo, Rio de Janeiro and Brasília.

7.1.6.2 Radio revenues

Rapid revenue growth in BRIC radio markets

For the BRIC nations radio revenue is predominantly from advertising – as is the case for the corresponding television broadcasting industries. There are generally lower levels of public funding and subscription radio only has a foothold in India, and is not established in Brazil, Russia or China.

The Russian radio market has more than doubled in size in the four years to 2007 (in parallel with its television industry), up from £111m in 2003 to £307m, aided by growth in the number of commercial radio stations available. It overtook the value of the Chinese radio market during 2007 to make it the largest among the BRIC countries. However the Indian radio market was the fastest growing radio market over the same period, expanding by an average of 52% per annum, albeit from a smaller base, to stand at £78m by 2007, this represented growth of 30% on 2006.

By head of population, the Russian radio market is the highest revenue generator with £2.16 of revenue per capita in 2007, followed by Brazil with £0.67. Although by comparison this is still much lower than the average for the Western European countries and North America, for example in the UK where revenues were £21 per head. The equivalent figures for India and China were much lower again, partly due to the much larger populations covered and partly as a result of lower levels of radio market development. In India radio revenues generated equated to just 7p per person; the equivalent figure in China was 22p (Figure 7.16).

Figure 7.16 Radio revenues across the BRIC nations



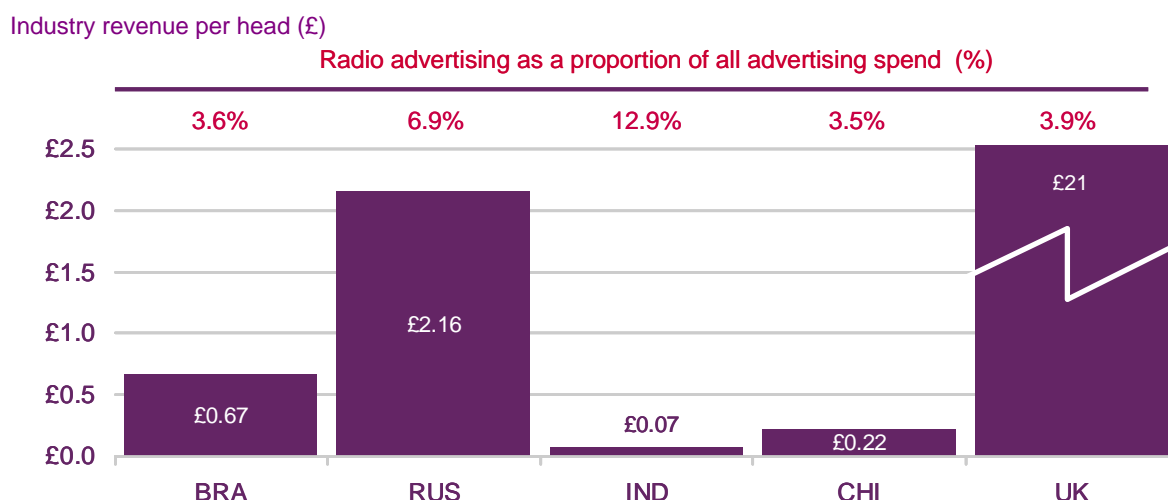
Source: Ofcom analysis using data taken from PricewaterhouseCoopers Global Entertainment & Media Outlook 2008-2012

Note: An exchange rate of \$2.011 has been used. Interpretation of data is solely Ofcom's responsibility.

Russian radio market has highest revenues, India the highest proportion of advertising spend

Radio advertising's share of total advertising expenditure shows a degree of variation across the BRIC nations. In most cases radio's share is increasing as markets continue to develop. Radio advertising share was lowest in China at 3.5% of all advertising expenditure in 2007, although this was up from 2.8% four years previously in 2003. By comparison the Indian radio advertising market plays a more significant role, accounting for 12.9% of all advertising spend in 2007. This was also up from a 9.6% share in 2003, illustrating the current rapid growth of radio in India. The Russian radio market commanded a 6.9% share of all advertising revenue in the year, (6.3% in 2003). While in Brazil this ratio is now 3.6%, relatively stable on the share in 2003 (3.7%) and also similar to radio share in the UK (3.9%) by comparison (Figure 7.17).

