

Chapter 5 – Internet Access Service

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5. Internet Access Service

This chapter contains the state of the Internet Access Service in late 2006 and describes, namely, this service's offer, the profile of its use and that of its users and its evolution over that year.

This chapter namely focuses on the fixed Internet Access. Mobile access is dealt with in more detail in chapter 4, on mobile services – 4.4. MTS evolution in 2006.

Below are the main items of this service's evolution over 2006.

5.1. Main items of the evolution in 2006

- In 2006, the amount of the Internet Access Service customers reached 1.6 million, 11 per cent more than in the previous year. Forty per cent of Portuguese households had Internet connectivity, almost 5 per cent more than in late 2005.
- Broadband is becoming the preferential medium to access the Internet (more than 90% of all). By the end of the year, there were 1.46 million customers, 23 per cent more than in 2006. ADSL accesses were the main thrusts behind this growth (they grew 32 per cent in 2006 and already stand for 63 per cent of the overall broadband).

The penetration rate of fixed broadband in Portugal has reached 13.8 per 100 inhabitants.

- Broadband growth in Portugal was again below that of the EU, and the growth gap has even spread (1.8 regarding penetration, in 2006). This evolution occurred in spite of the service's availability all over the country, its prices in line with those of other countries and the providers' aggressive marketing.

This fixed broadband evolution in Portugal, versus the EU's, might be explained by the following factors: the launch of mobile broadband offerings (by the end of the second quarter of 2006, mobile broadband penetration has reached 1.6 accesses per 100 inhabitants)⁴⁷; the relatively low PC penetration in households, the existing gaps regarding human capital and income⁴⁸; and macroeconomic conditions of a cyclical nature.

- Consumers' perception of broadband quality of service is generally positive. Only 6.5 per cent of the inquired people believes that the service is below their expectations.
- The progressively reduced shares of Group PT remained as a trend. The customer share of Group PT reached 71.5 per cent, 7 per cent less than at the end of the previous year.

In 2006, more than half of new ADSL customers and over $\frac{3}{4}$ of the new cable modem customers picked alternative operators' services.

The evolution of the ADSL Access shares is linked to the LLU: in 2006, the amount of new unbundlings was of around 124 thousand. By the end of that year, the accumulated amount of unbundled loops was 196 thousand (of which approximately 188 thousand were broadband – a figure that stands for about 20 per cent of the overall ADSL accesses).

5.2. Internet Access Service offer

Internet Access service may be provided over different technological suites. On the other hand, the service is provided with different throughputs, which translate into providing narrow band or broadband services.

⁴⁷ Estimated.

⁴⁸ According to the survey "Residential Internet and Broadband take-up in Portugal", available at <http://www.anacom.pt/template20.jsp?categoryId=204042&contentId=452239>, the "most important factors in adopting the Internet [are] age, education and income".

According to the legal framework in force, the service is provided by the entities with a general authorisation.

Below are described in detail the provided services and the evolution that occurred during 2006. The entities providing these services in Portugal are also listed.

5.2.1. Internet Access Service

This service is mainly provided by dial up access, dedicated access⁴⁹, ADSL access, cable modem access and access using third generation mobile networks.

Below is a summarised description of the main Internet access modes:

- Access using dial-up connection – Packages within this mode have a maximum throughput of 64 kbps (narrow band). This throughput is also affected by the need to convert data between digital and analogue formats. Switched (dial-up) connections are available to any subscriber with a fixed telephone line and a modem, just sufficing that they become a customer of one (or several) ISP. ISDN access makes higher throughputs possible, and the integration of voice and data into one single access. ISDN accesses can be basic⁵⁰ or primary⁵¹.
- Access using DSL technological suites (Digital Subscriber Lines or xDSL) – These technological suites use sophisticated modulation systems to increase data throughput over copper wires and use frequencies that are not used by the voice signal. This type of accesses opens up average throughputs quite above those of the dial-up connections over analogue telephone line and dial-up connections over ISDN. The fact that voice and data are carried in different frequencies makes it possible for these technological suites the ability to perform both these types of

⁴⁹ Dedicated Connection – a connection in which there is, between a user and an ISP, a communication channel that is used for Internet connection only; the channel is always open, whether the user is online or not.

⁵⁰ Basic Access (Basic Rate Access 2B+D) – Customer Access to ISDN using a copper pair and providing two 64kbps channels (B1 and B2 channels) for voice and data transfer, and a 16kbps D channel for signalling, package data transfer and telemetry. The global throughput is 192kbps.

⁵¹ Primary Access - 30B+D Access to the ISDN, with a global 2Mbps throughput. Both the 30 B voice/data channels and the D signalling channel carry 64kbps.

communication simultaneously, and Internet connection is always on. This technological suite is made available on pre-defined areas, where it is possible to have access to a connection with the minimum physical requirements.

There are different xDSL variations, of which the most common is ADSL (Asymmetric DSL)⁵². Regarding data throughput, ADSL offerings available in Portugal are between 256 kbps and 24 Mbps. Beyond ADSL, there are also other modes, such as SDSL (Symmetric DSL)⁵³, HDSL (High-data-rate DSL) and VDSL (Very-high-speed DSL).

- Co-axial cable access – co-axial cable is the first type of cable used by the cable television distribution industry. The way it is made makes a much larger data throughput possible (larger bandwidth), and a smaller exposition to electrical and radio interferences as well. The Internet access mode over cable television distribution networks, by using a cable modem and an expansion board for the PC, leads to higher access throughputs, if compared to those of the dial-up over copper wires. These connections' maximum throughputs are similar to those of an ADSL access, both downstream and upstream. In order for the Internet service to be provided over a network of this kind, this network has to stand bi-directionality, i.e., it has to be able to send and to receive data.
- Access over the mobile third generation– The third generation of mobile services was designed to materialize convergences between fixed communications and mobile communications and between electronic communications and multimedia, thus drawing mobile networks closer to the capacity of fixed networks and giving mobile users access to broadband multimedia services. Among the third generation mobile systems, UMTS, in the 2 GHz band, stands out. It is identified with the European standard of the global standard family of international mobile

⁵² Digital technology transforming analogue or ISDN telephone lines into greater capacity lines, making Internet access at much higher speeds possible. Data transmission is made asymmetrically, i.e. the downstream is faster than the upstream, which is currently at around 1 Mbps, and bandwidth is managed in an intelligent way. It makes it possible to simultaneously use the Internet and the traditional telephone line (for voice, fax service). An ADSL line has three data channels: a *downstream* high throughput channel (1.5 to 8Mbps), a duplex *upstream* medium throughput channel (16 to 640kbps) and a channel for the telephone service.

⁵³ Digital technology in which data transmission is made symmetrically.

communications systems (IMT2000). UMTS technology uses the WCDMA transmission mode⁵⁴, which is based on multiple access by code division.

Information regarding the mobile broadband Internet access service is on chapter 4, on the MTS – 4.4. MTS evolution in 2006.

- Other access media⁵⁵ – Other technological suites that can be used to Access the Internet is worth mentioning, namely access over dedicated connections, access over FWA and CDMA radio links, Access over power line cables (PLC), access over local radio networks and access over satellite links.

5.2.2. Internet Access Service providers – Fixed

In late 2006 there were 38 registered and entitled entities that could provide the Internet Access Service in Portugal. These entities are also known as ISP – Internet Service Providers.

Of the 38 legally entitled ISPs, 29 were active and the remaining 9 were not providing the service.

Table 5-1 – Amount of operators providing the Internet Access Service – Fixed

	2000	2001	2002	2003	2004	2005	2006
Amount of Registered Providers	41	51	57	52	39	39	38
Amount of Active Providers	29	30	32	25	30	30	29

Source: ICP-ANACOM

The table below shows the evolution of the amount of entities with a legally binding permission to provide this service, the entries and exists in/from the marketplace during the year standing out.

⁵⁴ Broadband Access system which access discipline to the various users shares the same frequency band through codes assigned to each one of them.

⁵⁵ The 2002 regulation report includes a brief description of these Internet Access technological suites.

Table 5-2 – Internet Access Service Providers in 2006 – Fixed

Name	2005	Entries	Exits	2006
Adianis – Telecomunicações & Multimedia, S.A.	NA			NA
AR Telecom – Acessos e Redes de Telecomunicações, S.A.	A			A
AT & T – Serviços de Telecomunicações, Soc. Unip., Lda. (*)	NA			NA
Bragatel – Comp. Televisão por Cabo de Braga, S.A.	A			A
Broadnet Portugal, S.A.	A			A
BT Portugal – Telecomunicações, Unipessoal, Lda.	NA			A
Cabo TV Madeirense, S.A.	A			A
Cabovisão – Sociedade de Televisão por Cabo, S.A.	A			A
CATVP – TV Cabo Portugal, S.A.	A			A
Clixgest – Internet e Conteúdos, S.A. ⁵⁶	A		X	-
Colt Telecom – Serviços de Telecomunicações, Unipessoal, Lda.	A			A
CONNEX – Tecnologias de Informação, Lda.	-	X		A
Equant Portugal, S.A. (ORANGE)	A			A
Fleximedia – Serviços e Meios Inf. e Comunicação, Lda.	A			A
Name	2005	Entries	Exits	2006
Global Crossing PEC Espana S.A. ⁵⁷	NA			NA
Hari-técnica Comércio e Indústria de Artigos Eléctricos e Electrónicos, Lda.	A		X	-
HSIA Hospitality Services Portugal, S.A. ⁵⁸	A			A
Media Capital – Telecomunicações, S.A.	A			A
Netacesso – Serviços Internet e Multimédia, Lda.	NA			NA
Netvoice – Comunicações e Sistemas, S.A.	A		X	-
Neuvex – Telecomunicações, Marketing e Inform., Lda.	-	X		NA
NFSI – Soluções Internet, Lda.	A			A
Nortenet – Sistemas de Comunicação, S.A.	A			A
Novis Telecom, S.A.	A			A
Onitelecom – Infocomunicações, S.A.	A			A
Pluricanal Leiria – Televisão por Cabo, S.A.	A			A
Pluricanal Santarém – Televisão por Cabo, S.A.	A			A
PT Acessos de Internet WI-FI, S.A.	A			A
PT Prime – Soluções Empresariais de Telecomunicações e Sistemas, S.A.	A			A
PT.Com – Comunicações Interactivas, S.A.	A			A
Radianz Portugal, Soc. Unipessoal, Lda. ⁵⁹	NA		X	-
Radiomóvel – Telecomunicações, S.A. ⁶⁰	NA			NA
REDSAT – Projecto, Instalação, Venda e Aluguer de Novas Tecnologias, Lda.	-	X		NA
Refer Telecom – Serviços de Telecomunicações, S.A.	A			A

⁵⁶ In 2005 companies KPNQwest Portugal – Telecomunicações, Lda. (Jun/05) and CLIXGEST – Internet e Conteúdos, S.A. (Nov/05) were merged into NOVIS TELECOM, S.A..

⁵⁷ GC Pan European Crossing España, S.A. changed its name to Global Crossing PEC Espana S.A. on 15-09-2006.

⁵⁸ Swisscom EPWLAN – Serviços de Internet, S.A. reported, on October 2006, the change of its name to HSIA Hospitality Services Portugal, S.A.

⁵⁹ On 19-07-2006 the company Radianz Portugal, Sociedade Unipessoal, Lda. was incorporated into BT Portugal – Telecomunicações, Unipessoal, Lda.

⁶⁰ Radiomóvel does not provide a fixed Internet access service; it provides mobile broadband Internet to closed user groups.

Name	2005	Entries	Exits	2006
Robot – Telecomunicações, Projectos e Serviços, Lda.	A			A
TeleMilénio, Telecomunicações, Sociedade Unipessoal, Lda. (Tele2)	A			A
TVTel Comunicações, S.A. ⁶¹	A			A
VERIZON Portugal, Sociedade Unipessoal, Lda. ⁶²	A			A
Via Net.Works Portugal – Tecnologias de Informação, S.A. (Clara.Net)	A			A
Vipvoz – Serviços de Telecomunicações Digitais, Lda.	NA			NA
Vodafone Portugal – Comunicações Pessoais, S.A.	A			A
Worldbroker Telecomunicações – Sociedade de Telecomunicações e Multimédia, Lda.	NA			NA
Total active	30	1	4	29
Total non-active	9	2	2	9
Total general	39	3	6	38

Source: ICP-ANACOM

A — Active NA — Non-Active X — Entry or Exit

(*) Entity entitled to provide the Internet access service, but only shows activity regarding Other Data Transmission Services (ODTS).

The following table lists the cable television distribution operators with broadband Internet access over cable offerings, with the use of cable modems, at the end of 2006.

Table 5-3 – Cable distribution network operators providing the Internet Access Service

Bragatel – Companhia de TV por Cabo de Braga, S.A.
Cabo TV Madeirense, S.A.
Cabovisão – Sociedade de Televisão por Cabo, S.A.
CATVP – TV Cabo Portugal, S.A.
Pluricanal Leiria – Televisão por Cabo, S.A.
Pluricanal Santarém – Televisão por Cabo, S.A.
TVTel Comunicações, S.A.

Source: ICP-ANACOM

Providers offering broadband Internet services over ADSL accesses are shown on the table below.

⁶¹ On 4-07-2006, TVTEL Grande Porto Comunicações, S.A. reported the change of its name to TVTEL Comunicações, S.A.

⁶² UUNET – Portugal, Sociedade Unipessoal, Lda. Changed its name to VERIZON Portugal, Sociedade Unipessoal, Lda., as from 11-12-2006.

Table 5-4 – Internet Access service Providers with ADSL Access offerings

AR Telecom - Acessos e Redes de Telecomunicações, S.A.
CATVP – TV Cabo Portugal, S.A.
Colt Telecom – Serviços de Telecomunicações, Unipessoal, Lda.
Nortenet – Sistemas de Comunicação, S.A.
Novis Telecom, S.A.
Onitelecom – Infocomunicações, S.A.
PT Acessos de Internet WI-FI, S.A.
PT Prime – Soluções Empresariais de Telecom. e Sistemas, S.A.
PT.Com – Comunicações Interactivas, S.A.
Via Net.Works Portugal – Tecnologias de Informação, S.A. (Clara.Net)
Vodafone Portugal – Comunicações Pessoais, S.A.

Source: ICP-ANACOM

Regarding the FWA technology, Table 5-5 shows the licensed providers who provided Internet Access Services in 2006 using this technology.

Table 5-5 – Internet Access Service Providers with FWA offerings

AR Telecom – Acessos e Redes de Telecomunicações, S.A.
Broadnet Portugal, S.A.
Novis Telecom, S.A.
Onitelecom – Infocomunicações, S.A.
Vodafone Portugal – Comunicações Pessoais, S.A.

Source: ICP-ANACOM

It is worth pointing out that, besides the mentioned providers, also the operators with national licenses for the International Mobile Telecommunications Systems (IMT2000/UMTS) are legally entitled to provide the Internet Access Services.

5.3. Internet Access Service usage and user profile

Below are some features of the Internet user and use.

