

• 2. The evolution of the electronic communications services and the consumption of electronic communications services – integrated perspective

The following chapters present the state of electronic communications services in 2008. The structure of the report is based on the definitions which regulate the services. However, the production, distribution and consumption of these services increasingly occur in a combined form. The preferred method of presentation in this report may hide this fact.

In order to avoid any potential misinterpretations or partial interpretations of the information made available, a general and approximate outline of the overall evolution of electronic communications in an integrated form is presented below. The user of electronic communications is also characterized in overall terms².

Main aspects

- Mobile access corresponds to roughly half of the total accesses to electronic communications services, while the traditional fixed network represents almost 15 per cent of the total. The cable TV distribution networks are responsible for around 7 per cent of the total of accesses. Other means of access represent a small portion of the total.
- It should be mentioned that several measures of a political, regulatory and financial character were taken in 2008 with a view to promoting the development of the next generation networks (NGN). The first objective of the protocol established between the Government and the operators is to develop optical fibre networks which will allow 1.5 million users to be connected. When this initiative is actually achieved it will be possible to forecast a significant alteration in the panorama described above.
- Since 2000, the number of physical means used by consumers to access electronic communication services has increased by around 6.6 per cent a year, on average. This evolution is due, above all, to the growth in mobile networks (around 11 per cent a year). The weight of the traditional fixed network has been seen to decrease (the number of accesses has decreased by 4 per cent a year; in 2008, it fell by 12 per cent).
- Voice services are responsible for around 77 per cent of the total electronic communications services customers³. The relative weight of voice has, however, been decreasing slowly. The services which have registered a greater increase are data services (both fixed and mobile), which have grown around 19 per cent a year on average. Paid TV services have gained a new dynamism since 2007 and, above all, in 2008 (with 16 per cent growth), and now represent 10 per cent of the total.
- Revenue from voice services, which represented around 90 per cent of revenue in 2000, now represents around 63 per cent, having decreased 1.8 per cent a year, on average. On the other hand, revenue from data has increased around 49 per cent a year, while revenue from paid TV has increased around 19 per cent a year, not counting revenue from bundled offers.
- The combinations of services most used among the residential population are the mobile telephone service used exclusively and the 4 electronic communications services used simultaneously, specifically, mobile telephone, fixed telephone, fixed broadband and paid TV (M+F+BBB+TV). Bundled services are used by almost a 1/4 of the residential population, with triple play access (internet+F+TV) being more frequent than any of the double play modes.
- Residential consumers of the fixed telephone service exclusively and also in conjunction with the mobile telephone service and/or paid TV (F; M+F; F+TV and M+F+TV, not necessarily by multiple play access) are characterized as belonging to smaller families with elderly persons and from a lower social class. In addition, the fact that they are retired, of a more advanced age and have a lower level of education proves to be a deciding factor in having this type of services. It should be added

² It is not our intention to anticipate or defend any decision regarding the definition of relevant markets of electronic communications services.

³ Due to difficulties associated with the collection and handling of information, in order to quantify the means of access the customer variable was used. In the case of multiple play bundles, both the number of customers and the services which make up the bundle were counted.

also that in these groups of individuals the use of the services without these being part of a bundle is, in fact, greater.

- Residential consumers of the internet service, namely Fixed Broadband, in conjunction with other services, are more common in families which live in Lisbon, are greater in size, with children, and of a higher social class, and also in the lower age classes, in those with higher levels of education and those whose employment status is classified as “employed” or “student”. Triple and double play offers (I+F+TV and I+TV, respectively) are also more evident in this type of population.
- The absence of electronic communications services in the residential population is associated with elderly retired individuals who live alone, with a low level of education and who belong to a lower social class. This situation is more visible in the region covering the centre of the country.
- Individuals that use the mobile telephone service in conjunction with paid TV (M+TV) are, on average, those most satisfied with the quality of the electronic communications service provided. If we consider services acquired as part of a bundle, the greatest levels of satisfaction, on average, are associated with triple play offers (I+F+TV) and double play, specifically I+TV.
- Individuals less satisfied with the electronic communications services they have are those that only use the telephone service via two types of access (fixed and mobile). Also highlighted are individuals that have not acquired multiple play offers.
- Among the business population, the services that are most used are telephone services, both fixed and mobile, in conjunction with fixed broadband (M+F+FBB). Adhesion to multiple play offers is lower among business clients, in comparison with residential clients. The predominance of the double play bundle consisting of the fixed telephone service and internet can be highlighted.
- The combination of telephone services, both fixed and mobile, in conjunction with fixed broadband (M+F+FBB) is also more evident in companies in the subsectors of Construction, Real Estate and Other Services (Transport, Communications, Cinematographic Activities, Radio and Television), and in companies with five or more employees.
- The exclusive use of the fixed telephone service is more evident in the commerce subsector and in companies that have been in existence for less than 25 years. Companies in this subsector and those in manufacturing in existence for more than 25 years tend to combine the two telephone services (fixed and mobile).
- Companies in the tourism subsector can be highlighted for the fact that the penetration of combinations of services which include fixed broadband is relatively higher (F+FBB and M+F+FBB+TV).

Overall evolution of electronic communications

The approach adopted in this section will consider electronic communications services as voice services (fixed and mobile telephone services), data (above all access to internet) and paid TV. These services are, in turn, distributed through several access networks, namely: mobile networks, traditional fixed networks, TV distribution networks via cable, satellite and other radio-electric means.