Figure 7.17 Radio industry revenues per head and as a proportion of ad spend



Source: Ofcom analysis based on data supplied by PricewaterhouseCoopers Global Entertainment and Media Outlook 2008-2012

Note: An exchange rate of \$2.001 has been used. The UK has been included for comparative purposes; interpretation of data is solely Ofcom's responsibility

7.1.6.3 Digital radio developments in the BRIC nations

Digital radio boosted in China ahead of 2008 Olympic Games

Radio stations in China are state-owned, but are primarily funded by commercial advertising. The State Administration of Radio, Film and Television (SARFT), an executive branch of the State Council in the People's Republic of China, is responsible for licensing and regulating media standards.

National digital radio services are mainly distributed via the home-grown CMMB (Chinese Multimedia Mobile Broadcasting) platform, which is currently the predominant mobile TV and multimedia standard in China. CMMB uses both satellite technologies, alongside a terrestrial network, to deliver audio and visual services. The large coverage area required to serve the Chinese population makes satellite technology an effective solution. A CMMB network covering the major cities was set for completion by the end of 2008.

Local and regional radio services in China can be broadcast digitally either by DAB or DMB-T/H, which have both been trialled. The DAB standard was approved by SARFT in May 2006. DAB / DMB services are currently available to eleven provinces including Guangzhou (80 million people covered), Beijing (12 million people), Shanghai (15 million people), and Dalian (5.4m people). Currently there are 16 DAB digital radio services and six DMB services available on a free-to-air basis.

DMB receivers were available for around £170 this year, with 80,000 sold in Beijing by April 2008, ahead of the Olympic Games. Manufacturers have also developed dual receivers which can decode both CMMB and DAB/DMB signals. Another platform being trialled in China is HD radio, with initial tests carried out in Beijing in February 2008. A wider programme of tests is planned by SARFT for 2008.

Station choice and radio ownership growing in India

The most widely used form of digital radio in India is satellite radio, provided by *WorldSpace*. This is a subscription service broadcast directly from satellite to portable receivers or PCs. Initially the *WorldSpace* service was free in India and some of the 62 specialist music and language channels are still free-to-air, but the annual subscription to the full service is now around £15 per annum, while satellite radio receivers are available for around £34.

The Indian government has also trialled DAB in local areas and has looked at DRM as a possible standard for short and medium wave digital transmissions. All India Radio (AIR), the public broadcaster, started experimental DAB broadcasts in New Delhi in late 1997, with trials covering around 1% of India's population. Since January 2007, All India Radio has also been running test transmissions in DRM from its transmitter site in Khampur, Delhi.

HD radio launched in Brazil's larger cities

The HD (Hybrid Digital) radio format which began in the US is also being rolled-out in the main population areas of Brazil. One advantage of HD radio technology is that it enables AM and FM radio stations to simulcast both digital and analogue audio within the same channel with additional text information.

HD radio launched in Sao Paulo in 2005, and there are currently 25 radio stations on air, covering a population of around 30 million people. Broadcasters formed the Brazilian Alliance for Digital Radio in 2006 to promote and support the deployment of HD Radio technology.

For digital television broadcasts, Brazil is implementing a similar standard to the Japanese ISDB-T, in Brazil the standard is known as SBTVD-T (Sistema Brasileiro de Televisão Digital-Terrestre); switchover is planned to be complete by 2016. A number of other South American countries, including Argentina, Mexico, Peru and Chile, are also considering adopting the HD and ISDB-T standards; with a number of test broadcasts have already taken place.

Russia developing DRM services

The first digital radio transmitter in Russia was built in 2006 for the Voice of Russia international radio station which had originally began broadcasting its European service in DRM (Digital Radio Mondiale) back in 2003. DRM is also seen as a suitable option for domestic digital services, as it offers the ability to cover a large range of territory. The DRM service was developed by the Voice of Russia in conjunction with Russian Teleradio Broadcasting Systems, and supported by the Russian Television and Broadcasting Network (RTRN), with the aim to promote the commercial implementation of DRM across Russia. In total, the Voice of Russia service broadcasts to more than 160 countries around the world in 32 languages, with an audience of more than 100 million people. A DRM symposium was held in Russia in October 2007 to discuss future digital strategies.