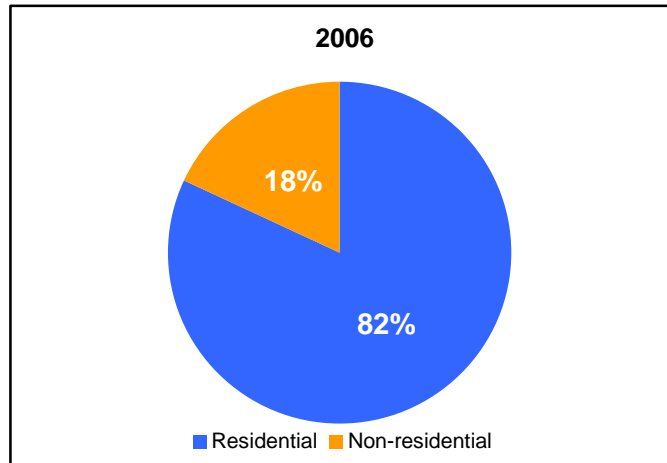
5.3.1. Internet Access Service customer's profile

Residential customers⁶³ are the great majority of the Internet Access Service's

⁶³ Residential customer is considered every customer that does not use the service at stake mostly as an intermediate of his/her professional activity.

customers, standing for 82 per cent of the overall amount of customers.

Graph 5-1 – Internet Access Service customers according to their customer segment



Source: ICP-ANACOM

According to the Survey on the Use of Broadband – 2006⁶⁴, residential Internet Access service customer mostly lives in largely sized agglomerates, in households with a larger amount of residents and has an above-average income.

⁶⁴ The universe defined for this survey was made up of users of both genders, 15 years old or older, living in Mainland Portugal and in the Autonomous Regions of Madeira and the Azores. The selection of interviewees referred to the method of gender and age, education and occupation quota. The sample was stratified by region and habitat. A total of 8676 telephone interviews were conducted, including 3036 interviews to broadband users, guaranteeing a maximum error of 1.8 per cent for the results concerning broadband users (for a significance level of 95 per cent). The fieldwork and handling of data was made by METRIS GFK between 1 November 2006 and 21 December 2006.

Table 5-6 – Profile of Internet households (%)

Habitat:	Dec-06
Less than 2,000 inhabitants	33.8
From 2,000 to 9,999 inhabitants	43.6
From 10,000 to 99,999 inhabitants	44.7
Over 100,000 inhabitants	42.9
Size of Household:	
1 person	12.7
2 people	18.3
3 people	50.4
4 or more people	55.8
Social class⁶⁵	
A	86.2
B	73.7
C	54.6
D	22.7
E	29.1

Source: ICP-ANACOM, Survey on the Use of Broadband in Portugal, December 2006

At EU level, the size of the household, in number of residents, is a crucial factor for having broadband Internet: the larger the household, the higher the chance to subscribe to this service⁶⁶.

The fact that Internet penetration is higher among the lower age classes should also be pointed out.

⁶⁵ The social class variable is the result of crossing variables education of the members of the inquired household with their professional occupations and indirectly estimates the income class of the household. The A class has the highest levels of income and the E one the lowest ones.

⁶⁶ Cf. E-Communications Household Survey, European Commission, July 2006.

Table 5-7 – Internet penetration per age class (%)

Age classes	
<= 24	25.7
25 - 34	24.0
35 - 44	21.9
45 - 54	17.1
55 - 64	8.4
65+	3.0

Source: ICP-ANACOM, Survey on the Use of Broadband in Portugal, December 2006⁶⁶

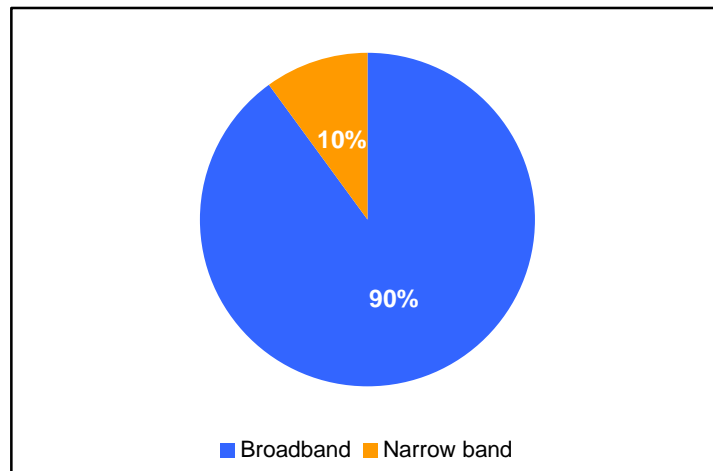
Regarding the non-residential service, 83 per cent of companies with ten or more workers and 80 per cent of companies with ten to 49 people had Internet connection. About 99 per cent of companies larger than 49 people have Internet Access. There are two industries with Internet penetration rates below 90 per cent: construction (69 per cent), and manufacturing (81 per cent)⁶⁷.

5.3.2. Internet Access Service usage profile

The majority of the Internet Access Service users use broadband. In late 2006, the ratio of broadband customers versus the overall amount of customers was 90 per cent. The growing weight of broadband mainly reflects the popularity of applications and contents requiring larger bandwidths and the coming about of *always-on* offerings at a fixed monthly rate that also give users a more economic and cost-controlled use.

⁶⁷ Cf. Survey on the Use of Information and Communication Technology by Companies 2006, by INE.

Graph 5-2 – Distribution of the Internet Access Service customers per bandwidth – 2006



Source: ICP-ANACOM

It should be pointed out that 68 per cent of households with Internet connection use broadband⁶⁸.

Among the main goals of Internet use, in 2006, the most important ones are sending/receiving e-mail, searching information on goods and services, downloading games, images or music and reading/downloading online newspapers and magazines. The analysis of the Internet usage patterns, considering the evolution between the two inquiries, shows that the above mentioned goals are stable, despite the relevant growth of the goal getting information through sites of bodies within the general Government and downloading official forms.

⁶⁸ Cf. Inquiry on the use of information and communication technology by families, INE, 2006. The field work took place between the months of April and May 2006 and focused on households with at least one individual aged between 16 and 74 and residing at their family's main home, to which corresponded 4,038 households with at least one individual aged between 16 and 74.

Table 5-8 – Goals for using the Internet (%)

Activities	Jan-06	Dec-06
Communication		
Sending/receiving e-mails	80.5	80.9
Internet calling / videoconferencing	10.0	15.6
Blogging		10.3
Other (access to chats, etc.)	38.9	38.7
Searching information and using online services		
Searching information on goods and services	80.8	83.8
Searching information on products that led to offline shopping (physical stores)		29.1
Using services in connection with travelling and lodging	32.8	35.1
Listening to radio/watching television over the Internet	28.1	30.0
Playing or downloading games, images or music	44.0	45.6
Software downloading	27.6	25.8
Online newspapers, magazines reading/downloading	51.3	44.5
Search for jobs or sending applications/CVs	12.4	14.3
Linking to State/regional/local bodies/services		
Collecting information from General Government's sites	36.7	39.4
Downloading official forms	25.8	30.1
Filling in and sending official forms	28.0	32.3
Using the Internet to interact with State/regional/local bodies/services	43.8	41.0
Education and training		
Taking on formal education activities	18.8	17.6
Taking on post-formal education courses	4.1	3.4
Taking on courses that are specifically linked to job opportunities	1.9	2.4
Health-related activities		
Search information on health issues (lesions, illnesses, nutrition, etc.)	31.3	38.8

Source: INE, Inquiry on the use of information and communication technology by families, 2005 and 2006

5.3.3. Barriers to joining the service

In 2006, just like in the previous year, the main reason that was pointed out for not joining the Internet was lack of interest or of use (47.1 per cent). In second comes the inexistence of a PC (33.3 per cent). The price of the service is also a barrier to joining the service (9.7 per cent).

Table 5-9 – Main reasons for not having an Internet Access at home (%)

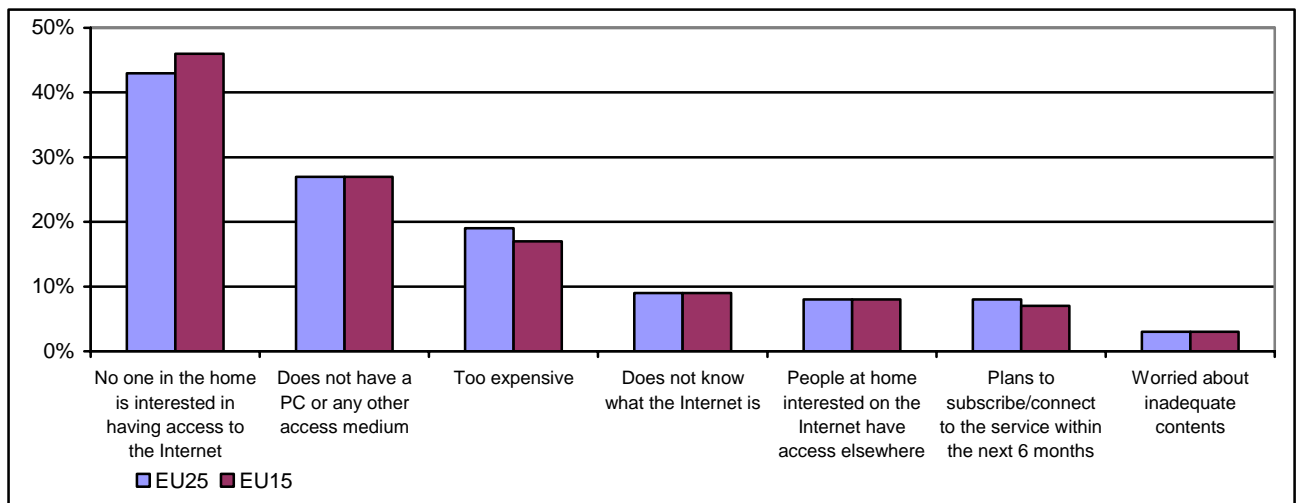
	Jan-06	Dec-06
Does not need / has no interest	38.3	47.1
Does not have a PC	34.0	33.3
The price is too high	8.6	9.7
Has no time	3.5	2.0
Has access in other places	2.5	4.6
Has no geographical coverage	2.2	0.9
Other	10.9	2.5
Total	100	100

Source: Survey on the Use of Broadband in Portugal: January 2006 and December 2006

Mention should be made to the fact that the above-mentioned main reasons are identical to those pointed out by EU consumers for not joining the Internet.

However, in Portugal, the barrier “not having a PC” is stronger.

Graph 5-3 – Main reasons for not having Internet access at home (%)



Source: European commission, E-communications household survey, July 2006.

5.4. Internet Access Service evolution in 2006

Below is the evolution in 2006 in terms of geographical availability of the service, its penetration, usage level, prices, innovation and development of competition.

5.4.1. Geographical availability of this service

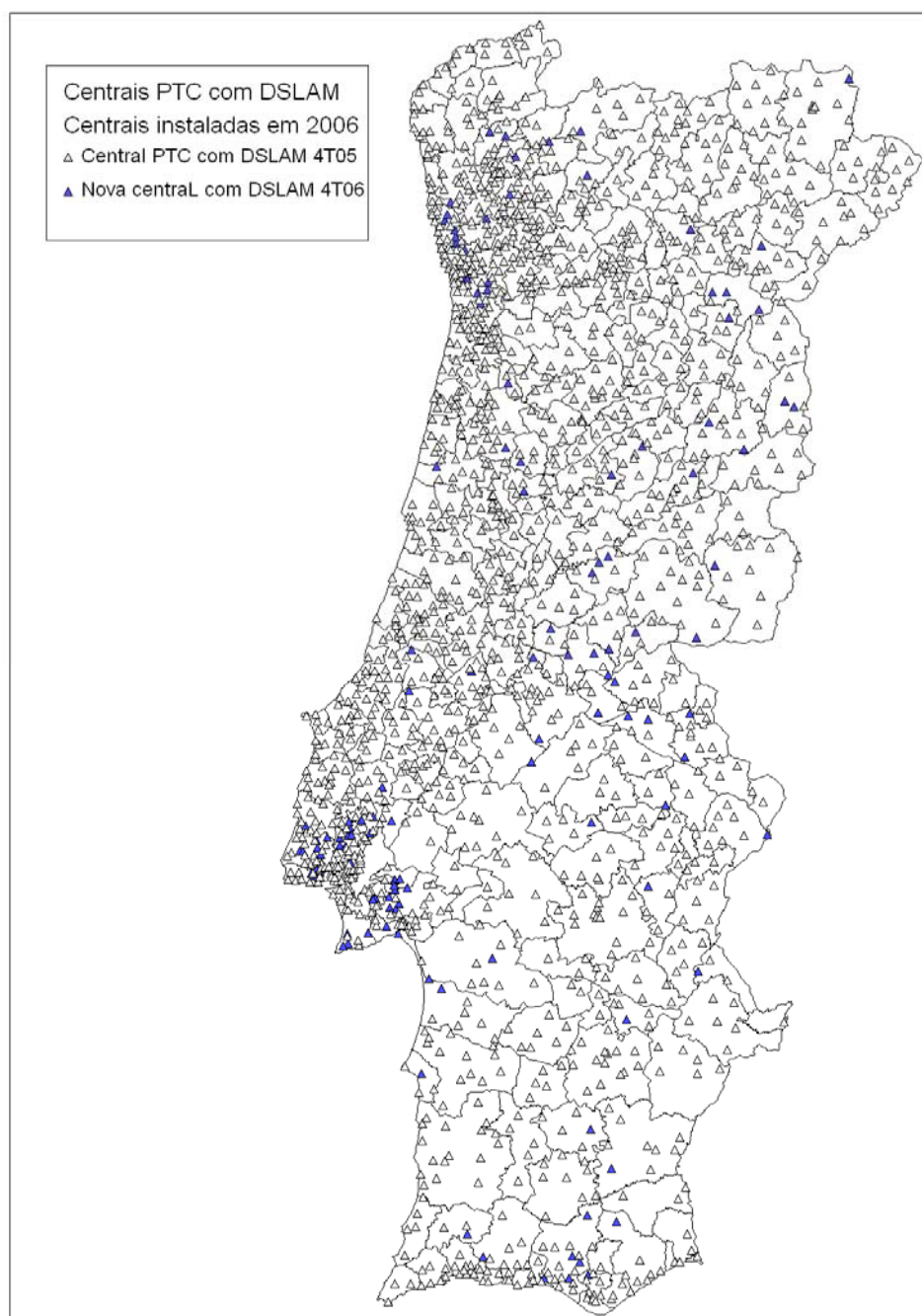
In 2006, the Internet Access Service was available in practically all of the Portuguese territory. Particularly, the dial-up Access is available all over the public switched network.

The availability of the broadband offerings depends on the availability of the public switched network's switchboards with DSLAMs (*digital subscriber line access multiplexers*) or on the availability of cable TV distribution networks ready to offer broadband.

At the end of 2006, there were 1,850 switchboards with DSLAMs in mainland Portugal, which is almost all of PT's switchboards – 99.7 per cent. This amount of switchboards is about 7 per cent higher than that of the previous year.