Means of access to services

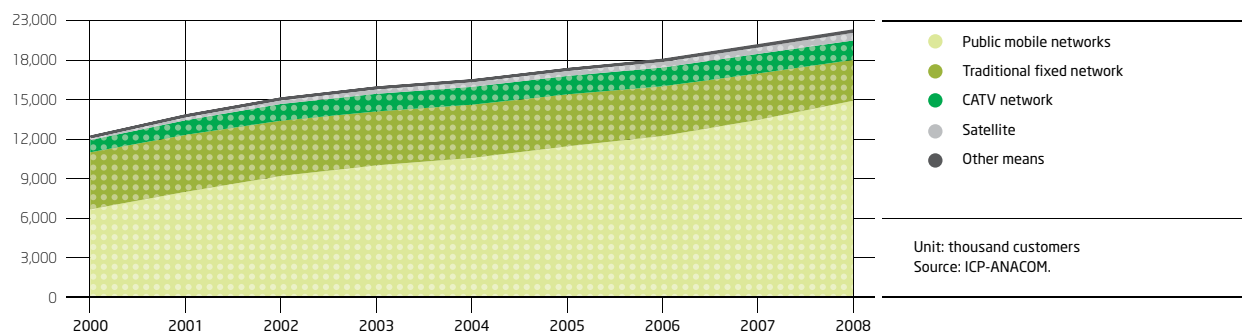
In global terms, since 2000, the number of physical means used by consumers to access electronic communications services has increased around 6.6 per cent a year, on average, reaching 20.1 million accesses². This evolution is, above all, the result of the growth in mobile networks and, up to 2003 and to a lesser degree, the cable TV distribution networks.

The mobile networks have strengthened their predominance as a means of access to the services, growing, on average, by around 11 per cent a year. The

weight of the traditional fixed network has been seen to decrease – between 2000 and 2008 it decreased around 4 per cent a year on average and in 2008 it fell 12 per cent, to 3.1 million accesses. Cable TV distribution networks have

grown around 6 per cent a year, maintaining their relative weight. Satellite networks, despite having grown 21 per cent a year on average since 2000, represent only 3 per cent of the total means of access.

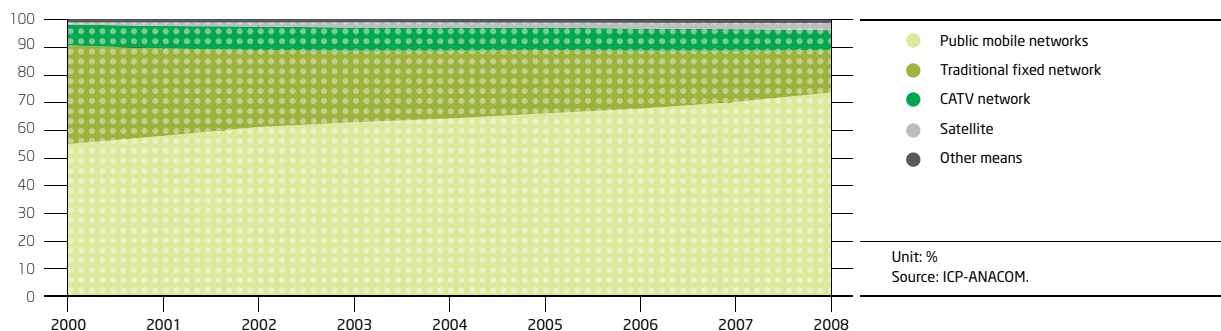
Evolution of the number of customers by access network
Graph 2.1



As can be seen in the following graph, the main means of access to electronic communications services are the mobile networks and the traditional fixed networks. Mobile accesses correspond to around half of the total accesses, while the traditional fixed network represents almost 15

per cent of the total. Cable TV distribution networks are responsible for around 7 per cent of the total accesses. Other means of access represent a small portion of the total.

Evolution of the number of clients by access network (relative weight)
Graph 2.2



It should be mentioned that several measures of a political, regulatory and financial character were taken in 2008 with a view to promoting the development of the next generation networks (NGN)⁴. The first objective of the protocol established between the Government and the operators is to develop optical fibre networks which will allow 1.5 million users to be connected. When this initiative is actually achieved it will be possible to forecast a significant alteration in the panorama described above.

Electronic communications services

Voice, data and paid TV services may be provided by various means of access, as mentioned above.

Currently, broadband internet access and TV distribution services are provided via the traditional fixed network, in addition to voice and low rate data.

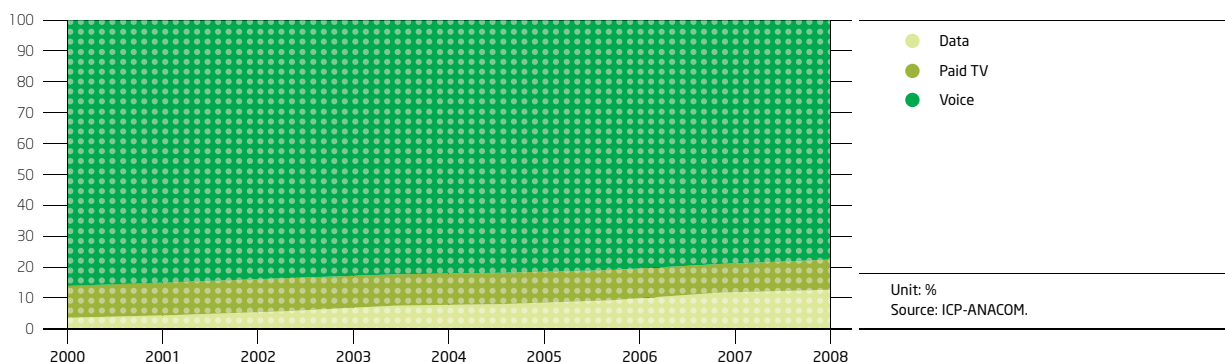
In the same way, fixed telephone and broadband internet access services are provided via the cable TV distribution networks.

With the advent of 3rd generation mobile networks, access to broadband internet and TV distribution (in unicast mode) has now become available to customers of mobile networks.

