ANUAL REPORT 2009



Comisión del Mercado de las Telecomunicaciones

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LETTER FROM THE PRESIDENT

The Spanish Electronic Communications sector has not escaped from the effects of the recession in 2009. The total turnover for the sector decreased by 5.4% to 41,765.35 million euros, which is the first decrease in absolute terms in the last ten years. The weakness of demand, as a consequence of the crisis, affected end services particularly in the field of fixed line telephony. However the mobile telephony sector was also affected, experiencing a reduction in both revenue and in traffic.

As was the case last year, broadband acted as a driving force for activity in the sector and it was only that segment which remained positive. Of particular significance was the push of data traffic in the mobile networks, which doubled the volume that was recorded in 2008. This was favoured by the strong growth of the exclusive lines for high-speed data (datacards) and the introduction of smartphones.

Consumers have made much more intensive use of number portability, both with fixed lines and mobile telephony, with record rates recorded for 2009 for changes in operator.

Revenue for end services in fixed line telephony, Internet, mobile communications and audiovisual services stood at 35,150.21 million euros– a fall of 4.9%. Wholesale revenue fell 8% to 6,615.13 million euros. Since 2006 wholesale revenue has been continually decreasing.

Until 2008 mobile telephony and broadband services were the driving force of electronic communications, but in 2009 they suffered a fall of 4.1% in the volume of turnover for end services, dropping to 14,453 million euros. The reduction in revenue was accompanied by a slight reduction in the total volume of traffic managed by these networks. The mobile telephone networks continued to increase although at a slower pace than in previous years, reaching a total of 51.1 million lines, equivalent to a penetration of 109.3 lines for every 100 inhabitants.

Over the course of the year, 4.5 million mobile ports were recorded which favoured the smaller operators, enabling them to capture a share of the market. The fourth network operator, Yoigo, together with the VMOs achieved a joint market share of 5.6% of end lines in comparison with 3.7% recorded in 2008.

The average price for mobile telephone calls continued to fall in line with previous years and dropped 5.7% to 15.37 cents per minute. The fall in off-net calls (calls from one network to another) was particularly significant, falling 15.6% to 16.4 cents per minute.

The most positive performance in the mobile phone market came with mobile broadband. Datacards, or exclusive lines for high-speed broadband access recorded a penetration of 4.2 lines per 100 inhabitants following a gain of more than 770,000 dedicated accesses during the year. Another measure of the use of broadband over 3G/UMTS networks is the number of subscriptions for data access that have been sold together with voice terminals and which are ready to access 3G/UMTS networks, such as, for example, smartphones. By the end of 2009, Spain had recorded 2.8 million subscriptions of this kind.

Fixed line telephony has been in a maturity phase for many years now, but it was this segment of the market that suffered the most from the effects of the crisis. An 8.3% fall in turnover was recorded and there was a net reduction of 242,252 lines over the year, particularly in the business segment, which was most affected by the general economic situation.

In an environment of decreasing demand, 2009 has been a worsening year for the competition and this has therefore meant alternative operators gaining weight in the market. More than 1.48 million number ports were recorded which favoured these alternative operators (unbundled loop and cable), who, as a whole, managed to take on 30% of the total number of direct access clients - those who not only contracted voice services, but who also had access services and other complementary services with the same operator.

The alternative operators continued to take advantage of the wholesale access services that have been introduced over recent years. The shared loop with no basic telephony service, and wholesale access to the telephone line (AMLT in Spanish), which facilitated the transfer of the end client, became increasingly more significant throughout 2009.

The push made by the competition in fixed line telephony was very linked to the performance of broadband. At the end of 2009, 44.6% of fixed line telephony was packaged with another service type - broadband in particular. The alternative operators gained weight in the market thanks to their products integrating fixed line telephony and mobile services in one commercial offer.

Broadband over fixed networks increased its turnover by 2.2% (3,933 million euros) and upped its number of lines by 7.3%, reaching 9.8 million lines. However, the increase recorded in 2009 was less than in previous years. The penetration figures at the end of the year stood at 21 lines per 100 inhabitants.

One year on, no significant changes were seen in the nominal prices of broadband offers, although the number of promotions launched by operators did intensify.

The audiovisual sector, comprising the television segment, offers for content over various different platforms, and the radio segment, were clearly affected by the decrease in investment in advertising, which was this sector's main source of financing. Total revenue fell 12% to turnover of 5,991 million euros in 2009.

The penetration of subscription television with 4.23 million clients had 9 subscriptions per 100 inhabitants. Telecommunications operators offered 53% of subscription television, and the only service that saw any noticeable increase in the number of subscribers was IP television, which had 18.7% of the total number of subscribers by the end of 2009.

The volume of total investment in the electronic communications sector dropped for the second consecutive year. In 2009, total investment stood at 4,276 million euros including the operators from the audiovisual sector -17.3% less than in 2008.

In 2009, the new electronic communications regulatory package was approved in the EU and the different national regulatory authorities in the member countries started to review existing market analysis. As well as achieving better harmonisation in the management policy of the frequency spectrum, one of the aims of the framework is to strengthen the NRAs in terms of independency with quality of service and transparency of contracts between users and companies.

The development of regulation of the new generation networks approved in 2008 has continued to develop during 2009 with the approval of the access offer to Telefónica's cabling and ducting.

To conclude, the sector has indeed been affected by the financial crisis, and its effects, coupled with the degree of maturity of the mobile telephony services and fixed broadband services, have caused a decrease in total turnover. However, on the positive side, 2009 saw significant development of new services such as access to mobile broadband and the integration of fixed and mobile services in one commercial offer – both of which are aspects that serve to reinforce the convergent market, and which undoubtedly represent new regulatory challenges.

Reinaldo Rodríguez Illera Barcelona, 5 July 2010





1. ECONOMIC CONTEXT

2009 was a year of global financial crisis. All the most developed economies suffered significant decreases in their economic activity. Japan, The United Kingdom, Italy and Germany recorded a 5% drop in their GDP. The EU(27)'s end product decreased by 4.1%, whilst the USA experienced a slightly lesser decrease of 2.5%. In general, the developing nations and emerging economies were less affected by the crisis and overall they saw a 2.4% increase in GDP, although for some of the larger economies such as Russia and Mexico, the recession had an even greater effect than it had on the more developed countries. It is estimated that the fall in gross world product in 2009 was 2%,¹ whilst the decrease in the volume of international trade was 10.7% in the same year.

The financial crisis of 2008 transferred to the real economy in 2009 and clearly affected private consumer demand, which fell 1% in the eurozone, gross capital formation which fell 10.9%, and the volume of trade. Unemployment increased throughout the year in all of the most developed countries reaching 8.3% in the OECD countries and affecting 18% of the active population in Spain.

The price of petroleum and all other raw materials decreased in 2009, with an overall fall of 18%. The severity of the decrease of private consumer demand in the most developed countries led to reductions in the prices for marketable goods and, above all, for industrial goods. Given the fall in production and with inflation at almost zero in the most developed economies, the central banks set very low interest rates, below those seen in 2008. The United States Federal Reserve fixed short-term reference interest rates of 0.8% and the European Central Bank (ECB) fixed them at 1.2% for the eurozone.

Governments introduced substantial fiscal incentive measures towards the end of 2008, and assistance

programmes for the respective financial systems to try to stop the problem spreading, and they facilitated access to credit for the private sector, in particular for small and medium companies.

The recession also affected Spain. GDP decreased 3.6% over the year; mainly driven by the 15.3% decrease in gross capital formation and by a 4.9% fall in household spending.² It was the public initiative, with an increase of 3.8% in total public spending in 2009 that softened the fall in general activity.

The decrease in household expenditure occurred alongside a significant increase in savings rates, in particular led by the precautionary motive; by the end of the year savings reached up to 18% of GDP, a figure never seen before.

Companies faced various different problems: the fall in demand for their end products, the under-use of their productive capacity and financing restrictions in the capital markets. To cope with this decrease in demand, companies restricted their financial expenditure, which had reduced significantly over the year partly due to the low interest rates. They also adjusted the work they contracted.

The fall in internal demand also affected pricing in the economy and resulted in a negative inflation rate of 0.3% for the year in Spain. Spain's inflation differential compared to that of the EU(27), which traditionally was positive, and which minimised competition for the Spanish economy, was negative for the first time, with higher inflation recorded in the EU(27) than in Spain. The price index for the group of services included in the communications basket decreased once more in 2009 (0.7% in Spain), as it had been doing practically every year since 2002.

The impact of the crisis on the manufacturing sector was worse than on the economy as a whole, as is shown by both the 14.7% fall in the industrial branch of GDP and the 3% decrease in Spain of the price of industrial goods.

¹ The data in this section is taken from: *World Economic Outlook*, International Monetary Fund, April 2010, and *Economic Indicators*, OECD.

² Boletín Económico, Bank of Spain, March 2010.

Companies began to disintegrate, particularly small and medium sized companies. This had direct consequences on some electronic communications markets, in which, as can be seen in the various different sections of this annual report, the falls recorded in traffic or in lines particularly affected the business segment.





Source: Eurostat

2. THE TELECOMMUNICATIONS SECTOR

It is estimated that revenue in the electronic communications service market on a global level reached 1,440 billions of USD in 2009 - a 1.7% increase on 2008.3 Since 2007 growth registered in the sector on a global level continued to decrease, especially in the EU(27) and in the USA. The reasons include: on one hand, the sector itself, i.e. the degree of maturity reached in mobile telephony and broadband over fixed networks – both notable drivers of the sector; and on the other hand, the recession suffered in 2009 which impacted heavily on developed countries such as the USA, the EU(27), Japan and Australia, and it also had an impact on end demand and revenue.

The slight increase in global turnover was distributed very differently throughout the world, with one year later the emerging economies (Brazil, China, Russia, India and Mexico) being the ones showing the most significant growth in this sector. The EU(27), recorded practically no increase in 2009 and the USA only had a slight increase of 0.7% in revenue and hence these countries lost relative importance on the world market.

In an analysis of services, the positive growth trends observed in previous years were affirmed but mobile telephony and broadband were continually decreasing. Both activities reduced their growth by almost half regarding the figures recorded in 2008. At the same time, an even more noticeable decrease in comparison with other years was noted in turnover derived from traditional fixed line telephony, which is estimated to have decreased 4.8% compared to the previous year.

³ The data used here is taken from *Mobile 2010* and *TV 2010*, IDATE, 2010; *Broadband access in the EU: situation as 1 july 2009*, Communications Committee, European Commission 2009, *EITO Report*, 2010 and *XV Implementation Report*, European Commission.

The decrease in this same activity in the EU(27) was even greater, with a fall of 6.3%.

In 2009, the mobile broadband network registered a clear period of growth both in the EU(27), where it reached an average of 5.7 broadband access lines via a datacard per 100 inhabitants, and in the USA where the mobile segment of the market increased its turnover by 3.2% in that year.

2.1. The Spanish sector in the European Context

In 2009 the new telecommunications package was finally approved, consisting of a group of directives updating the EU(27)'s common regulatory framework for electronic communications, the last revision of which was finalised in 2002. At the end of 2007 the European Commission published Market Recommendations in which they gave a list of markets that were susceptible to undergoing ex ante regulation by the National Regulatory Authority in each member state. This list of markets was used throughout 2009 by various NRAs to review the markets that were to be regulated.

In the EU(27), 2009 was a year of economic recession with overall falls in end production, employment and investment. As mentioned, activity in the electronic communications sector, measured in revenue gained, decreased slightly both with fixed line telephony and mobile telephony and also for audiovisual services. Although fixed line broadband and mobile communications are the two leading segments of growth over recent years and continue to be the weightiest overall and continue to show increases regarding final active lines in the market, the growth observed in turnover in 2009 could not compensate for the reductions seen in the other services.

The main trends and development of each segment of the market over 2009 in the EU(27) and in Spain are shown below.

a) Fixed line telephony

In the EU(27), the downward trend continued for fixed telephony turnover and also in the field of lines. It was also observed that in all countries the incumbent operator lost direct access clients, i.e. users who contracted access to a fixed network and telephone traffic from the same operator. In 2009, an average of 24.1% of the users of fixed line telephony in the EU(27) had contracted direct access with an operator that was not the incumbent. This is due to the cable operators' increased market share and due to the growing trend of the alternative operators to contract the unbundled subscriber loop. Last year, the rate of direct access clients (cable or other alternative) increased by 5.4 percentage points in the EU(27). In Spain the increase was 6.5 percentage points for the alternative operators during the same period – July 2008 to July 2009.

Over the year, the penetration of commercial packages increased compared to the previous year, which directly affected fixed line telephony. In the EU(27) the number of packages (doubles or triples) reached proportions of 12 per 100 inhabitants in July 2009. The majority of





Source: XV Implementation Report, European Comission

the packages included fixed line telephony services and broadband. If we measure the proportion of packages regarding the penetration of broadband lines, it can be seen that in France, Ireland, Spain, Luxembourg, Germany, Holland, Greece, Belgium, Estonia and the United Kingdom, more than 50% of the broadband lines were packaged in the middle of 2009.

b) Broadband

Broadband supplied over fixed lines continued to grown in 2009, although at a slower pace than had been seen in previous years. The average amount of broadband lines per 100 inhabitants in the EU(27) stood at 24.8 lines in December 2009, an increase of 1.9 additional





Source: XV Implementation Report, European Comission

lines per 100 inhabitants on the year before. According to European Commission data, penetration in Spain increased 1.3 percentage points reaching 21.5 lines per 100 inhabitants,⁴ which is below the EU(27) average. In general it was observed that the countries with higher penetration rates such as Sweden, Finland, Denmark or Holland grew at a slower rate in 2009. The market share for the incumbent operators in the EU(27) was 44.7% of the total number of active broadband lines supplied over fixed lines, a slightly lower proportion to that registered a year earlier. In 2009 the number of lines supported by wholesale indirect access services (bitstream) decreased and at the same time, the use of the unbundled subscriber loop increased.

⁴ This figure is calculated using the total number of broadband lines and Eurostat population data, which corresponds to non-updated INE (Spanish National Statistics Institute) data for 2009: 45,828,172 inhabitants. This penetration figure differs from that given by the CMT (Telecommunications Market Commission), which is calculated using current population figures: 46,745,807 inhabitants.



BROADBAND PENETRATION (FIXED LINES) AND PENETRATION GROWTH IN THE EU(27),

DECEMBER 2009 (lines/100 inhabitants)

Source: XV Implementation Report, European Comission

The implementation of alternative technologies to xDSL is very similar throughout the different EU(27) countries. Currently, the main alternative technology is the cable-modem, which represents 15% of the end point connections in the market in the group of 27 member countries. For countries such as Belgium, Hungary, Malta, Netherlands, Austria and Portugal the cable-modem was the support for at least 30% of the end point connections.

In Spain, the cable-modem share was 19.8% of the total high-speed internet lines.

The development of fibre optic connections was not particularly significant in the EU(27). At the end of 2009, the total number of broadband connections supplied over FTTx rose to 2.17 million, which constituted 1.8% of dedicated active access. Throughout the different countries it was observed that operators who were not

INCUMBENT'S SHARE AND SHARE OF THE NON-xDSL TECHNOLOGIES MEASURED OVER ACTIVE BROADBAND LINES VIA FIXED NETWORKS IN THE EU(27), DECEMBER 2009 (%/total broadband lines)



Source: XV Implementation Report, European Comission

the incumbent in each particular country offered the large majority of this type of new generation connection.

Throughout the year there were a significant number of FTTx rollout initiatives driven by public officials, local or regional authorities and even by national governments. The European Commission published a guide of principles to follow when granting public assistance for the rollout of new generation networks, the aim being to avoid distortions to the competition and to the integration of the markets into the EU(27).

Over the year, a shift was seen towards higher speeds in broadband connections. The majority of the connections inalmostallofthecountries in the EU(27), including Spain,

was between 2 and 9.9 Mbps. In 2009 throughout Spain there was a migration of lines from 3Mbps to 6Mbps and also up to speeds of more than 10Mbps, with this latter speed being mainly with alternative operators.

A noticeable trend in 2009 was the increase in the demand of subscriptions for mobile network broadband. The number of datacards – access devoted to broadband over 3G/UMTS networks for use in laptops or PCs – in the EU(27) in December 2009 stood at an average of 5.7 datacard subscriptions per 100 inhabitants. Eight countries exceeded this average and amongst them, Austria and Portugal exceeded 10 subscriptions, a figure which makes up 40% or more of the penetration of fixed network broadband.

DISTRIBUTION OF BROADBAND LINES OVER FIXED NETWORKS IN THE EU(27), DECEMBER 2009 (total % of lines)



Source: XV Implementation Report, European Comission

The mobile network broadband offers are very diverse, in keeping with the types of usage forecasted. Some of the offers allow daily, hourly or weekly access to the network, and other have different rates depending on the total download volume in a set amount of time, packaged (or not) with other services (in particular voice services – whether they are provided by a fixed network or a mobile network). This variety of offers in the market, which reflects the different consumer usage patterns for this type of specific access, helped to drive demand for these types of dedicated connections.





Source: XV Implementation Report, European Comission

In Spain in December 2009, according to data from the European Commission, the penetration of datacards reached 3.8 connections per 100 inhabitants⁵.

c) Mobile communications

Although revenue in the mobile services sector in the EU(27) grew by a reduced rate –estimated to be by 0.6% in 2009⁶ - the demand for lines did increase. At the end of 2009 a proportion of 122 mobile lines per 100 inhabitants were registered, an annual increase in penetration of 3 additional lines per 100 inhabitants. Penetration in Spain, according to data from the European Commission, reached 118 lines per 100 inhabitants,⁷ growing by 4 percentage points over the year.

In the EU(27), 45% of active mobile lines were contracted ones and the remaining 55% related to pay as you go agreements, although distribution is very disparate in different countries. Pay as you go still continues to be the most popular option for consumers in the majority of countries although there has been a decrease regarding its relative importance. In Spain, contracts are more common, with 59% of lines.

⁵ This figure is calculated using the total number of datacards up to October 2009 and from Eurostat population data, which refers to non-updated INE data for 2009: 45,828,172 inhabitants. This penetration figure differs from that given by the CMT which is calculated using the total number of datacards up to December 2009 and the updated population figures: 46,745,807 inhabitants.

⁶ Mobile 2010, IDATE.

⁷ This figure is calculated using the total number of mobile lines and from Eurostat population data, which relates to non-updated INE data for 2009: 45,828,172 inhabitants. This penetration figure differs from that given by the CMT, which is calculated using the total number of datacards up to December 2009 and the updated population figures: 46,745,807 inhabitants.

d) Mergers and acquisitions

Over recent years there have been many mergers and acquisitions on a global level, led particularly by European and North American countries. The general trend was a reduction in the number of active operators and a subsequent increase in the international projection of the strongest operators who gained importance in a global environment that was becoming more and more deregulated.





Source: XV Informe de Implementación, Comisión Europea

Throughout 2009 however, and probably due to the global economic situation, a lower number of mergers and acquisitions occurred than in previous years.

On a European level, the European Commission approved the merger of Orange and T-Mobile in the United Kingdom, once the new body accepted to divest part of its portfolio. The operation was approved on the condition that the agreement was modified which existed with Hutchinson 3G, with the aim of ensuring a sufficient number of rivals in the market.

Telefónica has been the leader of many operations on an international level. On one hand it strengthened its ties with China Unicorn, one of the three largest network operators in China, obtaining 8% of their share capital and the Chinese operator obtained 0.89% of Telefónica's capital share. In November 2009 Telefónica also reached an agreement with Telecom Italia regarding the acquisition of the German broadband operator, Hansenet, for 900 million euros. This acquisition made Telefónica the number three communications operator (fixed and mobile) in Germany, as it already owned the operator O2 there.

In Spain, the sector that witnessed the most significant business activity was the television sector. The transition to DTT, the increase of the number of channels and television operators, the new law that governed the audiovisual sector and the financial crisis, which affected income from advertising, all played a part in re-configuring the map of television operators. Two large mergers were announced in 2009: one being the integration of Antenna 3 and La Sexta and the other between Telecinco and Cuatro where Telecinco is now under the control of Cuatro with a 22% participation in Sogecable. This latter company was still waiting to be approved by the national competition commission (Comisión Nacional de la Competencia - CNC). If both mergers were to occur, the number of national television operators would drop from 7 (in 2009) to 5 in 2010.

2.2. The sector in Spain

In a context of recession, and as with companies in other sectors, the telecommunications operators were affected by the weakness of demand and they reacted by reducing the margins of their end services and their levels of investment, which in 2009 reduced significantly. Throughout the year, the sector showed similar behaviour to the GDP; the maximum fall in activity was seen in the second quarter and the rates of reductions were less in the second half of the year. GDP, valued at market price, decreased 3.6% over the year whilst revenue for retail services in the electronic communications sector fell 4.9% over the same period.

During the year of crisis, consumers moved over to the services provided by operators with the best prices. Number porting reached record numbers in 2009 both for fixed lines (with an average of 123,000 ports per month) and mobile telephony (with more than 375,000 operator changes per month). The operators who did the best from this, regarding net balance from portability



YEAR ON YEAR VARIATION RATE OF GDP AT MARKET PRICES, OF END CONSUMPTION AND REVENUE FOR END SERVICES OF THE SECTOR

Source: INE and CMT

were the alternative and new operators due to the fact that they had more attractive consumer offers. In the well-established fixed line telephony market – the market which had recorded slight losses in lines and in net terms throughout the year - the alternative operators gained weight in the market thanks to the packaged offers that they launched, whether those packages were with broadband or subscription television, and the integrated products with fixed and mobile telephony in the same commercial offer. In the broadband market the alternative operators such as Jazztel and Vodafone were those who achieved the more favourable results. Regarding voice traffic, calls from fixed lines to mobile networks and to international destinations reduced, whilsttheservices included with flat-rate voice tariffs were increased. The usage of minutes with mobile networks fell in some quarters although at the end of the year mobile traffic stood at similar levels as the year before, and in 2009 it exceeded the voice traffic over fixed line networks. Regarding data traffic over mobile networks, the volume practically doubled in 2008, in parallel with the increase in the subscriptions to broadband services There was an increase in the penetration of both mobile telephony and broadband services over fixed and mobile networks. There was a considerable increase in the usage and penetration of the broadband over 3G/UMTS networks. The penetration of fixed line telephony decreased slightly with net losses of lines being recorded in this service, in particular in the commercial sector which was the most affected by the financial crisis.

In general, the prices for telecommunications end services decreased in 2009. The average price per minute for a call from a mobile network also reduced by 5.7%. The average turnover of a broadband connection over a fixed network decreased, due to client migration towards better offers from alternative operators and also due to the promotions that the operators with larger market share launched during the second part of the year.

Faced with the drop in household expenditure, companies reduced their margins and adjusted their prices on a retail level. As a reflection of this, the CPI of the economy decreased 0.3% in 2009. The services that fall under the sub-index of communications showed a somewhat larger decrease of 0.7% over the year.

- Revenue

The total revenue for the sector in 2009 was 41,765.35 million euros– a year on year reduction of 5.4%. The revenue for end services increased to 35,150.21 million euros- a decrease of 4.9%, and revenue for wholesale services which the operators supplied amongst each other decreased 8% to 6,615.13 million euros in 2009.

ANNUAL VARIATION RATE OF THE CPI AND THE COMMUNICATIONS INDEX (yearly average, 1992)



Source: INE

Year after year, from 2002 the revenue for end services was showing positive variation rates, although constantly decreasing. However, in 2009 the total volume fell, in absolute terms, for the first time. The trend for wholesale revenue on the other hand showed continual decreases since 2006.

If this trend of a continual fall in growth and the loss of revenue in 2009 is compared, over the same period of time, with the traffic trends of active lines or with the number of voice clients, broadband or subscription television, it can be seen that the total amount of lines of electronic communication services increases year



RETAIL AND WHOLESALE REVENUES IN THE TELECOMMUNICATIONS INDUSTRY (billions of euros)

Source: CMT

after year in parallel with a lower total revenue. This trend is relevant in the context of the 2009 economic crisis and although the crisis has affected end demand and in particular made consumers more cautious with overall spending, since 2006 the sector has shown a trend of increases in revenue that are less than the increases observed in the amount of actual units consumed. In 2009 some retail services -such as fixed line telephony -were more affected by the financial crisis than others. This particular service experienced an 8.3% fall in turnover and a decrease in its total infrastructure of inservice fixed lines. Revenue for Mobile telephony also decreased by 4.1%, despite the total increase in the number of lines. More noticeably, the television segment



DEVELOPMENT OF REVENUE FROM END SERVICES (billions of euros)

of the sector had 17.9% less turnover than in 2008; this decrease driven in particular by the decrease in revenue from advertising on free channels.

The revenue for broadband services over fixed lines increased by 2.2%, whilst there was a more significant increase in lines of 7.3%. The revenue for company

communications services recorded a year on year increase of 2.8%.

Over the period from 2002 to 2009 different services' weight in the market as a whole has varied significantly. In 2002 fixed line telephony made up 30% of the total revenue for end services in the sector and seven years later it only represented 17.5%. The other side of the

	2008	%/TOTAL 2008	2009	%/TOTAL 2009	VARIACIÓN 09-08
Telefonía fija	7.071,83	19,1%	6.485,21	18,5%	-8,3%
Telefonía móvil	15.067,67	40,8%	14.453,08	41,1%	-4,1%
Internet	3.846,48	10,4%	3.932,82	11,2%	2,2%
Servicios audiovisuales	5.531,45	15,0%	4.540,73	12,9%	-17,9%
Comunicaciones de empresa	1.476,11	4,0%	1.518,00	4,3%	2,8%
Venta y alquiler de terminales	1.687,71	4,6%	1.693,40	4,8%	0,3%
Otros	2.288,42	6,2%	2.526,98	7,2%	10,4%
Total servicios finales	36.969,67	100,0%	35.150,21	100,0%	-4,9%

Source: CMT

coin is that mobile telephony increased from 28.8% in 2002 to 39.1% in 2009, and broadband services, which made up 3.5% of total revenue increased to 10.6%. Although the calculations for each individual service is becoming progressively more difficult due to the fact that the services are being sold in packages – the difficulty being that it is hard to attribute the exact revenue for each individual service that is in a package – it is evident that in this market, services experiencing high growth can coexist with those that are in a phase of inactivity.

Revenue from the supply of services between operators, i.e. wholesale services, also decreased in 2009, in

keeping with the trends observed over the last three years. In 2009, these services made up 15.8% of the total turnover for the sector. The decrease seen in revenue was due to cross-connection services, in particular mobile networks, which are regulated and susceptible to periodic price reductions.

Over recent years the alternative operators have made use of the increase in access options for end users that have been introduced by the CMT. The 'shared loop with no basic telephone service' system and the 'wholesale access to the telephone line' (AMLT in Spanish) system, both of which facilitated the move of end clients over



EVOLUTION OF WHOLESALE SERVICES REVENUES (billions of euros)

Source: CMT

to alternative operators, became even more significant in 2009. As a consequence, Telefónica's wholesale revenue increased for this group of services.

The cross-connection services (services with the most weight within the group of wholesale services) were the ones to decrease. Specifically, cross-connection in mobile networks was what mainly led to this decrease, both in the national termination service – with a decrease of 19.7% - and in international roaming, the revenue for which fell 29.2%. These two services are regulated:

national termination of voice services is regulated by the CMT and the roaming service within the EU(27) is regulated by the European Commission. Both have been subject to significant price reductions.

One service that did experience expansion was that of transport and diffusion of the television signal, with an annual growth rate over the last four years equivalent to 12.3%. Both 2008 and 2009 were both positive years due to the migration to DTT throughout the country. This was the driver behind the annual growth figure of 7.9%.

	2008	%/TOTAL 2008	2009	%/TOTAL 2009	VARIACIÓN 09-08
Cross-connection services	5.418,16	75,4%	4.746,13	71,7%	-12,4%
Rental of circuits and data transmission	708,91	9,9%	721,40	10,9%	1,8%
ADSL services	341,39	4,7%	348,49	5,3%	2,1%
Transmission of TV signal	406,64	5,7%	438,76	6,6%	7,9%
Other	312,95	4,4%	360,35	5,4%	15,1%
Total	7.188,07	100,0%	6.615,13	100,0%	-8,0%

REVENUE FOR WHOLESALE SERVICES 2008-2009 AND VARIATION RATES (billions of euros and percentage)

Source: CMT

- Penetration of services

The demand for new mobile or broadband access continued to increase in Spain in 2009. Also, the penetration of mobile lines stood at 109.3 per 100 inhabitants at the end of 2009 and broadband over fixed lines was at 21⁸ [per 100 inhabitants]. However, subscriber penetration for subscription television decreased slightly, as did the penetration of fixed telephone lines, the total infrastructure of which registered a loss of 242,252 lines

in the year, particularly in the business sector and more specifically in the small and medium businesses.