In the Autonomous Regions of Madeira and of the Azores, practically all switchboards have DSLAMs.

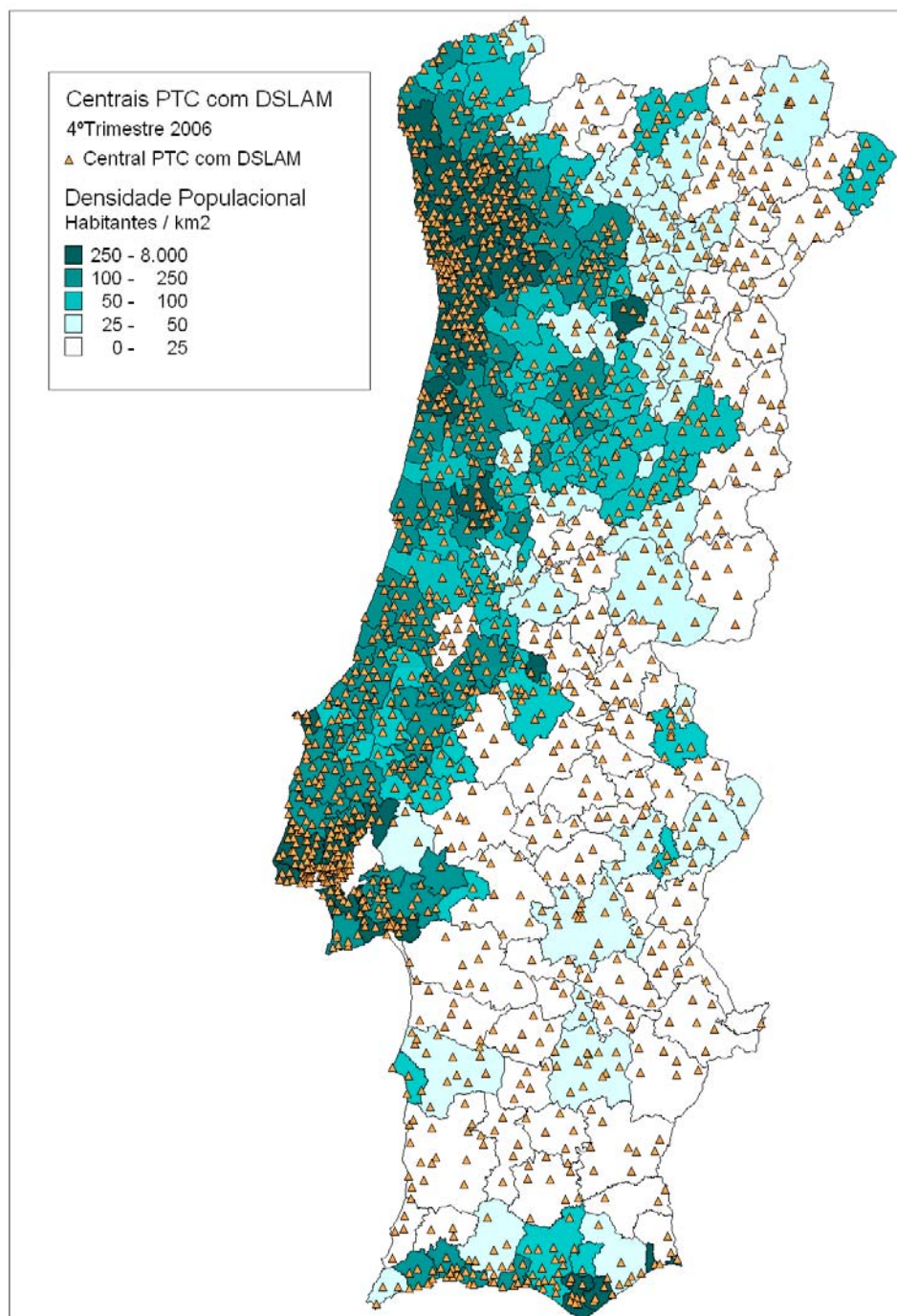
Graph 5-4 – Distribution per municipality of switchboards with DSLAM at the end of 2005 and 2006 (Mainland Portugal)



Source ICP-ANACOM

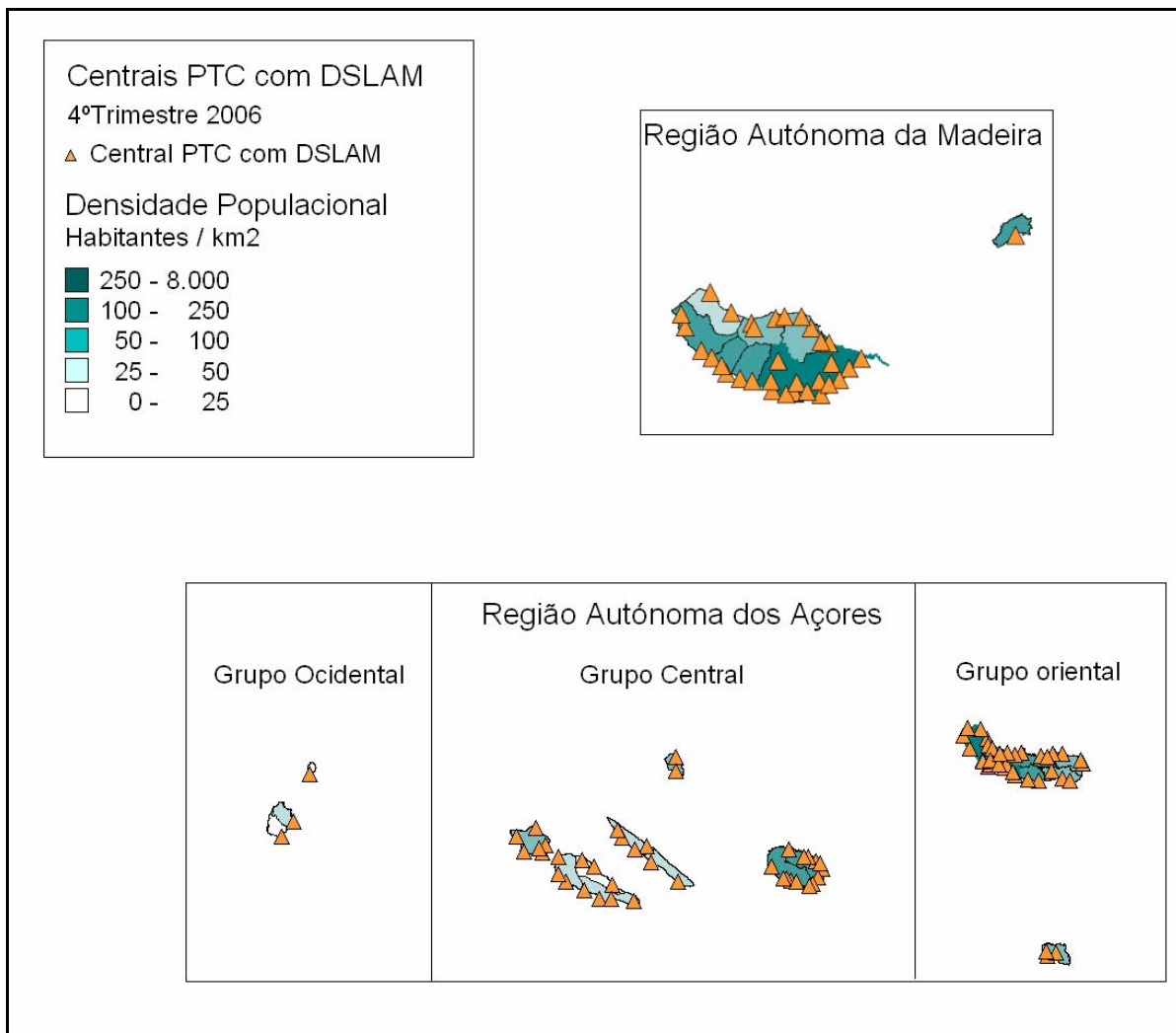
It should be underlined that there are exceptional cases when it is not possible to provide ADSL services over a given loop, due to its physical characteristics (namely length, section and its state of conservation).

Graph 5-5 – Distribution per municipality of switchboards with DSLAM at the end of 2006 and population density (Mainland Portugal)



Source: ICP-ANACOM

Graph 5-6 – Distribution per municipality of switchboards with DSLAM in 2006 and population density (Autonomous Regions of the Azores and of Madeira)



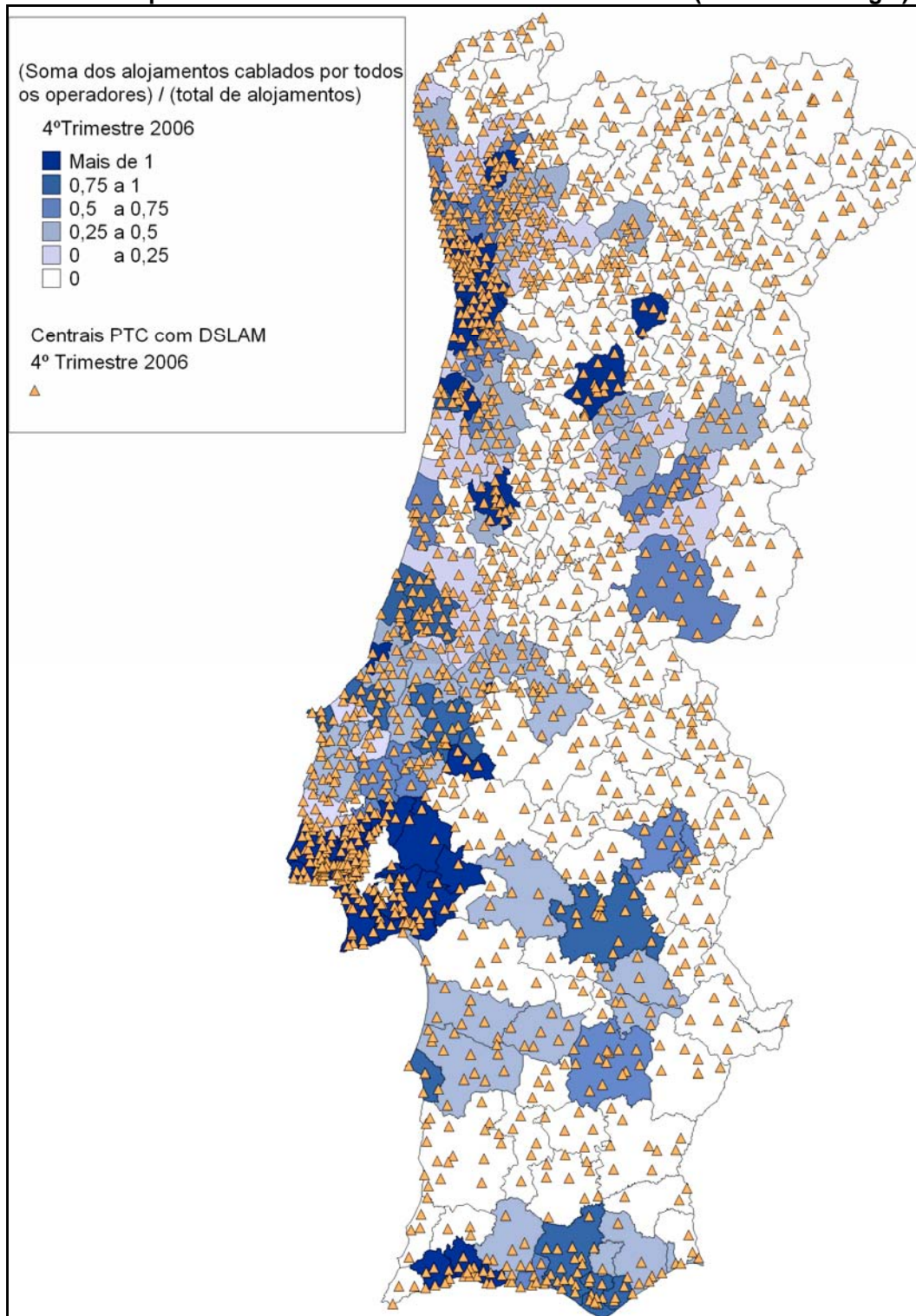
Source: ICP-ANACOM

Regarding broadband Internet access using cable modem, cable distribution networks in Mainland Portugal are focused on the Greatest Lisbon and Greatest Porto regions.

Regarding the autonomous regions, by the end of 2006, Madeira had a ratio of cabled homes above 93 per cent, whereas in the Azores this indicator reaches 60 per cent. These figures can be explained by the protocols among the Government of the Republic, the Regional Governments, ICP-ANACOM and the only cable television distribution network operator in both the autonomous regions. These protocols aim at ensuring the necessary conditions for the citizens of the autonomous regions to have access, for free, to the broadcasts of the general free-to-air channels available in

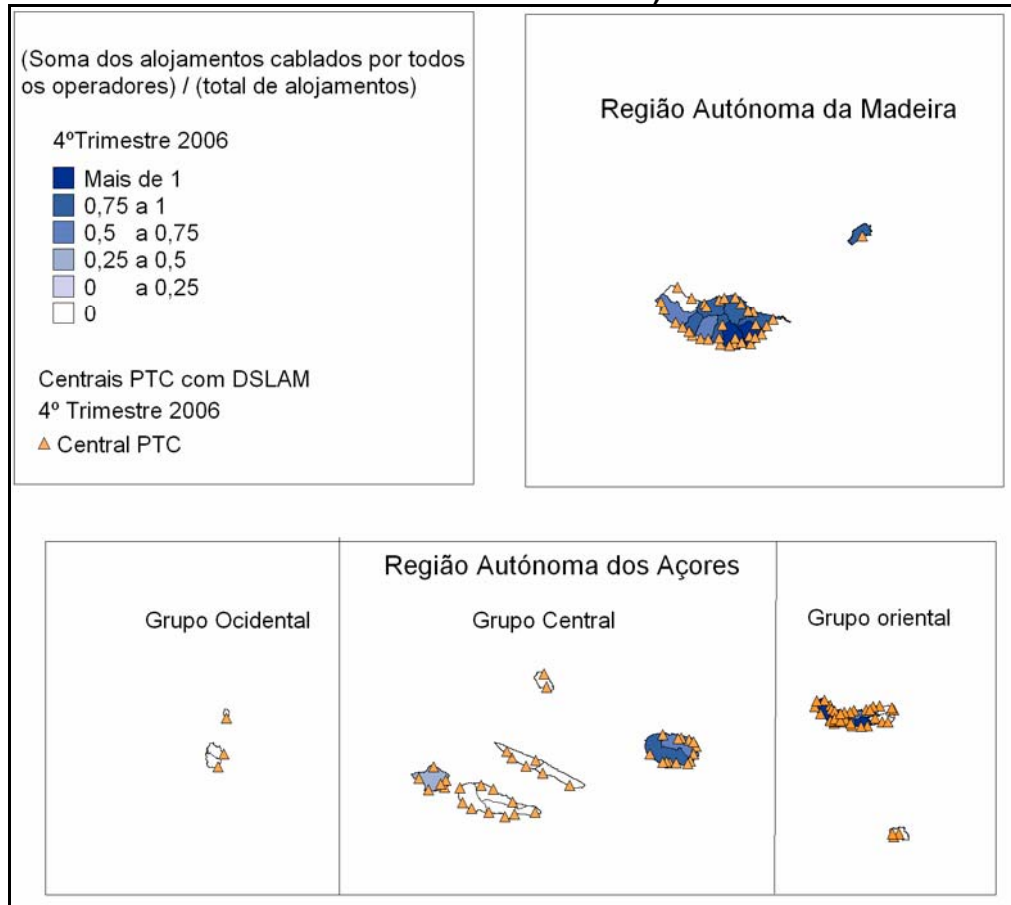
Mainland Portugal, namely RTP1, RTP2, SIC e TVI, as well as RTP Açores and RTP Madeira, respectively in each of the autonomous regions. The protocol in force in Madeira was signed on 6 August 2004 and the protocol regarding the Autonomous Region of the Azores was signed on 5 November 2005, and remained in force for a year.