Currently, in Portugal, satellite networks are mostly used to provide TV distribution services.

As can be seen, voice services are responsible for around 77 per cent of the total clients of electronic communications services. The relative weight of voice has, however, been decreasing slowly, given that the average growth rate of the service (8.4 per cent) has been lower than the overall growth rate (10.4 per cent). The services which have registered a greater increase are data services (both fixed and mobile), which have grown around 19 per cent a year on average, reaching around 13 per cent of the total clients at the end of the period under consideration. Paid TV services have gained a new dynamism since 2007 and, above all, in 2008 (with 16 per cent growth), and now represent 10 per cent of the total.

Evolution of the relative weight of the number of customers by service
Graph 2.3



Despite of the domain of voice services in terms of customers, when the revenue from the services is calculated, it can be seen that the main reasons for the growth in the revenue of the services are data services and paid TV services. It should, however, be highlighted that in triple play or double play bundled offers which include

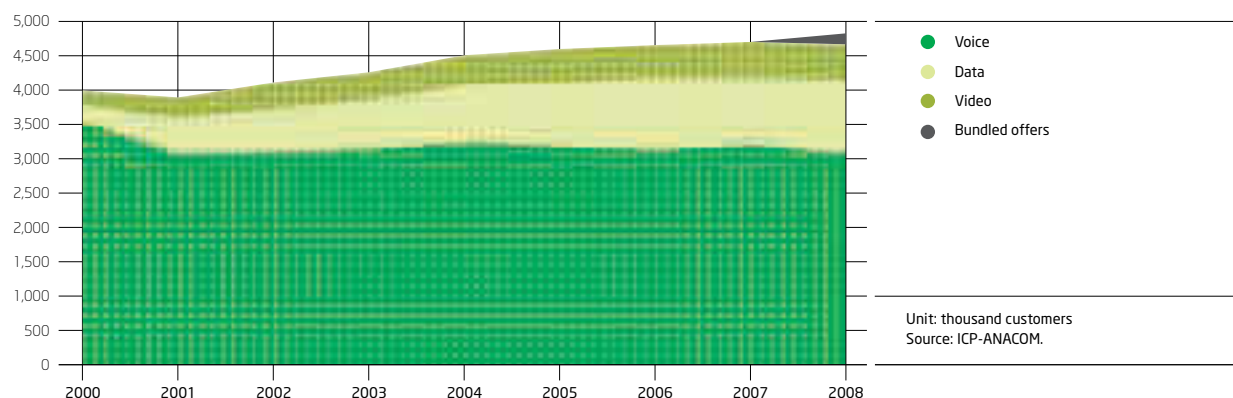
television and/or internet and/or telephone services, only the portion of the revenue from these offers which is not directly attributable to specific services is counted, so that in 2008 these only represent around 3 per cent of the total revenue.

⁴ See: <http://www.moptc.pt/cs2.asp?idcat=1926>

Revenue from voice services, which represented around 90 per cent of revenue in 2000, now represents around 63 per cent, having decreased 1.8 per cent a year, on average. On the other hand, revenue from data has increased around 49

per cent a year, while revenue from paid TV has increased around 19 per cent a year, not counting revenue from bundled offers.

Evolution of the number of customers by access network
Graph 2.4



Multiple play offers

In Portugal, several operators and providers have begun to distribute and market electronic communications services in an integrated manner using bundled offers that combine voice services, access to internet and paid TV (multiple play).

The first of these offers appeared in 2001 supported by the cable TV distribution network. From that date on, several operators have launched offers of this type, using the fixed switched telephone network (via LLU or own network),

alternative networks (FWA) and, more recently, cable TV networks once again.

The growing penetration of these offers suggests that these should be accompanied, not only in the traditional way – unbundling them according to the regulatory definition of the services – , but also as a joint offer.

Statistical information available regarding these offers is presented below.

Providers of multiple play offers (bundled offers)⁵

In 2008, ten operators offered bundled offers, one less than in 2007.

Providers of bundled offers

Table 2.1

	2006	2007	2008
No. of providers of bundled offers	6	11	10
Double play bundles	5	9	8
Triple play bundles	4	8	6
Quadruple play bundles	0	0	1

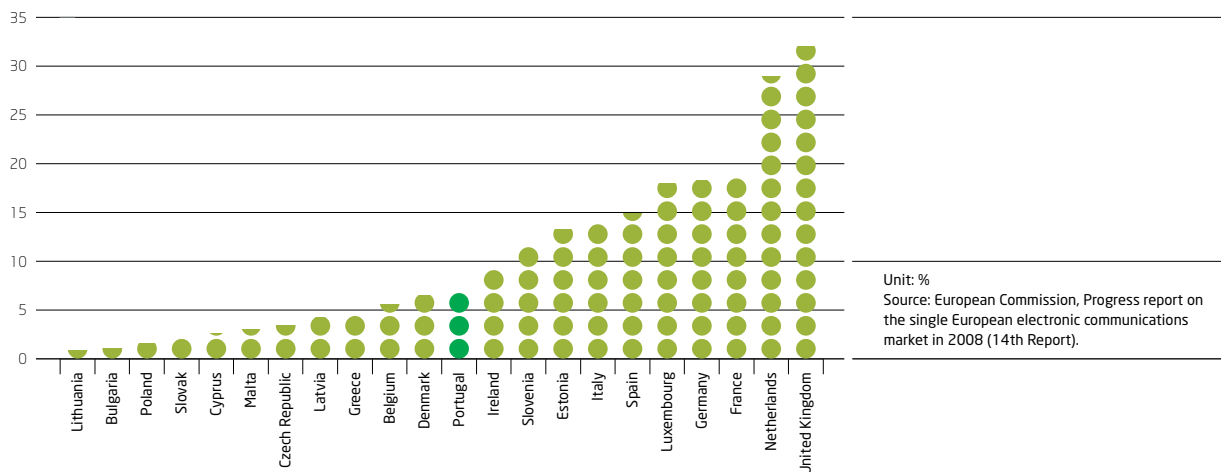
Unit: no. of providers
Source: ICP-ANACOM.