If we analyse the penetration of end services in homes from the point of view of the size of town or locality, it can be seen that in small towns the penetration of any end service, whether it is broadband, voice or subscription television, is less that the national average. Broadband and subscription TV for example reach relatively high penetration levels and are quite similar to each other in towns with 50,000 or more inhabitants.





Source: CMT

⁸ Penetration values calculated by the CMT using the total number of mobile lines and broadband, and the population data in 2009: 46,745,807 inhabitants (according to INE sources). Theses penetration figures differ to those supplied by the European Commission in the XV *Implementation Report* as they use the population data provided by Eurostat (data is not updated by the INE for 2009: 45,828,172 inhabitants)

The development of broadband connections in Spain increased considerably throughout the year. The increase in connections supported by fixed networks was 7.3% which placed the volume of end lines for 2009 at 9.8

million. Broadband lines over mobile networks, measured by the number of datacards, increased by 65% and reached a total of almost two million dedicated accesses by the end of the year.

PENETRATION OF FINAL SERVICES ACROSS SPANISH HOUSEHOLDS BY SIZE OF HABITAT (%/households)



Source: CMT-Red.es household panel

If you look at both dedicated access over fixed networks and mobile networks, the figure stands at a total of 11.8 million; 16.7% of which is supported by 3G/UMTS networks.

EVOLUTION OF DEDICATED (BROADBAND) ACCESS LINES OVER FIXED AND MOBILE (DATACARD) NETWORKS (by millions of broadband and % of datacards/total)



- Investment

The financial crisis had a noticeable impact on companies' investment ability. Despite the low interest rates, many companies, and in particular small and medium sized ones, had difficulty in getting access to credit, which together with the fall in overall demand and the negative short-term forecasts, led to the reduction of total investments in quite a significant manner. The gross capital formation (fixed) in the Spanish economy decreased by 18.3% in 2009.

The volume of total investment in the electronic communications sector decreased over the two years for almost all operators. The most noticeable fall was in 2009, the year in which investment reached a total of 4,276.68 million euros, including operators in the audiovisual segment. This figure meant a decrease of 17.3% regarding 2008, when investment registered a year on year decrease of 10.6%.

In 2009, Telefónica de España and Vodafone reduced their investments by approximately 13% each. Movistar





Source: INE and CMT

and Orange made reductions of some 20%, and Ono and the other cable operators reduced their investments by at least 30%. Only a few operators increased investments,

Jazztel being one such operator who increased their investments by 32.7%.



INVESTMENT AND YEAR ON YEAR VARIATION RATE PER OPERATOR (by millions of euros and percentage)

Source: CMT

- Employment

Direct employment in the electronic communications sector stood at 80,080 employees, with a 2% reduction over the year. Cable operators such as ONO and alternative operators such as Jazztel and BT, as well telephone information service providers decreased their

number of employees over the year. Given the decrease seen in turnover in the audiovisual sector and for some private operators too, the tightening of employment in this sector has not been as noticeable as has been seen in the economy as a whole.



- Packaging of services

The overall procurement of various end services by a user, as well as the introduction of new packages by operators were two clear agents for development in 2009 and they affected the main business lines: fixed network voice services and mobile services, access to broadband and television. The number of total packages

in 2009 increased to 9.2 million - an increase over the year of 742,702. This increase was particularly due to the migration of clients who had contracted fixed line telephony services as a stand alone service and moved to double packages of fixed line and broadband. The triple package also became more prominent in the market with 145,096 more net sign-ups in the year.

NUMBER OF BUNDLES SOLD OVER FIXED NETWORKS (lines or subscribers)



Source: CMT

44.6% of the fixed telephone lines were packaged with another service at the end of 2009, in particular with broadband services. In the same way, almost half of those with subscriber television (48.2%) had another contract with a different electronic communications service as well. Regarding broadband lines, 9 out of 10 were packaged with another service.

If we analyse the commercial packaging according to the type of operator, a similar strategy is seen regarding the joint sale of services with the aim of covering all the end users' needs. As well as this, operators started to include line rental in the packaged offers, using the different types of services regulated by the CMT. Only 23.5% of cable operator clients had another service contracted

on its own, and these operators intensely promoted subscriber TV as a component of their packages –almost half their clients have this service as part of a package. On the other hand, the alternative operators were the most successful when it came to double packages of broadband and voice services all for a flat-rate tariff, with 69.4% of their clients opting for this choice. Lastly, Telefónica increased their number of packaged clients by 7.7 percentage points, above all using double packages of broadband and voice services.

Year after year more intensity is seen in the take-up of packaged services, although a detailed analysis of the distribution of contracted services per Spanish home has evidenced some limits of this trend under current



BUNDLES IN THE RESIDENTIAL SEGMENT BY TYPE OF OPERATOR (%/total clients)

Source: CMT

market conditions. Twenty seven percent (27%) of the homes in Spain contracted a single access option: 10% only had fixed access whilst 17% only had mobile access. In the first case, these are homes where the inhabitants are older, and in the second instance they are homes in towns with few inhabitants and their main declarant is young.

- Expenditure in the most demanded services

The average expenditures per home are analysed below using a sample of representative homes, by service and by the most significant type of contract.

In 2009, 54% of homes contracted an Internet service, and the majority of these with a high-speed connection. Of these, more than 90% had the service packaged with one other, mainly fixed line telephone services. The average payment made at the end of 2009 by a representative household under a contract for broadband and voice services, with access to, or rental of a fixed line included, was 42.80 euros a month. The alternative operators were those offering the lowest prices for this type of group of services, especially if they did so based on direct access.

Almost half the Spanish homes that had subscriber TV in 2009 had it contracted in some packaged form with voice services and broadband, and on many occasions with line rental also included. Although the television

service offered by the different operators varied a lot depending on the number of accessible channels or the potential for contracting additional services, the average price in Spain for the group of voice services, broadband and subscriber television with access to, or rental of line included, stood at 54.2 euros a month. The average price differential for contracting the subscription television service, on top of the voice services and broadband, was 11.40 euros a month.

Forty one percent (41%) of the users of mobile telephony in Spain were under contract (not pay as you go). The average use of contracted mobile services per home was 37.90 euros per month, in contrast with homes using pay as you go, who paid 23.70 euros a month, and showed a lower degree of usage.

3. INDUSTRY ANALYSIS IN SPAIN

⁹ Data obtained by the CMT-Red.es Household Panel.

¹⁰ In this section data is used from the CMT-Red.es Household Panel, except when otherwise indicated.

¹¹ Penetration data obtained from Uso TIC en los hogares, INE, October 2009. (Use of ICT in the home).



AVERAGE MONTHLY SPEND PER HOME ON THE MAIN CONTACTED SERVICES (euros/month)

Source: Panel de Hogares CMT-Red.es

3.1. Infrastructure

a) Fixed-line access

Fixed-line access made up the main type of user access for offering voice and data services. In 2009 access installed over copper pair was more numerous: 15.9 million accesses, with a slight decrease regarding 2008. It should be pointed out that the majority of the voice and data services of the main operator and the alternative xDSL operators were supplied over copper pair access.

This traditional copper pair access (from the subscriber to an exchange) is not currently the only form of accessing users via xDSL technology. As well as conventional exchanges, there are other components in the network, known as remote nodes, which generally lead to a few hundred loops and there can be multiple remote nodes within the area of an exchange. These components are rolled-out well to improve the broadband services in certain areas that are dependent on one exchange, or to supply new urban areas. In this way, broadband Internet access services are supplied to these loops from the remote nodes, providing an improvement in speed in comparison with what would be the case if the service were supplied from the exchange over the length of the loops. At the end of 2009, a total of 4,376 remote nodes were recorded in the network, with 657,489 dependent loops. 12

At the same time, the process of network transformation started up by Telefónica includes fibre optic access to the subscriber (FTTH). In this regards, Telefónica and other operators are carrying out new fibre-optic networkaccess rollouts. In this process of rollout of a new access network by Telefónica, by the end of December 2009 this type of access had been rolled out in 190 exchanges with some 350,000 homes linked up.

On the other hand, the cable access installed continued to develop and at the end of 2009 there were 8.8 million accesses – an increase of 1.6% regarding 2008. Regarding the capacity for increasing the services offered by the cable networks (HFC), it is necessary to highlight the progressive widening of these networks by cable operators, via the installation of new equipment and accesses with DOCSIS 3.0 technology, which allows for speeds over 100Mbps.

In terms of percentages, access installed over copper pair represents almost 60.1% of fixed line access, whilst installation of HFC access by the cable operators ended the year with a share of 33.2%. Lastly, of note was the advance of access installed over fibre optic with 419,939 new accesses and a growth of 69.5% in the year 2009.

¹² Occupied pairs plus vacant ones.

The following graph shows the total development of fibre optic and HFC access. The year 2009 ended with a total of 9.8 million accesses installed over this support type – representing an increase of 6.1% regarding 2008.

The breakdown of HFC and fibre optic accesses installed per operator shows that the cable operator Ono, with its own network rollout over a large area of the country, reached a market share of 70.3% of accesses, which

TYPE OF ACCESS INSTALLED¹³

2006 16.697.495 7.740.866 353.580	2007 16.325.077 8.253.892 436.783	2008 16.100.379 8.637.974	2009 15.865.857 8.779.233
7.740.866	8.253.892	8.637.974	8.779.233
353 580	136 783	000 1 000	
000.000	430.765	604.620	1.024.559
511.539	580.685	631.431	720.504
8.058	6.834	12.252	13.492
23 870	16.872	8.447	11.857
		8.058 6.834 23.870 16.872	

Source: CMT

in this case are HFC cable-copper pair. The remaining regional cable operators with rollouts in specific areas of the country amassed a joint share of 19.9% of accesses.

Lastly, Telefónica ended 2009 with 9.9% of accesses installed over fibre optic cable, mainly directed to the business sector.



¹³ The data corresponding to radio access and others in 2006 and 2007 and for FTTx access in 2008 have been modified. The copper pair accesses installed do not include the vacant copper pairs. Regarding radio access, accesses installed with LMDS, WiMAX and Wi-Fi technologies are included.

Regarding access to the retail market for alternative xDSL operators, the unbundled loop remained prominent and increased by 26.82% in 2009 to stand at a total of 2,153,795 loops.

Total unbundling of the loop or shared loop without a Telefónica telephone service continued to increase over 2009. In this way, these two systems as a whole increased 55.7% in the last year and ended 2009 with 1,706,127



DEVELOPMENT OF HFC, HFC-COOPER PAIR AND FIBRE OPTIC ACCESS INSTALLED (in thousands accesses)

Source: CMT

loops. The operators who made use of this option offered the different voice and data services over copper pair without using the Telefónica telephone service. In contrary to this, the rest of the loops corresponding to the shared unbundled loop recorded a decrease of 25.7%.

b) Mobile network access

Over the last years, mobile operators have made a significant effort in investing in the rollout of their

3G technology networks. An example of this was the number of UMTS base stations announced in 2009 – 31,304 active stations – which made up 37.7% of the total stations rolled out in Spain. However, the growth rates last year were more reduced than in previous years: the 3G base stations installed in 2008 increased 14.3% whilst in 2009 the increase was 19.7%.



SHARE OF HFC, HFC-COOPER PAIR AND FIBRE OPTIC ACCESS INSTALLED PER OPERATOR

NUMBER OF GSM/GPRS AND 3G/UMTS BASE STATIONS



Source: CMT

The geographical distribution of the 3G base stations in Spain is shown below.

The increase in 3G stations had the direct consequence of seeing an increase in the population covered by this type of technology. The following image shows, per

province, the mobile network with a higher degree of 3G service coverage, in accordance with minimum quality-



GEOGRAPHICAL DISTRIBUTION OF 3G/UMTS BASE STATIONS

¹⁴ The coverage of 3G services insures a data traffic speed of over 300Kbps.



POPULATIONS WITH ACCESS TO THIRD GENERATION NETWORKS (UMTS/HSDPA)¹⁵ (percentage)

standard requirements.¹⁴ In general, the provinces with the highest urban population concentration had better 3G network coverage.

In accordance with the data provided by the four mobile operators with their own network, 91.4% of the Spanish population is covered by at least one third generation network.



POPULATION COVERED BY AT LEAST ONE 3G NETWORK (total % of population)

Source: CMT

¹⁵ The intervals have been fixed from the average \pm standard deviation. In the case of the lower and higher ends, they are determined by the minimum and maximum values respectively.

3.2 Fixed communications

3.2.1. Retail services

a) Fixed line telephony

The end telephony services over fixed networks maintained a similar performance in 2009 as they had done over previous years: decrease in the volume of turnover and overall weighting, and slight but constant reduction of the volume of traffic generated, except for national calls where the appearance of flat-rate tariffs led to a slightly higher usage.

The adverse macroeconomic context had a particular impact on the business sector where a notable fall in the number of lines was recorded. During the year, the total infrastructure was reduced to 242,252 fixed lines even when in the residential segment there was a slight increase of lines at the end of the year.

Telefónica was the operator that registered the highest loss of lines, the majority of which were taken up by the alternative operators, in particular Orange, Jazztel and Vodafone. The regulatory mechanisms established by the CMT, which consisted in the unbundling of the loop and rental of the loop with no basic telephone service, were used more intensely by the alternative operators. Thanks to the push of its broadband offer, Jazztel registered an increase in the number of direct access clients as it packaged voice services with broadband. Orange captured a significant section of direct access clients using unbundling of the loop without basic telephone services, but offering telephone VoIP and packaging it with broadband.

Vodafone, for their part opted for innovative products which, using the mobile network, offered fixed voice and mobile services in the same commercial offer. This type of product had an important place in the market.

Another noteworthy aspect was the migration of clients from the offers for time spent, to flat-rate tariffs, which allowed unlimited use for a fixed monthly cost. In December 2009 eight and a half million clients were contracted on a flat-rate voice tariff.

As a consequence of the migration of clients from fixed lines between operators, the portability of fixed lines increased significantly in 2009, with an average of 123,703 monthly line migrations.

- Revenue





The total revenue derived from fixed line telephony reached 6,485 million euro. This represented 18.5% of the total revenue per end services generated by the system as a whole. 49.4% of the revenue from fixed line telephony related to connection or access services (sign-up fees, monthly charges, supplementary facilities, etc.) and the rest to traffic services. The revenue from traffic consolidated the falling trend of recent years. This trend can be explained by the fact that the majority of users are changing from offers based on tariffs for time spent, to flat-rate voice tariffs - which reduces operator revenue - and also from the fall in traffic. t

Revenue from access reduced slightly over the year - to a lesser degree than revenue from traffic. When looking at revenue from access, of note is the increase in revenue due to supplementary facilities which included charging for automatic answer phone services and call redirection. The revenue obtained from line rental, included in the revenue from monthly fees, remained constant over time.

Revenue generated from voice traffic services, without taking into consideration the narrowband Internet services or other traffic, fell 9.9% overall in comparison

with 2008. This decrease is explained by a decrease in the total number of fixed lines, above all in the business sector, due to a reduction in the price of calls from fixed lines, and by less usage of the service, as the traffic data shows. During 2009 the usage minutes per line for the business sector fell, whilst in the residential sector they increased 1.6%.

When breaking down the revenue by type of traffic it can be seen that it all decreased in 2009. The main decrease was registered in revenue from internationally destined traffic, which decreased 14.2%. This reduction is in accordance with the figures registered for the total amount of international minutes - 14.6%. On the other hand however, the revenue from traffic to a national fixed network decreased 2%; this type of traffic was the one which noted the smallest fall in comparison with the previous year.

The decreasing trend both in revenue and minutes used had repercussions in the average revenue per type of call. Although the average revenue per minute is an average of the different types of tariffs existing in the market (flat-rate tariffs, special discounts and average traffic for time), it is a good approximation of the average



DEVELOPMENT OF REVENUE BY TRAFFIC SERVICES (millions of euros)

Source: CMT

 $^{^{\}rm 16}\,$ Includes shares and traffic, does not include the section others.


EVOLUTION OF TRAFFIC REVENUES AND TYPE OF CONTRACTING¹⁷

(millions of euros)

Source: CMT

price per minute. In 2009 the average revenue received by the operators per type of call fell, particularly for national calls, with a 4.7% reduction in average revenue.

The average revenue per call to a mobile network also fell by 6.8%, as a consequence of the reduction of total traffic to mobile networks. This is explained by the price differential that exists between calls from a fixed network to a mobile network and those calls made between mobile networks, which are lower in price.

The revenue from the residential sector developed differently to that from the business segment as the latter was strongly influenced by the negative economic situation. The clearest fall was seen in revenue derived directly from traffic. The year on year fall of revenue oscillated between 11.5% in revenue from callstonational fixed lines and 15.7% in revenue from international long distance calls. The revenue for the residential sector showed a similar trend to that seen in the business segment, although the reductions were not as steep, except for revenue for traffic to national numbers which

increased 7.8%, suggesting an opposite trend to that seen in the business sector.

As occurred over previous years, in 2009 the revenue from traffic per flat-rate tariff increased its weight regarding the total revenue from traffic. In 2008 the weight of this revenue was 27.5% whilst in 2009 this percentage increased to 34.1%. This substitution between tariffs was very clear in the residential market where the revenue from flat-rate traffic went from 43.3% in 2008 to 51.8% in 2009.

- Fixed telephone lines and penetration

At the end of 2009, the number of in-service fixed telephone lines was 20.3 million -1.2% less than the previous year. The business segment recorded a higher fall of 3.6%. For their part the residential segment barely saw any variation: the total infrastructure of fixed residential lines stood at 13.2 million at the end of 2009, 0.2% more than in 2008.

¹⁷ Revenue for traffic takes into consideration the revenue for traffic to fixed national lines, mobiles and international lines.

The penetration of fixed telephone lines per inhabitant, defined as the number of active lines in the whole residential and business sector per 100 inhabitants was 43.5. The penetration figure is somewhat less than that obtained in 2008: this is due to the net loss of lines in the business segment and an increase in population of more than half a million inhabitants in 2009.

The total infrastructure of residential fixed lines registered an increase of 24,141 lines -0.2% more than in 2008. In the business sector, the total infrastructure of lines decreased by 266,393, as a consequence of the breakdown of small and medium sized companies which occurred over the course of the year.

The development of the total infrastructure of Telefónica lines showed a clear downward trend with a reduction of 1,232,036 lines. This decrease was much more

significant than that recorded in 2008 which was of 642,009 lines. In the business segment, Telefónica lost 557,263 lines, but it was the residential segment where the alternative operators managed to capture a higher number of lines from Telefónica - Telefónica lost 674,773 lines and the alternative operators gained 698,914 lines.

There are many reasons to explain the transfer of lines between the incumbent operator and the alternative operators. The main explanation could be due to the development of the wholesale market and its regulation. The unbundling of the subscriber loop, and in particular the complete unbundling and shared unbundling without basic telephone service allowed the alternative operators to capture clients and offer them a group of services at competitive prices. The 441,407 increase in



LINES AND PENETRATION PER FIXED TELEPHONE LINE USER (millions of lines)

Source: CMT

totally unbundled loops and increase of 168,821 loops without basic telephone service that occurred in 2009 reflects the clear strategy on behalf of the operators to get as close as possible to the end client. The wholesale access to the telephone line (AMLT in Spanish), was another regulatory measure on a wholesale level, driven by the CMT which allowed operators to offer access services and voice traffic simultaneously. In other words, using this option the operators could bill





Source: CMT

their clients the monthly fee, which until now was always billed by Telefónica, and the cost of voice traffic, all in one bill. At the end of the year a total of 104,997 lines with AMLT service were recorded in the market; Orange and BT España were the operators that used this option the most.





Source: CMT

¹⁸ The intervals have been fixed using the average ± standard deviation. In the case of the lower and higher ends, they are determined by the minimum and maximum values respectively.

In the retail field, the main new factors were the consolidation of the packaged services, and offers based on usage of the mobile network to supply fixed line telephone services. Both types of product managed to increase the competitive pressure that the alternative operators were exercising.

Throughout 2009 the operators continued to launch packaged offers with voice and broadband services and some also included multi-channel subscriber television. The packaged offered pushed the costs down for the user for these services if they contracted them on their own. Yet considering the negative macroeconomic situation, the generalisation of these offers allowed for any sharp reduction of the total infrastructure of fixed residential lines to be avoided. Additionally, the increase of packaged offers and the increase of unbundled loops without basic telephone access meant that VoIP lines increased by 20.5% over the year.

- Clients

A service provider can offer two types of fixed telephony services; the offer of access to the client via their own network or via an unbundled loop (direct access), or via an indirect access service for which the operator does not have their own network to lead to the client but they can offer end services using the main operator's network –with regulated prices and conditions. In these cases the subscriber is captured via operator pre-selection.

In terms of the number of clients with fixed line telephone services (a client can avail of various lines, particularly a client in the business segment), at the end of 2009 there were 16 million clients; of whom 93% had direct access and the remaining 7% had indirect access. There was a significant decrease over the year of 20.9% in the number of indirect access clients and the increase of direct access clients.

The number of clients with indirect access is clearly decreasing and in 2009 the figure stood at little more than a million clients. This development follows the same trend that was seen for the pre-selected lines. The main reasons that explain this movement are:

- The increase in the unbundled loop (be it complete services or shared service without basic telephone), allowed for the alternative operators (Jazztel and Orange in particular) to take over Telefónica's clients with the use of packaged offers.

- The peak of the convergent products – which included fixed and mobile telephone services in the same commercial offer – allowed for the operators that had a mobile network to offer traditional fixed line telephony services.

- Wholesale access to the telephone line allowed for the pre-selected clients to leave their access with the main operator and move over to having all their services contracted with the alternative operator.

In 2009 Telefónica lost 7.4% of their direct access clients, who were mainly captured by alternative operators.

In this respect Jazztel, Orange (which includes Ya.com) and Vodafone all stand out as they managed to significantly increase their direct access client base.

NUMBER OF CLIENTS PER SEGEMENT IN 2009					
	RESIDENTIAL	% / TOTAL	BUSINESSES	% / TOTAL	TOTAL
Direct Access	12.324.283	82,7%	2.569.698	17,3%	14.893.981
Indirect Access	933.694	83,5%	183.855	16,5%	1.117.549

Source: CMT



DEVELOPMENT OF CLIENTS WITH DIRECT AND INDIRECT ACCESS (millions)

Source: CMT

This trend is in keeping with that registered in the period from 2005-2009 during which Telefónica lost 1.6 million clients whilst the rest of the operators won 2.5 [million]; although large part of the gains for the alternative operators were due to the migration of clients that had be won with indirect access.

The strategies that the alternative operators used to obtain these results were diverse. Vodafone, as well as having a client base with Tele2 and Comunitel clients, based their strategy on the launch of innovative products that combined fixed and mobile telephony in one terminal and which used the mobile network as a support for the traditional fixed line telephone service. Orange opted for promoting offers based on VoIP.

- Pre-selection and portability

Pre-selection and portability are two mechanisms that have allowed for the promotion of competition in the voice over fixed network market. The growing share of direct access clients with alternative operators has seen a decrease in the use of pre-selection, as it is linked to the number of indirect access clients. At the same time, it has produced an increase in the use of portability. In 2009 portability recorded the highest figures since it was introduced.

- Pre-selection

Choosing an operator allows a user that is contracted with Telefónica to use specific types of traffic with an alternative operator. They can carry out call to call, on a permanent basis via pre-selection. During the first years of the market freeing up, this option made it easier for the operators who were entering the market with their indirect access offers to win over clients. This facility has now decreased its presence in the market.

In 2009, the volume of pre-selection lines decreased to 1.2million which meant a reduction of 21.7% regarding the previous year. The downward trend that the series of pre-selection lines shows is due to the operators that have invested in the unbundling of the loop, or, in other words, in direct access.

- Portability



GAINS AND LOSSES OF DIRECT ACCESS CLIENTS (thousands of clients)

Source: CMT

Portability is a mechanism that facilitates changing the operator that supplies telephone services, without the need for the subscriber to change their number. In 2009 1.48 million fixed lines were ported with the subsequent conservation of the initial number the client was assigned with. This figure meant a substantial increase of 31.2% regarding the volume of ports carried out in 2008. Throughout 2009 the average amount of ports of fixed line numbers on a monthly basis was 123,703. In 2009 consumers moved to operators with more affordable offers, in particular the alternative operators. These operators offered packaged products at attractive prices.

In 2009 the migration of indirect access to direct access was very significant which explains the increase in the volume of number ports that took place over the year.

The volume of lines that an operator imported from the other operators, less the volume of lines that that operator exported to other operators, in other words the net balance of ports per operator, showed a net loss for Telefónica of 810,863 lines in the year. The operator that had the most number lines ported over was Vodafone with 271,233 lines. Jazztel and Orange also had a positive balance of ports with a gain of 255,803 and 208,800 lines respectively. For their part, the cable operators had positive balances although their gains were substantially lower than for the alternative operators.



Source: CMT

- Traffic

The total amount of traffic continued its downward trend for another year since the decrease started in 2009, with a 4.2% year on year decrease. It is worthy of note that due to the economic context of 2009, fixed line telephone traffic showed results parallel to those

NET BALANCE OF PORTABILITY PER OPERATOR (by thousands of lines)



Source: CMT

registered for mobile traffic, which also decreased slightly. For this reason, the volume of traffic registered for fixed line telephone services should be looked at within the generalised decrease in voice traffic services.

In this way a sustained fall in line traffic has been seen since 2003. It is necessary to point out that this trend began to slow in 2006 and stood at 3,467 minutes per line in 2009. If this development is studied per segment, it can be seen that the traffic per line for business fell, whilst the residential segment increased 1.6%.

The development of the different type of traffic over the fixed networks was affected by the economic crisis. International line traffic decreased in 2009 by 14.6% whilst traffic to mobiles decreased by 10.1%. For its part, national voice traffic increased by 2.8%.

MINUTES PER LINE, YEAR AND SEGMENT (minutes/line)



Source: CMT

Voice traffic between fixed and mobile networks

In 2009 voice traffic between fixed and mobile networks registered a slight backward step regarding development

seen in previous years. In particular, traffic from a fixed network, not including Internet traffic, fell 0.7%. Traffic from mobile networks also had a similar fall in relative

If we analyze mobile traffic per segment, the business segment was the one that contracted the most demand. On the other hand, the residential segment only showed a slight fall. The traffic to intelligent networks also showed a slight fall regarding the total traffic in 2008.



DEVELOPMENT OF TRAFFIC ORIGINATING FROM A FIXED NETWORKA (in billions of minutes)

Source: CMT

terms. In the period from 2002 to 2008, traffic from mobile networks had never recorded negative figures, however 2009 was the first year in which this happened. Despite this, for the first time, traffic from mobile networks exceeded the volume from fixed networks.

The development of traffic between fixed networks and mobile networks was affected by the launch of offers that included discounts for calls between a fixed number and various mobiles, as long as they all were with the same operator, generally for a fixed payment. Telefónica and Orange were, amongst others, the two operators that competed in the market with this type of offer and they managed to decrease the negative adjustment of the demand for this type of traffic by consumers.

- Desarrollo del mercado: empaquetamientos de la voz, Voz IP y servicios convergentes

Voice packages



EVOLUTION OF TRAFFIC FLOWS BY ORIGIN AND DESTINATION NETWORK¹⁹ (in billions of minutes)

Source: CMT

In keeping with the trend started in 2006, the packaging of services also increased in 2009. In the residential segment it was seen that at the end of 2009, 59% of the lines contracted voice packages, whilst in 2008 this figure stood at 53.9%. The generalisation of the packages in the fixed telephony market meant an increase in the proportion of homes that had voice service contracts over flat-rate tariffs, basically to national fixed lines.

In 2009 the package that had the most weight in the market was the one that offered voice services

together with broadband. According to the CMT-Red.es Household Panel, the average spent by a household for contracting fixed voice services together with broadband was 34 euros per month, not including line rental. If line rental was added to this group of services, the cost rose to 42.80 euros per month.