Graph 5-7 – Distribution per municipality of switchboards with DSLAM in 2006 and ratio of the sum of all operators' cabled households over all households (Mainland Portugal)



Source: ICP-ANACOM

Graph 5-8 – Distribution per municipality of switchboards with DSLAM in 2006 and ratio of the sum of all operators’ cabled households over all households (Autonomous Regions of the Azores and of Madeira)



Source: ICP-ANACOM

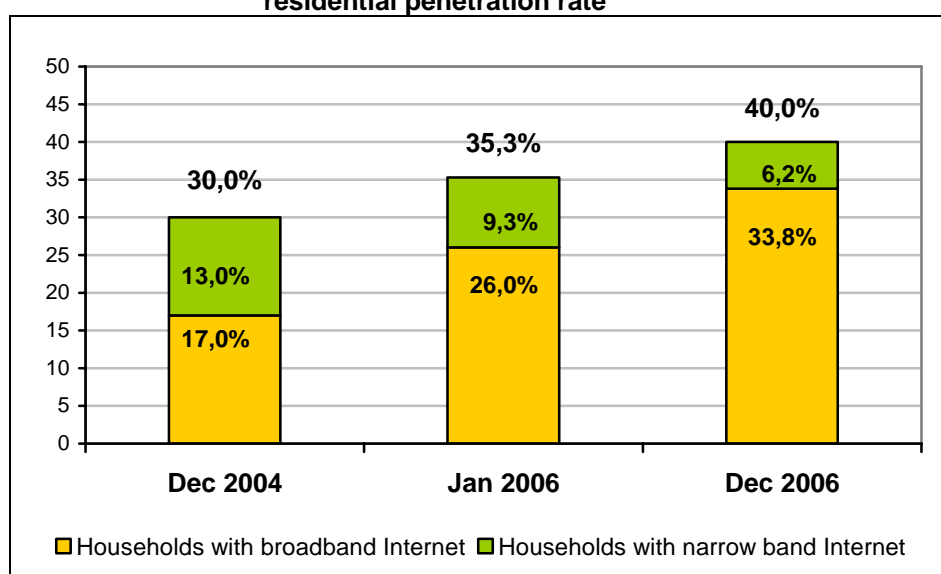
Taking into account the above-mentioned information, it is clear that the density of broadband accesses follows the density of the population within the territory.

Mobile broadband is available wherever third generation mobile networks are available.

5.4.2. Internet penetration in households

At the end of 2006, about 40 per cent of Portuguese households had Internet connectivity, 4.7 per cent more than at the end of the previous year. Broadband remained the preferential means to access the Internet and is in around 33.8 per cent of households, 7.8 more than in the previous year.

Graph 5-9 – Evolution of the Internet Access Service residential penetration rate



Source: ICP-ANACOM, Survey on the Use of Broadband – December 2004, January 2006 e December 2006

At the end of 2006, there were about 1.33 million active Internet access service residential customers, 8.7 per cent more than in the previous year.

Table 5-10 – Amount of residential and non-residential customers

	2005	2006	2005/2006 var. (%)
Total customers	1,457,848	1,618,690	11.0%
Residential customers	1,222,205	1,328,651	8.7%
Non-residential customers	235,643	290,039	23.0%

Source: ICP-ANACOM

Unit: 1 customer; %

In the residential segment, the data made available by the Surveys on the Use of Broadband in Portugal, promoted by ICP-ANACOM, show that there are regional asymmetries in Internet penetration.

Lisbon and Vale do Tejo is still the region with the highest Internet Access service penetration rate. On the other end, Internet penetration in the Azores, Alentejo and Algarve regions is below the national average.

Table 5-11 –Internet connections in households, by NUTS II (%)

Regions	Dec-04	Jan-06	Dec-06
North	24.4	30.0	40.0
Midland	25.0	36.0	39.8
Lisbon and Vale do Tejo	36.5	43.4	45.5
Alentejo	20.8	29.6	31.2
Algarve	26.8	27.8 ⁶⁹	28.8
Azores	21.1	25.8	26.7
Madeira	24.0	34.7	40.8

Source: ICP-ANACOM, Survey on the Use of Broadband – December 2004, January 2006 and December 2006

The geographical distribution of ADSL subscribers adds up to the above-mentioned conclusions.

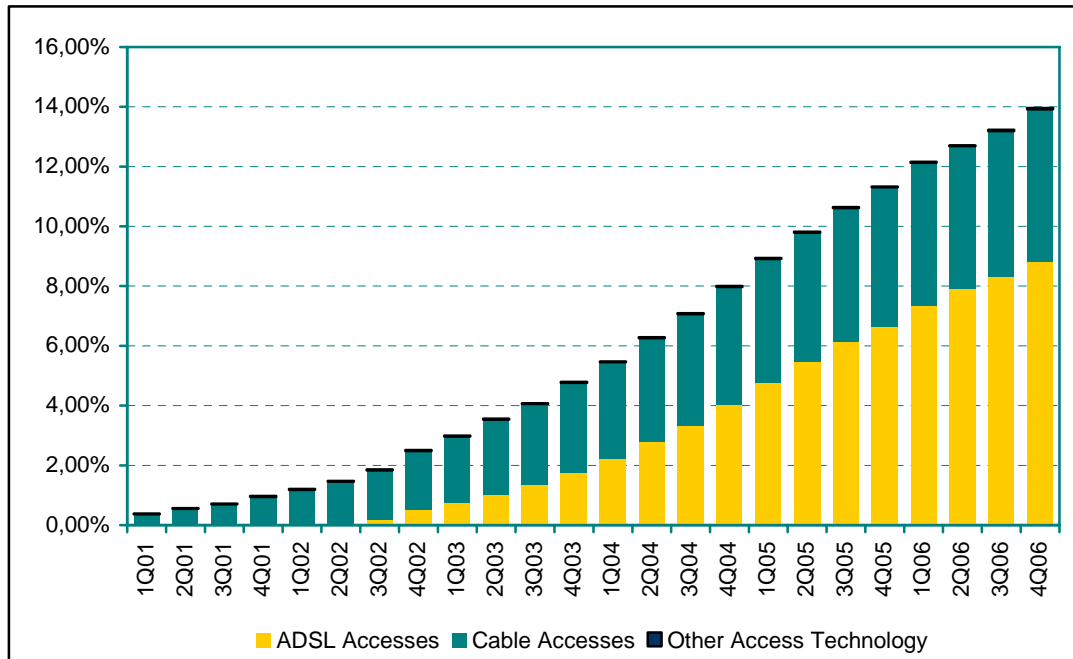
5.4.3. Fixed broadband penetration

At the end of 2006, there were 13.8 broadband customers per 100 inhabitants, about 2.6 per cent more than at the end of 2005.

Regarding accesses, the penetration rate reached around 14 accesses per 100 inhabitants.

⁶⁹ Estimated.

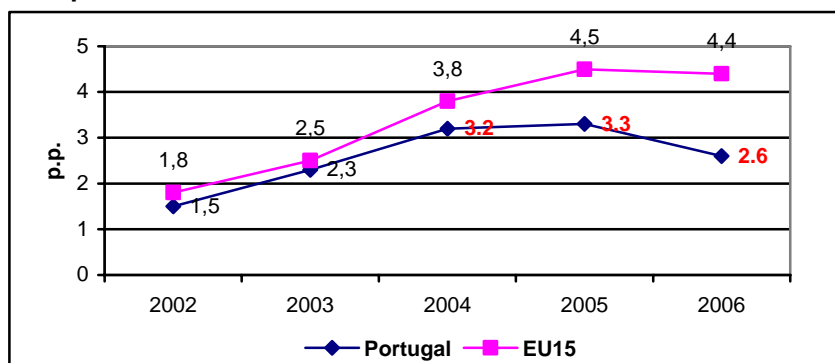
Graph 5-10 – Evolution of the amount of fixed broadband accesses per 100 inhabitants



Source: ICP-ANACOM

The growth in the broadband penetration rate in Portugal was however smaller than that of the remaining EU countries. The gap between broadband penetration growth in EU15 and broadband penetration growth in Portugal increased, reaching 1.8 per cent.

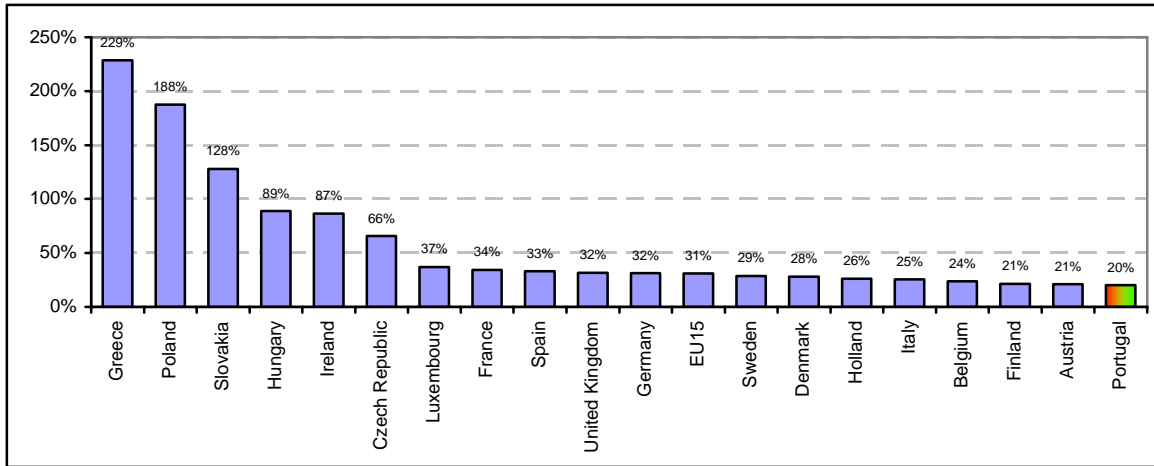
Graph 5-11 – Variation in the Fixed Broadband Penetration Rate



Source: OECD and ICP-ANACOM

Broadband penetration in Portugal grew around 20 per cent from 2005, whereas in EU15 the average growth was 31 per cent.

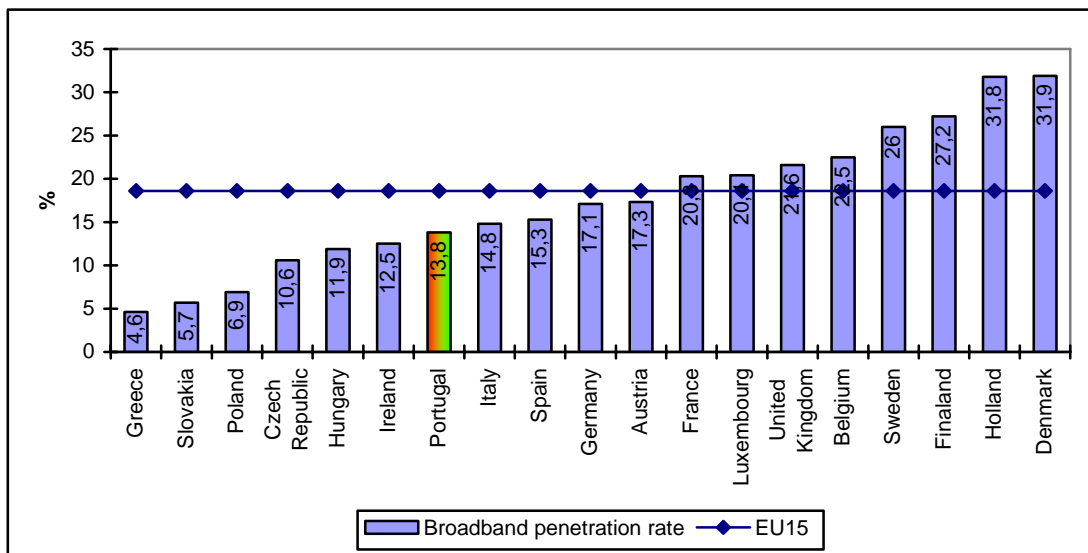
Graph 5-12 – Growth of the fixed broadband penetration rate in 2006 vs. 2005



Source: OECD

As a result of its performance in 2006, Portugal ranked as in the previous year, regarding broadband penetration (13th).

Graph 5-13 – Amount of fixed broadband customers per 100 inhabitants in EU15



Source: OECD

This evolution might have been influenced by the following factors:

- The launch of mobile broadband offerings. It is possible that fixed broadband consumption has been partially detoured to mobile broadband, which has been marketed as the fixed broadband substitute. The tariff structure and the price levels are similar. It is estimated that, at the end of the 2nd quarter of 2006, mobile broadband penetration has reached 1.6 accesses per 100 inhabitants;
- The relatively low penetration of PCs in households. As mentioned previously, the fact that consumers do not have a PC is a barrier to joining the Internet. The
- A relatively low household PC penetration. As mentioned above, the fact that consumers do not have a PC is a barrier to joining the Internet. The European Commission even mentions that:

*"...there is a very strong connection between an existing Internet access at home and an existing personal computer at home... 97 per cent of those who access the Internet use the PC to do it... Correlation between PC penetration and Internet penetration is almost linear (Pearson equals 0.97). It can therefore be said that the lack of a PC is an obstacle to the Internet access."*⁷⁰

In Portugal, the ratio of households with a PC was 45 per cent, whereas in UE15 it was 64 per cent. Simultaneously, in households with a PC, broadband penetration that was recorded in Portugal is identical to the EU average: 53 per cent.

It is therefore possible that the lack of a PC justifies the smaller growth in joining Broadband, as seen in Portugal in;

- Below-average human capital level. The lack of interest shown by consumers may possibly be linked with a relatively poorer level of human capital. Statistics on the level of education and of digital literacy should be revealing in connection with this.

⁷⁰ European Commission, "Special Eurobarometer 249: E-Communications Household Survey", July 2006, pp. 41-42.

Adding up to this, Internet penetration is already relatively high within the groups of the population with higher levels of education and in the youngest strata;

- Service's price levels. Some consumers point out price levels as a barrier to joining the service. The international comparisons shown below show that the price level is not substantially higher than in other countries. However, if each country's living standards are taken into account, it is possible that the price levels are indeed a barrier to joining the service.