In comparison with the other Member States of the European Union, Portugal is below the average in terms of the percentage of providers that offer bundled offers. (It should be noted that the definition of bundled offer used here⁴, and which was developed by the European

Commission, underestimates the bundled offers in existence in Portugal, given that it excludes those offers which, despite being promoted, marketed and billed jointly, do not have an integrated tariff – i.e. it is possible to identify the individual prices of each service provided).

Percentage of providers offering bundled offers in the EU

Graph 2.5



⁵ 'Bundled offer' means a commercial offer of a single operator which includes two or more services, offered for a single price and as part of one bill.

Number of bundled offers

In 2008, the number of subscriptions to bundled offers⁴ (according to the EC definition) increased by around 32 per cent, rising to 744 thousand subscribers. This evolution was

mostly caused by the triple play offers which grew by 91 per cent, now representing 46 per cent of the total of this type of offers.

Number of subscriptions to bundled offers, by type
Table 2.2

	2007	2008	2007/2008 var.	2006/2008 average annual var.	2006/2008 var.
Double play bundles	385,729	391,666	1.5%	7.8%	16.3%
Triple play bundles	179,291	343,051	91.3%	63.7%	167.9%
Quadruple play bundles	0	9,650	-	-	-
Total no. of bundled offers	565.020	744.367	31.7%	26.5%	60.1%

Unit: no. of offers, %
Source: ICP-ANACOM.

Also of note is the appearance in 2008 of quadruple play bundles made up of fixed and mobile voice services and access to fixed and mobile broadband internet.

Penetration of bundled offers

In terms of penetration, around 13 per cent of classic family homes adhered to multiple play offers. It should be noted that in the last year penetration of triple play offers almost doubled.

Penetration rate of subscribers of bundled offers per 100 homes
Table 2.3

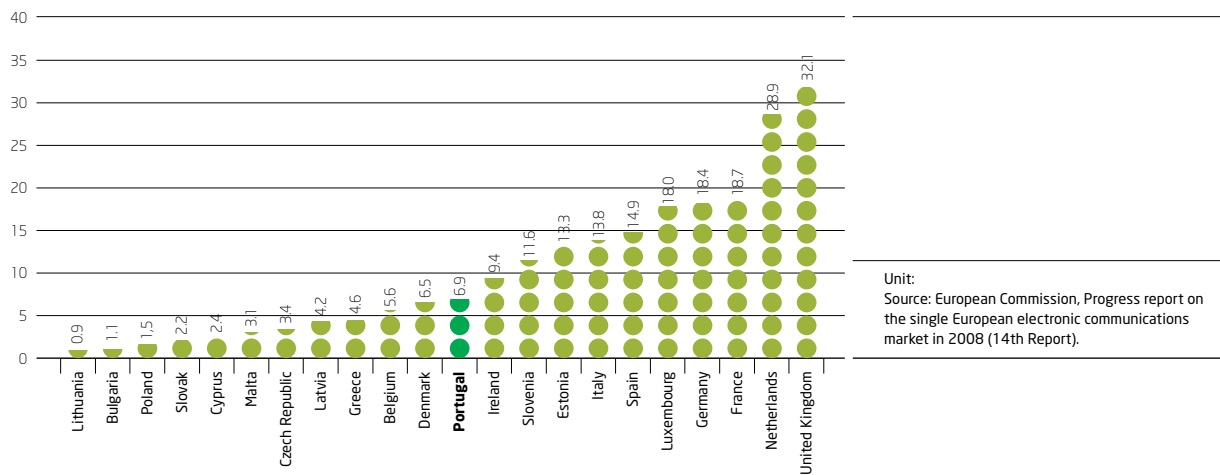
	2007	2008	2007/2008 var. (%)	2006/2008 average annual var. (%)	2006/2008 var. (%)
Double play bundles	6.9	7.0	0.1	0.5	0.9
Triple play bundles	3.2	6.1	2.9	1.9	3.8
Quadruple play bundles	0.0	0.2	0.2	0.1	0.2
Penetration of bundled offers per home	10.1	13.3	3.2	2.5	4.9

Unit: %
Source: ICP-ANACOM.

When calculated in terms of the population, the penetration of these offers reaches 6.9 per 100 inhabitants. According

to the European Commission, the EU average is higher (10 per 100 inhabitants).

Penetration of bundled offers per 100 inhabitants
Graph 2.6



Profile of usage and of the user of electronic communications

A profile of the residential and business (small and medium-sized enterprises – SMEs) users of electronic communications is presented below, distinguishing those who have subscribed to multiple play offers.

Profile of the residential consumer of electronic communications

This section will present an integrated view of the residential consumption of electronic communications services, using the Electronic Communications Services Consumer Survey of December 2008⁶.

The reference consumer is an individual aged 15 years or over⁷ who is resident in Portugal in a private household⁸ and the services considered are as follows:

- Mobile telephone service (M);
- Fixed telephone service (F);
- Internet access service (I), distinguishing four forms of access: mobile broadband (MBB), fixed broadband (FBB), mobile narrowband (MNB) and fixed narrowband (FNB);
- Paid television service (TV).