Voice IP

During 2009 the alternative operators that used the wholesale methods of renting the loops with a basic



Source: CMT

¹⁹ The fixed-fixed traffic does not include local calls to narrowband Internet. Traffic from mobile networks is calculated in airtime minutes and does not include roaming traffic.

telephone service and the completely unbundled loop, tended to supply fixed voice with IP technology services. In the residential segment, the migration to VoIP lines has intensified over recent years, above all due to the expansion of packaged offers. It should be pointed out that the VoIP lines calculated by the CMT do not include Internet lines used by applications that allow telephone calls to be made over the internet (voice over Internet).

In 2009 two operators chose to use VoIP as an alternative to the traditional option. Orange was the operator with the most VoIP lines with 48.2% of the total. Vodafone





Source: CMT

was next with 47.7% of the lines and Telefónica was the third operator with 1.2% of the market share.

Convergent services: combination of fixed telephony and mobile services

During 2009 the services that combined fixed and mobile telephony in the same commercial offer and in one terminal achieved a significant presence in the market, increasing their total line infrastructure by 131%. This involves products that offer services with characteristics similar to those of fixed line telephony but that are offered over a mobile platform.

These products had a clear presence in the business segment of the market, representing 4.5% of the total of fixed lines. The year on year variation was 50.3%, which shows how well received they were.

There are notable differences between the different products. In the residential segment for example there is a product that allows for the use of a fixed number to avail of a fixed voice service, but which uses a mobile platform to supply it. Strictly speaking it is not a mobile service as it does not allow for the use of a mobile number or the associated mobility. This service reached 282,026 lines at the end of the year, 2.1% of the total of residential fixed lines. For consumers, this product had great appeal as it offered the same services as the traditional telephony service but without having to pay line rental. Also, this product was marketed with fixed broadband access services as an optional extra.

Another product was also launched in this same market segment which, as well as providing voice services with a fixed number and with a tariff structure similar to that already on the market, it also included mobile telephone services. In other words, it added service mobility as it allowed for the usage of the geographical number and the mobile number simultaneously with one terminal. The impact in 2009 of this service was still limited. In the business sector this type of product that combined fixed voice services and mobile services at the same time was even more popular. The subscribers to this type of service could make calls to a national number or a mobile, make mobile broadband connections and send messages. The business segment of the sector took up a lot of these types of products, which meant that by the end of 2009 they represented 4.5% of the total number of lines in this segment.

The origin of the revenue from the group of services that make up fixed and mobile telephony in the same



CONVERGENT SERVICES AND THEIR RELEVANCE IN THE FIXED TELEPHONY MARKET (measured by number of retail lines)

Source: CMT

commercial offer was varied due to the different services that are supplied via these products. The revenue for voice services based on tariffs for time spent represented 58.8%, followed by the revenue for flat-rate voice tariffs at 18.4%. The subscription payments and the monthly payments represented 8.7% of the total revenue obtained from these services. The revenue for data traffic, international roaming and sending messages made up the rest of the revenue figures.

- Development of prices

The development of prices for fixed line telephony services was marked by the increasingly generalised use of flat-rate tariffs. During 2009 more than 8.5 million clients chose an offer based on a flat-rate tariff, which represented 53% of the total client infrastructure.

Forty seven percent (47%) of residential voice clients that were not contracted under a flat-rate tariff used a price model that was based on the traffic used, depending on the time of day, duration and the destination of the call.

Due to the diverse types of tariffs for voice services that the different operators use, it is more and more difficult to get a representative price for each service unit. To be able to obtain a good estimate of the prices for voice services, it is usual practice to use the average revenue per minute. The increase in the use of flat-rate tariffs translates into a slight decrease from the average revenue, which for national fixed-line traffic stood at 2.3 cents per minute.

On the 1st of October 2009 Telefónica modified their tariffs that were calculated by time, increasing the nominal price of metropolitan traffic and reducing





Source: CMT

the provincial call tariff. With this change Telefónica made the prices for metropolitan, provincial and interprovincial calls the same, which thereby established a single tariff for calls to fixed national lines. There was only a differentiation between the off-peak times and peak times. This change followed the tariff plans seen in other European countries.

Throughout 2009 the operators launched price discounts onto the market for calls to mobiles. This type of discount materialised in two ways. On one hand the majority of operators offered a fixed price for a number of minutes to a mobile network. On the other, certain operators, taking advantage of the presence that they had both in the fixed telephony market and in the mobile telephony market, launched offers that made them attractive in both markets. To be able to carry out their strategy they included the option of getting a discount on calls between fixed telephone lines and some mobiles in their double and triple packages, for a fixed monthly fee. The average revenue from mobile traffic also decreased, due to a reduction in the regulated wholesale price for

termination in a mobile network. The result was that there was a reduction in the average revenue from 19.2 cents per minute in 2008 to 17.9 cents per minute in 2009.

- Market shares

In 2009 the market share of the historical operator decreased. The alternative operators, both cable and xDSL increased their market share regarding the number of direct access clients and regarding traffic.

Per number of direct access clients, Telefónica held a market share of 69.2%, down 5.8 percentage points in a year. The cable operators held 16.8% of the total of direct access clients, mainly in the residential segment. The rest of the alternative operators had a 14% share, which meant that they had considerably increased their share of clients in one year.

Specifically, if we analyse the market shares on an individual operator basis in terms of direct access clients, it can be see that Telefónica continues to maintain a



MARKET SHARES FOR DIRECT ACCESS CLIENTS (percentage)

Source: CMT

significant share although this is reducing over time. Ono continues to be the second operator in the market with 12.2% of the total share. Vodafone substantially increased its number of direct access clients thanks to the convergent offers that it launched to the market and it achieved 5.4%, which pushed it up into third place. Jazztel and Orange increased their market shares thanks to the strategy they adopted of investing in the unbundling of the loop, whilst the regional cable operators maintained their share regarding that obtained in 2008.

Indirect access as a method of capturing clients continues to decrease. As mentioned, in 2009 there was a clear migration of indirect access clients to direct



Source: CMT

access by the main alternative operators, in particular Orange, Vodafone and Jazztel. After its merger with Ya.com, Orange continued to be the operator with the most amount of indirect access clients, with 55.2% of the total. The following graph shows the breakdown per operator of the market share for clients using this option.

In 2009 Telefónica continued to lead the market regarding total amount of traffic, with a share of 60.8%.

MARKET SHARE OF INDIRECT ACCESS CLIENTS IN 2009 (percentage)



Source: CMT

Cable operators increased their share from 15.7% in 2008 to 16% in 2009. The rest of the operators also increased their market share and obtained 23.2%.

The market share for Telefónica for revenue from traffic decreased four points regarding the previous year.

MARKET SHARE BY TRAFFIC (percentage)



Source: CMT

However, as was the case with the lines and clients, the alternative operators gained weighting in the market.

b) Company communications



MARKET SHARE BY REVENUE FROM TRAFFIC (percentage)

Source:CMT

Company communications are made up of circuit rental services, data transmission and corporative communications, all of which are directed to the business segment. This sector generated 1,518 million euro of business which meant a year on year increase of 2.8%.

The increase in circuit rental which recorded an 11% variation, contributed in large part to this increase. The breakdown of rented circuits revealed that from the total 456.8 million euros in turnover, 47.4% of that was for Ethernet circuits, with a year on year increase of 9.8%, perhaps as a consequence of the regulation of this type of circuit in the reference offer for hired lines (ORLA in Spanish) in 2007. The revenue

generated from traditional circuits remained virtually the same. Telefónica held 67.9% of the market share regarding revenue from circuits. The second operator with significant participation was Ono, with 6.2% of the market share, followed by Euskaltel with 5.9%.

Data transmission services also increased by 1.4%. If the revenue for this is analysed on an operator level, it can be seen that Telefónica continued to lead the participation regarding data transmission, with a revenue share of 58.6%, followed by BT España with 20% and Colt with 4.2%.

c) Telephone information services



REVENUE FROM COMPANY COMMUNICATION SERVICE (millions of euros)

Source: CMT

Telephone information services are offered by different fixed network or mobile companies, or by those that don't have their own network and are using other distribution methods, such as Internet. They provide the end user with information regarding subscribers to the fixed networks.

One particular service within the telephone information services involves the number 11818 and Telefónica supplies it as the designated service provider for this service.

For a number of years now a falling trend has been recorded in this group of services due to the fact that this sort of information is accessible from web pages. In light of this, since 2009 the total turnover was 84.2 million euro, 19.2% less than the previous year. As is the case with the final turnover, the volume of minutes and calls carried out to this type of service decreased significantly in 2009 with falls of 24.9% in the volume of minutes and 27.2% in calls.



REVENUE AND TRAFFIC FROM THE PROVIDES OR INFORMATION SERVICES (in millions of euro and millions of minutes)

One of the reasons which could explain the falling trend in the demand for these services is the fact that there is access over the internet to the same information services without having to pay any operator. The business model for these suppliers is very different and is basically financed from revenue from advertising. The data that this subsection shows only includes revenue from fixed line operators that supply telephone information services.

The most representative actors in the market were, firstly, the *Servicio de Consulta Telefónica* (11888 national and 11886 international), with 48.1% of revenues. Secondly, Telefónica (11818 as universal service, 11822 national

and 11825 international), with 27.8% and, finally, *Nueva Información Telefónica* (11811 national and 11880 international), with 12.4%. In general, the revenue from the operator reduced in absolute values in compared with the figures recorded in 2008.

The turnover for international information services represented a small part of the total, with 2.5 million euros, of which Telefónica obtained 75% via the number 11825. The second largest actor in this sector was the *Servicio Consulta Telefónica* (11886), with a market share of 18.4%, followed by *Nueva Información Telefónica* (11880), with 4.6%.

REVENUE FROM THE INFORMATION SERVICE PROVIDES (percentage)



Source: CMT

Telefónica had a total turnover of 23.4 million of euros of which 12.3% corresponded to the universal 11818 service. Calculating in minutes, this figure made up

22.6% of the traffic for this operator and 33.7% of their calls to telephone information services.

REVENUE AND TRAFFICS OF THE TELEPHONE INFORMATION SERVICES SUPPLIED AS A UNIVERSAL SERVICE BY TELEFÓNICA (by millions of euros, millions of calls, millions of minutes)

	REVENUE	CALLS	TRAFFIC
11818	2,9	6,0	5,9
Source: CMT			

3.2.2 Wholesale services

This section analyses the wholesale services provided by the fixed network operators. Firstly, the interconnection services that the operators provide amongst themselves for the exchange of their traffic; secondly, the circuit rental service to operators that consists of availing of a certain transmission capacity between two points, and lastly, data transmission services that include lines dedicated to data, whichever technology is used. And also Internet access services and other information services.

The year 2009 was characterised by a decrease in revenue for wholesale services included in this section, except for the circuit rental services. With crossconnection traffic services two trends were consolidated. On one hand, the decrease of traffic for voice access services and access to narrowband Internet. This trend is a clear reflection of the situation that occurred in the retail market, in other words, the change that happened to the alternative operators' clients who went from having indirect access to having direct access, and also having an increase in broadband services. Secondly, the international transit services continued to increase their weight within the cross-connection services. Regarding regulation, the prices and conditions defined by the Reference Cross-connection Offer (OIR in Spanish) in 2005 are still current.

a) Cross-connection traffic services

The exchange of traffic originating from an operator's own network and destined to the networks of other operators is possible thanks to the cross-connection of both networks. Different types of traffic can run via this cross-connection using two different types of billing, known as crossconnection by time and cross-connection by capacity.

The basic cross-connection services are access services and terminating-access services. With the regards the access cross-connection services, the operator that supplies the line to the subscriber gains revenue from providing the cross-connected operator with their traffic of choice - short numbers, narrowband Internet access (909), and the access component of the intelligent network services. The cross-connection terminatingaccess services involve an operator with their own fixed network gaining revenue for the calls that end with clients on their network.

These services are complemented with the transit service that allows an operator to pass calls to another operator that they are not connected with via a third operator that is cross-connected with both.

Lastly, there are other services such as special tariffs, telephone information services, short numbers etc, where cross-connection services are also necessary.

Regarding the two existing billing methods for crossconnection, the for-time method involves billing for crossconnection services in keeping with the traffic used in minutes. On the other hand, the capacity method involves only billing for per contracted link, independently of the volume of minutes used through that link. Therefore, the average revenue for this method varies in keeping with the degree of effective occupation of the links. Only the access and terminating-access services can use capacity crossconnections whilst transit and other services move totally via time cross-connections.20 However, only Telefónica is obliged to offer their cross-connection access and terminating-access services in both modes, therefore, in general, the capacity mode was only offered by Telefónica via regulated offer. Currently there are 14 operators that are cross-connected: of those, only Euskaltel has offered the capacity cross-connection services reciprocally to Telefónica since 2007.

- Revenue

The revenue for the cross-connection services in 2009 was 1,693.9 million euros, 2.1% less than the previous year. This decrease broke the upward trend that this type of revenue had previously experienced in earlier years.

The access and terminating-access services decreased following the trend that started in 2003 and in keeping with the trend for retail traffic for these services.

²⁰ With the exception of the component of access of intelligent network services that can be sent by capacity cross-connections. However, the weight of this component on the total revenue and cross-connection traffic is very reduced.



REVENUE FOR CROSS-CONNECTION SERVICES (millions of euros)

Source: CMT

At an unbundled level, only the international transit services²¹ grew in comparison with 2008. The year on year variation was 10.4%, which meant an increase in their weight in the market regarding the total revenue for cross-connection services. On the other hand, national transit which supplied 33.9% of this revenue decreased by 8.6% in comparison with 2008.

- National cross-connection revenue

The sum of revenue for national access and terminatingaccess services, both in the time mode and the capacity mode was 203.5 million euros. This figure represents a 5.4% fall in total revenue. This reduction could be in part explained by the dynamics of the retail market. On one hand, the alternative operators were gaining direct access clients, due to the fact that they reduced their revenue for Telefónica's cross-connection access services. On the other hand, the revenue for national terminating-access may be influenced by two variables in the retail market: one; due to the number of direct access clients and tow; due to the total traffic that ends in the fixed number of an operator which is different to the one where the call originated from. Therefore, the increase in the market share of the cable operators and alternative operators could influence this type of traffic, as it is more likely that it makes calls originating and terminating in the network of the same operator.

Regarding turnover, the alternative operators can contract access and terminating-access from Telefónica, by time or capacity. Both models are used together and for each crossconnection point a specific mode is chosen in keeping with the volume and profile of the traffic. These two parameters affect the number of minutes per link, which is the factor that finally decides the choice between one mode and the other.

In 2009, both the time and capacity modes experienced decreased in revenue regarding 2008. The reduction

²¹ The national transit services include: calls originating nationally to a national number, calls originated nationally to a mobile number and calls originating nationally to an intelligent network and others (basically telephone information services). International transit incorporates traffic originating in Spain or abroad where a Spanish fixed network operator acts as the transit operator.

for cross-connection by time was 5.3% whilst the crossconnection by capacity was slightly less with a variation of 5.6%.

Throughout 2009 the mode of cross-connection by time was still the mode that generated the most revenue, with 61.2% of the total. Within this mode, the terminating-access service was the one that generated the most revenue, although it did experience a decrease of 3.9% regarding 2008.

Although in 2009 the cross-connection by time generation more revenue than the cross-connection by capacity (61.2% compared with 38.8%), the proportion

is inverted if the volume of traffic supported by each mode is taken into consideration (48% compared with 52%). The figures continue to confirm that, as with minutes, the capacity mode is much more economical.

In fact, the proportion of traffic sent via the capacity mode is still higher if we only consider the traffic exchanged between fixed operators, as a large part of the termination traffic by time originates from mobile operators that do not use the capacity mode to terminate in fixed networks.

The turnover for the national transit service rose to 347 million euros in 2009. If we analyse the components



DEVELOPMENT OF REVENUE FROM ACCESS AND TERMINATIING ACCESS PER MODE (in millions of euros)

Source: CMT

of this traffic, the peak of the revenue by transit to national numbers stands out, which was 16.3%. On the

other hand, the revenue for transit to mobile numbers decreased by 26.8%.





- Traffic

In 2009 the traffic of the cross-connection services stood at 60.2 million minutes. This figure reflects a

TRAFFIC BY CROSS-CONNECTION SERVICES (in billions of minutes)



Source: CMT

- Breakdown of the traffic

The total national cross-connection access and terminating-access traffic, both by time and capacity experienced a 5% year on year fall.

As has been occurring over previous years, the traffic derived from access services by time decreased 15.3%; this decrease corresponds with the progressive reduction of clients in the indirect access mode (choice





Source: CMT

fall of 2.8% regarding the total traffic of the previous year; a larger drop than that registered for the total revenue.

of call to call operator, and pre-selection) and the traffic that this generates, in favour of clients in the direct access mode. The pronounced decrease of narrowband Internet access has also contributed to this fall. The capacity access traffic also decreased, although to a lesser extent. The national capacity terminating-access traffic registered an annual increase of 2.9%. On the other hand, the capacity access traffic decreased 24.5% in comparison with the terminating-access traffic, which only increased 1.1%.

30 7.1 25 20 8.7 12.8 15 11.0 11.1 23.1 10 15.6 5 9.7 9.5 7.2 0 2005 2006 2007 2008 2009 Access by capacity Terminating-access by capacity

DISTRIBUTION OF CROSS-CONNECTION TRAFFIC BY CAPACITY (in billions of minutes)

Source: CMT

- Average Income

As has been happening since 2001 when the CMT introduced cross-connection by capacity, the average revenue for this mode in 2009 was approximately half that of cross-connection by time. In the capacity model the average revenue varies in keeping with the degree of effective occupation of the links, thereby involving a multitude of factors in its calculation: nominal prices, the distribution of traffic between time and capacity, and the distribution of one operator's traffic in their different levels of cross-connection.

For years now operators have been choosing the capacity cross-connection option, which helps them reduce their

costs if the scale is right. In other words, capacity crossconnection allows the operator to gain efficiency as, due to it having a fixed cost, distribution is optimised via the time zones.

The development of the average revenue by time and capacity has remained quite stable over the year, although the average revenue by time has shown more variation. There are two explanations for this stability: on one hand, the nominal prices established in the OIR in 2005 are still current; and on the other, stability is maintained in the operators' network outlines with Telefónica. In 2009 the average total revenue per cross-connection stood at 0.49 cents, 6.3% less than in 2008.



AVERAGE REVENUE FOR NATIONAL ACCESS AND TERMINATING-ACCESS BY MODE (Eurocents / minute)

Source: CMT

- Market Shares

In 2009, the average market shares in revenue showed minimum variations regarding those obtained in 2008.

Broken down by operator, Telefónica's share decreased by 63.7% in 2008 to 62.1% at the end of 2009, whilst Orange and Ono had 6.4% and 6.0% of the total revenue respectively. Jazztel and BT also increased their presence.



Source: CMT

b) Circuit rental services to operators

The circuit rental service on a wholesale level is that which is supplied between the operators so they can avail of a certain transmission capacity between two points. The rented wholesale circuits are divided up into two types: the terminal circuits that make up part of the operator's network access, and the trunk circuits that joint two nodes of the trunk network to the operator.

The reference offer for rented lines (ORLA) approved in November 2007 meant a significant reduction in prices for Telefónica's terminal circuits which until then had been included in the OIR under the denomination of cross-connection of circuits. On the other hand, a relevantly new item was the inclusion of the regulation of the rented lines with Ethernet interfaces.

Regarding the trunk lines, in 2008 the rented lines supplied using Telefónica's underwater cable system between the Peninsula and the Canary Islands were regulated. There was also the introduction of a new speed (STM-4, 622Mbps circuits) and the reduction of the prices of all the existing speeds by 30.38%.

This section includes the aggregated data for the trunk lines, the terminals and those used for connections to OBA rooms. At the same time the lines that Telefónica supply to Telefónica Moviles are also included. Therefore, lines are included that are supplied under regulated conditions (the majority of the terminals and those for connections for OBA rooms) and in commercial conditions (the majority of the trunks and those supplied by Telefónica to Telefónica Moviles).²²

- Revenue for circuit rental

The total revenue for rental of circuits in 2009 increased 7.5% with an annual turnover of 645,3 million of euros.

Telefónica's revenue, which represented 81.4% of the total, increased regarding 2008, whilst the revenue for the rest of the operators decreased by 12.6% in comparison with the previous year. Regarding Telefónica's revenue, the contribution of the circuits provided under commercial conditions increased 16.6%.

REVENUE OR CIRCUITS RENTED TO OPERATORS²³ (millions of euros)



Source: CMT

- Number of circuits

In 2009 the number of circuits rented to operators increased 10.2% and exceeded 140,000 circuits. This increase corresponded in part to Telefónica, with 13.7%, and in particular to the average and high capacity circuits that represented 98.7% of the infrastructure. The circuits offered by the rest of the operators also increased, particularly those with the average capacity speeds, which made up 90% of the total.

In this way, during 2009 the number of average-capacity circuits (speeds between 128Kbps and 2 Mbps inclusive) increased and at the end of the year represented 94.1% of the total number of circuits. Therefore, since 2006

²² For broken down data information, the market analysis of the terminal rented lines should be consulted (MTZ 2008/1944) and trunks (MTZ 2008/1945).

²³ Revenue from other circuits is not included.

these circuits have dominated, with a contribution over this period of over 90%, in progressive detriment to those of low capacity.

In November of 2008. Telefónica submitted the first circuits with Ethernet interfaces under the regulated conditions in the ORLA. In December 2009, the total number of wholesale circuits that this operator supplied with the aforementioned interfaces was 962, including the circuits used for the OBA signal delivery service.

NUMBER OF CIRCUITS LEASED TO OPERATORS, BY SPEED



Source: CMT

- Market shares

In 2009 Telefónica was the leader in the wholesale market of circuit services, with 81.4% of total revenue, which meant an increase of its market share, which stood at 77.5% in 2008.

Although Telefónica's total revenue increased regarding that of the previous year, the increase in their share was due to the decrease in revenue of the other operators, in particular Ono, who in 2009 saw their share fall to 4.7%.

MARKET SHARE BY REVENUE FOR CIRCUITS LEASED TO OPERATORS (percentage)





c) Data transmission services to operators

The data transmission services in the wholesale field include the services of lines dedicated to data using type of technology, as well as Internet access services supplied by operators.

The turnover for data transmission services was 39.3 million euros, which meant a year on year decrease of 36.7%.

The 8.3 million euros associated with revenue from the data lines increased 26.4% during the year.

The Internet access services and other data services experienced 1.2% less turnover, and at the end of the year revenue stood at 19.3 million euros.

The rest of the information services also saw their revenue fall 67.6% - a total of 11.6 million euros. Telefónica International Wholesale Services substantially decreased their market share in terms of revenue; in 2008 their market share was 57.8% and in 2009 this was at 29.6%. The second largest market share was held by Cogent with 17.5%; this was followed by Videsh Sanchar Nagam, with 13%.





Source: CMT

3.2.3 Market regulation and perspectives

Despite the fact that the fixed voice communications market is mature, there are three developments which are worthy of note regarding what was observed in 2009 and in previous years: the migration of indirect access clients to direct access, the increase of packaged offers and the increase of lines of convergent products.

Regarding regulation, the current framework continues to be the same, although there have been some modifications, the impact of which has been seen in the market. In this way, it is important to point out that Telefónica lost weight in the market in favour of the alternative operators who managed to capture a large part of the end clients to whom they supplied the whole group of services they required.

- Development of the direct access clients

The current situation regarding the total volume of direct access clients is the result of the recent regulatory actions, as well as the operators' business strategies. In 2009 there was the tendency for total unbundling of the subscriber loop and rental of the loop without basic telephone service.

Thanks to the growing usage of these wholesale services operators saw an increase in their direct access client base and a reduction in indirect access clients. Consequently, the total number of pre-selected lines decreased in 2009 as the usage of fixed number porting increased, which reached record numbers. Also, as had been happening over previous years, the percentage of users that chose to contract a line with voice service together with broadband and multi-channel subscription television increased notably during the year.

The development of direct access is an indicator of the development of the competition in the market. If in a first stage, the operators focus on competing for capturing traffic, they then would enlarge their offer of end services with broadband and line rental, integrating it into one commercial offer.

In 2009, and as a consequence of the market of access to a fixed network that CMT carried out in 2008, the subscriber fee to Telefónica, or the monthly cost for maintenance of the fixed line telephone service continued to be regulated with the price limit mechanism. As well as this, the methodology was also revised that was used in the evaluation of Telefónica's commercial offers which aimed to guarantee the replicability of these offers by the alternative operators.

- Convergent voice services

Throughout 2009, offers that consisted of the convergence of fixed voice and mobile services were consolidated in the market.

Vodafone, with a fixed telephony service via their mobile platform was the operator that led these offers. This product opened up the possibility for capturing direct access clients without having to make investments into unbundling the loop. As a consequence of the consolidation of this type of offer, two facts stand out: on one hand, the intensification of the competition between platforms which until recently was focused on fixed networks and cable; and on the other, the emergence of the mobile platform with products similar to those offered traditionally over fixed networks.

This group of products has been consolidated as a substitute both for fixed telephony services and mobile services, as it offers multiple advantages for certain groups of consumers, and above all for the business segment.

3.3 Mobile Communications

3.3.1 Retail Services

Theeconomiccrisisalsoaffectedthemobilecommunications segment. The volume of services revenue decreased 4.1% late in the year, this was motivated by the smaller amount invoiced in respect of voice traffic, which could not be offset by an increase in the data business (mobile broadband access). The total handled traffic fell slightly, by 0.8%, the most significant decline being the one observed in voice traffic destined for fixed networks. Also the volume of SMS and MMS was reduced within the year, especially the volume of value-added SMS.

In addition, the demand for lines continued the growing trend lines from previous years, although with less intensity, and recorded an increase of 2.9% in 2009. In the business segment, however, total lines inservice fell by nearly 281,000 over the year. It was the residential market demand, with 1.74 million new lines, that achieved an increase in mobile penetration in its entirety, to reach 109.3 lines per 100 inhabitants. Highest increases were observed in the more recently introduced services, such as the Mobile Internet access service and the ones based on lines associated with machines (telemetry and / or remote).

Consumers made a very intensive use of portability to switch operators. The clear winners of this process were Yoigo and Mobile Virtual Network Operators (MVNO), which managed to increase their market power and achieve a market share of 5.6% of active lines.

The revenues recorded in the wholesale market fell by 17.2% in 2009, continuing the downward trend of this revenue that began in 2007. The regulation of the wholesale price for call termination by the CMT and the establishment of maximum prices by the European Commission for the international roaming service that operators charge each other led the decline in turnover.

a) Revenues

In 2009, the revenues for final services offered by mobile networks amounted to €14,323.3m. This figure meant

that, for the first time since the start of its activity, the market experienced a reduction in year-end revenues, which in this case was 4.1% compared to 2008.

The biggest drop came in revenues from voice traffic and SMS, with falls of 8.9% and 9.1% respectively. These decreases in revenues were not offset by gains recorded in the data service, which includes revenues mainly from subscriptions to high-speed Internet.

The service for mobile Internet access was the only significant growth in revenue over the previous year, with an increase of 35%. This increase led to a revenue turnover of \notin 1,496.3m, similar to that achieved by messaging services (SMS and MMS).

The reduction in revenues from pre-pay voice traffic showed a greater intensity in the fall, out of both pre-pay and contract, 11.4% compared with 6% of contract.

PROGRESS OF REVENUES FROM FINAL SERVICES²⁴ (millions of euros)



Source:CMT

Additionally, revenues from monthly subscription charges reached 8.7% on total income of the voice traffic services,

compared to 6.6% recorded in 2008. This fact would confirm an increase in supply of tariffs that applied this



PROGRESS OF REVENUES FROM VOICE TRAFFIC (millions of euros)

Source:CMT

²⁴ This includes voice, SMS and data traffic revenues (Internet access and browsing, data downloading, ring tones, melodies, etc. and other data services for GSM/GPRS and UMTS).

form of revenue by the main operators of the market (mainly through the marketing of mobile voice flat rate).