Actions by ICP-ANACOM, such as the public consultation on the *Naked* ADSL and the reviewing of the wholesale conditions in connection with the service provision, will promote a decrease in the service's overall price;

- Cyclical conditions of a macroeconomic nature. In 2006, real salaries dropped 0.6 per cent. In the last 6 years, the national income growth rate has stood behind that of the EU. The macroeconomic environment might have affected this service's demand.

5.4.4. The service use level. Evolution of the amount of customers and of revenues

Below is described the evolution regarding the service's usage levels, measured in customers, accesses and revenues.

Customers: narrow band/broadband (fixed)

At the end of 2006, there were 1.6 million Fixed Internet Access Service registered customers, 11 per cent more than in the end of 2005.

Table 5-12 – Total amount of customers (cumulated figures)

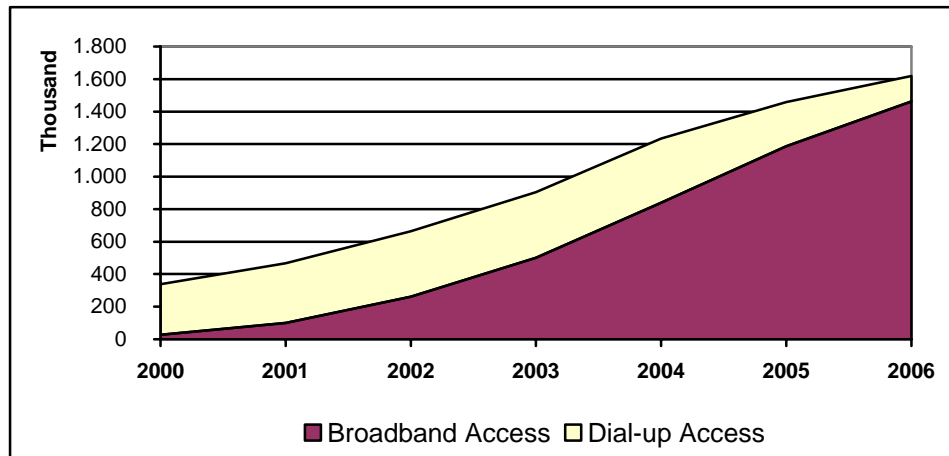
	2005	2006	2005/2006 var. (%)	2000/2006 average yearly var. (%)	2000/2006 cumulated var. (%)
Total customers	1,457,848	1,618,690	11.0%	29.9%	381.0%
Fixed broadband access	1,186,806	1,462,326	23.2%	96.8%	5713.5%
Dial-up access	271,042	156,364	-42.3%	-10.8%	-49.7%

Source: ICP-ANACOM

Unit: 1 customer, %

The trend of migration from narrow band to broadband is maintained. The amount of fixed broadband customers grew 23 per cent in 2006, whereas dial-up access customers decreased by 42 per cent. The ratio of broadband customers in the overall amount of customers reached per cent, 9 per cent more than in 2005.

Graph 5-14 – Internet Access Customers (cumulated figures)

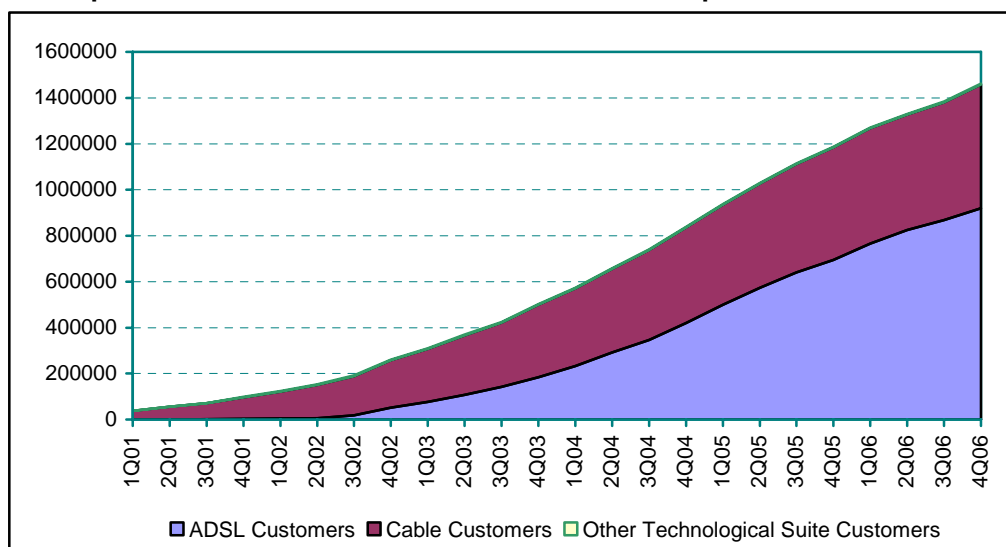


Source: ICP-ANACOM

Fixed Broadband Customers

In spite of its growth (+23 per cent), for the first time the amount of new broadband customers was below that of the previous year. In 2006, there were about 276 thousand new broadband customers, 73 thousand less than in the previous year. This evolution may be explained by the afore-mentioned factors.

Graph 5-15 – Evolution of the amount of customers per broadband access



Source: ICP-ANACOM

Unit: 1 customer

Broadband growth in Portugal was fuelled by ADSL, which, after becoming the prevalent Access technology by the end of 2004, continued reinforcing its stand in 2006. Between the end of 2005 and the end of 2006, four out of every five new broadband customers chose the ADSL access, thus resulting in a yearly growth of about 33 per cent. ADSL's prominence is explained by the broader geographical availability of this type of Access, and for the development of offerings based on the unbundling of the local loop.

Table 5-13 – Amount of customers per fixed broadband access modes

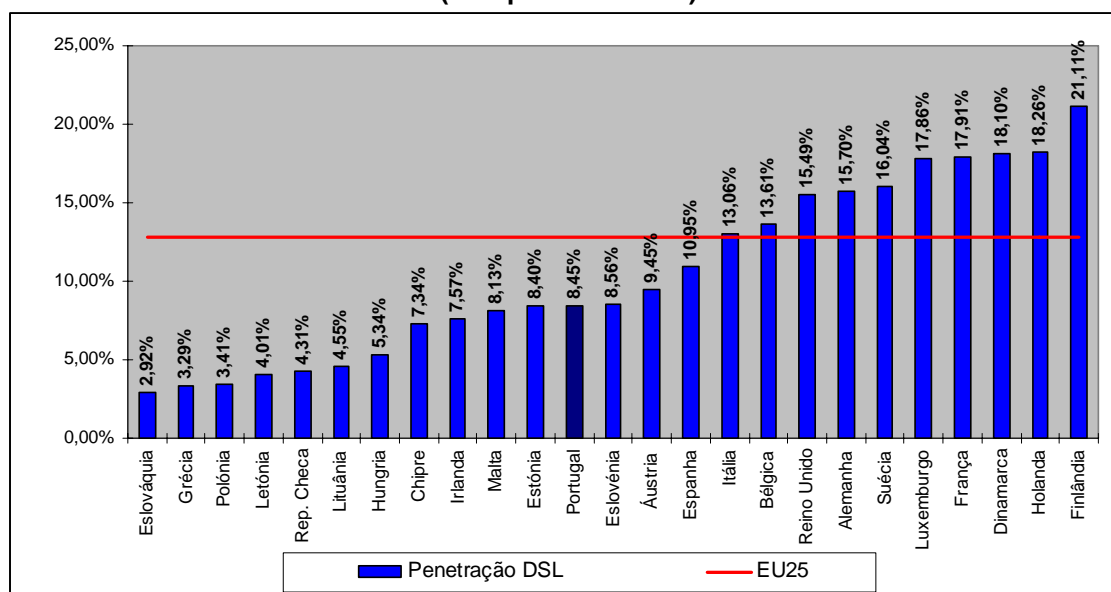
	2005	2006	2005/2006 var. (%)	2001/2006 average yearly var. (%)	2001/2006 cumulated var. (%)
Total Broadband Customers	1,186,806	1,462,326	23.2%	71%	1,370%
ADSL Access	694,164	920,018	32.5%	217%	31,779%
% of overall broadband	58,5%	62,9%			
Cable modem access	489,892	537,552	9.7%	42%	474%
% of overall broadband	41,3%	36,8%			
Other Access Technological Suites	2,750	4,756	73.0%	12%	76%
% of overall broadband	0,2%	0,3%			

Source: ICP-ANACOM

Unit: 1 customer; %

In spite of that evolution, DSL penetration in Portugal is below that of the EU. In September 2006, penetration in Portugal was around 4.4 points below the European average, ranking 14 among the European 25.

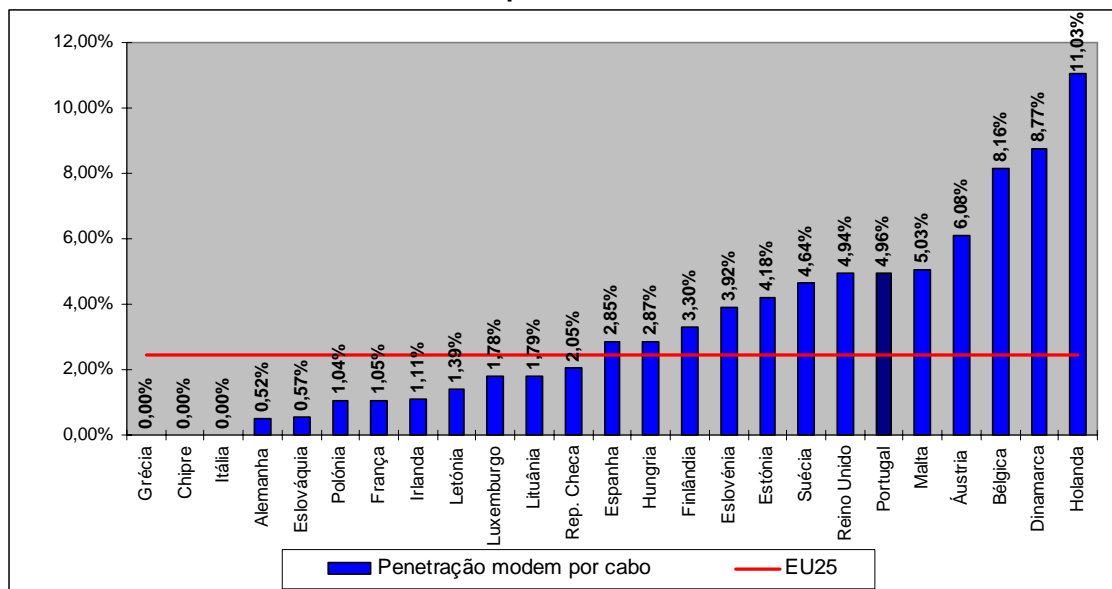
Graph 5-16 – Amount of DSL broadband accesses per 100 inhabitants in EU25 (3rd quarter of 2006)



Source: European Commission, 12th Implementation Report.

Internet Access by cable modem had a yearly growth close to 10 per cent. Cable modem access penetration is relatively high in Portugal, standing about 2.5 points above EU's average. Portugal ranks 6th.

Graph 5-17 – Amount of cable modem accesses per 100 inhabitants in EU25 (3rd quarter of 2006)



Source: European Commission, 12th Implementation Report.

In spite of its small weight within the overall amount of fixed broadband customers, other access technological suites grew around 72 per cent since the previous year. This growth is mainly explained by the evolution of the offer of Internet Access using the FWA technology.

Service's revenues

In 2006, the service's revenues increased about 8 per cent, fuelled by the broadband modes.

Broadband revenues grew at very high, although declining, rates, during the period now under analysis. ADSL took over cable modem in 2003 and has been behind the increasing revenues for this service.

Table 5-14 – (Fixed) Internet Access Service Revenues

	2005	2006	2005/2006 var. (%)	2001/2006 average yearly var. (%)	2001/2006 cumulated var. (%)
Total	420 748	454 982	8.1%	26.5%	224.0%
Dial-Up Access	47 315	27 767	-41.3%	-19.1%	-65.4%
ADSL Access	200 038	251 098	25.5%	192.2%	21211.6%
Cable Modem Access	126 310	135 377	7.2%	55.1%	796.2%
Other (fixed) Means	41 936	38 229	-8.8%	9.6%	58.0%
Other Revenues	5 149	2 512	-51.2%	-33.8%	-87.3%

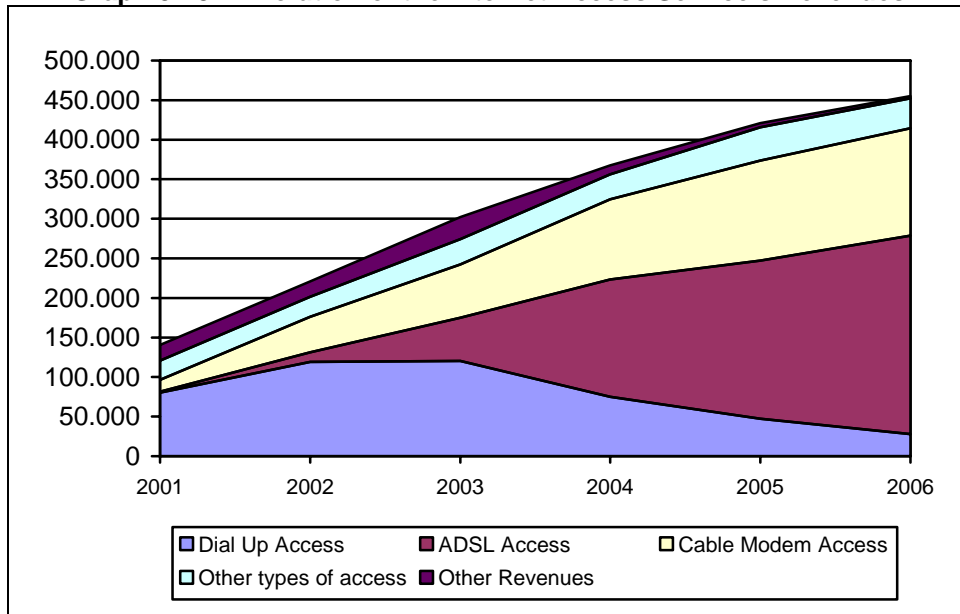
Source: ICP-ANACOM

Unit: Thousand Euros, %

The revenues evolution follows the evolution of the amount of customers.

Dial-up revenues, after a 50 per cent growth for 3 years, in the launching phase of the service, influenced by the service's dissemination and the introduction of free Internet offerings, began to decrease with the migration to broadband.