⁶ The universe is composed of individuals of 15 years or more who reside in private housing units located in Mainland Portugal or in the Autonomous Regions (Azores and Madeira). The sample is representative at the level of NUTS I having been composed of 2040 interviews on the Mainland and 780 interviews in each of the Autonomous Regions. Households were selected by means of proportional stratified random sampling according to the crossing of the NUTS II Region variables and the size of the household. Within each household one individual was selected by means of sampling by quotas guaranteeing the marginal totals of the sex, age class, level of education and employment status variables, according to the General Population Census (2001) of the National Institute of Statistics (INE). The gathering of information was by CAPI - Computer Assisted Personal Interviewing which took place between 5 November and 29 December 2008. The results regarding the Mobile Telephone Service are based on the universe of the individuals and present a maximum margin of error of less than 2% (with a degree of reliability of 95 per cent). The results regarding the Fixed Telephone Service, internet Service and paid Television Service are based on the universe of the households and present a maximum margin of error of less than 3% (with a level of reliability of 95 per cent). The company TNS-Euroteste was responsible for the fieldwork and data handling.

⁷ According to the Annual Estimates of the Resident Population of the INE (2007), around 15 per cent of the population resident in Portugal is under the age of 15 years.

⁸ Insofar as access to the mobile telephone service is made at the individual level, it was decided that the individual would be considered as the unit of analysis. In this sense, access to the other services (Fixed Telephone, internet and Paid TV) should be interpreted as the possibility of the individual to access the respective services when available in his household.

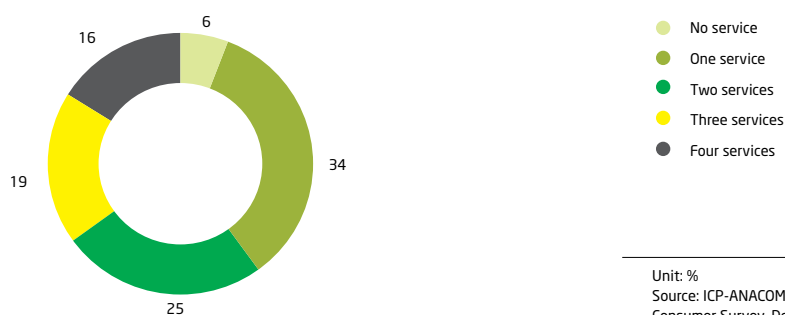
Penetration of the various combinations of services among individuals, their socio-economic and demographic profile, and their level of satisfaction with the services provided are presented below.

Penetration of services

At the end of 2008, 16 per cent of the individuals surveyed had four different electronic communications services (not

necessarily acquired in a bundle) and 6 per cent had no access to this type of services. However, the most frequent situation was individuals with one service (34 per cent), followed by individuals with two services (25 per cent).

Distribution of individuals by the number of electronic communications services they have
Graph 2.7



Unit: %
Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

The most frequent combinations of services are individuals who only have the mobile telephone service (20 per cent) and individuals with the following four services (not

necessarily in a bundle): mobile telephone, fixed telephone, fixed broadband and paid TV (13 per cent).

Penetration of services and combinations of services
Table 2.4

	%
M	20.4
M + F + FBB + TV	13.1
F	12.6
M + F	10.0
M + F + TV	8.0
M + TV	7.0
M + FBB	4.0
F + TV	3.1
M + MBB	2.8
M + F + FBB	2.5
Other combinations⁽¹⁾	9.9
No service	6.3

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008

⁽¹⁾ Combinations of internet access service (MBB, MNB, FBB, FNB) with the other electronic communications services (M, F, TV).

The situations of exclusive use of the fixed telephone service and use of that service with the mobile telephone service also have a certain weight in the universe under study, with 13 and 10 per cent respectively.

It is also important to highlight that most of the individuals that have internet in their homes also have access to the mobile telephone service, 94 per cent to be precise.

Socio-demographic profile of residential consumers

This section will analyze the profile of the residential consumer of electronic communications services according to the region, family structure, age group, education and employment status and the social class of the household to which the individual belongs.

Assessment of significant differences in the proportion of individuals that consume the type of combination of services i in group j and in group j^{-1} is by means of the test of 2 samples for proportions. In this context, i refers to the different types of combinations of services (M; M+F+FBB+TV; F; M+F; M+F+TV; M+TV; M+FBB+TV; F+TV; other combinations; none), group j refers to the individuals with the respective category of the characterization variable under analysis and group j^{-1} refers to individuals with the other categories of this variable. In this test the null hypothesis refers to equality of the proportions. When the p-value is less than 0.01, the null hypothesis is rejected, that is, the differences between the confronting proportions are statistically significant to a level of significance of 1 per cent. This test is only applied when the number of sample observations is greater or equal to 30.

Regional characterization

The consumption of electronic communications services differs according to the region in which the individual lives. The population of Algarve stands out for the exclusive use of the mobile telephone service and those who live in the Lisbon region are more evident in terms of the integrated consumption of 4 electronic communications services, specifically fixed and mobile telephone services, fixed broadband internet access and paid TV (M+F+FBB+TV).

The exclusive use of the telephone service, by fixed and/or mobile network, is more accentuated in the Centre and

North regions of the country. Indeed, the Centre region stands out particularly for exclusive access to the fixed network and the North region for the two types of access (M+F).

On the other hand, it may be noted that a large majority of the Portuguese population tends to live in the Lisbon, Centre and North regions of mainland Portugal, so that the most evident type of consumption in these geographical areas tends to have a greater overall impact.

Consumption of electronic communications services by NUTS II region
Table 2.5

Integrated consumption of services	North	Centre	Lisbon	Alentejo	Algarve	Azores	Madeira	Total
M	21	23	19	15	38	2	8	20
M + F + FBB + TV	9	9	24	16	1	19	11	13
F	15	16	6	18	9	8	4	13
M + F	13	12	6	8	8	6	5	10
M + F + TV	7	6	10	12	2	21	8	8
M + TV	6	4	10	3	7	8	30	7
M + FBB + TV	2	1	9	3	2	4	14	4
F + TV	4	2	2	3	2	12	5	3
Other comb.	15	16	13	21	15	16	12	15
None	7	10	2	2	16	3	3	6
Total	100	100	100	100	100	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

In the Autonomous Region of the Azores the consumption of fixed and mobile telephone services in conjunction with the paid TV service (M+F+TV) tends to be more accentuated in comparison with the other regions. In the Autonomous Region of Madeira the simultaneous use of the

mobile telephone service with the paid TV service (M+TV) is highlighted, in addition to the use of these two services with the internet access service via fixed broadband (M+FBB+TV).