During 2009 the mobile market experienced, for the second consecutive year, a decrease in average income per line in all its business segments. Thus, in the residential pre-pay market the biggest drop was observed, 11.6% compared to 2008, with an average of 111 per year per line. For its part, the business segment, in which there are contracts rather than pre-pay lines, there was a decrease of 7%. Finally, the residential contract segment also experienced a decline in average revenue per line, but it was lower, of 3.9%.

b) Lines

The mobile lines pool evolved in 2009 in a different way to developments that the figures in the revenue side show. Thus in 2009 the number of mobile lines continued to grow over the previous year. There were 1.46 million additional



AVERAGE YEARLY INCOME PER LINE (Euros / line)

Source: CMT

lines, which placed the pool at 51.1 million lines at year end. Annual growth in total lines of 2.9% was similar in both contract and pre-pay. This calculation does not take into account either the exclusive lines of mobile internet access (*data cards*) or active M2M lines²⁵.

The mobile phone penetration reached 109.3^{26} lines per 100 inhabitants, an increase of 1.8% on the last year.

The payment plan for most of the lines was contract, which made up 37.7% of total lines in 2002 and contract plans have become increasingly relevant in recent years, seven years later they made up 59.1% of total lines.

The following chart shows the pool of mobile lines depending on the type of payment plan: pre-pay or contract. You can see a significant correlation between

²⁵ According to the Law of Conservation of Information Relating to Electronic Communications and Public Communication Networks (Law 25/2007 of 18 October) it stated that those cards purchased prior to 09/11/2007 should be identified within two years (November 2009), otherwise, these lines would be discharged. Given the large number of unidentified lines existing in November 2009, the Ministry of Interior granted an extension of six months to mobile operators in order to recover the maximum number of users. This process may mean that, in May 2010, a significant percentage of these lines are discharged causing, consequently, a decrease in the pool of pay-as-you-go lines.

²⁶ Calculated from the total mobile lines and population data in 2009: 46,745,807 inhabitants (according to the INE source). This figure of penetration of broadband lines differs from that provided by the European Commission in the *15th Report of Implementation*, as the European Commission used population data from Eurostat, which corresponds to the non-updated INE datum for 2009: 45,828,172 inhabitants.





Source: CMT

the market share of the operator and the amount of contract customers in respect to its total portfolio. Thus a majority share of Movistar and Vodafone customers, the operators with higher market share, focused on the contract payment plan. As the controlling part of the contract segment is reduced there is decreasing market share of the operator concerned. However, it is important to note that Yoigo, in the last year, saw its portfolio of contract lines increase significantly, an increase of 13.6%, mainly due to a policy of attracting customers from this payment plan, which are contributing to higher revenue per line. In the residential segment, a contract line provides 3.25 times more revenue than a pre-pay one.

- Portability

Portability is the possibility for a customer to switch operators to maintain their mobile phone number. In Spain, this possibility does not entail direct cost to the consumer and traditionally a high volume of changes is recorded each year. In 2009, there were a total of 4,502,643 portings, with an increase of 15.3% compared to those in 2008. This figure represents the largest number of portings effectively carried out in a year since its inception (in June 2000), so 8.8% of mobile lines switched operators in 2009 maintaining their original numbers.



TOTAL LINES PER TYPE OF CONTRACT PLAN (percentage)

Given the negative macroeconomic environment of 2009, there was a greater motivation on the part of users to switch mobile service providers. Analyzing portability net flows taking place among different operators, it seems clear that consumers opted to move to operators with lower rates for their consumption patterns. Yoigo and MVNO offered competitive rates, generally averaging prices across traffic types, and managed to capture almost all the users who used the portability. The following chart shows that the two main markets recorded a net loss of over 460,300 lines during 2009. By contrast, Yoigo was the operator with better results, with a net gain of 308,400 lines in 2009.

Turnover rate (churn)

The rate of customer turnover or churn rate, relates the number of lines written off by an operator and the average of total lines that the operator has held in the market in the last two years.²⁷

The churn rate is used to estimate the degree of loyalty that clients have in regard to their mobile operator. Thus, the overall turnover of the market saw a significant increase of 3.9%. This was the highest level of historical series and at year-end stood at 28.7%. This figure implies that a mobile phone client, on average, swaps mobile phone providers every 3.5 years.

NET BALANCE OF PORTABILITY BY OPERATOR (thosands of lines)



Source: CMT

Note that all the operators active in the market increased their rate of customer turnover. Operators taken individually, there was a relationship between the amount of lines for each operator and the resulting churn rate. Thus, the three operators with the largest share had lower turnover rates, this phenomenon may be due in part to the strategy carried out by these operators based on subsidising the terminal of their customers in exchange for maintaining a commitment to permanence of at least 18 months. The rest of the market operators (Yoigo and

²⁷ Churn rate i,t = $\frac{\frac{\text{number of disconnected lines }_{i,t}}{\frac{1}{2}}$, where the sub-index i reffers to the operator and t refers to the period (year).

MVNO) focus on other business strategies (e.g. deals with adjusted joint prices, which, at first, do not have the same kind of impact on the degree of customer loyalty).

Broadband Mobile Networks

The service that grew most in 2009 was that of broadband connections to mobile networks. The coverage of 3G/UMTS networks and, in particular, the variety in the types

of fares offered by the operators to connect, resulted in high growth.

In 2009, the volume of lines linked exclusively to the Internet access service (such as *data cards*) kept pace with growth in recent years. In December 2009 the total pool of these lines amounted to 1,960,780m, this meant a 64.9% increase over the previous year. The lines are sold which include a specific price for data and



TURNOVER RATE (CHURN) (percentag)

Source: CMT

are only used to access data at high speed. This amount of penetration of *data cards* implies a penetration of 4,2²⁸ of unique mobile broadband access lines per 100 inhabitants.

The volume of broadband lines from 3G/UMTS networks is comparable to the pool of fixed broadband line networks, as both have similar rates, flat type, but in the case of mobile lines, subscriptions usually have a specific limited monthly download total and the connection speeds are different from those obtained by fixed networks. Adding fixed and mobile broadband line networks at the same time, 16.7% of the lines were supported by 3G/UMTS networks. There are several ways to connect to Internet at high speed. Specifically, in terms of usage metering two of them are of interest: 1) a connection through *data cards*, or cards with dedicated data rate. The cards are used by connecting to the computer through a USB port but can also come directly incorporated in the computer,

²⁸ Calculated from the total number of data cards and population data in 2009: 46,745,807 inhabitants (according to INE source). This figure of penetration of broadband lines differs from that provided by the European Commission in the 15th *Report of Implementation*, as the European Commission used population data from Eurostat, which corresponds to the non updated INE datum for 2009: 45,828,172 inhabitants.

notebook or other device; 2) a connection that uses the actual voice terminal to do so, usually acquiring a data subscription that allows access to broadband from the same mobile terminal, such as *Smartphones*. While it is true that not all handsets allow browsing and access to broadband (because of not having a built-in USIM card), in Spain approximately 41.6% of all active terminals on the market are ready to access high-speed data.

Market growth of high-speed connections was also observed through the number of high-speed subscriptions hired for complimentary use along with the end user's mobile terminal. This is a measure that tries to quantify subscriptions purchased by users to use their own voice terminal, such as a Smartphone, and which has been acquired separately from voice service subscriptions. The total of these subscriptions amounted to 2.8 million in 2009. This figure represents a penetration of 6.1 subscriptions per 100 inhabitants. This set of subscriptions has very different characteristics and contracts in terms of duration, download limitations and services that can be accessed. The different uses that a consumer can. therefore, make of this set of subscriptions are likely to be more sporadic and less intense than what could be expected from a subscription associated with a data card.

Thus, in 2009, a total of 4.6 million lines were linked to rates exclusively dedicated to Internet access through

a mobile network. There is a larger volume of prices recorded as being dedicated to mobile Internet from mobile terminals (e.g. through *Smartphones*) than from lines dedicated exclusively to Internet access²⁹ (e.g. data cards or USB modems). Also, if such lines are broken down according to the market segment that they are connected to (business or residential), a very similar distribution between the two segments can be observed.

Despite the volume of lines linked to Internet rates through a mobile terminal almost being double that of *data card* ones, in the computation of the revenues coming from such subscriptions it indicates that the average revenue per line is significantly higher in the case of exclusive lines of data (*data cards*) than in the mobile terminals (e.g. *Smartphones*). Revenue from exclusive data subscriptions through *data cards* or equivalent was 45% higher than the total revenues associated with subscriptions, additional to the voice one, to access high-speed data.

In relation to market shares that the various operators have in their connections for broadband mobile networks, it is noteworthy that in 2009 there was a change in its distribution. Thus, unlike what was observed last year, Movistar stood as the operator with greater market share



NUMBER OF LINES LINKED TO A DEDICATED RATE FOR MOBILE INTERNET ACCESS (millions of lines)

Source: CMT

²⁹ A dedicated line of mobile Internet access is the line that, by the express request of the owner, is linked to a specific rate of Internet access, which is billed separately from the standard rate of voice mobile. When calculating the volume of active lines connected with this type of service all lines connected to a dedicated rate involving the payment of a recurring charge (e.g. paying a flat fee) have been accounted for, plus all those lines with a dedicated fee which, without being subject to payment of a recurring amount, have accessed the Internet in the last 90 days.

measured in terms of lines (39.2%), at the expense of Vodafone (35.1%).

The case of the MVNO was also significant, which registered a market share (4.8%) higher than that obtained in the pool of mobile terminals (3.1%). This increased presence of MVNO in the service of mobile Internet access is due to the fact that a percentage of these operators have focused their activities in this business segment in order to offer complementary services to Internet access via fixed networks. As an example, the operator Ono said in December 2009 that the volume of mobile lines connected to *data cards* was five times higher than their current stock of mobile phones.

Regarding the pool of lines associated with machines (lines connected to telemetry and/or remote services or M2M) reached 1.85 million lines, thus the number of lines increased by 25.7% over the previous year and maintained a growth rate similar to that recorded in recent years. The main reason for this high growth can be found in the progressive increase in the number of economic sectors in which it is possible to incorporate this technology, at present, it is used in such diverse sectors as transport, security, or food distribution.

c) Traffic

Voice³⁰

In 2009, the total voice traffic, as noted in the revenue, recorded a negative rate of change of 0.8% compared

MARKET SHARES OF LINES ASSOCIATED WITH DATA CARDS (percentage)



Source: CMT

with 2008. This figure represented the first decline in consumption of mobile voice service since its inception, as is apparent in the following graph.

Pre-pay was the type of payment plan that suffered this drop in traffic, it went down 7.4%, while the contracts increased slightly by 0.4%.

The steepest declines were recorded in the fixed network traffic, with a decrease of 9.6% year-on-year and of international roaming, with a fall of 9.1%. The recorded traffic between mobile networks remained virtually constant, although their detail reveals that the

traffic carried within the same network (on net traffic) decreased significantly, 7.2%, while it was the traffic between different mobile networks (off net traffic) which increased by 14% in the year, and this effect was probably induced by the net increase of lines of Yoigo and MVNO, occurred throughout 2009.

The decrease in the consumption of voice services could also be seen in the progress of voice traffic per line. In this case, traffic reduction was observed in both modes: in 2009, the recorded voice traffic on a pre-pay line decreased by 9.9% over the previous year, while the recorded one on a contract line decreased by 2.4%.

³⁰ The voice traffic has been posted on the basis of minutes actually consumed (not the minutes billed).



MINUTES PER LINE AND YEAR ACCORDING TO THE TYPE OF PAYMENT PLAN (minutes / line)

Source: CMT

This last figure indicates that the increase of 0.5% of total traffic recorded in the contract segment was due primarily to increased registered lines in the year 2009 and not to an increase in the intensity of use of such lines.

The distribution of traffic according to the destination of the call has been changing over the years. Domestic traffic from the mobile network to fixed network in 2002 involved 20.7% of the total. Seven years later, the volume of this traffic over the total has been reduced to half, namely 9.5%. The opposite side shows that the traffic between mobile networks has increased by 3.5 times its volume in the same period in 2009 and now accounts for 84.1% of total traffic. Also, the total traffic handled in each of the networks (on net), resulted in just over half of all voice traffic in 2009, namely, 52.4%, while traffic between different mobile networks accounted for 31.8%.

The breakdown of the total traffic between the various market segments showed distinct patterns of consumption among themselves. Thus, the pre-pay segment showed a percentage of traffic on international calls moderately higher than other segments, while, on the contrary, the business segment was the one which


TRAFFIC DISTRIBUTION³¹ (percentage)

Source: CMT

focused a greater proportion of calls destined to fixed networks.

Regarding network intelligence services (in the National Numbering Plan (NNP) in 2004 this type of service became known as special-rate) in recent years an intense regulatory activity related to this type of services has been witnessed. In December, a resolution of the Secretariat of State for Telecommunications and Information Society attributed the provision of premium rate services to the 905 telephone code. The turnover of these services included on the retail market in 2009 amounted to a total of \in 381.4m. Further on, a graph is provided showing the amount in both revenue and traffic of the various intelligent network services, according to the numbering that is linked to each one.

As can be seen, the service with a higher bulk of revenue and traffic was based on the number 902, a service that is paid entirely by the user originating the call, and then numbers with higher service revenues were the

³¹ The *total* concept reflects the average consumption per line on the market and takes into account the amounts that have different segments of that market (pay-as-you-go and contract).



TRAFFIC DISTRIBUTION (percentage)

Source: CMT

one corresponding to the numbering 803, 806 and 807. These numbers integrate various services such as leisure, entertainment or exclusive use for adults. These were followed by the services of 905 numbers used to handle massive calls. The following service is based on the 901 numbering, whose main characteristic is the copayment from the caller, and the receiver. The services

provided by numbers 900-800 are in the last place in the total volume of revenues, because of the free nature of such services to retail customers. On the contrary, if we analyse the weight of traffic from this service over the total, their share rises to 21.6%.

DISTRIBUTION OF REVENUES AND OF THE TRAFFIC OF THE DIFFERENT NETWORK INTELLIGENCE SERVICES (percentage)



If we analyse the distribution of customer traffic generated from each of the operators, one can see clear differences between them. Thus, operators with higher market share of voice traffic generated most of which ended in the same mobile network. Conversely, for operators with a smaller market share, most of its traffic ended in a different mobile network (off net calls). This result is not illogical because the larger the market share, the greater the likelihood that a client itself is to communicate with another client of the same company. Also noteworthy is the high share of traffic that represent international calls for MVNO, this phenomenon is due in large part to the existence of many specialized MVNO services such as Happy Móvil, Lebara Móvil and Hits Mobile among others.

Messages

As regards the traffic of short messages (SMS and MMS), as in the voice service, a drop in volume was observed. Specifically, the SMS message traffic between subscribers (excluding value-added SMS) decreased by 9.1% over the previous year, the fall was observed more in the service of sending SMS between subscribers of the same operator (messages on net), with an annual rate of decline of 9.6%.

As regards the volume of MMS messages sent, in 2009, as can be seen in the chart, the downward trend observed in recent periods remained. In the last four years, the use of such services fell by 40.8%, and in 2009 the total volume stood at 128.4 million MMS messages sent. This figure is well below the eight billion SMS messages recorded in



Source:CMT

the same year. According to these figures, in the Spanish market one MMS message is sent for every 62 SMS messages.

Once the voice and message traffic in 2009 are analysed, the chart below aims to illustrate the differences between the patterns of consumption of those services according to the pre-pay and contract payments plan. So while a pre-pay customer made 13.7% of the total traffic of voice calls, these same customers originated 29.7% of the overall Spanish market messages.

Data

The increase of subscribers related to services for mobile Internet access, either through data cards or 3G mobile terminals, resulted in a significant increase in the recorded data traffic in mobile networks. Thus, in 2009, traffic of 29.5 thousand Terabytes linked to



TRAFFIC PROGRESS OF MESSAGES (billions)

Source: CMT

this type of service was recorded, representing an increase of 99.4% over the previous year's volume.

d) Progress of joint revenues for services

Average revenues from voice services

Given the wide variety of fees, bonuses and discounts in the market, for the analysis of the progress of prices, the average revenue per minute of voice is used as an approximation of the prices offered by different operators in the market. If we analyse this variable, it can be appreciated how, for the seventh consecutive year, the average market income has declined when compared to the previous year, by 5.7% in 2009, reaching 15.4 cents per minute. Like last year, the average income of the different market segments (







PROGRESS OF AVERAGE INCOME PER MINUTE (Eurocents / minute)

Source: CMT

pre-pay and contract) was virtually homogenous: 15.4 cents per minute in the pre-pay segment, and 15.5 cents per minute in the contract segment.

As regards the income of different voice services, the service that recorded the largest drop was the one of calls bound to other mobile networks (15, 6%). However, as can be seen in the graph below, the other modalities

(calls to fixed networks and on net) also recorded a significant decrease in their average revenue per minute.

The average income obtained by an operator for a completed call in a fixed network (15.1 euro cents per minute) was lower than that obtained by a call completion in a different mobile network (16.4 euro cents per minute). However, to get the retention margin³² that such mobile operator obtained in each of these services, the cost of

PROGRESS OF THE AVERAGE INCOME PER MINUTE BY TYPE OF TRAFFIC (Eurocent / minute)



termination that the same operator had to pay to the owner operator of the network where the communication ended must be taken into consideration. Thus, as shown in the chart below, in 2009, the cost of terminating a call on a mobile network was 7.4 euro cents per minute, which is significantly above the cost of finishing a minute of a call in a fixed network (0.7 euro cents per minute), thus the retention margin that a mobile operator obtained when a client of his made a call to a fixed number was greater than that obtained for a minute of service completed on a different mobile network (off net).

Regarding international communications services, namely, calls to international destinations and international roaming calls, they also recorded a decrease in the average revenue per minute. For international

PROGRESS OF AVERAGE INCOME BY MINUTE ACCORDING TO THE TYPE OF TRAFFIC (Eurocents / minute)



Source: CMT

calls, the average revenue per minute declined by 27.2% and in the case of calls via international roaming, 9.3%.

The downward trend which the median revenues for international calls have seen is due in large part to the arrival, from 2007 of numerous MVNO which specialise in providing international communications services at competitive prices.

The reason for the decline in median income in the case of international roaming services has been very different: in this case, the decline was due to the regulation applied to those services at the European Community level since June 2007 (Regulation No. 717/2007), which established a downward path of prices for roaming voice communications within the European territory. This regulation was updated in June 2009 through Regulation (EC) No 544/2009 of the European Parliament and the Council, which extended the regulatory period of the prices of such services until 2012. In parallel, the regulated services offered on international roaming were expanded, such as SMS and data services.

Average income from voice services

In 2009, the average revenue associated with messaging services, unlike that seen in the section on voice services,

³² The retention margin is the difference between income earned by an operator when billing for their services to their end customers and the interconnection cost that this service implies and which the operator must pay the owner-operator of the destination network for use of their infrastructure.



INVESTMENT IN THE TELECOMMUNICATIONS INDUSTRY AND GROSS CAPITAL FORMATION IN THE SPANISH ECONOMY (billions of euros)

Source: CMT

remained constant over the previous year, at 11.1 euro cents per SMS message, confirming the trend recorded in recent years.

e) Market shares

In 2009, the three incumbents reduced their average market share over the number of lines and, consequently,



PROGRESS OF AVERAGE INCOME PER MESSAGE (Eurocents / message)

the remaining operators (Yoigo and the MVNO) had theirs increased. These figures confirmed the trend observed in the last three years, triggered by the start of business in 2006 of the network operator Yoigo and of the MVNOs. Thus, these newly introduced operators amassed a market share of 5.6%, to the detriment of the share of the incumbents.

As can be seen in the graph below the quotas of traffic and operator revenues showed significant differences based on assessments at the pool of mobile lines. In

PROGRESS OF MARKET SHARES PER ACTIVE LINES (percentage)



Source: CMT

particular, the market shares by revenues and traffic indicate a greater degree of market concentration for the two main operators, Movistar and Vodafone. The main cause lies in the fact that customers of these operators had a higher intensity of usage of different mobile services and, consequently, higher percentage volume recorded in both revenue and traffic.

In 2009, total revenues earned by MVNOs in the retail mobile market amounted to €215.4m. This figure represents a growth of 123.1% over the revenues from



MARKET SHARES FOR 2009 (percentage)

the previous year. This sharp increase was not due to a single strategy carried out between the various MVNOs, but on the contrary, these operators show very different strategies among them. These strategies can be grouped into: 1) operators based on a specialised deal in competitive international rates, 2) operators based on a mobile deal integrated with other services provided by fixed networks, 3) operators who hold extensive distribution networks through which they can offer their mobile services to all their customers and 4) operators whose main business case is to offer very competitive national mobile rates due to the elimination of additional

services, which allows the operator to save significantly in usual costs.

As can be seen in the chart below, the MVNOs which based their strategy on the integrated provision of telecommunication services (among which mobile services are included), were those which, in 2009, obtained a higher percentage of total revenues accounted for by the group of MVNO.



MARKET SHARES OF REVENUES FROM MVNO OPERATORS ACCORDING TO THEIR BUSINESS STRATEGY (percentage)

3.3.2 Wholesale Services

The mobile wholesale market consists of various services that are primarily intended to allow access to a mobile network and/or interconnect this network with other telecommunication networks (fixed or mobile networks). The interconnection services more relevant are: the national termination, namely the service that allows a mobile communication originated from a network other than the destination network to end; the international roaming service, used by customers of foreign operators whom although their operator does not have its own infrastructure within the country, can continue to access mobile services through access to a different national network: international termination service (service that allows calls originating abroad in a national mobile network to end); and the access to mobile network operators service by third parties that do not have their own infrastructure.

Wholesale revenues decreased significantly, 17.2%, while the total traffic experienced a slight growth of 5.8% due primarily to the increase experienced in recent years of traffic related to the access service to mobile networks by third party operators. Traffic growth linked to this service is due in large part to market share gains that the MVNO have experienced.

a) Revenues

In 2009, total revenues of the wholesale market were €3,052.2m, which, as has been said, represented a decrease of 17.2% over the previous year, 2009 being the third consecutive year that showed a turnover drop. In absolute terms, and with reference to the wholesale

revenues earned in the year 2006, revenues of this year amounted to a reduction of $\notin 1,184.5m$.

Among the services that comprise the wholesale market, the international roaming service was the one suffering the steepest decline of its income, with a yearon-year decrease of 29.2%. These results confirm the downward trend that began in 2007. In 2009, roaming revenues are roughly half of those obtained in 2006. The beginning of this trend coincided with the coming into force, in June 2007, of the EU Regulation which controls both retail and wholesale prices on international roaming services within the EU.

Regarding national termination service (the wholesale service with more importance on the total income), it decreased 18.6% compared with 2008. As happened in the international roaming services, the cause of this decline is largely due to price regulation carried out by the CMT. Thus, in September 2006, the CMT set a price downward path (or Glidepath) until September 2009 that involved a gradual decline in prices for those services. In February 2009, the CMT launched a new resolution which established a new path of prices from October 2009 until April 2012.

However, within the wholesale market there were also integrated services in 2009 which were in full expansion. This was the case of mobile network access service by third party operators, mainly MVNO: in 2009, the service experienced a 53.9% increase in turnover, reaching the total volume of business of €191.4m.

Despite the fall in revenues, the national termination services for international voice roaming were, once again, those who had a larger share of the total income of the wholesale market. In particular, domestic termination service represented 67.6% of the total revenues in the





Source: CMT

wholesale market, while international roaming service accounted for 11.3%.

The traffic volume in the wholesale market, unlike that seen in the revenue side, recorded positive year-on-year rates. The total traffic volume provided in the market was of 34,055.6 million minutes, representing an increase

b) Traffic

REVENUES FROM INTER-CONNECTION SERVICES (percentage)



of 5.8% over the volume recorded in 2008. This result reflects, as argued in the preceding paragraph, that the decline in wholesale revenues was a decrease in prices (most of them subject to regulations) and not a hypothetical decrease in traffic.

If the total traffic is divided according to the service provided, one observes that national service termination was the one that concentrated a greater volume of traffic, with 81.3% of the total. In second place, the access service to mobile network operators by third



Source: CMT

parties, which registered the highest annual increase in wholesale mobile services, 78.3%.

As regards international roaming service, (namely, customers of foreign operators who might enjoy mobile services through access to a national wireless network),

was hit by the negative macroeconomic environment and experienced a drop in the total volume traffic of 7.9%.

c) Progress of fees

DISTRIBUTION OF THE VOLUME OF TRAFFIC BY WHOLESALE SERVICES (percentage)



In this section, as in the retail market, the average revenue per minute is used as an approximation to the prices of the various wholesale services that are discussed in the section.

The following graph shows that the implementation of the fee path established by CMT in relation to voice termination services has, once again, transferred to average revenue per minute. Thus in 2009 the average revenue obtained by the end of a minute of voice in a different network

registered a decline of 21.3% and stood at 7.4 cents. The median income for a message completed in a different network also experienced a fall of 8.5%. Thus, regarding data obtained in 2003, the median income of voice traffic has been reduced by 56.7%, while the average revenue per message was made up of 8.8% in the last six years. This phenomenon has caused the fees of these two services to tend to equate in recent years.



AVERAGE INCOME PER MINUTE OF NATIONAL TERMINATION (Eurocents / minutes and Eurocents / message)

Source: CMT

The average revenue per minute obtained by the completion of a call represents, in turn, a cost for operators which offer their customers the ability to make calls off net. Based on this correlation, we calculate the margin of retention, which is the difference between an operator revenue received for an off net call termination and the cost required to complete the call. Thus, in 2009, the cost of call termination, which was 7.4 cents per minute, represented 45.1% of the average income obtained by a voice call off net, whose average income per minute was 16.4 cents. The margin of retention has

grown substantially, namely, the amount of the cost of termination that operators should support to end a call on a different network has been reduced in respect of the final price that the operators charge their customers for making such calls.

As regards the wholesale international roaming services, the main innovation was the publication in July 2009 of Regulation (EC) No 544/2009 of the European Parliament and the Council. This regulation had three main effects: first, the regulatory period for the price of wholesale voice service was extended until April 2012; secondly, the



RETENTION MARGIN OF CALL WITH DESTINATION TO A MOBILE NETWORK DIFFERENT FROM THE NETWORK OF ORIGIN (OFF NET) (Eurocents / minute)

Source: CMT

regulation was also extended to short message service (SMS) sent through international roaming, with a maximum price of 4 euro cents per message; and, thirdly, one euro was set as the maximum average price per megabyte allowed for data roaming traffic services.

The following graph shows the effect that the Community rules had on the average income of roaming services. The average revenue per minute of call was reduced from the previous year, by 21.6%. With this decrease, the average revenue per minute of 2009 was 60.5% lower than the

level observed in 2005. Regarding the message service in international roaming, the median income scored a yearon-year decrease of 47.8% and stood at an average of 10 euro cents per message.

d) Market share

The degree of income concentration in the wholesale market has traditionally been greater than that observed in the retail market. This is because a percentage of the MVNO does not have its own infrastructure



AVERAGE INCOME BY INTERNATIONAL ROAMING (Eurocents / minute and Eurocents / message)

and, consequently, their interconnection traffic is concentrated in the networks of the three largest operators, which in return, receive a payment.

Consequently, Movistar (40.4%), Vodafone (35.2%) and Orange (20.1%) accumulated the most total market revenues. However, the increased market share of line operators which recently entered the market (Yoigo and the MVNOs), caused an increase in the amount of these operators in the allocation of wholesale revenues. Yoigo

earned 3.3% of total revenue generated in this market and the full MVNOs (those managing traffic termination), obtained 1% of the total.

Regarding the national traffic termination voice service, it was distributed among the various operators in a very similar distribution to the pool of mobile lines. Thus, Movistar had 40.4% of the national termination traffic, followed by Vodafone with 33.7% and Orange with 21.7%. These figures show a parallel between the

MARKET SHARE IN WHOLESALE REVENUES (percentage)



Source: CMT

progress of the end market, which shows a decline in the relative importance of the three major operators and their market shares and developments in the wholesale market, which also reduces the percentage of participation of these same operators regarding that observed one year earlier. Consequently, Yoigo and the MVNOs increased their market share in the national service termination. The international roaming service provides even greater concentration of shares in respect of other wholesale services. This is because only the operators with their own networks, namely, Movistar, Vodafone, Orange and Yoigo, provide these services to foreign operators. Thus, Movistar and Vodafone had almost equal shares, with 38.0% and 38.5% respectively, followed by Orange, 22.4%, and Yoigo, with 1.1% of the total.





International roaming traffic of each operator is closely linked to the size of the international group to which it belongs, and its policy of alliances and interconnection agreements with other groups. National operators with a strong presence in Europe, for example, have a very significant volume of intra-group roaming traffic.