Graph 5-18 – Evolution of the Internet Access Service's Revenues



Source: ICP-ANACOM

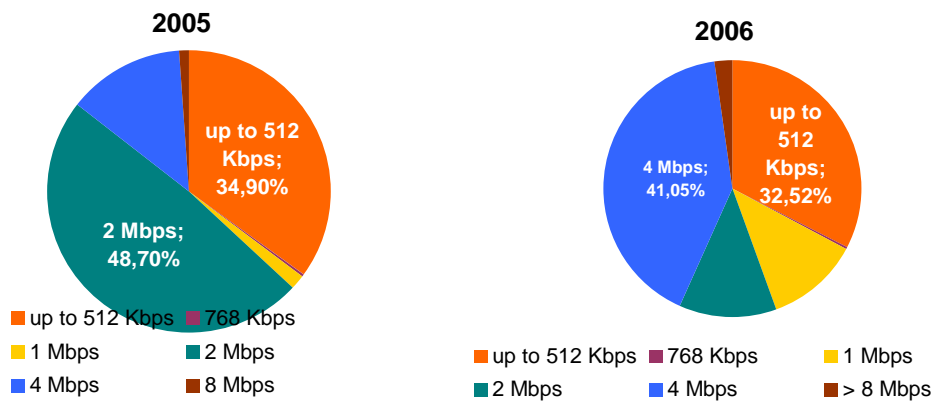
Unit: Thousand Euros

5.4.5. Diversity and innovation in the broadband offerings

During 2006 there was a significant growth in the download throughputs offered by broadband providers.

For example, regarding offerings based on Rede ADSL PT, the 4 Mbps throughput capacity became the mostly used one. In 2005, most accesses had a 2 Mbps throughput capacity.

Graph 5-19 – Evolution of Rede ADSL PT accesses by throughput capacity



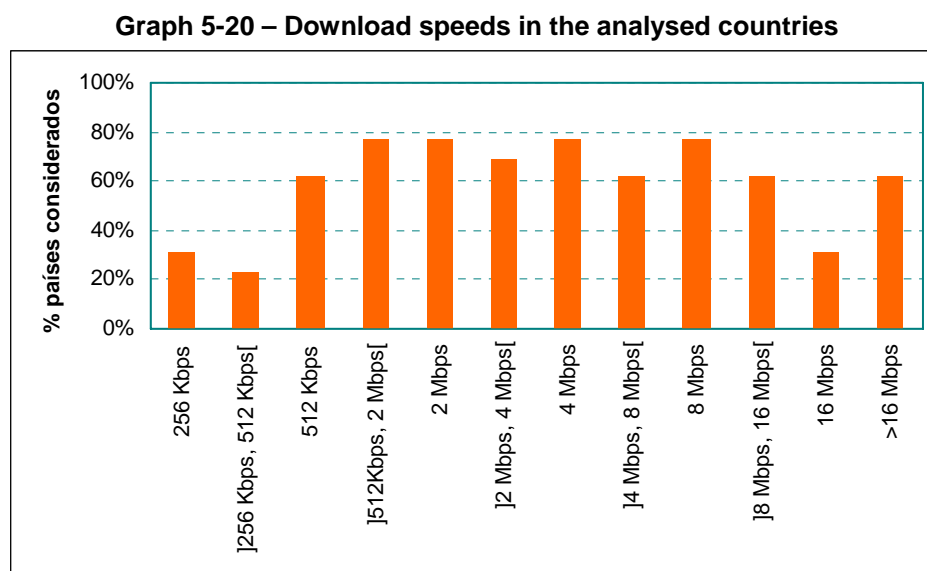
Source: ICP-ANACOM

Regarding the remaining features of broadband offerings, and according to the available information⁷¹, Portuguese consumers are considered to have offerings as diversified as those of the remaining EU markets.

In Portugal, as in the remaining countries, there are ADSL-based offerings (LLU and PTC's wholesale offer) and cable modem-based ones. In other countries there are offerings based on fibre optics (Sweden, for example). In Portugal (AR Telecom) and in Ireland there are offerings to the residential market based on FWA. An offering based on Power Line technology in Portugal was also spotted (Onitelecom), which was terminated in the meantime.

⁷¹ Cf. methodological note in footnote ⁷².

Regarding throughputs, download speeds offered in Portugal are similar or above those offered in the analysed countries, in general. Currently, the main broadband offerings in Portugal are already above the average for the remaining countries.



Source: ICP-ANACOM

Regarding the applying tariff schemes, there are in Portugal, as in the remaining countries, bundled offerings (TV, FTS, terminal equipment, PC, etc...). Timed and not timed offerings were also identified, which are also relatively common-place in the analysed countries.

The tariff items of this service were also verified to be similar to those in other countries, including namely the activation price, installation fee and equipment prices (e.g. modems), flat-rate monthly fees (access + traffic), prices per minute (in the case with timed offerings), and prices fro traffic exceeding the defined limits. Offerings including e-mail and space for the lodging of Web pages are also common-place. In many cases, ISPs impose minimum 12-month contracts

A positive relation between prices and download and upload speeds should be pointed out.

On the other hand, promotional offerings with null joining/activation/installation prices, reduced monthly fees, or null in the first months after joining the service, offer of terminal equipment, offer of content, etc., is also common-place.

The following kinds of tariff discrimination should also be mentioned: residential/non-residential; students/non-students.

Regarding traffic limits, all of the analysed countries have offerings with traffic limits. In countries such as Austria, Belgium, Ireland, Luxembourg and Portugal, offerings with traffic limits are majority, among all the available ones. It should also be pointed out a significant amount of offerings for which it was not possible to verify whether they have traffic limits or not.

Traffic limits are of three kinds: (1) Traffic in MB (total; peak periods; *download/upload*); (2) Traffic in hours; (3) "fair use policy" (not-defined/disclosed limits).

Portugal is the single country, among those analysed, with offerings, namely by the incumbent operator, discriminating traffic limits by origin (national/international).

When traffic limits are exceeded, the following situations were identified: (1) certain amounts per traffic unit or per time period are charged; (2) the offering's data throughputs are decreased to the stage below or to levels similar to narrow band; (3) the user is invited to join a different offering. (In some cases, ISPs have optional tariff schemes available, giving users the chance to purchase additional blocks of traffic.)

In Portugal, when traffic limits are exceeded, operators charge given amounts per additional MB.

5.4.6. Broadband Internet Access Service's price level

Regarding broadband price level, and according to the collected information, the following conclusions were drawn⁷²:

- The minimum broadband price in Portugal is 3.6 per cent below the average of the analysed countries, and ranks 5th among them. On the other hand, the incumbent operator's minimum price is the 2nd lowest among the incumbent operators of the 13 analysed countries.

Table 5-15 – Minimum broadband monthly fee – November 2006

Country	Minimum Price		Minimum Price – Incumb. Operator	
	Price	Rank	Price	Rank
Germany	16.33	10	23.22	10
Austria	15.75	8	16.58	3
Belgium	12.36	2	24.75	12
Denmark	17.06	12	17.06	5
Spain	15.90	9	29.90	13
France	16.64	11	23.33	11
Holland	12.56	4	12.56	1
Ireland	14.87	7	20.65	7
Italy	12.42	3	16.63	4
Luxembourg	19.13	13	22.61	8
Portugal	14.46	5	15.28	2
United Kingdom	12.27	1	22.64	9
Sweden	14.83	6	17.57	6
Total/Average Portugal excl.	15.01		20.63	
Portugal's % deviation from average	-3.6%		-25.9%	

Source: ICP-ANACOM

Unit: Euros VAT excl.

- From comparing the minimum broadband prices per download throughput in Portugal with the price average in the remaining analysed countries, it was clear

⁷² Methodology: sample made up of 334 offerings by 76 ISPs in an analysis of 13 EU15 countries. This analysis did not include Greece, due to the poor implementation of the service in this country, and Finland, due to difficulties in collecting data. For each of the analysed countries, the ISPs standing for at least 70-80 per cent of the market were identified. This was made further to consultation of documents of the European Commission, national regulators' sites, reports and accounts of some operators and press articles. In some cases, the ISPs' market shares were impossible to determine and Internet search engines were then used. The data collection procedure was made in October 2005. All items of the selected offerings were collected. However, it was assumed that the decision to join broadband would be incremental (i.e. the cable modem broadband subscriber already has CATV, the ADSL broadband subscriber already is a FTS customer, etc.), and that the new subscriber would pick the options that would lower its monthly fee (i.e. if there are discounts for payment by wire transfer, the subscriber would chose to pay by wire transfer. During the result reckoning procedure, offerings with downstream throughputs below 256 kbps and timed offerings were excluded. It should be mentioned that the presented results regard only the monthly subscription (non-promotional figures). Besides discounts and promotions, the survey did not also take into account the following: installation and subscription prices; equipment prices (not included in the offering), traffic limits; upstream throughput, number of mailboxes, space for mailbox, space for own site, software offers, equipment offers (e.g. MP3 player); offer of multimedia applications; training courses; offers linked to PC sales.

that prices in Portugal are below the average, namely in the cases with the most common-place access throughputs, as shown on the following table. Regarding 8 Mbps offerings, the price in Portugal ranks 6th within the analysed countries, 17.9 per cent below average. It should be pointed out that the considered minimum prices, for Portugal, for maximum throughput offerings up to 8 Mbps, regard cable modem access offerings. Regarding the remaining throughputs, the considered offerings are an ADSL offering based on an unbundled local loop. It should also be mentioned that the relatively low amount of offerings with throughputs equal or above 24 Mbps and these offerings' price dispersion do not permit safe conclusions on the price level practiced in Portugal.

**Table 5-16 – Minimum broadband price per access throughput
– November 2006**

Country	2 Mbps		4 Mbps		8 Mbps		20 Mbps	
Germany	21.54	10	24.95	9	25.85	8	-	
Austria	24.92	11	40.00	11	57.50	11	-	
Belgium	20.45	8	20.45	7	28.84	9	28.84	4
Denmark	21.35	9	49.25	12	69.42	12	92.17	8
Spain	35.00	13	35.00	10	36.00	10	36.00	7
France	16.64	6	16.64	5	16.64	3	16.64	1
Holland	12.56	2	12.56	2	20.13	4	20.13	2
Ireland	14.87	5	14.87	3	14.87	2	-	
Italy	14.08	3	16.63	4	24.96	7	30.79	6
Luxembourg	32.87	12	-		-		-	
Portugal	14.46	4	22.73	8	24.38	6	28.84	4
United Kingdom	12.27	1	12.27	1	12.27	1	-	
Sweden	17.57	7	19.24	6	20.22	5	21.98	3
Average Portugal excl.	20.34		23.80		29.70		35.22	
Portugal's deviation from average %	-28.9%		-4.5%		-17.9%		-18.1%	

Source: ICP-ANACOM

Unit: Euros VAT excl.

- If, instead of the minimum price, the simple average of the minimum prices of the several ISPs for the different throughputs is considered, it can be seen that Portugal has slightly improved its rank regarding the several throughputs.

**Table 5-17 – Average of the minimum broadband prices per access speed
– November 2006**

Country	2 Mbps		4 Mbps		8 Mbps		20 Mbps	
Germany	25.83	7	25.78	4	-	-	-	-
Austria	31.17	9	40.83	9	57.50	9	-	-
Belgium	-	-	27.21	5	42.98	7	-	-
Denmark	29.22	8	51.82	10	77.58	10	-	-
Spain	-	-	37.00	8	39.07	6	-	-
France	-	-	-	-	27.51	4	25.00	1
Holland	18.21	2	22.23	3	45.78	8	-	-
Ireland	22.72	4	-	-	14.87	1	-	-
Italy	15.35	1	20.17	2	-	-	-	-
Luxembourg	38.98	10	-	-	-	-	-	-
Portugal	19.96	3	27.83	6	32.62	5	41.15	3
United Kingdom	24.66	6	31.46	7	22.60	2	-	-
Sweden	23.57	5	19.24	1	26.53	3	30.50	2
Average Portugal excl.	25.52		30.64		39.38		27.75	
Portugal's deviation from average %	-21.8%		-9.2%		-17.2%		48.3%	

Source: ICP-ANACOM

Unit: Euros VAT excl.

- Considering the importance, in terms of market share, of the incumbent operators, below is the comparison of the prices of the incumbent operators of each country. The table below shows that the monthly fee of the offerings with a maximum throughput of at least 256 Kbps, 1 Mbps and 8 Mbps by the Portuguese incumbent operator is, respectively, 25.9 per cent, 12.6 per cent and 21.9 per cent below the monthly fee of the considered countries' incumbent operators. Regarding the 2 Mbps offering, it is 6.6 per cent above average. On the other hand, among the considered incumbent operators, only the Danish operator (in offerings with a maximum 256 Kbps throughput) and the Dutch one (in offerings with maximum 2 Mbps throughputs) have offerings that are the lowest in their countries.

**Table 5-18 – Average of the minimum broadband prices per incumbent operator’s access speed
– November 2006**

Country	256 Kbps		1 Mbps		2 Mbps		4 Mbps		8 Mbps	
	Price	Offers	Price	Offers	Price	Offers	Price	Offers	Price	Offers
Germany	23.22	10	23.22	7	34.47	11	34.47	8	38.78	6
Austria	16.58	3	24.92	9	24.92	5	-		-	
Belgium	24.75	12	33.02	13	33.02	9	33.02	7	49.55	8
Denmark	17.06	5	27.79	11	34.23	10	+		+	
Spain	29.90	13	29.90	12	39.07	13	39.07	9	39.07	7
France	23.33	11	23.33	8	27.51	7	27.51	3	27.51	2
Holland	12.56	1	12.56	1	12.56	1	16.76	1	62.98	9
Ireland	20.65	7	20.65	3	24.79	4	-		-	
Italy	16.63	4	16.63	2	16.63	2	30.79	6	30.79	5
Luxembourg	22.61	8	22.61	5	34.87	12	-		-	
Portugal	15.28	2	20.65	3	29.40	8	29.40	4	29.40	3
United Kingdom	22.64	9	22.64	6	22.64	3	22.64	2	22.64	1
Sweden	17.57	6	26.39	10	26.39	6	29.93	5	29.93	4
Average Portugal excl.	20.63		23.64		27.59		29.27		37.66	
Portugal’s deviation from average %	-25.9%		-12.6%		6.6%		0.5%		-21.9%	

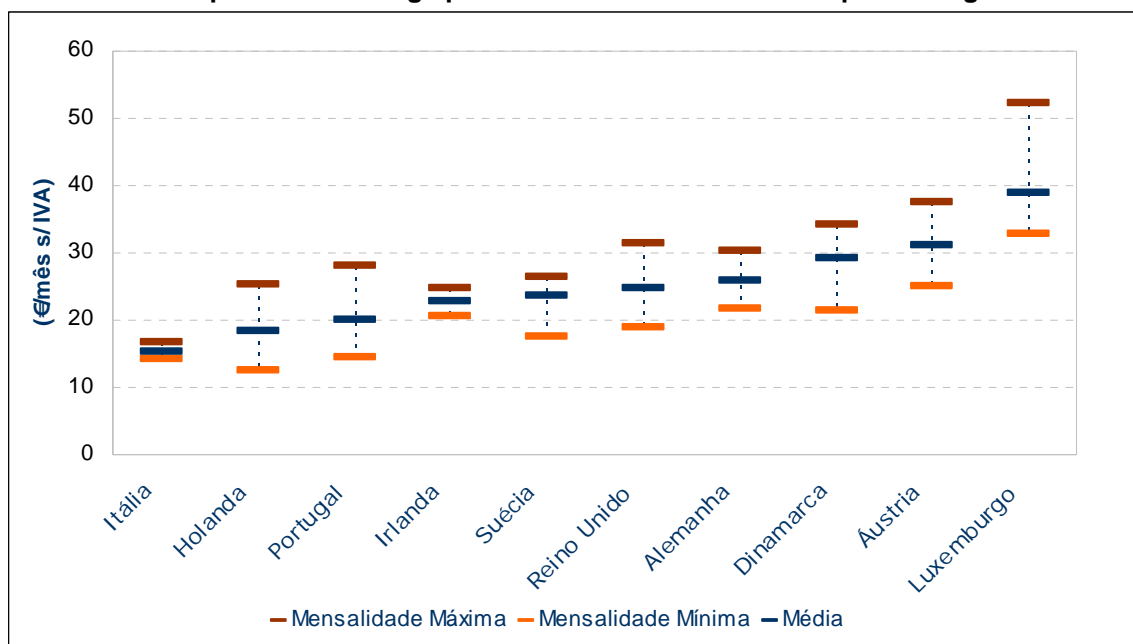
"+" – Offers which prices are exceedingly high.