It should be stressed that these regional differences are influenced by the geographical availability of the services, and may not reflect different preferences between consumers in the various geographical areas.

Characterization by family structure

Individuals that live in larger households are more likely to access more electronic communications services

simultaneously (M+F+FBB+TV) or to have another more unusual type of combination of services which include mobile internet or narrowband internet.

On the other hand, individuals that belong to smaller households tend to use a lower number of services, namely only the fixed telephone service (F), only the mobile telephone service (M), or even no service at all.

Consumption of electronic communications services by family size
Table 2.6

Integrated consumption of services	1 individual	2 individuals	3 individuals	4 individuals	5 or + individuals	Total
M	24	22	18	18	19	20
M + F + FBB + TV	3	8	20	22	15	13
F	25	16	6	7	7	13
M + F	8	15	9	7	9	10
M + F + TV	7	12	5	6	7	8
M + TV	3	7	10	8	6	7
M + FBB + TV	1	3	7	5	5	4
F + TV	2	5	3	3	2	3
Other comb.	8	9	20	22	24	15
None	18	4	3	3	6	6
Total	100	100	100	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations (n<30), and therefore some caution should be taken when interpreting them.

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Also of note is the fact that the consumption of electronic communications of individuals with children in their household is different from individuals with elderly persons in their household.

The presence of children in the home results in more diversified consumption of services: the greater incidence of the use of 4 services (M+F+FBB+TV) may be highlighted, as well as the use of paid TV combined with other services (for example, M+TV).

The existence of elderly persons in the home is associated with more restricted consumption of services: the exclusive use of the fixed telephone service may be highlighted. In addition, it can be seen that the use of the internet access

service in conjunction with some of the other electronic communications services is much lower for this type of individuals.

Consumption of electronic communications services by households with children or elderly persons
Table 2.7

Integrated consumption of services	Households ...		Total
	... with children	... with elderly persons	
M	20	17	20
M + F + FBB + TV	21	8	13
F	2	22	13
M + F	7	14	10
M + F + TV	5	12	8
M + TV	11	4	7
M + FBB + TV	7	1	4
F + TV	1	7	3
Other combinations	23	9	15
None	3	6	6
Total	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

Characterization by age group

Two trends in consumption are evident among the group of younger individuals: (1) diversified consumption of services, including access to the internet, and (2) exclusive consumption of the mobile telephone service.

As age increases, different patterns of consumption can be seen. In the group of older individuals there is more limited consumption of electronic communications services, with no

obvious presence of the internet access service. In the group of elderly persons (65 years or older) the non-use of electronic communications services is significantly more evident. It may be noted that, according to the INE's Annual Estimates of the Resident Population (2007), around 17 per cent of the population resident in Portugal is 65 or over, and there has been a trend towards the growth of this age group in recent years.

Consumption of electronic communications services by age group
Table 2.8

Integrated consumption of services	15-24 years	25-44 years	45-64 years	65 or + years	Total
M	24	22	20	15	20
M + F + FBB + TV	18	16	13	3	13
F	1	5	18	29	13
M + F	6	10	10	13	10
M + F + TV	6	7	8	12	8
M + TV	8	10	6	1	7
M + FBB + TV	6	6	2	0	4
F + TV	0	1	4	7	3
Other combinations	28	20	10	4	15
None	2	3	7	15	6
Total	100	100	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations (n<30), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

Characterization by education and employment status

An individual's level of education and his employment status are also important factors in determining the type of integrated consumption of electronic communications services.

The population tends to be concentrated around lower levels of education. According to INE data, around half of the resident population has a level of education lower than the 6th grade. It is precisely in this group that exclusive access to the fixed or the mobile telephone service, or exclusive access to the telephone service (M+F) and its use

in conjunction with the paid TV service tends to be more evident.

Although with less weight, individuals with a higher level of education (secondary and higher education) tend to have a more diversified and greater number of services which include the internet access service (fixed and mobile).

Individuals with the 6th grade are distinct in that a greater percentage of them use only the mobile telephone service or this service in conjunction with the paid TV service.

Consumption of electronic communications services by level of education
Table 2.9

Integrated consumption of services	Higher education	Secondary education	9th grade	6th grade	4th grade	Lower than 4th grade	Total
M	19	12	21	29	24	13	20
M + F + FBB + TV	21	31	22	12	6	0	13
F	3	3	2	4	19	34	13
M + F	8	3	7	9	15	11	10
M + F + TV	6	6	6	7	13	5	8
M + TV	7	9	9	14	6	2	7
M + FBB + TV	7	12	6	4	1	0	4
F + TV	1	0	1	1	5	6	3
Other combinations	26	23	26	18	6	4	15
None	2	0	1	3	5	25	6
Total	100	100	100	100	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

With regard to the “employment status” variable, it can be seen that students stand out since they demonstrate a greater appetite for fixed broadband in conjunction with the other electronic communications services, although they

represent a low proportion of the universe under study. The retired population prefers access to the fixed telephone service, either exclusively or in conjunction with paid TV and/or the mobile telephone service.