3.3.3. Regulation and market outlook

The environment of economic crisis in 2009 affected the turnover recorded in the mobile market as well as the average consumption by end services per line. However, in this context there were two developments



Source: CMT

that are worth noting: first, the degree of concentration in the market was reduced; secondly, the mobile Internet access service showed very a high growth in both its turnover as well as in the penetration achieved in the market.

In 2009 there were declines in the prices of final services. Among the factors that led to this development include, firstly, the growing importance of Yoigo and the MVNOs in the Spanish market and, secondly, some regulatory intervention on prices at wholesale level.

Significant increase in market share of recent entry operators (Yoigo and MVNO)

Throughout 2009, the number of MVNO continued to increase, although not as much as in previous years. The clear increase in number of mobile lines of these operators is due especially to the capturing of customers by these MVNOs. The main innovation was the beginning of the commercial activity of various MVNOs: Moreminutes, You Mobile, Digi Mobil, zeroMovil and RACC Móvil.

- New regulations on roaming

In July 2009 the regulation (EC) No 544/2009 was published, it concerned international roaming services within the European Union. This regulation was intended to update and extend the regulation of these services,

	MOVISTAR	VODAFONE	ORANGE
Complete MVNO operators			
	Ono	Euskaltel	MÁSmovil
	Digi Mobil	British Telecom	Jazztel
		TeleCable	E-Plus (Simyo)
		R	
Service provider MVNO operators			
	zeroMovil	Lebara	Carrefouronline
		Eroski Móvil	Díamóvil
		Pepephone	Happy móvil
		Hits Mobile	Moreminutes
		RACC Móvil ³³	You Mobile

Source: CMT

launched in July 2007, with the Regulation (EC) No 717/2007.

In summary, the following is a table with all regulatory developments that the regulation introduced in the provision of international roaming services made within the European Union. The EU regulation on roaming on public mobile networks within the Community (717/2007) established that national regulatory authorities (NRAs) were responsible for controlling and supervising the proper implementation of those regulations and submitting a quarterly report to the European Commission with the results of this control.

RETAIL MARKET

		JULY 2009- JULY 2010	JULY 2009- JULY 2011	FROM July 2011
Voice call service (euros/minute)	Call made	0,43	0,39	0,35
	Call received	0,19	0,15	0,11
SMS message service (euros/message)	Sent SMS		0,11	
Data traffic		Limit set by default in the consumption of these kinds of services fix at 50 euros		

³³ The RACC Mobile operator gets access to the Vodafone network through an agreement signed with the MVNO operator Euskaltel.

	JULY 2009- JULY 2010	JULY 2009- JULY 2011	FROM July 2011
Voice call service from national network (euros/minute)	0,26	0,22	0,18
SMS message service from national network (euros/message)		0,04	
Data traffic through a national network (euros/Gigabyte)	1,00	0,80	0,50

Thus, in order to standardise the information that the various regulatory authorities were to ask their national operators, the European Regulators Group (ERG), formed by different European national regulators with the European Commission, established the minimum information authorities should collect from the operators offering roaming services within its territory. From that information, a report for monitoring the international roaming service is prepared and subsequently sent to the European Commission.

- New start of the decreasing path for termination prices (Glidepath)

A Glidepath update that should take effect during 2009 stemmed from the market analysis of national termination conducted by CMT. In fact, in February 2009, the CMT set a new path of national termination costs that was to reach the final price of 4 cents per minute for a call ended on a foreign mobile network in October 2011. This implies that in a period of two years, there will be a decline in national termination costs of approximately 42% on the price established in September 2007. The following table provides an illustration of the path of prices.

EUROS/MINUTE	OCT. 09-APR. 10	APR.10-0CT. 10	OCT. 10-APR. 11	APR. 11-0CT. 11	OCT.11-APR. 12
Movistar, Vodafone, Orange y OMV completos	0,061270	0,055074	0,049505	0,044500	0,040000
Yoigo	0,091182	0,078372	0,067361	0,057898	0,049764

Source: CMT

As has been seen in this chapter, we can expect that a significant further reduction in termination charges will result in lower final prices for consumers.

- Offers and sale strategies of the voice and data services

Throughout the year 2009, operators continued to increase the number of offers that combine mobile voice and data services. However, these products had numerous limitations compared with the combined

offers of those services based on fixed networks. First, the mobile voice service is not entitled to a flat rate of consumption, e.g. the majority of products that combine voice and data apply a discount on the price of a voice call and therefore, unlike what happens in the combined products in fixed lines, the pricing based on the length of the calls is not eliminated. Secondly, most Internet access charges of mobile Internet are linked to a limitation in the volume of information that is accessed from a moving line (the majority of offers have a download limit which may vary between 150 Mb and 1 Gb; if the download limit is exceeded the download speed is drastically reduced to 64 kbps).

- Converged Voice Services

Over 2009 products that combine fixed and mobile telephony services in the same deal and in a single device have been consolidated; these services allow the use of both the geographical numbering as well as the mobile numbering at the same time. These products have gained significant presence in the Spanish market, both in the residential segment as well as in the business segment (discussed in the section "Fixed line" of this report).

- Forecast for sharing the digital dividend

With regard to the legislative measures, it is worth noting the adoption of the amended GSM Directive and Decision 2009/766/CE requiring Member States to make available to operators the frequency bands of 900 MHz and 1800 MHz for UMTS systems, in addition to the traditional use of the GSM system. Once incorporated into the Spanish system,³⁴ this should be a boost to the deployment of broadband access in mobility, especially in rural areas. To this end, it will be necessary to amend the existing certificate to widen the spectrum use in these bands and particular attention will paid to those issues likely to affect competition in the mobile markets. Also during 2009, the Government announced that it would cover part of the digital dividend. in particular the 790-862 MHz band, providing access to broadband mobility. In the medium term, the allocation of this frequency band with 190 MHz free from the 2.6 GHz band should enable operators to enjoy sufficient spectrum to support growing demand for broadband communications and deployment of 4G systems, which are now a reality.

In Europe, the adoption of the new regulatory framework will lead to increased flexibility from operators in the use of the spectrum, through a progressive implementation of the principles of technological neutrality and services. In the same direction, approval of the transfer and ceding between operators of the rights to use frequencies used by mobile systems is also being anticipated.

3.4. Internet Access Services

In 2009, the Internet access services had positive growth in terms of revenue and number of lines. Although in recent years the revenues experienced a double digit growth, the unfavourable economic environment in 2009 slowed the growth of the sector. Thus, revenues from retail Internet services totalled \in 3.933m, an increase of 2.2% over fiscal year 2008. Despite the slowdown in growth, this was the only service with a positive change in income.

In fiscal year 2009, the broadband Internet access service continued its progress regarding the number of accesses. Thus, access to the Internet from mobile networks, as seen in the section on mobile communications, exceeded 1.96 million data cards. On the other hand, Internet access services from fixed networks (xDSL and cable networks) continued to be the most representative in the number of connections and revenues. In this section, figures and statistics focus on Internet access service provided over fixed and wireless networks³⁵ in this sense, at the end of 2009 the lines of broadband Internet reached 9.8 million lines, an increase of 7.3% over 2008.

xDSL alternative operators continued their progress in broadband connections using unbundling of the loop of the user as the main mode of access, to the detriment of the direct access. However, an increase in requests for indirect access from October 2009 has been detected, following the availability of new forms of indirect access without having a telephone service contract with Telefónica.

The numbers regarding the deployment of nextgeneration network access, fibre-optic based and that allow end users to offer higher speed Internet access and other advanced services were affected by the economic slowdown in the last two years. Thus, in 2009, the active Internet access connections over fibre-based FTTH did not exceed 19,000, although the number of fibre access

³⁴ ITC/332/2010 Order of 12th February, approving the national table of frequency allocation (CNAF).

³⁵ LMDS, WiMAX, Wi-Fi and satellite.

lines installed exceeded 686, 000. With regard to the progress of cable networks, the migration of access based on DOCSIS 1 and 2 to DOCSIS 3 stood out, which allows higher connection speeds so that, in June 2009, the number of active cable access with this technology exceeded 180,000.

In 2009 the number of contracts of packaged Internet access services continued, as well as the range of bundled service offers offered by the operators, that while nominal prices remained similar to previous years, they did offer increases in connection speed and monthly discounts through promotions.

3.4.1. Retail services

a) Narrowband services

In 2009 the decline in narrowband connections (that allow users to access the Internet through dial-up connections with the copper pair at speeds between 54 Kbps and 128 Kbps) continued. At the close of 2009 there were a total of 189,223 dial-up access lines to Internet, which represented a decrease of 44.4% compared to 2008.

Revenues from Internet access service through dial-up connections showed a decrease of 46% so at the end of 2009 the figure reached was €7.9m versus €14.6m in 2008. Dial-up access service to the Internet is presented as an alternative residual access that has been gradually replaced by the connections of higher bandwidth, e.g. dedicated access services.



Source: CMT

b) Broadband services

In fiscal year 2009, the annual growth of broadband connections was 7.3%, in any case lower than the increase experienced in 2008, as that year exceeded 13%. In absolute terms, in 2009 there were 663,527 new broadband Internet connections added, reaching a total of 9,799,486. This absolute increase in broadband connections was significantly lower than the figure of

2008 during which time they had created a little over 1 million new connections.

- Penetration

The slowdown in the increase of broadband connections in 2009 was reflected in the modest increase of their penetration. Thus, the penetration³⁶ of broadband access via fixed networks in Spain stood at 21.0 lines per 100 inhabitants. This figure represented an increase on the last year of 1.2 lines per 100 inhabitants, a figure which is lower than those obtained in the years 2007 and 2008, when increases were 3 and 2 lines per 100 inhabitants. In the European context, the Spanish penetration data stood, once again, below the EU average of 27, which was 24.8 lines per 100 inhabitants, according to the 15th Implementation Report published by the European Commission.

In 2009, according to the Eurostat data published by the European Commission, 51% of Spanish homes had a direct broadband Internet connection compared to the EU average of 56% (EU27).

The development of communications network infrastructure and, in particular, of broadband networks, presented significant differences from the geographical point of view.

In the geographical analysis of the penetration of broadband connections (xDSL and cable) at the provincial level there were important differences between the various Spanish provinces. Thus, a total



BROADBAND PENETRATION (lines / 100 inhabitants)

Source:CMT

of fifteen provinces ended the financial year 2009 with a penetration above the national total, which stood at 20,7³⁷ lines per 100 inhabitants. An additional exercise, the provinces of Madrid and Barcelona reached the highest penetration figure and were the only provinces with above average penetration of the EU 27.

Among the provinces that were above the average penetration and noted for their progress was Navarra, as although the penetration was less than the national total in 2008, in the year of 2009 the penetration was above it. In contrast, the moderate growth in the province of Malaga placed this province under the national total penetration in the last financial year.

Finally, in 2009, the provinces with lower penetration were Lugo, Zamora, and Orense. Penetration in these provinces was below 14 broadband lines per 100

³⁶ Calculated from the total of mobile lines and population data in 2009: 46,745,807 inhabitants (INE source). This figure of penetration of broadband lines differs from that provided by the European Commission in the 15th Report on implementation, as the European Commission used population data from Eurostat, which corresponds to the INE data not updated for 2009: 45,828,172 inhabitants.

³⁷ Penetration considering xDSL lines and cable modem.

inhabitants. However, these provinces had growth in their penetration that is above the national total.

Penetration increases were moderate in most provinces and in some cases there were setbacks. In 2009, the increase of broadband lines at national level was 1.1 lines per 100 inhabitants. This represented a reduction of growth of 50% compared to the year 2008, in which penetration had increased by nearly two lines per 100 inhabitants.

BROADBAND PENETRATION BY REGIONS³⁸ (lines / 100 inhabitants)



Source: CMT

The following map shows the provincial distribution of increased penetration in the last year. A total of 37 provinces showed growth at or above the national total. The highest growth of penetration, two broadband lines per 100 inhabitants, were found in the provinces of Melilla, Navarra, Segovia, La Coruña, Asturias and Huesca.

Girona, Malaga, the Balearics and Almeria were the regions with lower increases in broadband penetration, it hardly changed. In the last two provinces noted above, there was even a setback. In the penetration analysis broken down by municipalities, and with data from June 2009, one can observe a clear trend of decreasing penetration as the size of the municipality in terms of number of inhabitants is reduced. Madrid and Barcelona had the highest rates of penetration.

Municipalities with a population of over 50,000 inhabitants had, on average, one or more penetration of 20.9 lines per 100 inhabitants. This penetration was higher than that

 $^{^{38}}$ The intervals have been set from the mean \pm standard deviation. The upper and lower ends are determined by the minimum and maximum value respectively.

³⁹ The lines that have been considered are broadband xDSL and cable modem.



INCREASE OF BROADBAND PENETRATION BY REGIONS 40 (lines / 100 inhabitants)

Source: CMT

which existed at the national level in June 2009 (20.2 lines per 100 inhabitants) and in December 2009 (20,7⁴¹). By contrast, municipalities with less than 50,000 inhabitants did not exceed 18 lines per 100 inhabitants.

The following chart shows penetration by access type and size of municipality:

On the map below we see the distribution of the penetration of broadband access by municipalities:

- Lines and technologies

Service to broadband access can be provided through multiple technology alternatives that can be classified into the following groups:



BROADBAND PENETRATION⁴² BY TYPE OF MUNICIPALITY. JUNE 2009 (lines / 100 inhabitants)

Source: CMT

⁴⁰ There are set at intervals from the mean ± standard deviation. The upper and lower ends are determined by the minimum and maximum value respectively.

⁴¹ Penetration considering broadband xDSL and cable modem lines.

⁴² The above data correspond to the request made by the CMT geographic data from June 2009.

- The technologies supported on fixed networks: xDSL technologies over copper pair, the technologies on cable networks such
BROADBAND PENETRATION BY MUNICIPALITIES (lines / 100 inhabitants)



Source: CMT

as HFC networks using a mixed media fibre optic and coaxial cable, and finally, technologies for optical fibre networks.

- On wireless networking technologies: LMDS, WiMAX (cover large distances) and Wi-Fi (reduced coverage environment). We can also highlight in this group third generation mobile services (3G).
- The networks supported by satellite systems such as VSAT.

In 2009 the xDSL and cable networks remained the dominant access technologies; they represent, as a whole, almost 99% of the contracted lines. The other technologies had little representation in the total market with a total of 112,578 lines.

With regard to the deployment of New Generation Access Networks (NGA), and in particular to the deployment of optical fibre access networks, it is necessary to emphasize its still low penetration in Spain. Among access networks through fibre optics (generically called FTTx), depending on the scope of optical fibre they include: fibre networks to the home (FTTH), networks with fibre to the building (FTTB) and networks with fibre to the node (FTTN). Connections through these technologies can provide users access to faster speeds, more innovative services and improved quality of service than the current access networks based on the copper pair allow.

At the close of 2009, the amount of broadband access via FTTH technology amounted to 15,229 lines in the residential segment and 3,440 lines in the business segment, representing a gain of 14,784 lines in the last year.

Regarding the breakdown of the FTTH access by operator, Telefónica reached a market share of 60.6%. The remaining lines are distributed primarily between the operators TeleCable, Adamo, Colt, Orange and Jazztel.

In the year 2009 7,747,809 xDSL lines were reached, that meant an increase of 7.5% over 2008. For its part, the lines of Internet access via cable showed an annual growth below the overall market, so that, at the end of 2009, there were 1,939,099 connections, representing an annual increase of 5.4%.



DISTRIBUTION OF FITH BROADBAND LINES BY OPERATOR (lines)

Source: CMT

As regards the distribution of the connection by segments (residential and business) in 2009 the reduction of the amount of xDSL lines in the business

segment continued, due in part to the economic downturn. Thus, xDSL lines in this segment increased by 22,619 connections. As regards the residential



PROGRESS OR BROADBAND LINES BY TECHNOLOGIES (millions of lines)

Source: CMT

market, xDSL lines reached a rate higher than 77%. Regarding the distribution of the access cable segment, it remained stable in 2009.

In late 2009, the lines in the residential segment accounted for a total of 7.8 million lines, while, for its part, the business segment closed the year with 1.9 million lines.

In the progress of broadband lines according to their contracted connection speed, as in previous years, an increase of the lines of a faster connection and a progressive reduction of the lines with speeds of 3 Mbps or less could be observed. Thus, in 2009 the migration by Telefónica of 3Mbps to 6Mbps lines continued and increased commercial offers of higher speeds.



PROGRESS OF BROADBAND LINES BY SEMENT (percentage)

Source: CMT

As shown in the chart below, nearly 60% of contracted Internet lines were placed with connection speeds of 4 Mbps or higher. The lines with connection speeds of 1 Mbps in 2009 fell more than 20% and in the last three years, their percentage volume in all lines went from 60% to the amount of 11.1%. In return, the lines in the range of 4 to 10 Mbps exceeded 4.6 million compared to the existing figure of 1.5 million in 2006.

With regard to higher-speed lines, the increase in 56.5% of broadband lines with more than 10 Mbps is noticeable. At the end of 2009, there were a total of 1,210,315 connections and, of these; over 73% had a speed equal to or greater than 20 Mbps.

In 2009 the growth of broadband lines through the unbundling of the loop continued as a way of end-user access by alternative xDSL operators. Thus, alternative xDSL operators continued to invest in the telephone exchange connection with its own infrastructure and subscriber growth in locations with presence through co-location. This increase of the unbundled loop was



reflected in the setback of the indirect access. However, the emergence of the new form of indirect access without having a telephone service contract with Telefónica has allowed operators to market new offers. That did change the trend from decreasing to increasing in the requests for indirect access from October 2009.

Thus, broadband access through the unbundled loop recorded a growth rate of 24.2% over the previous year and accounted for 20.6% of total broadband lines. For its part, the indirect access accounted for 3.7% of all lines with a reduction of 15.1% during last year.

The stagnation in the growth of lines of cable operators was reflected in the loss of share in the market as a whole, so that by the end of 2009 the figure was 19.8%. This

represents a loss of 0.3 percentage points in the last year and more than 5 points compared to 2003.

In 2009 the share of Telefónica showed a turnaround in the following sense: although its share of broadband lines had increased by 2.6 percentage points in the period between 2005 and 2008, in 2009 their share was reduced up to 54.9%, similar to 2004.

- Revenues

The slowdown in the increase of the lines of broadband is also reflected in the revenues. In 2009, revenues generated by broadband xDSL lines amounted to \notin 2,669m. In the case of cable lines, revenues reached \notin 608 million. These figures represent an annual growth of 4.1% and 5.9% respectively, and



Source: CMT

are well below the figures achieved in 2008, a period in which revenues grew by 12.6% and 6.8%.

The breakdown of revenues by segment shows that the business segment revenues were affected by the unfavourable economic environment and, after growing by 2.6% in 2008, saw a drop of 4.2% in 2009. Thus, in absolute terms, the business segment revenues totalled €848m, a figure comparable to the levels of 2007 income. In the residential segment revenues reached



PROGRESS OF BROADBAND REVENUES BY TECHNOLOGY (billions of euros)

Source: CMT

 \in 2,498m, representing a growth of 8.2% during the last year.

The above figures, with a decrease in revenues from Internet lines in the broadband business segment on the one hand and stagnation in the number of lines on the other, reflected the way in which the unfavourable economic situation for the business sector had a negative impact on the services of broadband Internet for this segment. Therefore, the overall positive growth in lines and Internet lines revenues were driven forward, to a large extent, by the increase of demand in the residential segment.

- Packaging

In 2009, contracts for broadband Internet services continued to increase in conjunction with other services. This trend was also observed in the commercial offers of the operators. Thus, the vast majority of deals in the



PROGRESS OF BROADBAND REVENUES BY SEGMENT (billions of euros)

market join together their broadband service to fixed telephony and television.

In 2009, the number of broadband lines that were contracted with another service in the residential segment amounted to 7,545,528 lines, representing 95.6% of total lines. In the business segment, the

percentage of packages was 68.3%, with 1.30 million lines.

The breakdown of packaged Internet residential lines shows that the Internet broadband service offered in conjunction with fixed voice reached, at the end of 2009, a rate of 75.1% compared to 74% in the previous year.



RESIDENTIAL PACKAGED BROADBAND LINES (percentage)

Source: CMT

For its part, the packages of broadband Internet with TV service included showed no significant changes in their percentages. Thus, on the whole, packages including television reached 20.6% of residential Internet lines compared to 21% last year.

The analysis of packages by type of operator shows significant differences between operators providing their services through xDSL technology with the pair of copper and cable operators. In the case of Telefónica and alternative xDSL operators, television had low





penetration in the contract packages; however, TV continued its relevant role as a packaged service in contract packages from cable operators.

Double packages with broadband and fixed voice contracted from Telefónica represented an 82.1% of the total of residential broadband lines in the operator, a figure that is not showing any significant changes compared to the year 2008. It introduced however, a most significant advance of the supply of triple play, e.g., fixed phone line, broadband and television, which reached 15% of lines, representing an improvement of 1.5 percentage points in the last year. For their part, alternative xDSL operators increased the proportion of Internet and voice lines by 3 percentage points and closed 2009 with 1.93 million packages.

Cable operators kept the television service as a main member in the packaged deals offered to the user and this is also reflected in the levels of recruitment packages. Thus, the packages that included pay television accounted for 50% of the total lines contracted and, in absolute terms, it reached 919,000 packages. The package of broadband and fixed telephony increased 2.4 percentage points and reached 45.2% of residential broadband lines.

Despite progress in the convergence of services and the increasing trend of contracting combined services, the percentage of packages with the television service from xDSL alternative operators and from Telefónica reached reduced levels when compared to packages of fixed telephony and Internet. This was due in part to the limited range of packaged products with TV service by these operators due to existing access limitations for networks based on copper pair. Therefore, the gradual migration of the current access network to access networks based on fibre optic will lead, presumably, to a shift in the types of deals and ways of engaging the combined services to these operators, and will include a greater role from audiovisual services.

In the distribution of broadband lines in the business segment by type of package, the prevalence was observed, as in the case of the residential segment, of the package of Internet telephony, and, as in previous years, the amount of broadband Internet offers without a



RESIDENTIAL BROADBAND LINES BY TYPE OF PACKAGE AND OPERATOR (percentage)

Source: CMT

package stood out. These deals reached 31.7% in 2009, with a drop of 3.7 percentage points in the last year.

The lines with connection speeds of 3 Mbps or higher accounted for more than 85% of the total and of these, the nominal connection speeds above 4 Mbps reached

- Lines Speed



BROADBAND LINES IN THE BUSINESS SEGMENT BY TYPE OF PACKAGE (percentage)

Source: CMT

60% with the significant volume of 6 Mbps lines from Telefónica.

A breakdown of speeds shows that the lines between 4 Mbps and 10 Mbps accounted for nearly 55% of telephone connections compared to 40.8% in 2008. This important development was due, firstly, to the migration of the speeds contracted by users from 3 Mbps to 6 Mbps (which the incumbent began in 2008) and, secondly, to the progressive increase of contracts of offers with rated speeds of 10 Mbps.

For their part, the lines of cable operators showed a decrease in the range of speeds from 4 Mbps to 10 Mbps. Thus, in 2009 the lines of this range reached a rate of 46.7% versus 68.2% in the last year. In contrast, lines with speeds exceeding 10 Mbps increased 10 percentage points during the year to reach 17.4% of the lines of cable operators. The lines with connection speeds of 3 Mbps experienced an improvement due to new contracts that were made of that speed by the cable operator Ono. Finally, the presence of broadband lines with speeds exceeding 20 Mbps was highlighted which accounted for 1.4%, these lines were, in the main part, added by Ono and TeleCable.

As regards alternative xDSL operators, there continued to be a trend of increasing speed in the distribution of their lines. Thus, the contracted connection lines with speeds higher than 10 Mbps in 2009 reached 34.6% compared to 29% in 2008. This improvement was also observed in the range of 4 Mbps to 10 Mbps with an increase of almost 8 percentage points in 2008.

- Progress of prices and trade deals

The prices of broadband services are diverse, responding to a number of factors that condition them and they



BROADBAND LINES PER CONTRACTED SPEED ANDA OPERATOR TYPE (percentage)

are mostly offered in combination with other end-user services. This makes their measurement and comparison over time, or by operators, complex. In 2009 there was a slight reduction in broadband prices mainly due to two reasons: firstly, to the increase of the intensity of competition in promotions, especially in the second half of the year and secondly, to the almost exclusive selling of broadband as a packaged product, which resulted in lower joint prices for each of the services contracted individually. We present in this section various measures of the prices of the existing broadband in Spain and its recent developments.

The following chart shows that the average annual income⁴³ per broadband line experienced a slight decline in 2009. Thus, the average revenue per broadband line stood at €341.40 per year with a decline of €10.40 per line. Connection speeds of broadband lines continued the upward trend, although to a lesser extent than in 2007.

In the breakdown of the average annual income per line and type of operator, there was a trend with no significant changes in the three types of operators. Telefónica filed an average income higher than the other operators,



PROGRESS OF THE AVERAGE INCOME PER BROADBAND LINE AND CONNECTION SPEED (percentage and euros)

Source: CMT

with a slight reduction in 2009. It is necessary to take into account that the criterion for allocation of packaged service revenues to the various individual services differ according to each operator and, therefore, affect the variable in question. In the analysis of commercial offerings of the major operators, as in previous years, some significant changes in offer prices compared to prices in the previous year were observed. It should be noted, however, that an increase in commercial offers of higher speeds was observed as well as greater intensity and amount of discount offers through promotions launched during the year.

As regards the nominal prices, the chart below shows the progress of average prices in 2008 and 2009 of the packaged offers⁴⁴ more representative of broadband voice service by speed. It shows a slight reduction in average price in the offers with connection speeds of 3 Mbps, 6 Mbps and 10 Mbps. In this regard, it should be noted that

⁴³ This variable results from considering the earnings of both dedicated access lines services as well as the lines reported by operators. The difficulty of allocating revenue to individual services, when there are packages of services, affects the variable of average revenue per broadband line.

73% of the contracted lines of broadband Internet was at the range of speed from 3 Mbps to 10 Mbps.

The following graph shows a comparison of price differentials between the packaged offers for broadband and nominal voice prices and the actual prices⁴⁵ over 27 months, namely, what a customer pays monthly for

COMPARISON OF AVERAGE FEES FROM BROADBAND OFFERS + VOICE BY SPEED, WITHOUT TAKING INTO CONSIDERATION SPECIAL DEALS (monthly fee in euros)



Source: CMT

his Internet service and voice when he remains with his operator for 27 months, for market offers⁴⁶ with connection speeds of 6 Mbps, 10 Mbps, 20 Mbps and 50 Mbps.

It should be noted that the prices reflected in the graph correspond tooffersof direct accessor limited geographical range, e.g. those offers that alternative operators (in this case Orange, Jazztel and Vodafone) offer the end user by unbundling of the loop or by their own network in the case of Telefónica and Ono.

If we look at price differences, Telefónica had the highest discounts in the offers listed. Thus, the actual price of the double package of voice and broadband from Telefónica of 6 Mbps and 10 Mbps were on average respectively 17% and 16% below their nominal prices. In the case of alternative operators, the discounts were less aggressive. Even so, both the nominal and the actual prices were lower than the incumbent. Regarding the cable operator Ono, while the nominal price of the offer for 6 Mbps was less than that of the nominal price of Telefónica, considering the actual price it can be observed that this was above the incumbent.

The comparative analysis of nominal prices of packaged offers⁴⁷ of broadband Internet and voice of 3 Mbps and 6 Mbps depend on the type of access, e.g. taking into account if they are based on direct access or indirect

⁴⁴ The average has been made with a set of commercial offers representing the main xDSL operators (Telefónica, Orange, Vodafone, and Jazztel) and cable (Ono, Euskaltel, TeleCable, R). The prices include the subscription of the line and do not include promotions or VAT. The offers include unlimited Internet usage and voice service and include 24h national calls.

⁴⁵ To calculate the actual price with discount (PPD_M) the following formula has been used : PPD_M = (PD * D + PN * (MD)) / M. Where PD = discounted price, D = duration of the discount,

PN = nominal price (no discount) and M = temporary horizon. In this case, it was considered that M = 27 months.

The promotions included correspond to discounts on the monthly subscription price of the service and non-recurring payment promotions are not considered (for example, joining charges or Wi-Fi router).