Source: ICP-ANACOM

Unit: Euros VAT excl.

- The minimum 2 Mbps price in Portugal is the fourth lowest one among the analysed countries. It is a CATV operator’s offering. In Portugal, most 2 Mbps offerings by the alternative operators are priced between 14.5 Euros (plus VAT) and 28 Euros (plus VAT). There are, however, offerings with maximum throughputs above that with monthly rates below those figures.

Graph 5-21 – Average price variation interval for 2 Mbps offerings

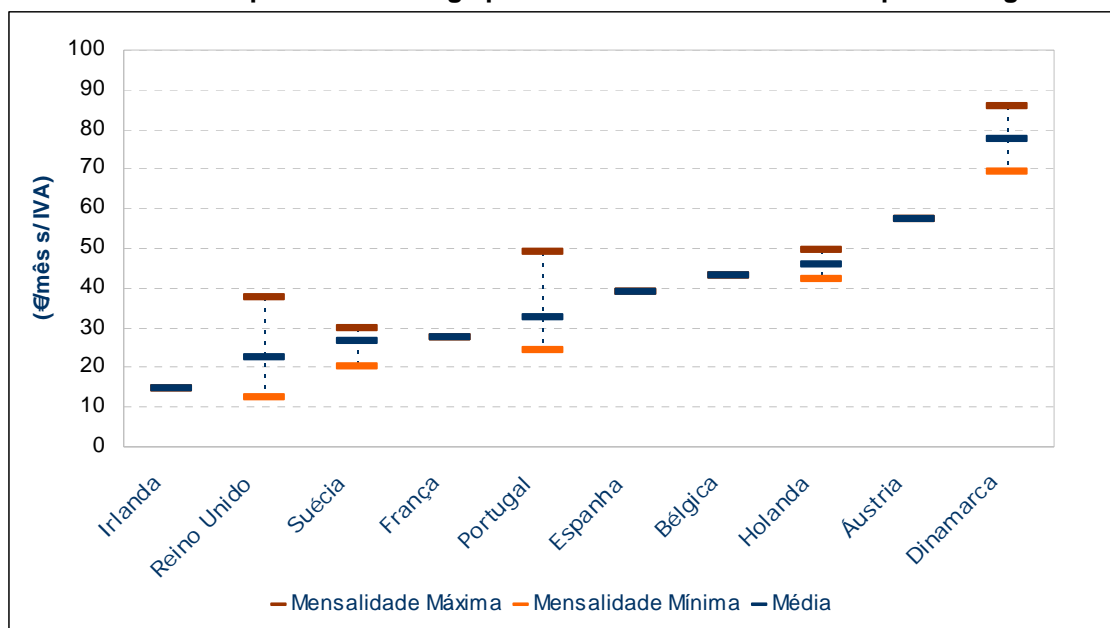


Source: ICP-ANACOM

- The minimum 8 Mbps offerings' price in Portugal is the fourth lowest one among the analysed countries. It is a CATV operator's offering. In Portugal, most 8 Mbps offerings by the alternative operators are priced between 24.4 Euros (plus VAT) and 30 Euros (plus VAT). If we take into account the variation interval⁷³ and the average 8 Mbps price offerings in the considered countries, we can conclude that prices in Portugal are not above the European average figures.

⁷³ The shown variation interval does not take into account all prices in force in one country for each throughput class – only those of each ISP which are more competitive in a given country. More expensive offerings including extras (e.g. upload speeds or higher traffic limits), which could bias the results, are thus excluded.

Graph 5-22 – Average price variation interval for 8 Mbps offerings



Source: ICP-ANACOM

5.4.7. Evaluation by consumers

According to the results of the Survey on the Use of Broadband⁶⁴, consumers' perception of the quality of the broadband services is positive, generally speaking. Only 6.5 per cent of the inquired people consider that the provided service is below their expectations.

Table 5-19 – Evaluation of the service vis-à-vis the broadband consumers' expectations⁷⁴

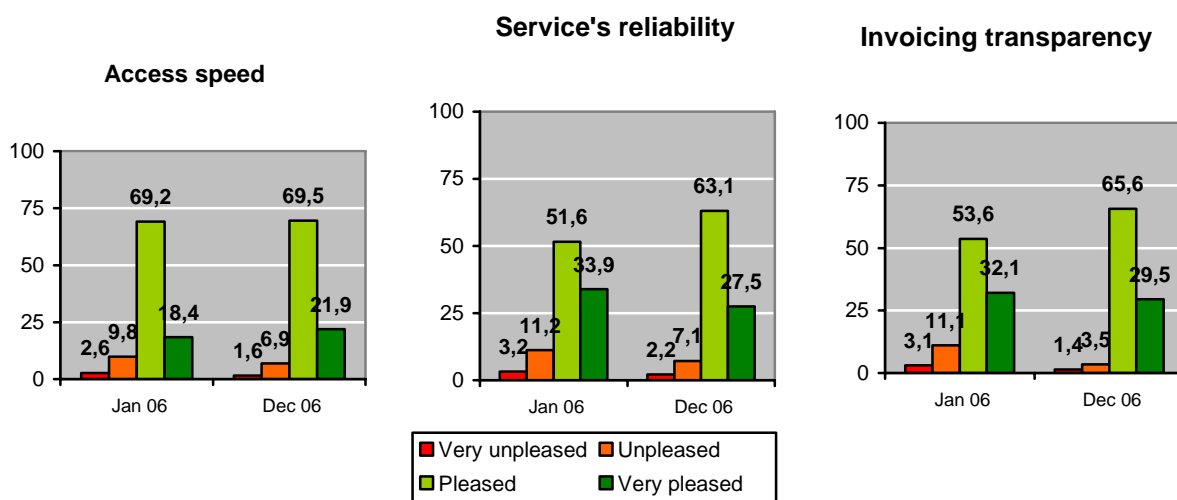
	Dec-06
Much better than hoped-for	1.0%
Better than hoped-for	18.4%
Same as hoped-for	74.0%
Worse than hoped-for	6.1%
Much worse than hoped-for	0.5%
Total	100.0%

Source: ICP-ANACOM, Survey on the Use of Broadband – 2006.

⁷⁴ Question to the inquired person: "Given your expectations towards the broadband Internet service, do you believe it to be...?"

If we analyse, particularly, some of the service's features, we can see that, in December 2006, the levels of satisfaction towards throughput, the service's reliability and the invoicing transparency are quite high, with figures above 90 per cent. On the other hand, it should be pointed out that, between January and December 2006, the levels of satisfaction towards those features have increased.

Graph 5-23 – Satisfaction of broadband Internet access consumers (%)



Basis: Inquired people with broadband Internet
 Source: ICP-ANACOM, Survey on the Use of Broadband

Regarding complaints, about 21 per cent of the inquired people said that they had submitted complaints to their provider. Of these, 30.6 per cent claimed to be displeased or very displeased with the way their complaint had been handled. It is worth pointing out that this figure, albeit high, is 13 per cent below that of the previous year.

Table 5-20 – Evaluation of complaint handling⁷⁵ (%)

	Jan-06	Dec-06
Very pleased	17.5	17.6
Pleased	39.0	51.8
Unpleased	25.7	21.5
Very unpleased	17.9	9.1
Total	100.0	100.0

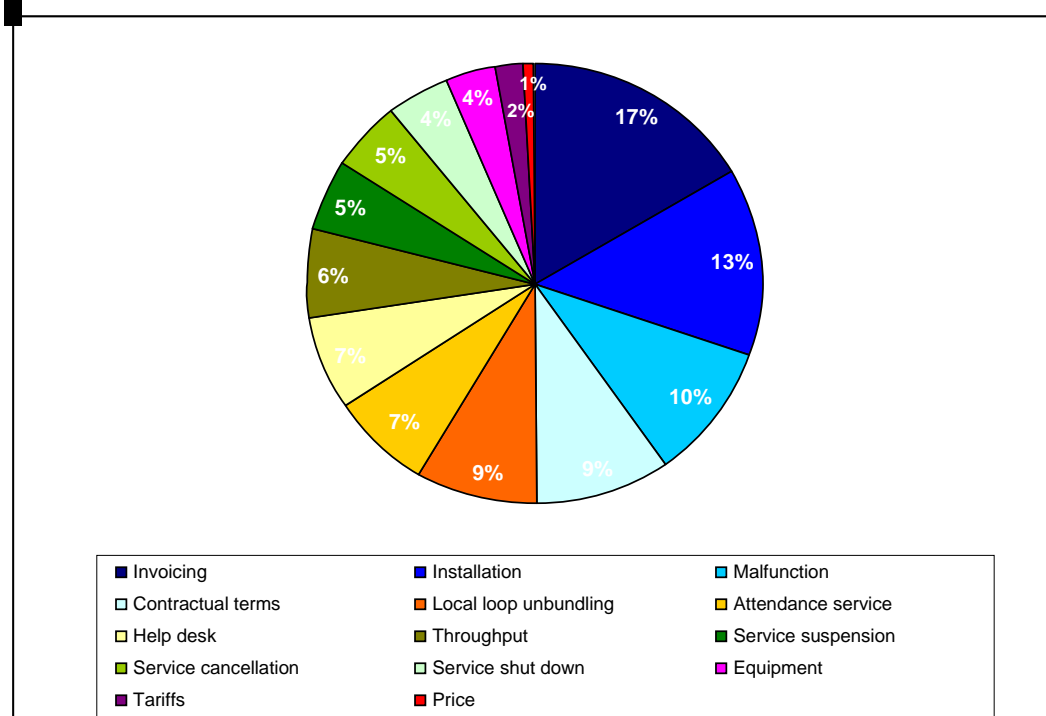
Source: ICP-ANACOM, Survey on the Use of Broadband in Portugal

⁷⁵ Question to the inquired person: "How pleased were you with the way your complaint was handled?"

ICP-ANACOM's UM-TSM (Mission Unit for Handling Market Requests) received, during 2006, 3,956 complaints regarding the Internet Access Service and its providers.

Most of those requests regard invoicing (17 per cent) and the installation procedure (13 per cent). Figures regarding malfunctions (10 per cent), contractual terms (9 per cent) and issues in connection with the unbundling of the local loop (9 per cent) also stand for a high proportion of the submitted complaints.

Graph 5-24 – Distribution of complaints received at ICP-ANACOM – 2006



Source: ICP-ANACOM

5.4.8. Evolution of the offer's structure

In 2006, the customer share of Group PT was 71.5 per cent, about 7 per cent less than at the end of the previous year. This was the second year in a row with Group PT's market share drops.

Table 5-21 – Group PT’s broadband customer market shares

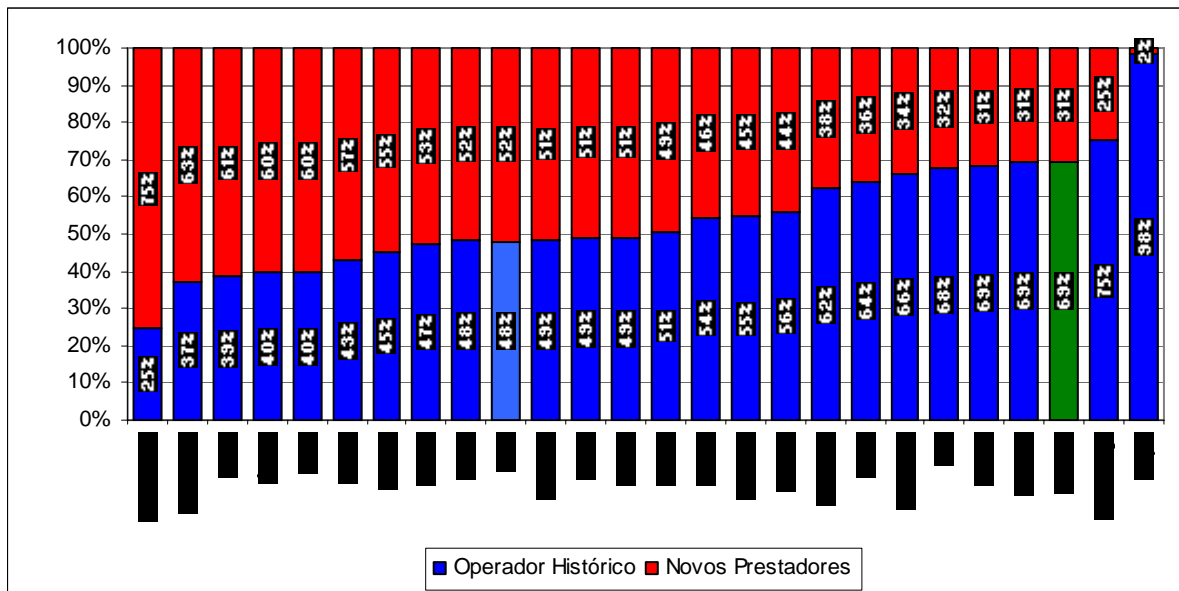
	2000	2001	2002	2003	2004	2005	2006
Total customers	74.6%	66.0%	71.1%	78.5%	82.3%	78.6%	71.5%
ADSL access customers	n.a.	92.1%	83.9%	87.2%	91.1%	84.3%	74.6%
Cable modem Access customers	74.6%	66.1%	68.4%	73.8%	73.6%	70.8%	66.7%
Other access technological suites customers	n.a.	34.9%	40.7%	41.0%	44.9%	45.3%	22.0%

Source ICP-ANACOM

Mention should be made to the fact that the incumbent operator’s share in Portugal (69 per cent) is above the European average (48 per cent). That can be explained by the fact that Portugal is the only EU country in which the incumbent operator owns the main cable distribution network, a technology that still stands for over 37 per cent of the service’s customers.

However, the deviation of Group PT’s share from the average of the EU’s incumbent operators has been reduced in about 7 per cent.