Consumption of electronic communications services by employment status
Table 2.10

Integrated consumption of services	Employed	Student	Unemployed	Retired	Inactive for other reasons	Total
M	22	22	16	17	19	20
M + F + FBB + TV	15	23	27	6	7	13
F	8	1	7	25	19	13
M + F	9	5	6	12	14	10
M + F + TV	6	5	10	11	11	8
M + TV	9	8	11	2	8	7
M + FBB + TV	6	7	4	0	2	4
F + TV	2	0	3	8	3	3
Other combinations	19	25	15	6	10	15
None	4	3	1	12	8	6
Total	100	100	100	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

Characterization according to social class

Access of the population to electronic communications services also varies according to the social class of the individual's household.

Individuals that belong to households of a higher social class have more electronic communications services and, in

particular, tend to have the internet access service, in different forms of access, in conjunction with some of the other electronic communications services. A higher percentage of individuals whose household is part of a lower social class use the fixed telephone service or mobile telephone service exclusively.

Consumption of electronic communications services by social class
Table 2.11

Integrated consumption of services	A/B	C1	C2	D	Total
M	11	19	29	20	20
M + F + FBB + TV	30	20	13	5	13
F	4	3	4	22	13
M + F	6	10	9	12	10
M + F + TV	7	8	5	9	8
M + TV	5	9	11	6	7
M + FBB + TV	9	7	4	1	4
F + TV	1	1	1	5	3
Other combinations	27	21	21	7	15
None	1	2	2	11	6
Total	100	100	100	100	100

Unit: %

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

Note 3: Social class is determined according to the level of education and profession of the highest paid individual in the household. Social class A is the highest and social class D is the lowest.

Characterization of the users of services/combination of services⁹

So far each of the characteristics of the individual has been analyzed. We shall now seek to systematize the characteristics which are most evident in each of the groups of service users.

It should be noted that similar profiles can be seen for some groups of users of services in an integrated manner.

One on hand, exclusive users of the fixed telephone service or those who use it in conjunction with the mobile telephone service and/or paid TV (F; M+F; F+TV and M+F+TV) stand out. Although there are regional differences in the use of these services, in general terms the users are characterized by belonging to smaller households, where elderly persons reside and with a lower social class. In addition, the fact that they are retired, older and with a

lower level of education proves to be a determining factor as to whether they have this type of services.

On the other hand, there is a greater incidence of users of the internet access service, namely fixed broadband, in conjunction with other services in large households, with children and of a higher social class. The users of this type of services are evident in the younger age groups, in higher levels of education and among those whose employment status is "employed" or "student". In regional terms, this type of services is more used in the Lisbon area.

Exclusive users of the mobile telephone service present a different profile. They stand out, in particular, as living in the Algarve, living alone, being young and belonging to the middle class, as well being employed and having completed the 6th grade education.

⁹ The combination of services does not necessarily imply their use in a multiple play bundle.

Users of the mobile telephone service in conjunction with paid TV are found in a greater proportion in households with children, of the middle class, in intermediate age groups (25 – 44 years), with 6th or 9th grades education

and with the employment status of “employed”. These individuals are more likely to reside in Lisbon or in the Autonomous Region of Madeira.

Profile of users of electronic communications services in an integrated perspective
Table 2.12

Integrated consumption of services	NUTS II Region	Family structure			Social class of house-hold	Age group	Education level	Employment status
		No. of individ.	Children	Elderly persons				
No service	Centre	1			D	>=65 years	Lower than 4th grade	Retired
M	Algarve	1			C2	15 - 24 years	4th / 6th grade	Employed
M+TV	Madeira and Lisbon	3	yes		C2	25 - 44 years	6th grade	Employed
M+F	North							
F + TV	Auton. Regions	2						
M + F + TV	Azores / Lisbon			sim	D	>=65 years	Lower or equal to 4th grade	Retired
F	Centre							
M+ F + BLF + TV	Lisbon							
M + BLF + TV	Madeira / Lisbon	>=3	yes		A/B and C1	< 45 years	Higher or equal to 9th grade	Employed or Student
Outro								

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Note: Social class is determined according to the level of education and profession of the highest paid individual in the household. Social class A is the highest and social class D is the lowest.

The absence of electronic communications services is associated with elderly retired individuals who live alone, with a low level of education and who belong to the lowest social class. This situation is most evident in the Centre region of the country.

Satisfaction of residential consumers with the services provided

Individuals who have the mobile telephone service in conjunction with the paid TV service (M+TV), and also with the fixed broadband service (M+FBB+TV) were those who demonstrated the greatest satisfaction with the service provided by the operators, on average.

On a scale of 1 to 10, where 1 is “Very dissatisfied” and 10 “Very satisfied”, these individuals recorded an average satisfaction of 7.5 and 7.4, respectively. The satisfaction of these two groups of consumers of electronic communications services is above the overall average in all the services.

Individuals with access to both types of telephone service (M+F) or only to the fixed telephone service (F) are less satisfied, on average, with the service provided by the operators of the electronic communications services they have.

Average level of satisfaction with the service provided by the operator of each of the electronic communications services the individual has
Table 2.13

Integrated consumption of services	Average level of satisfaction with the service provided by the operator				
	M	F	I	TV	Total
M	7.3				7.3
M + F + FBB + TV	7.4	7.2	7.2	7.2	7.2
F		7.0			7.0
M + F	7.0	6.8			6.9
M + F + TV	7.4	7.1		7.2	7.2
M + TV	7.6			7.3	7.5
M + FBB + TV	7.5		7.2	7.5	7.4
F + TV		7.0		7.5	7.2
Other combinations	7.3	7.2	6.9	7.1	7.1
Total	7.3	7.1	7.0	7.2	7.2

Unit: scale 1 to 10

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

Note 1: The total column refers to the estimate made from the average of the levels observed in each of the services that the individual has insofar as the satisfaction in each of the services is relatively similar.

Note 2: The averages highlighted in green indicate those which are significantly different (in the column) according to the test of equality between averages. Light green shows the higher averages and dark green the lower ones.