⁴⁶ The prices quoted in the offers, as in the chart above, include the monthly line rental. The offers included in the comparison correspond to offers that were active in December 2009.



COMPARISON OF BEST OFFERS AND PROMOTIONS OF BROADBAND + VOICE BY SPEED (monthly fee in euros)

Source: CMT

access, it shows that operators who accessed the market through the unbundling of the loop offered prices on the broadband offers significantly lower than the incumbent. Moreover, the prices of offers based on the unbundling of the loop were considerably lower than indirect access offers, but the price differential in this case has been reduced compared to previous years.

An alternative method for measuring the average price of broadband is based on the actual behaviour of households and measurement through their average



COMPARISON OF OFFERS OF BROADBAND + VOICE OF 3 MBPS DIRECT ACCESS VS. INDIRECT ACCES (monthly fee in euros)

Source: CMT

⁴⁷ Active deals in December 2009. Prices shown in the offers do not include promotions or discounts. The prices include the monthly line rental.



CONTRACT OF BROADBAND + VOICE 6 MPS DEAL DIRECT ACCESS VS. INDIRECT (monthly fee in euros)

Source: CMT

bill payments for the most requested services, which in the case of the Spanish market are package services. From the data collected in the fourth quarter of 2009 in the household panel CMT-Red. es, which includes a representative sample of 3,000 households, we find that the average expenditure per household for a package that includes voice and broadband stood at €42.80/month for all operators and online share included. In the case of a triple package, namely the inclusion of television service, the average expenditure per household amounted to €54.20/month.

Broken down by operator, we find that the average expenditure⁴⁸ per household, with the inclusion of discounts or promotions in the double package of voice and broadband contract with Telefónica was \notin 47.30/ month, in the case of cable operators the average household expenditure was \notin 37.80/month. Finally, the average expenditure of a household that has contracted the service of a double package with an alternative operator was \notin 33.30/month for direct access and \notin 37.00/month for indirect access. Therefore, the

average expenditure of households which purchased the broadband and voice service with Telefónica was 25.1% and 42% higher than average expenditure of households which purchased the service with a cable operator or alternative (with direct access) respectively.

- Market Shares

In the market share of broadband lines by type of operator, there was a tendency towards the decline in the share of cable operators. Thus, at the close of 2009, their share stood at 19.8%. The market share of the incumbent last year fell to levels similar to those of more than three years ago and ended the year with a rate of 54.9%.

The loss of market share of cable operators and of Telefónica represent, therefore, a breakthrough to xDSL alternative operators, which in the last year increased their share in almost two percentage points and reached a rate of 24.3%, their highest share to date.

In the fiscal year of 2009, xDSL alternative operators had the highest levels of uptake of new lines, above Telefónica

⁴⁸ The average expenditure indicated includes the cost of line rental discounts and promotions and monthly fee.



DISTRIBUTION OF BROADBAND LINES BY TYPE OF OPERATOR (percentage)

Source: CMT

and above cable operators. Thus, in the past year a total of 663,527 new broadband lines⁴⁹ have been added, of these, Telefónica captured 33.1%, while alternative xDSL operators captured 50%.

In absolute terms, during 2009, Telefónica increased its pool by 219,804 lines and its competitors (cable operators

and alternative xDSL) managed to increase their portfolio by 428,404 lines. The other operators picked up the remaining 15,319 lines for Wi-Fi technologies, WiMAX, LMDS, satellite and fibre.

The following chart shows the progress of the last four years in relation to the variation of broadband lines by



PROGRESS OF BROADBAND LINES PER TYPE OR OPERATOR (millions of lines)

Source: CMT

⁴⁹ Includes broadband lines, Wi-Fi, WiMAX, LMDS and satellite.
type of operator. It shows a process of slowing in the growth of lines. However, it is noteworthy that alternative xDSL operators managed growth rates well above the other operators and of the total market and maintained a rate comparable to the previous 2 years.

The market as a whole showed an increase in broadband lines by 7.3%, Telefónica and cable operators grew by 4.3% and 5.4% respectively. For the first time in the

last four years Telefónica presented a growth rate below the overall market average. For their part, alternative xDSL operators grew over both Telefónica and the total broadband, with a percentage of 16%.

A breakdown of the line and fees by operator shows that Telefónica's share declined in the last year, but even



YEAR ON YEAR VARIATION OF BROADBAND LINES BY TYPE OF OPERATOR (variation rate)

Source: CMT

so, continued to control more than half the market. For their part, Ono and Orange had a decline in their market shares and, in the case of Orange, also in the number of connections. The other operators showed positive developments in their shares.

MARKET SHARES BY NUMBERS OF BROADBAND LINES (lines and percentages)

		-		
	LINES 08	SHARE 08 (%)	LINES 09	SHARE 09 (%)
Telefónica	5.155.255	56,4	5.375.059	54,9
Ono	1.393.494	15,3	1.447.296	14,8
Orange	1.163.970	12,7	1.086.259	11,1
Jazztel	380.791	4,2	591.995	6,0
Vodafone	393.818	4,3	580.583	5,9
Euskaltel	202.730	2,2	218.233	2,2
R	150.639	1,6	175.679	1,8
TeleCable	96.653	1,1	106.262	1,1
Other	198.609	2,2	218.120	2,2
Total	9.135.959	100	9.799.486	100

The relative position the majority of operators had was levelled with the previous year, however, there were setbacks in the shares of the three major operators (Telefónica, Ono and Orange) which reached as a whole almost 81% of broadband internet lines. Telefónica experienced a decline in its share of 1.5 percentage points. The retreat of Ono, the second operator in number of lines and revenues, was moderate, with a half-point and remains the main competitor of Telefónica with their own network.

Regarding alternative xDSL operators, Orange had the biggest drop at 1.6 percentage points and reached a market share of 11.1%. As regard positive developments, as happened in 2008, Jazztel and Vodafone stood out. In 2009, both operators obtained the highest growth rates in terms of broadband lines; both operators captured 60% of new connections in the past year. Jazztel closed the year with a 6% share, nearly two points higher than its share of 2008, which placed it in fourth place ahead of Vodafone, which obtained a share of 5.9%. Therefore, in 2009 there was an exchange of positions of both operators as regards number of lines.



MARKET SHARE BY NUMBER OF CONNECTIONS (percentage)

Source: CMT

Based on the shares of broadband lines per segment (residential and business) in 2009, the leadership of Telefónica in the business segment continued, with a market share of 80%, slightly below the one achieved in 2008. On the other hand, the progress of Jazztel in this segment stood out, that even though it was fourth in 2008 in terms of number of lines, in the year 2009 it reached a market share in the business segment of 4.5% which places it in second place ahead of the operators Ono and Orange.

In the residential segment, the relative positions of the operators remained with setbacks and advances indicated in the total of lines of the market.

	RESIDENTIAL LINES 09	RESIDENTIAL SHARE 09 (%)	BUSINESS LINES 09	SHARE 09 (%)
Telefónica	3.847.246	48,8	1.527.813	80,0
Ono	1.385.703	17,6	61.593	3,2
Orange	1.016.308	12,9	69.951	3,7
Jazztel	506.077	6,4	85.918	4,5
Vodafone	529.546	6,7	51.037	2,7
Euskaltel	189.106	2,4	29.127	1,5
R	139.256	1,8	36.423	1,9
TeleCable	97.043	1,2	9.219	0,5
Other	180.259	12,3	37.861	2,0
Total	7.890.544	100,0	1.908.942	100,0

MARKET SHARE BY NUMBER OF BROADBAND LINES AND SEGMENT (lines and percentage)

Source: CMT

The following chart shows the increase in the number of broadband lines over the past year. As mentioned earlier, the highest growth was obtained by Jazztel and Vodafone. Thus, it is noted that both operators increased the percentage of 2008 and showed significant dynamism in attracting new customers. While these operators achieved growth rates in 2008 of 46.5% and 42.2%, in the year 2009 these figures stood at 55.5% and 47.4% respectively. The other operators had positive growth increases with the exception of Orange, which fell by 6.7%.





Regarding the net increase in the number of broadband lines, Telefónica, Jazztel and Vodafone had the greatest gains. The three operators, together, captured 617,773 broadband lines. For its part Orange suffered a net loss of 77,711 lines.



NET GAIN SHARES OF BROADBAND LINES (percentage)

Source: CMT

In relation to the revenues dedicated to Internet access, during 2009, the major operators increased their revenue figures, apart from Orange, which saw a reduction of 10.4%.

MARKET SHARES BY REVENUES (millions of euros and percentage)
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	REVENUES 08	SHARE 08 (%)	REVENUES 09	SHARE 09 (%)
Telefónica	1.944,05	60,5	1.952,43	58,4
Ono	447,18	13,9	465,95	13,9
Orange	313,12	9,7	280,50	8,4
Jazztel	148,48	4,6	226,52	6,8
Vodafone	116,13	3,6	163,31	4,9
Euskaltel	60,92	1,9	69,27	2,1
R	44,66	1,4	44,70	1,3
TeleCable	32,76	1,0	35,26	1,1
Other	106,72	3,3	107,83	3,2
Total	3.214,01	100,0	3.345,78	100,0

As regards the income shares, Telefónica held the lead but with a reduction of its share of more than two points over the figure achieved in 2008 and closed 2009 with a rate of 58.4%. For its part, Ono, which experienced a reduction in the quota on the number of lines, maintained its share of income. The greatest progress was staged by Jazztel and Vodafone with revenue increases of 52.5% and 40.6% respectively.

The breakdown of income shares by technology shows that, in connection with xDSL technology, Telefónica had a quota that is far above those of its competitors, although it experienced a reduction of 2.7 percentage points in respect of fiscal year 2008.



Source: CMT

In connection with cable technology, Ono continued to be the operator with the largest share of income and ended the year 2009 with 73.5%, more than one point lower than 2008. However, it should be noted that the

operator Ono is present in a large percentage of the national territory, while the other cable operators provide their services only in certain geographical areas.



- Geographical development of broadband infrastructure

The penetration of broadband services, as indicated in previous sections, presents significant differences from the geographical point of view. Thus, in 2009, the most relevant end-user access at a fixed location remained the xDSL and cable technologies. However, the penetration of one or another access technology varies widely by geographic region.

The following points show the geographic penetration of broadband access technology according to cable modem or xDSL technology and for the geographical levels of province and municipality.

In 2009, the cable lines grew by 5.4%, a lower figure than the 9.8% of 2008. As regards penetration, 4.1 lines per 100 inhabitants were reached.

At the provincial level, a total of 23 provinces finished 2009 with a penetration equal or superior to the national

total. The highest cable penetrations were observed in the provinces of Galicia, the Cantabrian coast, the Levante and in some regions where local cable operators were present.

The provinces that showed the greatest penetration were Vizcaya, Asturias and Guipúzcoa where they exceeded over nine lines per 100 inhabitants. In these cases, the presence of Euskaltel cable operator in the Basque Country and TeleCable in Asturias were the drivers of an increased presence of cable as a means of broadband access to the end-user. In Galicia, the presence of the cable operator R increased penetration in the provinces of La Coruña, Pontevedra and Orense above the national total.

Finally, in the provinces of the Levante (Valencia, Albacete, Castellón, Murcia and Alicante) and in other provinces, the numbers of high cable penetration were motivated by the presence of the operator Ono.

CABLE-MODEM PENETRATION BY REGIONS ⁵⁰ (lines / 100 inhabitants)



Source: CMT

⁵⁰ Los intervalos se han fijado a partir de la media ± 0,5 la desviación estándar. Los extremos inferior y superior vienen determinados por el valor mínimo y máximo respectivamente.

The following map shows the geographical distribution of broadband lines via xDSL. It shows that Barcelona, Madrid and Girona ended the year 2009 with the highest penetration of broadband lines per 100 inhabitants and exceeded 21 xDSL lines per 100 inhabitants.

At the national level, xDSL lines grew by 7.5% and their penetration stood at 16.6 xDSL lines per 100 inhabitants. A total of fourteen provinces had a higher penetration

than the national total penetration; on the contrary, the provinces of Lugo, Albacete, Zamora, and Orense were the provinces with less penetration and did not reach 10 xDSL lines per 100 inhabitants. However, these provinces had a year-on-year growth higher than 10%.

In the analysis of the penetration of broadband lines at the municipal level,⁵² and based on a set of such municipalities within the national territory in terms of its



Source: CMT

population, in the municipalities of Barcelona, Madrid and the areas with less than 50,000 inhabitants, it was observed that the penetration of cable access was not significant. Penetration in these municipalities did not exceed 3 lines per 100 inhabitants. On the other hand, municipalities with a size between 50,000 and 500,000 people had a higher average penetration than the national total, which, at the close of 2009, was 4.1 lines per 100 inhabitants.

Finally, the xDSL technology was the most representative type in all municipalities. The penetration of xDSL lines showed no significant differences in the municipalities of between 1,000 and 500,000 inhabitants, which

had average penetration between 13.3 and 17.2 lines per 100 inhabitants. The highest rate of penetration occurred in Barcelona and Madrid and the lowest, in the municipalities of equal or less size than 1,000 inhabitants, which did not exceed 7.5 lines per 100 inhabitants.

 $^{^{51}}$ The intervals have been set from the mean \pm standard deviation. The upper and lower ends are determined by the minimum and maximum value respectively.

⁵² The data reported in the municipal analysis correspond to a specific geographical requirement and with data corresponding to June 2009.



XDSL AND CABLE PENETRATION BY TYPE OF MUNICIPALITY (lines / 100 inhabitants)

The following map shows the distribution of the penetration of broadband access via cable modem in the different municipal areas.

The presence of cable in specific regions and municipalities is remarkable, as well as their absence in large parts of the country.





Source: CMT

Finally, in the chart below the distribution of penetration⁵³ of broadband by Autonomous Regions can be observed for the year 2009 as well as the increase experienced during the past year.

Madrid and Catalonia ended the year 2009 as the Autonomous Regions with the highest penetration of broadband internet service. Thus, their penetrations were at 26.4 and 24.5 broadband lines per 100 inhabitants, respectively, which represented increases of 1.7 and 0.7 lines per 100 inhabitants.

During fiscal year 2009, a total of nine Regions achieved a higher penetration of the national total which stood at 21 lines per 100 inhabitants. In the rest of the Regions, with the exception of La Rioja, penetration figures were even lower than the total penetration of 2008, which was of 19.8 lines per 100 inhabitants. Murcia and Extremadura did not exceed 16 lines per 100 inhabitants, and were the Regions with the lower penetration of broadband lines.

Melilla, Asturias and Navarra were the Regions with the biggest growth in penetration, in the last year the penetration of broadband in these Regions was increased above 2 lines per 100 inhabitants.

3.4.2 Wholesale Services

After the analysis of the competitive situation of the wholesale markets with physical access to the network and with broadband access, in January, 2009, on the one hand, the CMT approved the definition and analysis



⁵³ Penetration calculated with the total broadband lines.

of the wholesale market with (physical) access to network infrastructure (including shared and fully disintegrated access) on a set location (market 4) and, on the other, the wholesale market with broadband access (market 5). This way, during the year 2009, the new ex ante obligations established in these markets began to be applied. So, operators that do not have their own network can gain access to a number of regulated broadband wholesale services, in such a way that they can offer the end user broadband connection.

Regarding the regulated wholesale service with access to the subscriber loop through unbundling and, according to the obligations imposed in market 4, Telefónica offers the fully unbundled loop categories (through this service, Telefónica grants the operator the use of the copper pair in the pair's full range of frequencies), shared unbundled loop categories (Telefónica grants the operator the use of the pair's high frequencies, higher than the band used by the telephone service, with the use of low frequencies for which Telefónica is responsible for offering either the basic POTS telephone service or basic access to the ISDN) and, finally, the shared loop mode without the BTS, i.e. without the telephone subscription with Telefónica. In this unbundling category, the wiring architecture typical of shared loops is used at the exchange, so not all the range of frequencies is available for offering the services, but only the high-frequency range (the monthly fee for renting the pair is the same as for full unbundled access).

One fact worth mentioning regarding the obligations imposed in market 4, which is new compared to the previous market revision, is the possibility the operators have of gaining access to Telefónica's civil works infrastructures at adjusted prices with the purpose of deploying their access networks in considerably less time and less investments, thereby placing the historical operators' start advantage on a level for deploying the new access networks. The alternative operators are progressively gaining access to Telefónica's cable ducts by concluding agreements with this operator. On this subject, in accordance with the obligations imposed on the historical operator, the CMT approved the cable duct offer of reference (MARCo) through the Resolution of November 19th, 2009.⁵⁴

The wholesale broadband access service is defined as the one through which operators that offer services on the retail market do this through a connection between their network and the network of another operator with access to the users. The operator with access to the users takes the traffic they create to the so-called indirect access point, where it is picked up by the operator that wants to provide these users with the retail service. In this sense, Telefónica has a regulated offer of xDSL wholesale services in which the speeds and specifications of the different service modes are detailed, and the indirect points of access to its available networks for the alternative operators are specified. This way, connection to Telefónica's network can be made at ATM level at 109 points at different geographical coordinates of Spain or at a national IP level at two points: Barcelona and Madrid. Telefónica markets these two types of wholesale service with the trade names of GigADSL and ADSL-IP respectively. As in the case of the shared loop access mode without the BTS, the indirect access service can be hired without the need of the telephone service with Telefónica.

Regarding the wholesale ADSL-IP access service, it must be emphasized that, in September, 2009, an extension was introduced into this service in such a way that, as well as the national service, Telefónica had to offer the service at a provincial level accessible at 50 points which matched the existing ones in the GigADSL service at the same prices as this service.

Regarding the wholesale broadband access services, the relevant market analysis imposed modifying the current services in a way that they allowed Telefónica's retail offer to be differentiated as much as possible. Its purpose was to maximize both the residential and

⁵⁴ http://www.cmt.es/es/documentacion_de_referencia/ ofertas_mayoristas_reguladas/anexos/091119_Resolucion_ MARCo.pdf

business end users' possibilities of choice. These modifications could include changing both the interface and the structure of the delivery points. During 2009, the CMT worked long with the operators on the definition of the new wholesale broadband access service in accordance with the previous previsions.

Apart from Telefónica, there are some operators that also offer the ATM and IP concentration service, although their percentage is only 2.2% of all the lines of these categories.

a) Revenue

In 2009, the total revenue from the different wholesale broadband services experienced a rather insignificant rise. So, the revenue reached the figure of 348.5 million euros, which is a 2% rise with respect to the previous financial year.

In the breakdown of the total of the wholesale revenue pertype of service, over 65% was for the loop unbundling service which, as in previous years, turned out to be the wholesale service that grew most in revenue and lines.

The revenue from indirect access services and from resales dropped by 19.7% in 2009.

The revenue from the unbundled loop reached 227 million euros, with an increase of 19.4% compared to 2008. The strong rise in the income was boosted by the outstanding increase in lines even though, in the last quarter of the financial year, the CMT reduced the monthly price for renting the shared loop service.

Regarding the IP concentration service, its revenue dropped by 10.1% until it stood at 51.6 million euros. However, the ATM concentration service and resales were responsible for the most outstanding reduction regarding invoicing, with drops in revenue of 11.2% and 40.3% respectively. On this subject, it should be pointed out that the drops in revenue from the indirect broadband access service was not only due to the decrease in the number of lines (in the case of the ATM concentration service and resales), but also to the drop in the regulated prices of the GigADSL and ADSL-IP services imposed in September, 2009.



REVENUE PER WHOLESALE BROADBAND ACCESS MODE (millions of euros)

The following graph shows the income progress of the wholesale loop unbundling service. In 2009, the income for the total subscriber loop unbundling reached 140 million euros, a figure which meant an increase of 35.4% with respect to the previous financial year. For its part,

the shared loop service without the basic telephone service (BTS) continued its upward trend and its income rose to 47 million euros, 46.2% more than in 2008. On the other hand, the income from the shared loop service experienced a drop of 26.7%.



Source: CMT

b) Lines

The evolution of the wholesale service lines confirms the significant progress of the subscriber loop unbundling service and the decrease in the ATM concentration and resale service. In spite of the fact that the IP concentration indirect access service showed a slight increase in 2009, the indirect access lines (IP and ATM concentration) as a whole decreased by 3.5% and the year was closed

with a total of 340,570 lines. Among them, a total of 41,819 lines were for the indirect access service without the telephone subscription with Telefónica. This indirect access mode is marketed by Telefónica through its regulated wholesale offer of GigADSL and ADSL-IP. Its lines were not present on the market until the 2009 financial year. Finally, the resale service dropped by 48.2%.

LINES PER WHOLESALE BROADBAND ACCESS MODE (thousands of lines)



The year 2009 ended with a total of 2,153,795 unbundled loops, a figure which means a year-on-year increase of 26.8% and which entails the incorporation of 455,546 new accesses.

Regarding the breakdown of the lines of the unbundling mode, the fully unbundled shared access services without BTS continued to increase in such a way that, at the end of 2009, there were over 1.7 million lines. This means a 55.7% increase in the last year. For its part, the shared loop service ended the year with 447,668 lines, with a reduction of 25.7% in the financial year.

The continuation of the downward trend of the number of lines in the shared loop unbundling mode that began

in the year 2008 should be pointed out. Hence, the operators that were offering their broadband service through the service of shared access to the loop, in which the telephone service is provided by Telefónica, began to progressively make use of the shared access mode without a telephone service and went on to offer its own voice service on the broadband of the loop data (through IP technology), thus dissociating its clients from the telephone subscription with Telefónica. The wholesale service lines of the shared loop without BTS reached 428,889 lines with an increase of almost 65% in the last year. Almost all these loops came from Orange.

EVOLUTION OF THE UNBUNDLED LOOPS (thousands of units)



The following graph shows the monthly progress that the unbundled loop has experienced in the last two financial years. One point worthy of comment is that, in the year 2009, the fully unbundled loop service increased significantly boosted by the increase in Jazztel and Vodafone contracts in the retail market. On the other hand, as already mentioned, the number of shared access lines in favor of the shared access lines without BTS. However, the access aggregate of both modes came to a standstill in the last financial year, which was reflected in the results of Orange's broadband line contracts in the retail market.



Source: CMT

As seen in the evolution of the revenue and the lines, the wholesale loop unbundling service continued to be the xDSL alternative operators' main mode of access to the end user. This way, for another financial year, the alternative operators' investment continued in co-location and the connection of new exchanges, i.e. in increasing the number of Telefónica's exchanges in which the alternative operator hires a space to place the equipment with which it offers services through the unbundling of the subscriber loop. In 2009, the number of exchanges with some co-located operator amounted to 734, with 9,862,537 potentially accessible pairs, which means a 64.8% coverage regarding the total of Telefónica's pairs. It should be pointed out that, in spite of the increase in the number of exchanges in which there is at least one co-located operator, the number of pairs accessible from these exchanges was lower than in 2008.

The following graph shows the evolution of the number of exchanges at which there is some co-located alternative operator and the percentage of unbundling coverage (percentage of accessible pairs of the total of Telefónica's copper plant).



EVOLUTION OF EXCHANGES WITH CO-LOCATION AND ANBUNDLING COVERAGE (units and percentage)

Source: CMT

The following map illustrates the geographical distribution of the exchanges where there is some co-located operator, where it can be seen that exchanges with co-located operators are more concentrated in the provinces of Barcelona and Madrid, followed by the provinces of Valencia, Seville, Alicante and Malaga. It should be pointed out that the above distribution is a result of the distribution of the population, for the most densely populated areas have a larger number of local exchanges and, furthermore, alternative operators find them more attractive since their potential demand is higher.

GEOGRAPHICAL DISTRIBUTION OF EXCHANGES WITH CO-LOCATION



- Geographical distribution of the unbundled loops

As said, in 2009, the unbundled loop was still the alternative operators' main mode of access to the retail broadband market. So, these operators increased their presence by co-locating in new exchanges and they increased the number of unbundled loops in the exchanges where they were already present.

As in the case of retail broadband accesses, the distribution of the unbundled loops is not even throughout the country. In the map included below, the distribution of the unbundled loops regarding the xDSL broadband lines of the retail market is seen.

In the analysis of the geographical distribution of the unbundled loops for every 100 xDSL lines, Barcelona and Madrid turned out to be the provinces with the highest penetration level. In 2009, the national total of unbundled loops for every 100 xDSL lines reached the figure of 27.8 loops, with an increase of 4.2 loops compared to 2008.

A total of eleven provinces ended 2009 with a higher percentage than the national total and, of the highest increases, those seen in the provinces of Jaen and Almeria, which increased the unbundled loops for every 100 xDSL lines by 8, stood out. Even so, both provinces had a lower percentage than the national total. On the other extreme, eight provinces did not reach the 10 unbundled loops for every 100 xDSL lines, and in provinces like Las Palmas, Santa Cruz de Tenerife, Ceuta and Melilla, the presence of the unbundled loop as a way to gain access to the market was scarce or none at all.

Ingeneral, in provinces with a high presence of unbundled loops, high levels of penetration of the broadband were seen, especially through xDSL. However, in some provinces like Las Palmas and Santa Cruz de Tenerife which have high broadband penetration rates and scarce presence of the unbundled loop and cable, the main access mode was the xDSL from Telefónica and the alternative operators through the regulated service of indirect access to the loop or through the resales service.



PENETRATION OF UNBUNDLED LOOPS PER PROVINCE 55 (Loops / 100 xDSL lines)

Source: CMT

⁵⁵ The intervals have been expressed by mean + standard deviation. The lowest and highest limits are determined by the minimum and maximum values, respectively.

3.4.3. Regulation and market prospects

In the 2009 financial year, the measures adopted in the analysis of markets 4 and 5 of the European Commission Recommendation, published in January, 2009 came into force.

Amongthemeasuresadopted in market 4, Telefónica, on the one hand, was forced to provide the fully unbundled and shared access wholesale services to subscriber loops and sub-loops at regulated prices (a measure that had already been established in previous market analyses) and, on the other, to provide the operators with access to the public works infrastructures and to publish an offer of reference for providing the wholesale services for access to these infrastructures. These include, among others, the cable ducts, the chambers, the conduits and the posts. This wholesale offer of Telefónica (MARCo offer) has already been published and is at the disposal of the operators that opt for deploying their own access infrastructure.

This last measure, which was a novelty compared to previous market analyses, was established due to the difficulties in replicating certain elements of the access network as this would allow third-party operators to have access to the market. This way, the alternative operators will be able to deploy alternative new generation access networks more efficiently in terms of time and investments and, therefore, compete in infrastructures.

In this sense, as previously seen, the progress of broadband accesses to the subscriber through optical fibre (FTTH) experienced a slight growth, although, as in previous financial years, access to the end user through the copper pair was still the main access mode used by both the historical operator and by the xDSL alternative operators which opted for the wholesale loop unbundling service as a preferential alternative for gaining access to the retail market.

Regarding these deployments, it should be mentioned that the initial plans were slowed down in the previous financial year due to the economic crisis. In the same period, the CMT reported the progressive access of the operators to Telefónica's public works infrastructures.

In 2009, the alternative operators that entered the end market through the wholesale loop unbundling service were present at 734 exchanges through co-location at

Telefónica's exchanges and there were more than 2.15 million unbundled loops from them. Therefore, the mode most used by the operators was still the fully unbundled access, offering the voice service on the same loop and, this way, disconnecting the end subscriber from the voice service and the rental of the line with Telefónica.

On the other hand, the imposition of a series of symmetric access obligations for all operators deploying optical fibre networks inside buildings through a resolution dated February, 2009 is also worth mentioning. The object of this measure is to establish a series of regulations on the sharing of network elements by the different operators in this last segment of their access networks in a way that this point does not become an entrance barrier. So, this symmetric regulation established in relation to access to the inside of buildings has, in the first months of 2010, resulted in an agreement among several operators (of which the CMT was officially notified) aimed at facilitating the coordinated deployment of their infrastructures in the buildings.

The advance in the deployment of the cable operators' and the xDSL alternative operators' own infrastructures allowed them to offer a larger number of broadband services with a higher degree of differentiation and faster connection speeds. However, the coverage and scope of these services were limited to specific geographical areas, so, in order to be able to offer the broadband services throughout the country, the operators had the wholesale broadband access services (market 5) at their disposal.

Regarding the actions taken after the analysis of market 5, Telefónica was, on the one hand, forced to provide all the operators with the wholesale broadband services (with a nominal speed of up to 30 Mbps) and, on the other hand, to continue publishing an offer of indirect access to the loop, as well as to place at the CMT's disposal both the prices and the conditions to be applied to the wholesale broadband services not included in the offer of reference.