Graph 5-25 – Share of broadband Internet Access Service’s accesses in EU25 in the 3rd quarter of 2006

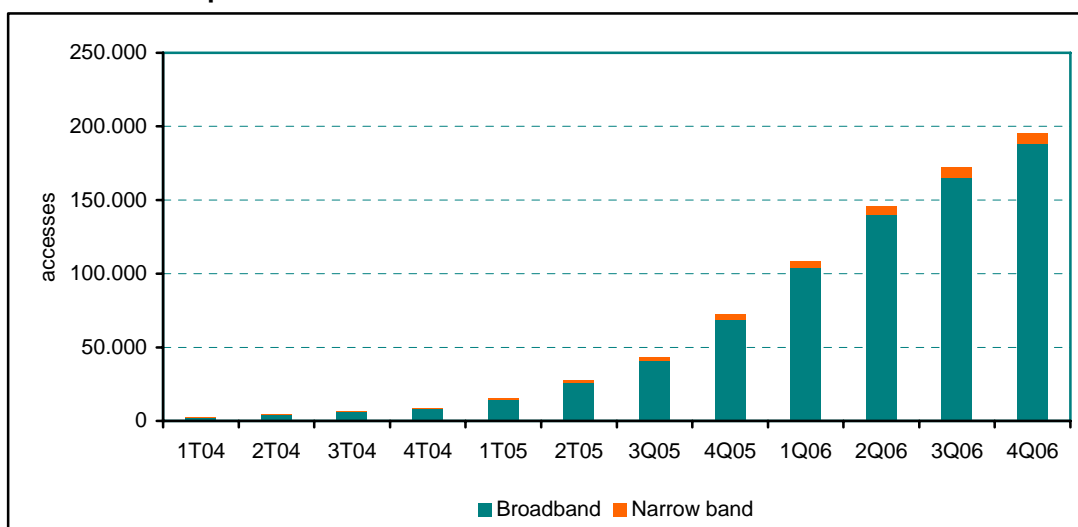


Source: European Commission, 12th Implementation Report.

The evolution of Group PT's share has not been homogeneous in time. On a first stage, broadband was supplied by cable modem and, at that time, Cabovisão and TV Cabo were the main operators. After the launch of the ADSL, Group PT took an even more significant lead. Group PT's customer share increased about 16 per cent between 2001 and 2004.

In 2005, that trend was reverted, as a result of ICP-ANACOM's action regarding the wholesale Internet access offers, namely the LLU. In 2005, 72 thousand loops were unbundled and in 2006 the amount of new unbundlings was 124 thousand. By the end of that year, the cumulated amount of unbundled loops was 196 thousand (of which over 188 thousand were broadband ones – about 20 of all ADSL accesses). Through this means, the new operators have directly reached the customers' households and developed more competitive voice and broadband offerings.

Graph 5-26 – Evolution of the amount of unbundled accesses



Source: ICP-ANACOM

Simultaneously, the increasing coverage of the Rede ADSL PT wholesale offer (bit stream access) has contributed, among other factors, to a strong increase in broadband penetration and to the launch of new, higher throughput offerings.

The companies that drew more benefits from the recent decrease in Group PT's share were ONI and Novis, which, by using the above-mentioned wholesale offers,

substantially increased their customer shares. However, the main alternative provider is Cabovisão.

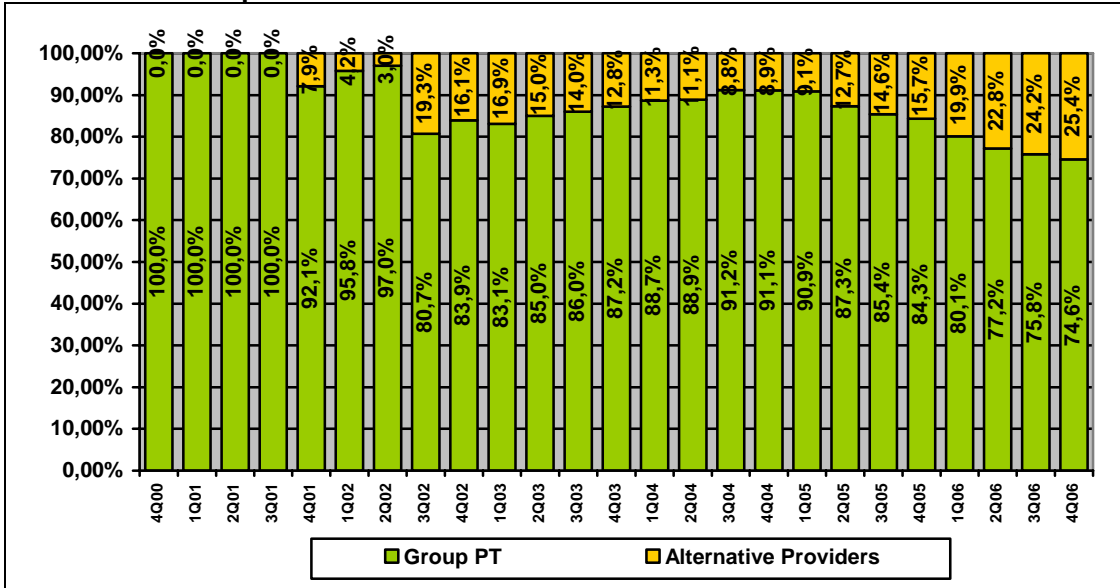
Table 5-22 – Evolution of broadband access customer shares

Service Providers	2005	2006
Group PT	78.6%	71.5%
PT.COM	47.3%	44.0%
CATV – TV Cabo	27.7%	23.2%
PT Prime	2.1%	2.8%
CaboTV Madeirense	1.5%	1.4%
PT WI-FI	0.0%	0.1%
Alternative providers	21.4%	28.5%
Cabovisão	10.5%	10.1%
Novis	5.0%	9.0%
Onitelecom	3.4%	6.0%
Other alternative Providers	2.5%	3.4%

Source: ICP-ANACOM

If we analyse market shares per Access technology, we will see that, in spite of the alternative operators' growth when it comes to ADSL, Group PT's customer share for this Access technology – 74.6 per cent – is still above the overall average.

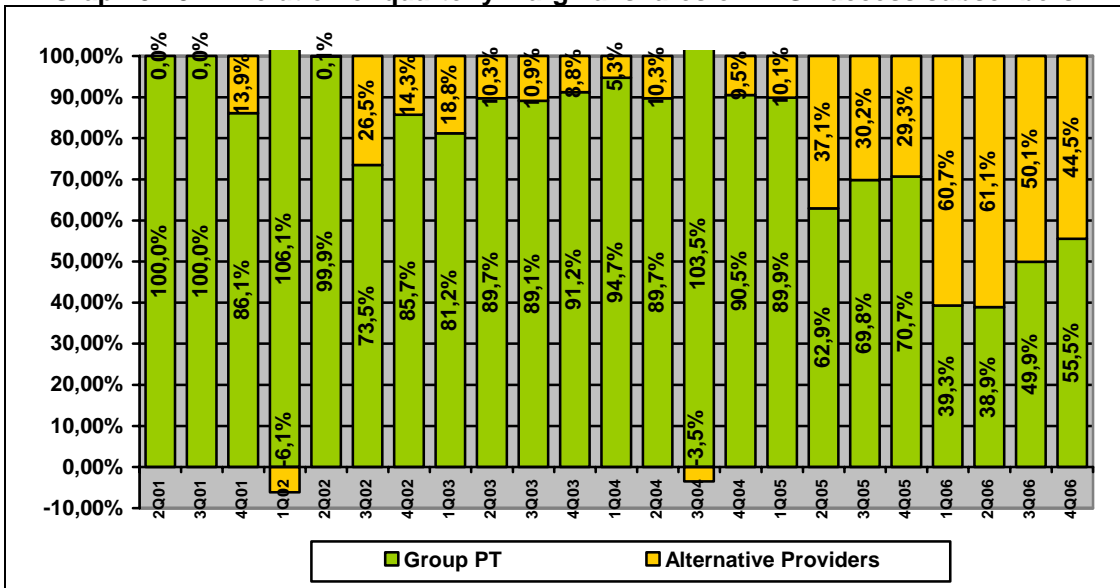
Graph 5-27 – Evolution of ADSL access subscriber shares



Source: ICP-ANACOM

The competitive situation of companies using this access technology has however been through quick changes since early 2005. In this period of time, Group PT's share dropped 16 per cent and, during 2006, about 55 per cent of the new customers picked the alternative operators' services.

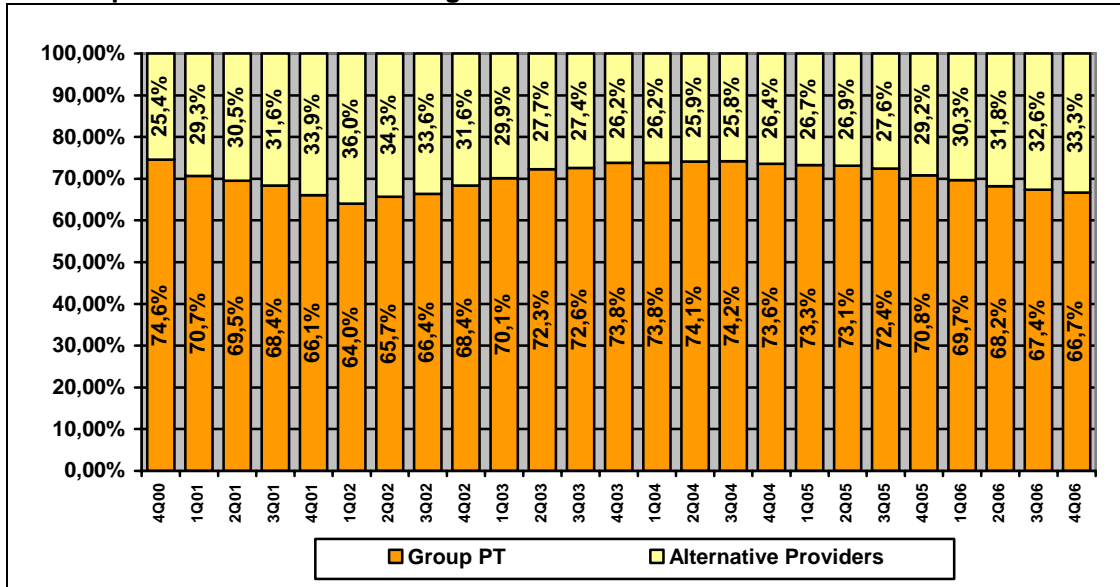
Graph 5-28 – Evolution of quarterly marginal shares of ADSL access subscribers



Source: ICP-ANACOM

Regarding cable modem Access, in 2006 the share of the alternative operators was 33.3 per cent, 4.1 per cent more than in 2005.

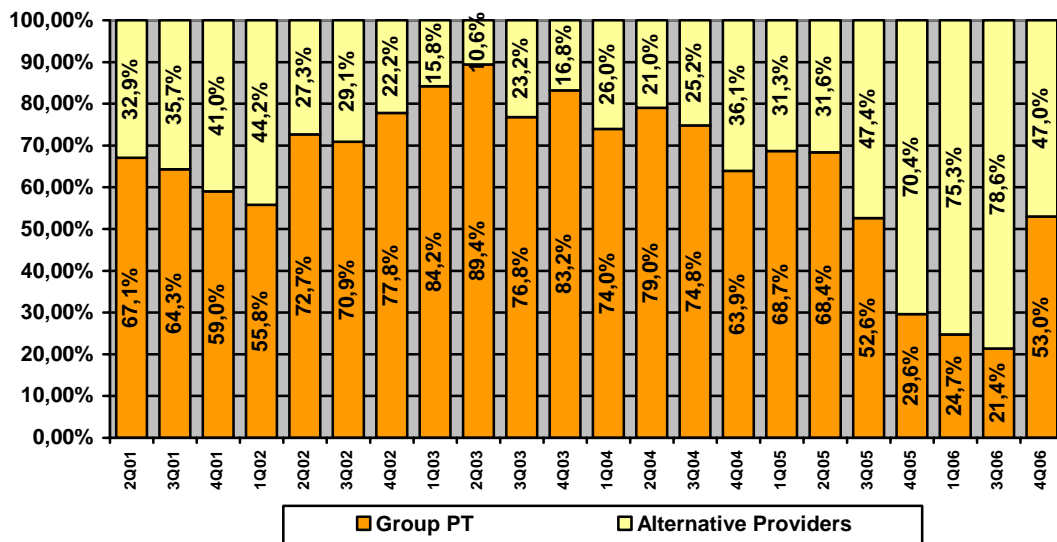
Graph 5-29 – Evolution of marginal shares of cable modem access subscribers



Source: ICP-ANACOM

About 3 out of every 4 new customers using this technology picked an alternative operator in 2006, Cabovisão and TVTel standing out.

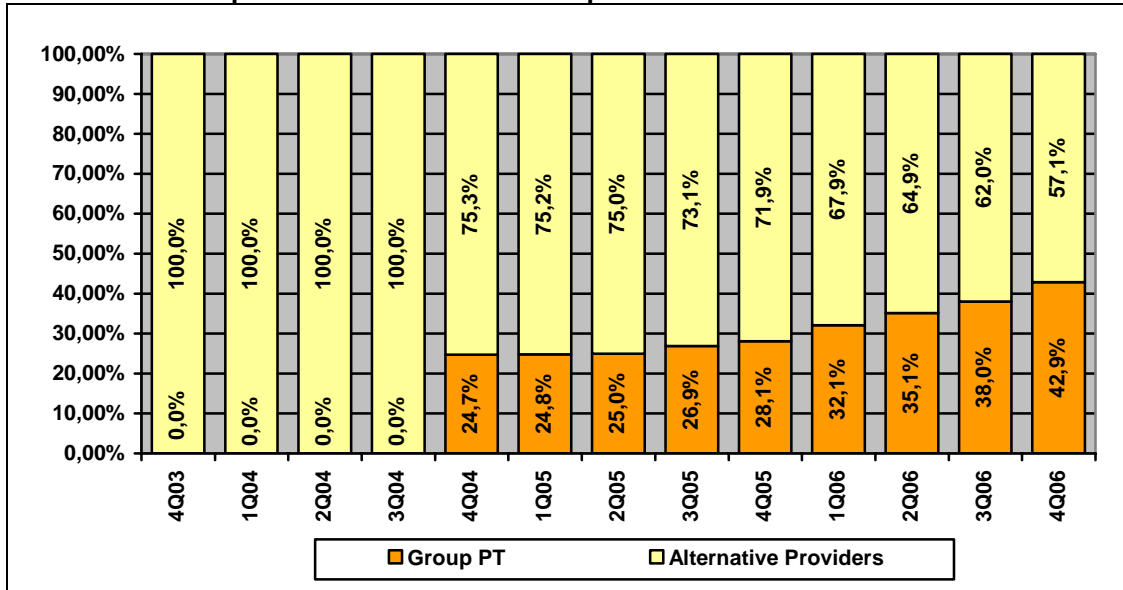
Graph 5-30 – Evolution of quarterly marginal shares of cable modem access subscribers



Source: ICP-ANACOM

Lastly, it is worth mentioning that, regarding dial-up, Group PT's share was 43 per cent by the end of 2006, 15 per cent more than in 2005. This increase in its share mostly reflects the fast decrease in the amount of customers using this type of access and the operators' stake on business models based on the LLU.

Graph 5-31 – Evolution of dial-up access customer shares



Source: ICP-ANACOM