In September, 2009, after analyzing the historical operator's cost accounting, the CMT approved, on the one hand, a 31% reduction in the price of the shared access to the loop and, on the other, a revision of the indirect access offer, which meant reductions in the prices of the GigADSL and ADSL-IP services of 26% and 23% respectively.

During the 2009 financial year, the satisfactory progress of the provision of the wholesale access services is worthy of comment: a result of the joint work carried out by the operators and Telefónica in the core of the forums set up for this purpose, coordinated by the CMT services. This work has resulted in important agreements which have allowed solving the arising issues without the need to engage in conflicts and, thus, avoiding the more intrusive intervention of the CMT, without affecting the constant surveillance that has been kept over the correct fulfillment of the obligations for which Telefónica is responsible.

As in previous financial years, the CMT continued to periodically follow-up the retail broadband offers. Thanks to this follow-up, it was seen that, although the nominal prices of the broadband and voice package offers experienced no significant reductions in the past year, when the promotions and discounts are taken into account, the actual prices did, in fact, show a considerably drop with respect to the nominal prices.

So, the historical operator was the one with the highest discounts and the most aggressive promotions on the market, thereby reducing the differential of actual prices with respect to the other operators. Also, from the point of view of the way to gain access to the end user, it was seen that the prices of the offers of direct access (own network or an unbundled loop) were below the offers of indirect access. However, it must be pointed out that the differential has dropped in comparison with previous periods analyzed, partly due to the measures adopted by the CMT with regard to the reduction in the prices of the wholesale broadband access services.

The deployment of new generation access networks and the penetration of broadband services through the copper and cable access networks are not evenly distributed throughout the country. In the geographic study carried out in the scope of the analysis of markets 4 and 5, significant differences in the penetration of the broadband services and in the competitive pressure in those geographic areas with alternative operators' infrastructures were seen. To this effect, in 2009, the CMT continued with the geographic monitoring of the broadband by analyzing both the evolution of the competitive situation in the areas identified in the analysis of markets 4 and 5, as well as the deployment of new generation access networks.

3.5. Audiovisual services

3.5.1 Television and radio services

2009 was a year with significant changes in the Spanish audiovisual sector. On the one hand, it was the last full year of analogue broadcasts, meant to disappear in April, 2010 – the moment when emissions in this technology finally come to an end – to enter into an entirely digital television environment.

It was also a year of dramatic changes in terms of sector regulations, which tends to move with the times and adapt to the technological changes that appear. Among these changes, the following stand out: (i) the approval of Act 8/2009 on financing the Spanish Radio and Television Corporation, which eliminates this corporation's broadcasting of advertisements, (ii) the approval of the Royal Decree-Law 11/2009 which regulates the pay-DTT and (iii) the approval of Act 7/2009 on Urgent Measures in Telecommunication Matters, which has opened the doors to mergers between television operators.

the year 2007, in 2008, the start of an economic crisis that lasted throughout the whole of 2009 was taking its toll on it, which has significantly affected the income received. As a result, many of the companies operating in the sector are restructuring and adapting their business models to take full advantage of the opportunities resulting from the transition to the digital environment, from the continuous technological advances and from the recent changes in the regulations.

a) Revenue

The audiovisual sector includes the activities of freeto-air television, radio and pay-television, with its main sources of income being advertisements and income from subscribers which, in 2009, meant 90.6% of the global turnover (excluding subsidies). In 2009, these two items, which are the basic pillars on which the audiovisual service business subsists, suffered a negative evolution as a result of the recessive economic climate of the overall economy, which affected the sector's final revenue⁵⁶.

Although both types of revenue regressed, they did so at different rhythms and, as can be seen in the enclosed graph, advertising, which determines the final revenue of the free-to-air television and radio, showed much more outstanding variations than the subscriber revenue, which are the main source of income of pay-televisions. Even so, the evolution of the performance of both extents was similar, and both reached their maximum level of descent in the second quarter of 2009, although it was seen that the movements in the subscriber revenues had a milder reaction.

In figures, in 2009, the audiovisual services market obtained a turnover of 4,541 million euros, without including subsidies, which resulted in a 17.9% reduction compared to the revenue obtained in the previous financial year. If the subsidies the operators received from the different public administrations are added to the net revenues, the sector received 5,991.1 million euros, which reduced the year-on-year drop to 12%.





Source: CMT

In a business areas analysis, if we first look at the turnover, the free-to-air television recorded with the largest drop in revenue was the free-to-air television, due to the unfavorable situation of the advertising market. So, in 2009, the free-to-air televisions as a whole earned 235.7 million euros, which means 21.4% less than in the previous financial year. These figures do not include the income received for subsidies, which amounted to 1,247 euros in 2009.

The next large block is the pay-television one which, having based its business model on the subscription revenue, invoiced 1,788.7 million euros. This figure meant a 14.4% reduction compared to 2008.

The third and last block, the radio block, was also affected by the reduction in advertisement revenue and, in 2009, it obtained 395 million euros after dropping by 10.6%. As

⁵⁶ According to the Infoadex Study on the *advertising investment* in the communication media, in 2009, the Spanish advertising market dropped by 14.9% due to the crisis. This cutback particularly affected the conventional means (-20.9%), among which is television, which suffered a 23.2% reduction in advertising investments.

in the case of the free-to-air television segment, in 2009, radios received subsidies of 203 million euros.

- Income from televisions according to the type of support

Based on a breakdown of income from the broadcasting sector, terrestrial television obtained the largest business volume, which, in 2009, still had analogue broadcasts as well as the digital ones. Through this technology, the national, regional and local operators' traditional free-to-

REVENUE FROM THE AUDIVISUAL SECTOR. INCLUDING SUBSIDIES (millions of euros)



Source: CMT

air television services were offered, to which the football channel broadcast through the pay-DTT, "Gol Television", was added.⁵⁷

In 2009, the income from television through terrestrial waves reached 2,361.9 million euros, which was 57% of the total income obtained by the television services. This figure meant a 21.2% reduction compared to the income obtained in the previous year, in line with the progress of the advertising market in Spain.

The second technology in volume of income was satellite television, which obtained revenue of 1,249.4 million euros. This meant a year-on-year reduction of 19%. This did not affect its share in the entire revenue from television, which remained at 30.1%.

Thirdly, cable television services were entered with a turnover of 327.5 million euros, 5.6% less than in 2008, and then the IP television, which was the only one that closed the year with a 4.1% increase in its revenue (187.8

million euros). Although this was a moderate increase, it was significant due to the progress of the other variables that make up the market.

The still fledgling service of television in mobility, offered by the main mobile telephony operators, was positioned in last place. In their third year of market operation, these services registered an income of 18.8 million euros, 10.4% lower than the figure obtained in 2008.

⁵⁷ The TDT Media Producciones operator (with 75% of the shares due to Imagina Media Audiovisual) began to operate in the market in 2006 with 2 national free-to-air channels. After the Royal Decree was approved in August, 2009, which regulates the pay-DTT service, the operator then went on to broadcast one single DTT free-to-air channel, "La Sexta", and it replaced its second channel ("Hogar 10") by the pay channel "Gol Television".



DISTRIBUTION OF THE REVENUE FROM TELEVISION PER TRANSMISSION MEANS (percentage)

Source: CMT



REVENUE OF TELEVISION PER TRANSMISSION MEANS, WITHOUT SUBSIDIES (millions or euros)

Note: The values for Terrestrial TV, IP TV and Mobile TV have been reviewed according to the updates provided by the operators. Source: CMT

- Income per concept

As already mentioned at the beginning of the chapter, the two most important items for the revenue of the audiovisual services market is the income from advertising, particularly important for free-to-air television and radio, and the subscriber revenue, which form the business base of the pay-television operators. Both were affected in 2009 by the recessive economic context, the free-to-air television due to the expenditure cutback in companies, which used much less of the budget for market shares, and the radio due to the drop in private consumption and in the demand for services, which led the operators to do promotions and create offers, reducing their average revenues.

In this sense, the revenues from advertising, sponsoring and telesales, which were 56.9% of the total turnover,

amounted to 2,585 million euros in 2009, after going through a 20.4% reduction.

In the section on subscriber revenues, the pay-television fees, which include monthly payments, subscription fees and fees for equipment rental amounted to an income of 1,401.4 million euros, which means a 2.6% reduction compared to the previous financial year.

The income obtained from the payment of on demand viewing and video, which produced 129.6 million euros in 2009, must be added to this section. There was a 46.9% drop in this income compared to the previous year, and this is explained by the appearance of new sports content premium channels which, for a monthly fee, include some events that had been traditionally marketed through the viewing payment formula.



DISTRIBUTION PER REVENUE CONCEPT IN THE AUDIOVISUAL SECTOR, INCLUDING SUBSIDIES (millions of euros)

* Advertising includes income from advertising, sponsoring and telesales.

** Others include income from own productions, SMS, calls to additional tariff numbers, electronic sales and other similar concepts.

DISTRIBUTION PER REVENUE CONCEPT IN THE AUDIOVISUAL SECTOR (percentage)



* Advertising includes income from advertising, sponsoring and telesales.

** Others include income from own productions, SMS, calls to additional tariff numbers, electronic sales and other similar concepts.

Source: CMT

b) Free-to-air television services

The free-to-air television sector faced with a period of reorganisation and adjustments after the digitalization of the television signal, which has meant an increase in the number of broadcasters operating on the market and in the number of programmatic channels that broadcast each one of them.

In the next few months, the analogue broadcasts will be fully switched off and each broadcaster will have a full range of channels, with the exception of the Spanish Radio and Television Corporation, which will have two channels. This means that, on a short-term basis, the current offer of 20 national programmatic channels may be increased by another 12 up to 32 national channels, to which the regional ones should be added.

The possibility of offering the 2009 regulation changes are added to the above, which, on the one hand, authorize mergers between operators and, on the other one, allow 50% of each private broadcaster's channels to be used for transmitting pay-DTT contents. These new regulatory provisions have materialised with the appearance of a pay-DTT channel that broadcasts sports contents and in relations among several operators for assessing the possibility of merging. Among these relations, the agreement reached between the Telecinco Group and the Prisa Group, the owner of Sogecable, which runs the "Cuatro"⁵⁸ generalist channel and the Digital+ satellite platform.

- Revenue from free-to-air televisions

According to the figures, the total revenue from free-toair televisions amounted to 3,604 million euros in 2009, which is broken down into 2,356.1 million euros for commercial turnovers and 1,247.3 million euros from the subsidies that public televisions received from different administrations.

The income for commercial activity was mostly made up of advertising revenue resulting from advertising sales, sponsoring and telesales. In 2009, this income amounted to 2,166 million euros after recording a 22% reduction compared to the previous financial year, and they made up 91% of the free-to-air televisions' total sales turnover. The remaining commercial income of 190.7 million euros was for their own productions, calls to additional tariff numbers, sending short messages from mobile phones, the sale of cinematographic co-

⁵⁸ On December 18th, 2009, the Telecinco Group and the Prisa Group announced an agreement where Telecinco purchased 100% of Cuatro and 22% of Digital+. For the agreement to be valid, the agreement requires previous authorisation from the competition's regulatory authorities.



REVENUE FROM FREE-TO-AIR TELEVISIONS. INCLUDING SUBSIDIES (millions of euros)

* Advertising includes income from advertising, sponsoring and telesales.

** Others include income from own productions, sending short messages from mobile phones (SMS), calls to additional tariff numbers, electronic sales and in general, income from audiovisual services that do not come from advertising envestments.

Note: The 2008 advertising revenue was reviewed according to the updates provided by the operators.

Source: CMT



ADVERTISING REVENUE AND AUDIENCE SHARES PER OPERATOR GROUP (millions of euros and percentage)

Note: The public televisions include TV1, TV2 and the regional televisions. The private televisions include Telecinco, Antena 3 Television, Cuatro and La Sexta. Source: prepared in-house with data from the CMT and TNS Sofres.

production rights, audio-text services and other income from free-to-air televisions not coming from advertising.

- Advertising revenue per operator

According to the media's headlines, the public televisions earned 637.7 million euros in 2009 in advertising revenue, which means a 27.9% drop compared to the previous year, and 246.9 million euros less if this is considered in absolute terms. At this point, it should be mentioned that, in 2009, the financing Law of the Spanish Radio and Television Corporation⁵⁹ was approved, which means the forbidding of broadcasting advertisements by the state public television which stopped commercialising advertising space in the second half of the year. In 2009, the private television group invoiced 1,528.3 euros in comparison with the 1,892.2 obtained in 2008. This figure meant a year-on-year reduction of 21.9% and a difference of 363.8 million euros. On a whole, a drop in revenue compared to the figures that all the operators were obtaining in the last few periods was seen, with the exception of La Sexta and Net TV on the national level, and the televisions in the Canary Islands and Extremadura on the regional level.

Antena 3 was positioned as the private operator that received most advertising revenue in 2009 with 555 million euros after recording a 15.8% reduction. The second largest operator in volume of income was Telecinco with 499 million euros, followed by the Spanish Radio and Television Corporation that obtained 421.7 million euros, with a 29.3% drop. Then the Sogecable channels came, led by Cuatro, which earned 249 million euros, and La Sexta's two channels with 188.5 million.

ADVERTISING MINUTES BROADCAST* AND ADVERTISING REVENUES OF THE MAIN OPERATORS THAT BROADCAST FREE (thousands of euros and minutes)

	2008				2009			2008/2009 VARIATION		
	MINUTES ON AIR	ADVERTISING MINUTES	ADVERTISING REVENUE	MINUTES ON AIR	ADVERTISING Minutes	ADVERTISING REVENUE	ADVERTISING MINUTES	ADVERTISINI Revenue		
Antena 3	188.779	177.470	659.520	256.909	241.881	555.303	36,3%	-15,8%		
Telecinco	343.965	343.965	759.989	339.806	339.806	498.897	-1,2%	-34,4%		
RTVE	279.795	279.795	596.821	290.841	290.841	421.708	3,9%	-29,3%		
Cuatro	76.827	74.680	292.915	80.483	78.857	249.162	5,6%	-14,9%		
La Sexta	184.785	184.785	157.230	126.051	126.051	188.574	-31,8%	19,9%		
Television Catalunya	75.975	75.975	113.798	83.917	83.917	79.180	10,5%	-30,4%		
Canal Sur	72.468	72.468	47.751	73.494	73.494	38.741	1,4%	-18,9%		
Television Autonómica de Madrid	57.276	45.690	38.431	53.995	43.772	24.133	-4,2%	-37,2%		
Net TV	131.327	131.327	8.670	148.231	102.111	21.703	-22,2%	150,3%		
Valencian Regional Television	128.201	85.145	27.498	125.745	73.508	20.747	-13,7%	-24,5%		
ETB	72.492	56.912	23.373	87.157	68.242	16.280	19,9%	-30,3%		
Television Galicia	77.788	60.687	18.528	69.305	50.016	13.398	-17,6%	-27,7%		
Veo TV	307.272	207.059	11.157	164.454	117.437	9.544	-43,3%	-14,5%		
TV Canarias	73.473	60.498	2.202	102.069	62.061	4.525	2,6%	105,5%		
Extremaduran Corporation	31.008	9.700	2.149	24.766	10.364	4.449	6,8%	107,0%		

* Advertising includes publicity, sponsoring and telesales. Self-promotion is also included in the minutes on air.

Note: he table includes the advertising revenues of the operators that obtained incomes of over 4 million euros and the name of the generalist channels has been used to refer to them.

- Advertising broadcast and the free-to-air television audiences

As discussed in the above chapters, the free-to-air television sector is being subjected to a readjustment process resulting from the increase in the number of channels. The increase in the television offer has an impact on the audience indexes which generally show lower maximums since it is distributed among more channels. In turn, the lower audience share indexes reduce the impact (and, therefore, the efficiency) of the adverts that, in the current state of affairs, cover a smaller rate of the population.

We should add to the above situation the economic difficulties that the advertisers had throughout 2009 as a result of the recessionary performance of the economy in general, which led to a significant shrinkage in the demand for advertising. In this environment, in 2009. the operators developed strategies to adjust the prices to the demand conditions, to the audience levels and to the new competition from other operators, not only by lowering advertising revenues, but also incomes per minute advertised, as can be concluded from the enclosed chart.

Regarding the time the audience is meant to watch television, in 2009, the daily consumption per person stood at 226 minutes per person and day (3 hours and 46 minutes), which means a 1-minute reduction with respect to the maximum reached in 2008. It is worth mentioning that free-to-air television faces more and more competition from other audiovisual services like pay-television through different platforms, or the consumption of different audiovisual content through Internet, whereupon there is not only a larger distribution of the audience among channels, but it is also distributed more and more among different distribution platforms with audiovisual content.



AUDIENCE INDEXES PROGRESS SINCE 2005* (percentage)

* Average yearly audiences.

Note: The audience of the thematic channels does not include the audience obtained by the pay-per-view themes, wich was 7.5 points in 2009. Source: TNS Sofres

In a per operator audience analysis, and in line with the changes observed, a progressive drop in the maximum audiences and an accumulated reduction in the screen quotas of the traditional programmatic channels in favour of the channels that most recently joined the market were observed.

- Transition to the DTT

2009 was the last year when programmes were simultaneously broadcast through the analogue and the digital means. The analogue broadcasts will be prolonged until the first quarter of 2010 and they will disappear once and for all from then on.

The indicators of the migration process to the DTT in 2009 show great advances in the introduction of the new technology in all fields: coverages, installing aerials on buildings, selling decoders and the population's level of knowledge of the DTT, among others. The increase in the

screen quota of the DTT throughout the twelve months of 2009, which was recorded at 21.9% at the beginning of the year, reached 52.8% at the closing of the year.



Source: Impulsa IDT with data from TNS Sofres

In the table below, a summary of the main indicators of the DTT's progress by December, 2009 is attached. Analogue broadcast television will finally come to an end on March 30th, 2010, two years before the deadline imposed by the European Union.

Coverage	Population with Spanish DTTY channels coverage December 2009: 97.3% Source: Abertis Telecom			Coverage phases July, 2009, 90% Source: Spanish Ministry of Indu Tourism and Commerce		
Adapting of antennae Source: Fenitel	Buildings with co		itennae prepared f ir 2009: 80.5%	or DTTV		
Fixtures Source: Gfk	DTTV tuners sold in Spain March, 2003 Doc. 09 25,550,829	003-Dec. 09 External DT		Televisions sold with DTTY already incorporated Dec., 2009: 571,242 99.3%	DVD players sold with DTTV Dec., 2009 189,768	Average cost of external decoders Dec., 2009: €31.87
Penetration	Homes connected to DTTV Nov., 2009: 64:59% Source: Media Research Association (AIMC)* DTTY audience share Dec., 2009: 52.8% March, 2010: 67:5%		Individuals connected to DTTV Nov., 2009: 76.3% Source: AIMC* Average daily contact with DTTV Dec., 2009: 21.82 million March, 2010: 26.64 million		Estimated number of homes connected to DTTV Dec., 2009: 77.4% Source: TNS Average daily consumption of DTT Dec., 2009: 132 minutes March, 2010: 163 minutes	
Audience Source: TNS						
European Indicators nformation not homogeneous ut comparable for measuring the progress of DTTV)	Penetration in French homes Jan., 2010: 56.6% Source: CSA		Italia Jan., 2	ration in In homes D10: 56.6% ICC DGTVI		tration in UK homes Sept, 2009. 71.2% Source: Ofcom

* Excluding homes with decoding devices of telecommunications operators with built-in DTTV tuner. Source: Impulsa TDT

- Accessibility in the communication media

The General Audiovisual Communication Bill was discussed throughout 2009, which was finally approved in March, 2010. This Law establishes a series of obligations in matters of accessibility that the television channels with free-to-air broadcasts will have to meet. The obligations establish a percentage of subtitled programmes for deaf people and a number of hours a week of audio description and broadcasting in sign language which must be gradually achieved through a series of stages that end on December 31st, 2013.

The current development of the new communication technologies is an opportunity for promoting and facilitating the access of people with sensorial handicap to

the Information Society and it plays a key role in improving quality of life and social integration. In the last few years, the CMT has been including a series of sections involving the study of the opportunities and the changes in the access of people with a handicap to the new technologies by starting to collect data in 2008 on the times at which the main operators broadcast subtitles, audio description and the sign language.

In the enclosed table, the total number of hours and percentages of subtitled programming for the deaf, audio described and with the sign language inserted in 2009 for the operators that broadcast nationwide and for the regional public television operators are shown.

BROADCASTING	PROGRAMMATIC CHANNEL	HOURS	HOURS IN SIGN LANGUAGE	AUDIO DESCRIPTION HOURS	BROADCASTING	PROGRAMMATIC CHANNEL	SUBTITLED HOURS	HOURS IN SIGN LANGUAGE	AUDIO DESCRIPTION HOURS
Spanish Radio and Television Corporation	1	3.427.5 (44.8%)	9-10 B	78	Castilla La Mancha	7	2,261.8 (28.8%)	_	
	2	4,446.5 (58.5%)	20.7	-	Public TV	274	1.250.8 (21.6%)	-	-
	clan	8,212,4 (97,5%)	575		Public	▶3	4,391 (55,5%)	128	182
	tdp	110 (1.3%)	14.7	<u></u>	Television of Catalonia	SE 33 -300	1,956 (23,4%)		269
Antena 3	A CONSTR	2,474.6 (34%)	-	-	Basque AC Public	etb0	0.04	(± 1)	-
de Television	neox	3,878.4 (52.7%)			TV	etbe	973 (11.1%)	1	1
		1.856,6 (25.2%)	-	-	Extremadura	constant of	63.4 (0.7%)	30,3	-
Sectevision	5	2.834 (34.8%)	-	-	Public TV		60.2 (0.7%)	68.8	-
Telecinco	7 F	5.985 (36.7%)	-	-	Galicia Public	G	85 (1.1%)	32	-
	cuatre'	2.191 (32.2%)	-	-	TV	Gg	44 (0,5%)	79	-
Sogecable	C201 +	699 (8,5%)	<u>012</u>	<u></u>		0	2,281.7 (29,3%)	-	
estora de inv ud. La Sexta	(d) taSerta	3.566 (48,6%)	-	-	Valencia Public TV	.2	186.7 (2,3%)	48.4	
Andalusia	and the second	2,420,7 (31.8%)	87.8	<u></u>		24	2.31 (0.03%)	1	-
Public TV	87	2,200 (26.4%)	169.5		Madrid		2,210 (28,7%)		-
Aragon Public TV	S -meaner	638.2 (7.7%)	7,5	-	Public TV	CitaOtra	891 (10.7%)		1.
alearic Islands Public TV	B	-	40	_	Murcia	=		24.5	
anary Islands Public TV	C. com	1,872.5 (24.3%)	1,5		Public TV		100	34.5	

HORAS DE SUBTITULACIÓN EMITIDAS EN 2009 EN LOS CANALES DE PROGRAMACIÓN DE TDT (horas y porcentaje)

* Channel 24.9 began its broadcasting on March 1st, 2009.

Note: the table includes the accessibility hours broadcast in 2009 by the channels of the nationwide free-to-air operators and the autonomous public operators. The channels and operators that do not appear in the table did not broadcast accessibility hours in 2009. The subtitling percentage has been calculated over the total programming without including advertising breaks. At this point, it should be pointed out that, eliminating the advertising breaks in the calculation of the subtitled programming percentage has the effect of favouring those operators that dedicate more time to these breaks. So, an operator that broadcasts more subtitled hours but has less advertising spots could have lower subtitling percentages than other operator that subtitles for less hours but broadcasts more advertisments.

In 2009, the number of subtitled hours of programming increased by 5,000 compared the number of hours broadcasted in the previous year, which meant a year-on-year increase of 8.4%. In an analysis per operator, the Spanish Radio and Television Corporation stood out as leader. It broadcast a total of 16,196 subtitled hours, which meant 25.5% of the total and a year-on-year increase of 70.9%. Regarding the hours in sign

language and audio description, these increased by 184 and 378 hours respectively, although it should be pointed out that, in the case of audio description, there were only 2 operators on the market that broadcast this type of content, on the one hand, the Spanish Radio and Television Corporation and on the other, the Catalonia autonomous public television.

ACCESSIBILITY HOURS PER OPERATOR ON DTT (hours)

ODEDATOD		2008 HOURS			2009 HOURS	
OPERATOR —	SUBTITLED	SIGN LANGUAGE	AUDIO DESCRIPTION	SUBTITLED	SIGN LANGUAGE	AUDIO DESCRIPTION
Spanish RTVE	9.478	78		16.196	35,4	78
Antena 3 Television	8.546			8.210		
Gestevision Telecinco	6.787			8.819		
Sogecable	2.576			2.890		
Gestora de Inv. Aud. La Sexta	6.380			3.566		
T. P. Automaticas	24.745	500,4	151	23.788	727,3	451
Total	58.512	578,4	151	63.469	762,7	529

Note: The information in the table refers to all the free-to-air channels of each operator. Source: CMT

c) Pay-television services

The negative evolution of the economic environment affected the revenues of the subscription television, which depend less on the advertisement revenues, to a lesser extent. Even so, the drop in consumption and the lower demand for services toughened the competition among the operators, which increased their promotions to try to obtain more subscribers. Another issue that affected the subscriber revenues was the reduction in the pay-per-view revenue, for, in 2009, part of the League matches stopped being marketed in this mode to be included in sports channels with premium content to which access is gained for a monthly fee.

According to the figures, the pay-TV revenues rose to 1,788.7 million euros in 2009, which meant a 14.4% reduction compared to the previous year. In spite of this drop, the pay services provided 39.4% of the turnover (excluding subsidies) of the total revenue from audiovisual services, which meant an increase of 1.6 points in comparison with the 37.8% of 2008. It should

be mentioned that the major reductions in revenues were not registered in the monthly fees, which also went down compared to 2008, but in the pay-per-view entries and in the "Others" item.

- Revenue by technology type

In a breakdown of the pay-TV services according to the transmission medium, satellite television continued to be in the position of leader. In spite of suffering a large reduction in its income of 19%, it invoiced 1,249.4 million euros, which was almost 70% of the total business volume of the conditional access platforms.

Then the pay-TV offered by cable platforms was entered, which, with a turnover of 327.5 million euros, saw its revenue drop by 5.6%.

The following technology by volume of income was the IP television, the only one with a positive development compared to 2008, and, with a 4.1% increase, it reached a turnover of 187.8 million euros.

The pay-TV offer increased in 2009 and, after the approval of the Royal Decree-law which regulates pay-DTT⁶⁰, a new sports events pay-channel, Gol Television, which was present during the last quarter of the year and obtained revenues of 5.3 million euros, began to operate on the market through terrestrial waves.

Finally, the pay-TV section includes the income obtained for mobile television. These services, which are offered through the networks of mobile telephony operators, reached 18.8 million euros revenue in 2009, 10.4% less than in the previous financial year. This drop in income, which contrasts with the strong increase in the number of subscribers, is explained by the existence of mobile data flat rate offers which include the free enjoyment of mobile television content for 12 months.

INCOME FROM PAY-TELEVISION BY TRANSMISSION MEDIUM (millions of euros)



In 2009, the terrestrial pay television service reappeared, wich was present in the market during the 4th quarter. Source: CMT

INCOME FROM PAY TELEVISION BY CONCEPTS (millions of euros)



* Others include incomes like those generated by the sale of magazines with information on the channels' programmes, those from the sale of audiovisual rights, from the provision of various services, from rental charges or from broadcasts.

⁶⁰ Royal Decree-law 11/2009 which regulates the provision of the pay digital terrestrial television service through conditional access for national concessions.

- Revenue of pay televisions by concepts

The main part of the revenue of pay televisions comes from the fees paid by the subscribers for taking out a subscription for the service. In 2009, the incomes for monthly fees amounted to 1,277.2 million euros after experiencing a 2.9% drop compared to 2008. The increase in commercial offers with lower prices had an influence on this drop, which resulted in less invoicing, as well as the reduction in the number of subscribers of the operators that offer services at a higher price, in front of the increase in the number of subscribers of operators offering them at lower prices.⁶¹

In spite of the reduction in the monthly fees in 2009, these increased by almost 8.5 percentage points in their relative weight compared to the other items that make up the pay

television revenues. So, in 2009, their relative importance stood at 71.4% in comparison with the 62.9% of 2008. Part of this increase is related to the reduction in the payper-view⁶² income item which, with the appearance of new channels with sports content that include several matches of League days and of the Champions League for a set monthly fee, has seen its importance diminish, dropping by 46.9% with respect to the previous year until it stood at 129.6 million euros.

In order of importance, the following items were the one for rental of decoders and registration fees and installation, which, in 2009, amounted to 124.3 million euros, a figure very similar to the previous year's one. Finally, the advertising revenue was entered which, in the case of pay television, tends to be residual. In 2009, this revenue was 23.9 million euros, 25.5% less than the 2008 turnover.



NUMBER OR CONTRACTS AND INCOME FROM PAY TELEVISION (millions of contracts and millions of euros)

⁶¹ At this point, it should be mentioned that the price of the services tends to be related to the quality and the quantity of the content, and that, perhaps, many subscribers have been ready to give up part of the content, or to wait a little more to see them in return for a reduction in the price.

⁶² The "pay-per-view" heading also includes the income from video on demand.

- Pay-per-view contracts

In 2009, there were 19.2 million applications for payper-view and video on demand contracts, which meant a 32.4% drop in comparison with the 28.4 million events registered in 2008. This chapter was severely affected by the change in model in the marketing of pay football with the appearance of the channels Gol Television and Canal + Liga, which have made the number of matches marketed through this system go down.

So, in a concept breakdown, the football match contracts amounted to 6.5 million events in 2009, with 74.6 million euros revenue, and both showed 50.6% and 51.6% drops with respect to the 2008 figures.

The hiring of films was also affected by the drop in consumption and by the lower demand, and, with 10.8 million units sold, they produced revenue of 51 million euros, although the drop in the number of contracts (17.3%) was larger than the drop in revenue (13.5%).

Finally, contracts for other events like concerts, series, documentaries and other sports which all amounted to 1.9 million events, were entered with an income of 4 million euros.

- Number of pay television subscribers

In 2009, there was an increase in the number of pay televisionsubscriberswhoamountedto4,232,792ifmobile television is not taken into account, and to 4,579,320 if it is included. In spite of this positive development, the 2009 growth rate slowed down considerably in comparison with previous financial years.

The distribution of the new registrations was not the same for the different operators, and while some managed to enlarge their subscriber base, others saw the number of their subscribers go down, so progress was not unanimous in the sector.

Based on technology, most subscribers were registered with the Digital+ satellite pay television which, with just

over 1.8 million subscribers, represented 43.6% of the market,⁶³ although it showed a 9.3% drop with respect to 2008, which, in absolute figures, meant 189,060 subscribers less.

The cable television subscribers went down by 1.4%, with a total of 1,439,671, which was 34% of the market. The largest operator within this group was Ono, with a subscriber basis of 975,005. This operator also experienced a 6.2% drop compared to the previous year and it closed 2009 with 64,007 less subscribers.

For the IP television operators, their number of clients rose by 13% compared to 2008, reaching a total of 794,165 subscribers. The rise was unanimous for the three operators in this sector, although the one that showed the highest growth was Telefónica's Imagenio service which, with a 15% rise, managed to gain 91,309 new clients and almost had 700,000 subscribers.

With the approval of the regulations that allow the pay DTT in 2009, and with the launching of the Gol Television channel of Mediapro through this technology in September, a new section should be opened under this heading to include this new service's clients. This offer, which consists of a subscription with the premium channel with sports content for 15 euros a month, seems to have had a high level of acceptance among the public and, in hardly 4 months of operating, it closed the year with 153,151 subscribers.

Finally, the mobile television services should be mentioned which, regarding the number of subscribers, experienced a high rise. However, due to these services being aimed at mobile telephony clients in the current environment and, on many occasions, they are associated with the hiring of other mobile services, the rise in subscribers is not always accompanied by similar rise in the revenue. So, with a development that is the opposite in income, the mobile television subscribers showed a 28.4% rise in 2009 through counting about 76,000 new registrations and had 348,528 clients.

⁶³ The percentage calculations in the subscribers' section do not include the mobile television subscribers.



NUMBER OF PAY TELEVISION SUBSCRIBERS PROGRESS BY TRANSMISSION MEDIUM*(thousands of subscribers)

* Not including mobile television.

Source: CMT

DISTRIBUTION OF PAY TELEVISION SUBSCRIBERS AND OF THE NET PROFIT FROM SUBSCRIBERS PER OPERATOR* (percentage)



* Not including mobile television. Source: CMT



DISTRIBUTION OF PAY TELEVISION SUBSCRIBERS BY TECHNOLOGY* (percentage)

* Not including mobile television. Source: CMT

- Market shares 64

In an analysis of the market shares of pay television by technology, the preponderance of satellite television services stands out which, in 2009, had 43.6% of the subscribers in spite of having experienced a reduction in its relative weight of 4.8 points in the last year, to which the 3.4 drop experienced in the previous year should be added.

Secondly, the television services are established through cable platforms which, after experiencing a slight recovery in their market share in 2008, they were again at a level close to that of 2007 with 34% of the total of pay television service subscribers in 2009. IP television is third in the ranking, with constant rises since it appeared in 2005 and with a market share which, in 2009, was 18.8% of the subscribers.

In an analysis per operator, a high concentration of incomes and subscribers was seen in the market's three main operators: Sogecable (with Digital+), Ono and Telefónica (with Imagenio), which all added up to 83.1% of the subscribers (3.5 million) and 91.8% of the revenue. The largest of the three, Sogecable, obtained almost 70% of the total turnover and 43.6% of the clients, followed by Ono (13.1% of the total revenue and 23% of the subscribers) and Telefónica (with 9% and 16.5%).

In the calculation of the average income according to subscribers, Sogecable was the operator with a higher ARPU, followed at quite a distance by Ono and Telefónica.



REVENUE AND SUBSCRIBERS OF PAY TELEVISION (millions of euros and subscribers)

⁶⁴ For calculating shares, mobile television subscribers have been excluded.

Source: CMT

	2008	2008		
	SUBSCRIBERS	REVENUE	SUBSCRIBERS	REVENUE
Digital+	2.034.865	1.542,3	1.845.805	1.249,4
Ono	1.039.012	258,5	975.005	233,5
Imagenio	607.203	156,3	698.512	160,1
TeleCable	121.332	25,9	133.665	28,1
R	69.830	19,4	88.106	19,7
Euskatel	46.584	11,8	83.230	14,1
Orange	87.387	26,8	83.896	29,5
Jazztel	8.286	2,0	11.757	1,8
Gol TV			153.151	5,3
Other	183.167	47,4	159.665	47,1
Total	4.197.666	2.090,3	4.232.792	1.788,5

REVENUE AND SUBSCRIBERS OF PAY TELEVISION (millions of euros and subscribers)

Source: CMT

- Penetration of pay television 65

The penetration of pay television in Spain hardly suffered any variations compared to the previous year and, at the end of 2009, there were 9.1 subscribers for every 100 inhabitants. The province that showed a higher penetration was Asturias, with 17.4 subscribers for every 100 inhabitants, followed by Melilla with 14.6% and by Cadiz, Cantabria and the Balearic Islands, which showed penetrations of almost 12%.

At the opposite extreme were Badajoz, Caceres, Jaen and Lugo which, in spite of having experienced slight rises in 2009, were still the tour provinces with the lowest penetration levels, below 5.8 subscribers for every 100 inhabitants.

Based on technology, the television with the highest penetration level was the satellite pay television which, at the end of the year, had an average of 3.9 subscribers for every 100 inhabitants. Although this figure meant a drop compared to the 4.4 subscribers signed up at the end of the previous year. For its part, the pay television of cable operators and the IP pay television gained an average of 3.1 and 1.7 subscribers for every 100 inhabitants respectively.

⁶⁵ Analysis for 52 regions: the 50 provinces plus the autonomous cities of Ceuta and Melilla.


PENETRATION OF PAY TELE VISION BY PROVINCES* (subscribers /100 inhabitants)

* This does not include mobile television. The intervals have been expressed by mean + the standard deviation. The lower and upper extremes are determinated by the minimum and maximum values respectively. The population information is taken from the official figures of the municipal register of the NSI. The total population in Spain for 2009 amounted to 46,745,807 inhabitants.

Source: CMT

- Commercial offers

In an analysis of the commercial offers of pay television services, with the exception of the case of satellite pay television and the recent mode of pay DTT, the high rate of hiring this type of service in combination with package offers, which also include fixed landline and/ or broadband telecommunication products, should be pointed out. This type of contract involves purchasing the three services with the same operator on one single bill and at a lower price than when the services are purchased individually. In these cases, the price of the package can vary, not only according to the number of channels of the pay television service or the amount of premium content it includes, but also according to the speeds of the broadband services included in the package, which leads to a wide variety of offers from which the consumer can choose according to his needs or priorities. Also, many pay television offers tend to have minimum contents to which the user can add extra ones by hiring additional channels or packs, the price of which can vary from one to six euros.

As seen in the enclosed graph, in the case of IP television, it is emphasised that there are hardly any pay television subscribers who do not have the package service with fixed landline and/or broadband services and, in the case of the television of cable operators, the subscribers who only hire the television services without a package deal progressively drop until, at the end of 2009, they hardly represented 3.6% of the total.

Also, for the double packages that combine television with fixed landline or broadband services, a progressive reduction is seen in the last three years – both for the case of IP television and for the television of cable operators -, in favour of the triple play commercial offers which are those that have experienced a strong growth in the last three years as a whole.

PERCENTAGE OF PAY TELEVISION SUBSCRIBERS BY PACKAGE TYPE AND TRANSMISSION MEDIUM (percentage)



Note: The data of the eight largest operators in the pay TV market have been taken into account. Regarding the mobile telephone services, it should be mentioned that, although in 2009 there were combined offers with mobile services, these were not packages. Source: CMT

d) Radio Services

In accordance with the decreasing tendency seen in the advertising revenue, the radio sector experienced a drop of 10.6% in its incomes in 2009 and obtained an annual turnover of 395.4 million euros. This figure, which mainly corresponds to advertising revenue, does not include the subsidies ⁶⁶ provided by the different public administrations which, in 2009, amounted to 203 million euros, 14.8% more than in 2008.

In 2009, audiences and advertising revenues continued to be very concentrated, and the three main nationwide private operators, the SER (Spanish Broadcasting Society) of the Prisa Group, Onda Cero of the Uniprex Group and COPE, which belongs to Radio Popular, obtained as a whole 95.1% of the commercial incomes, which amounted to a turnover of 375.7 million euros, which meant a drop of 7.8% compared to the turnover obtained in 2008.

For the group made up by the rest of the radios registered a more distinct drop by obtaining, as a whole, 19.7 million euros, which meant nearly 15 million euros less than the previous financial year in absolute terms. This meant a slight drop in its market share, which was placed at 4.9%.

⁶⁶ Including those received for contract-programmes.



Source: CMT

- Revenues per operator

According to the sales volume, Cadena SER (a Spanish Broadcasting Company) of the Prisa Group maintained its leadership as the main group of the sector, with commercial incomes of 205.6 million euros, keeping its market share at 52%. The Uniprex Group, which belongs to Antena 3, and Cadena Cope of the Radio Popular

Group, exchanged positions compared to the previous year. After experiencing a drop in his income of 7.7%, the owner of Onda Cero was positioned in second place with a net turnover that amounted to 86.4 million euros. The group that owns Cadena Cope, which was the one that experienced a larger drop in its turnover of 14.3%, went down to third place by obtaining a revenue of 83.6 million euros.



REVENUES OF THE MAIN RAIDO OPERATORS (million euros)

Source: CMT

- Consumption and radio audiences

According to the report *Marco General de Medios en España*, 2010, published by AIMC, in 2009, the radio increased by 2.2 points in the number of listeners until it obtained an average penetration of 55.3% of individuals. This advance was in line with an increase in radio consumption which, according to the third wave of EGM (February 2009-November 2009), stood at 108 minutes per person and day, of which 50 minutes were for the generalist radio and 54 for thematic radio.

According to the audiences, thematic radio gained 52.7% of the listeners against 47.3% of the generalist radio. In the first block, Cadena 40 Principales stands out as leader with a 22.2% share, followed by Cadena Dial and Cadena 100, with 12.4 and 9.5% respectively. In the generalist block, the one with most audience was Cadena Ser, with 38.1% followed at quite a distance by Onda Cero, with 16.4% and Cadena Cope with 14.2%.



HISTORY OF THE AVERAGE RADIO CONSUMPTION PER PERSON AND DAY (minutes)

Source: CMT with data from AIMC

- Digital Radio

In April, 2010, the broadcasting of analogue television signals will be closed once and for all, but the same thing will not happen with the radio, which will still be waiting to migrate to a completely digital environment.

The digitalisation of radio signals means a remarkable improvement in quality compared to traditional broadcasting. It allows the number of channels on the same spectrum band to be increased and it makes it possible for the offer of added value services to be made. However, its introduction has come up against several obstacles: among them, on the one hand, the ignorance of the audience regarding new technology stands out and, on the other one, the need to renew the number of radio sets for they will have to be replaced by new digital receivers, as has happened with television sets. In order to boost the introduction of the digital terrestrial radio service, the new General Law on Audiovisual Communication, approved at the beginning of 2010, includes in one of its transitory regulations the obligation of approving a technical plan for the comprehensive digitalisation of the terrestrial sound broadcasting service within a period of one and a half years. This law stipulates the adaptation and transformation of the current radio licences to the new digital technology. This plan could establish a similar process as the one for digital terrestrial television, with a calendar for changing to digital technology that ends with an analogue blackout.

Likewise, the new law contains another important regulation for the radio sector when it envisages the setting up of the National Radio Communications Agency, which will be the organisation in charge of controlling radio-electric space and of making a frequency map. The establishment of the agency which will manage the use of the spectrum along with the migration plan of the terrestrial sound broadcasting service to digital technology will be an opportunity to reorganise the Spanish radio map.

3.5.2. Audiovisual signal transport and diffusion services

The market of the wholesale audiovisual signal transport and diffusion services continued to grow supported by the new business opportunities represented by the technological advances in the audiovisual retail services market and the change in the technology for transmitting the signal, which has allowed the number of channels emitted to multiply and the number of operators to increase.

Nevertheless, it should be remembered that, during the 2009 financial year, radio stations kept the diffusion network both in analogue and in digital, which is known by the name of simulcast or simultaneous broadcasting. This double broadcasting will disappear in April, 2010 with the permanent suspension of analogue broadcasts at the same time broadcasts of the new channels that private nationwide televisions will receive will be started, once they occupy the whole multiple that they have assigned. It is difficult to predict the impact this change is going to have on the incomes received by the operators that carry audiovisual signals and if the amounts to be met for broadcasting the new channels will be put on the same level as the lower incomes received for leaving the analogue broadcasts.

a) Incomes

In 2009, the incomes received by the audiovisual signal transport and diffusion services operators reached a new maximum when they got to 438.8 million euros, which meant a growth rate of 7.9% compared to 2008.

Of the two main activities of the operators that carry signals, the one that showed a larger growth in terms of income was the audiovisual signal broadcast one which, with a rise of 9% compared to the previous financial year, had a turnover of 291.2 million euros and was 66.4% of the total income from retail services. The signal transport service, which provided the remaining 33.6% to the global turnover, obtained an income of 147.5 million euros, reaching a year-on-year growth of 5.8%.



INCOMES FROM AUDIOVISUAL SIGNAL DIFFUSION AND TRANSPORT SERVICES (millions of euros)

b) Audiovisual signal transport services

The transport service at a wholesale level is the one offered by an operator to make the audiovisual signal, through its main network, goes from the production centre to the broadcasting and re-broadcasting centres. It also includes the contribution service, which consists of transporting audiovisual signals that are not prepared or edited from any location to the production centres for their subsequent treatment. This service, in contrast to the diffusion service, does not need the use of the spectrum.

Since the year 2006, audiovisual signal transport services have shown a continuous growth rate related to the presence of a higher number of operators and television channels on the market. In 2009, this section obtained an income of 147.5 million euros, showing a year-on-year growth of 5.8%.

- Incomes by technology type

Depending on the type of audiovisual service to which support is given, the highest turnover came from digital television with 92.6 million euros, which represented 62.7% of the total income from the transport of audiovisual signals. Then the incomes linked to analogue television were positioned, which amounted to 47.7 million euros and provided 32.2 % of the turnover, and, finally, the radio services, which, after recording a drop of 6.5%, stood at 5.9 million euros.



It is not possible for the operators to distinguish between analogue and digital transport radio services, so all incomes from radio signal transportation are counted in the analogue radio section.

Source: CMT

- Income per operator

The major activity in audiovisual signal transportation in 2009 was unevenly distributed among the operators, and while Abertis, Overon and Itelazpi recorded rises in their incomes, Telefónica Servicios Audiovisuales and Axion saw their business volume drop. If the evolution of each one of the operators is analysed, Overon maintained the leadership and was the most important operator both in figures of income and in volume of clients, and, with a turnover of 70 million euros, it registered a growth of 1.3% compared to the previous year and a market share, according to incomes, of 47.5%.

In second place and at quite a distance was its main shareholder, Abertis,⁶⁷ which was the operator that experienced a larger growth in its revenue of 18.3%, obtaining a turnover of 46.9 million euros and a rise in

⁶⁷ Abertis' revenue is the result of adding the revenues of its subsidiaries, Tradia and Retevision I.

its market share of 3.3 points until it reached 31.8% of the total turnover from signal transportation. Then, due to its figure of income, came Telefónica Servicios Audiovisuales which, after experiencing an 8.7% drop, obtained 20.1 million euros and a market share of 13.6%.

Finally, the operators who act in regional areas are worth mentioning, among which Itelazpi stands out, which obtained a 3.4% rise in its revenue and a turnover of 2.8 million euros, followed by Axion with 1.8 million euros, 5.9% less than in 2008.





Source: CMT

c) Audiovisual signal diffusion services

The wholesale market of audiovisual signal diffusion services includes the services offered by the signal carrying operators which operate telecommunication networks that allow the programmes to be taken from the radio stations to households. The service consists of a point to multi-point communication from the broadcasting centre to the consumers' sets.

In 2009, incomes from these services reached a record figure on earning 291.2 million euros, which is 9% increase compared to 2008. This increase in the business volume is supported by the higher number of clients and services resulting from the technological transformation the sector has been going through in the last few years.

- Incomes by technology type

If we analyse the distribution of the incomes according to the type of service, the highest volume was for analogue television with 159.9 million euros. Incomes from these services grew by 1.2% with respect to the previous year, although they almost lost 4 percentage points in importance in the global turnover in comparison with the rise of the digital services.

Incomes for services related with digital television, which were those that experienced a higher increase, grew by 25.1% to 88.9 million euros, in accordance with the evolution of the television offer in the retail market. For their part, the incomes from radio signal diffusion amounted to 39.4 million euros, which meant a rise of 3.1%.



REVENUE FROM THE AUDIOVISUAL SIGNAL BROADCASTING SERVICES (millions of euros)

Source: CMT

- Incomes per operator

In an analysis of the diffusion services by operators, the Abertis Group, the market's largest operator, obtained a revenue of 251.3 million euros, which meant an 8.9% year-on-year growth while maintaining its share in the total revenue at 86.3%. Then, and at great distance

from the first one, the rest of the operators that act in different regional areas were positioned, among which Axion, from the Autonomous Community of Andalusia, was outstanding, which obtained 23.1 million euros revenue, followed by the Basque operator Itelazpi, which, with a 7.8% rise in its revenue, made a turnover of 10.7 million euros.



REVENUE FROM THE AUDIOVISUAL SIGNAL BROADCASTING SERVICES PER OPERATOR (millions of euros)

* Note: the audiovisual signal operator, Globecast, disappeared in the middle of 2006 after its incorporation to Overon. Source: CMT

- Concentration in the audiovisual signal broadcasting market

In the enclosed graph, the high degree of concentration of the audiovisual signal diffusion market is seen, in which there is a very small number of operators, among which the Abertis Group,⁶⁸ the only nationwide operator with a market share of 86.3% stands out. The remaining 13.7% is divided among 8 operators acting in regional geographic areas. Among them, Axion stands out, with a market share of 7.9%, and Itelazpi, with a 3.7% share of the total turnover. It is worth mentioning that of these regional operators, Axion unsuccessfully tried to operate on a nationwide scale in 2005 after reaching agreements with different regional operators.

MARKET SHARES OF THE AUDIOVISUAL SIGNAL BROADCASTING SERVICE BY REVENUES (percentage)



Source: CMT

In 2009, the CMT did an analysis on the terrestrial wave television broadcasting carrier service market.⁶⁹ This analysis established that Abertis held market shares of over 85% sustained over time, while it had a network of broadcasters needed for providing the service which, in certain cases, was impossible to repeat. This meant that no alternative operator would be able to deploy an alternative nationwide network. The result of all this was that this market's clients had no supply alternatives in the country.

In the analysis, Abertis Telecom was identified as the only operator in a position of a significant market power and, with the aims of fostering the opening to competitors and facilitating the entry of new operators, the CMT imposed a series of *ex ante* obligations on it, principally aimed at granting access to its infrastructures.

Also, the text recalls that the necessary infrastructure for offering the services of reference in this market is not easily reproduced for two main reasons: on the one hand, because in order to manage to cover 80% of the population, 150 broadcasting centres would be needed; however, in order to cover more than 95% -which is what Abertis covers in analogue broadcasting – around 1,700 centres would be needed in the case of public televisions and about 1,300 for private televisions.⁷⁰ Consequently, the marginal coverage, above that 80% of the population, is particularly burdensome and

⁶⁸ Made up by Abertis Telecom and its subsidiaries, Tradia and Retevision I.

⁶⁹ The CMT's resolution dated May 21st, 2009, which approves the definition and the analysis of the wholesale market of the television signal diffusion carrier service, the designation of an operator with significant market power and the introduction of specific obligations, and it is agreed to notify the European Commission of it (published in www.cmt.es).

⁷⁰ At this point, it should be remember that the requirement of reaching coverages of over 95% of the population is established in the DDT National Technical Plan), which requires at least a coverage of 96% of the population before April 3rd, 2010 for private nationwide televisions and of 98% for the Spanish RTV.

makes it difficult for another alternative operator other than Albertis to exist in this market.

On the other hand, because there is a certain number of broadcasting centres in the Abertis network that cannot be replicated by alternative operators since the aerial park is facing broadcasting and re-broadcasting centres located at certain levels (usually high) and specific points related with the area to be covered, and the costs for changing the direction of the aerials or installing new ones are very high.

It is also verified that there are high barriers that cannot be crossed at the entrance to the market of reference, and there is not a situation that tends towards effective competition. A series of competitive problems that could occur in relation to the digital broadcasting services is also identified, which requires being treated with regulations: (i) refusal to supply/give access; (ii) timewasting tactics; (iii) quality and price discrimination and (iv) cross-subsidies.

The aforementioned, along with the appearance of a new window of opportunity for possible competitors to enter because of the analogue blackout in 2010, has caused changes in the obligations imposed on Abertis in 2006, among which it is worth mentioning, on the one hand, the consideration of the inter-connection not as a subsidiary mode, but as an optional one in certain cases and, on the other hand, the extension of the Albertis' transparency obligation, with the publication of an Offer of Reference (OAR) 71 on the services of access to its network.

On the other hand, in relation with the number of operators involved in the market, in 2008, Abertis Telecom notified the National Competition Commission (NCC) of the concentration operations with Teledifusion Madrid and Axion, which finally were not carried out due to the conditions imposed by the competition regulator.⁷²

3.5.3. Market regulation and prospects

2009 was a year of very important legislative changes in the audiovisual sector. Throughout the year, two decree-laws were approved of which many of their important aspects were later incorporated into the new General Audiovisual Law, which was finally approved in March, 2010. Also, a law on the financing of the nationwide public television was approved, which lays the foundations of a financing model different from the one that existed until then.

- General Audiovisual Communication Law

Debates on the new General Audiovisual Law, finally approved in March, 2010, were held throughout 2009. The new General Audiovisual Communication Law (Law 7/2010) unifies the regulation of radio and television in a unique text, while it includes the European Audiovisual Services Directive⁷³ in the Spanish regulations. The legislative dispersion that existed in this sector was brought to an end.

Among other aspects, the text includes the regulations on pay-DTT, the possibility of concentrations or mergers being carried out between operators, it establishes the duration limit of television licences and the possibility of renting or transferring part of the frequencies, the contributions the operators must allocate to cinema and European series, audience rights, the protection of minors, the accessibility of television contents, television mobility, high-definition television, interactivity and the maximum time operators can assign to advertising and tele-promotions.

One of the aspects covered by the law with most impact on the sector refers to the removal of restrictions on

⁷¹ The document which, at the closing of this report, is in the process of being verified by the CMT can be reviewed on the website of Abertis Telecom (https://wat.abertistelecom.com/oar).

⁷² Also, the NCC fined Abertis for abuse of domain in the broadcasting of the Digital terrestrial television signal in a resolution that also indicated the right of television channels to end their contracts in advance, unilaterally and without penalisations. At the closing of this report, the operator had filed an appeal against this resolution at the High Court.

⁷³ Directive 2007/65/EC of the European Parliament and of the Council of December 11th, 2007 which amends Directive 89/552/EEC on the coordination of certain legal, regulatory and administrative provisions of Member States concerning carrying out television broadcasting activities.

cross shares among the operators of the sector⁷⁴. The regulations allow private television channels to have common shareholders or to merge, as long as: (i) there are at least three private operators with different publishing addresses in the country and (ii) the sum of the audiences of the televisions with cross shares or which are going to merge is not higher than 27% of the total audience.

Another novelty introduced by the law 7/2010 that will have a clear impact on the composition of the offers of content is the possibility it offers to the licensees of nationwide digital terrestrial television to operate, with a maximum of half of the assigned channels, in the conditional access payment mode.⁷⁵ The possibility of offering pay-DTT, which exists in a large number of countries in the UE (27), is empowered by this law 7/2010.

The regulation of this type of services makes the conditional access systems used to be open, in a way that any receiver can receive the pay-DTT signal through the insertion of cards into the decoders.

Also, the Royal Decree-Law limits the broadcasts that public televisions can broadcast through establishing that the State may not reserve or award public operators more than 25% of the available radio-electric space for the nationwide television service, a limit which will be 50 percent for televisions with local and regional coverage.

Also, the text includes the creation of a National Council of Audiovisual Media (NCAM) which will be the organisation in charge of ensuring the compliance of the new law and it will have the capacity for imposing fines.

- The Law on financing the Spanish Radio and Television Corporation

In August, 2009, the Law on financing the Spanish Radio and Television Corporation was approved. This law stipulated that the financing of the Corporation should come exclusively from public means, suppressing the broadcasting of advertisements on Spanish Television since the January 1st, 2010. The law also imposed an annual maximum of income and expenditures that the Corporation can have, restricting the use of the income that can only be used for financing public service activities and imposing limits for purchasing broadcasting rights of sports events and of rights of certain contents considered of great value.

According to this law, to compensate for the loss of the income from the broadcasting of advertising spots, the Corporation's main source of income will continue to be the General National Budgets to which 80% of the tax collected for public radio-electric domain and a new tax that will fall on the private television radio broadcasters and the telecommunications operators, which will be of:

- 3% of the gross operating incomes of private television operators that operate free-to-air nationwide or in more than one Autonomous Community;
- 1.5% of the gross operating incomes of the pay television operators, and
- 0.9% of the gross operating incomes of telecommunication operators that operate nationwide or in more than one Autonomous Community.

As indicated, 2009 was a year of deep legislative changes in the Spanish audiovisual market, changes that will have an impact on the market structure, the business model and the variety of services the consumer will receive.

Regarding the regulation of the wholesale services, specifically the one on audiovisual signal broadcasting, an activity regulated by the CMT since the first analysis of the market carried out in 2006, it was important to review the analysis of this activity done by the CMT throughout 2009, with the publication of the regulation concerning this activity. The obligation to grant access and interconnection for the operator declared as having sufficient weight in the market is maintained and extended in certain cases.

⁷⁴ The new conditions imposed in matters of mergers among television operators were already included in February in the Royal Decree-Law 1/2009 on urgent measures in telecommunication matters.

⁷⁵ This possibility was brought forward in the Royal Decree-Law, 11/2009 of August 13th, 2009 that regulates the provision of the pay digital terrestrial television service, through conditional access, for nationwide licensees.