Individuals with the 4 electronic communications services (M+F+FBB+TV) and with the mobile telephone and paid TV services (M+TV) were those who assessed the operators of the services they have as being closest to the ideal operator.

those who assessed the operators as being most distant from the ideal operator and those who present the lowest expectations with regard to the overall quality of the operator. This position is associated in particular with the fixed telephone service.

In line with what was seen in the analysis of satisfaction, individuals with both types of telephone service (M+F) are

Assessment of the ideal operator and analysis of the expectations created regarding the overall quality of the operator of the services the individual has
Table 2.14

Integrated consumption of services	Proximity to the ideal operator ⁽¹⁾				
	M	F	I	TV	Total ⁽³⁾
M	6.9				6.9
M + F + FBB + TV	7.0	7.1	7.0	7.0	7.0
F		6.9			6.9
M + F	6.8	6.6			6.7
M + F + TV	6.9	6.9		6.9	6.9
M + TV	7.0			7.1	7.1
M + FBB + TV	6.9		6.9	7.3	7.0
F + TV		6.7		7.3	7.0
Other combinations	6.8	6.8	6.7	6.9	6.8
Total	6.9	6.9	6.8	7.0	6.9

Integrated consumption of services	Expectations regarding the overall quality of the operator ⁽²⁾				
	M	F	I	TV	Total ⁽³⁾
M	6.9				6.9
M + F + FBB + TV	7.1	7.0	7.0	7.1	7.0
F		6.9			6.9
M + F	6.9	6.5			6.7
M + F + TV	6.9	6.9		7.0	6.9
M + TV	7.4			7.0	7.2
M + FBB + TV	7.0		6.9	7.1	7.0
F + TV		6.9		7.0	6.9
Other combinations	6.9	6.8	6.8	6.9	6.9
Total	7.0	6.9	6.9	7.0	6.9

Unit: scale 1 to 10

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

(1) Scale: 1 signifies "very far from the ideal" and 10 signifies "very close to the ideal".

(2) Scale: 1 signifies "very low" and 10 signifies "very high"

Note 1: The total columns refer to the estimates made from the average of the levels observed in each of the services that the individual has insofar as the satisfaction in each of the services is relatively similar.

Note 2: The averages highlighted in green indicate those which are significantly different (in the column) according to the test of equality between averages. Light green shows the higher averages and dark green the lower ones.

Profile of the residential consumer of multiple play offers

This section will describe the profile of the user, usage and level of satisfaction of residential consumers of multiple play offers. The Electronic Communications Services Consumer Survey¹⁰ of December 2008 will once again be used for this purpose.

In this context, the unit of analysis is now the household insofar as all the electronic communications services considered in multiple play are associated with the household

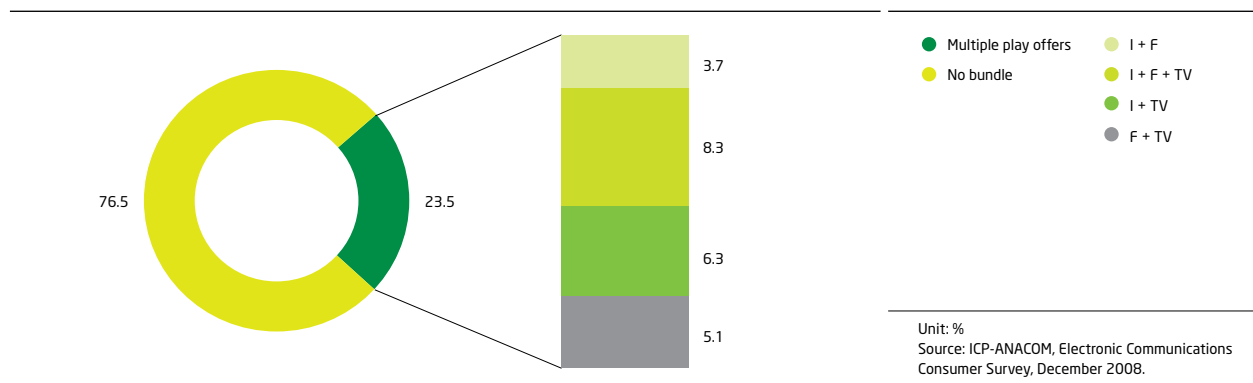
(fixed telephone service, internet access service and paid TV service).

The penetration of the various modes of multiple play, the socio-demographic profile of the consumers and their level of satisfaction with the services provided are presented below.

Penetration of services

The use of bundled services covers 23.5 per cent of Portuguese households, with triple play access (I+F+TV) being more frequent than any of the double play modes

Adhesion to multiple play offers Graph 2.8



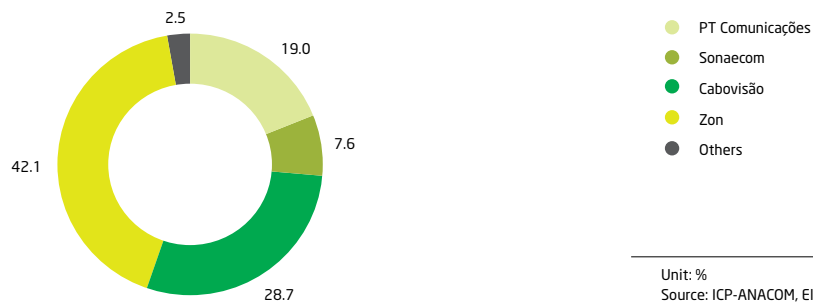
The most recent data from the European Commission¹¹, relating to June 2008, places Portugal slightly below the average of the EU27 with regard to the percentage of households that access bundled electronic communications services, 4 per cent below to be precise.

Multiple play access is mostly via Zon Group. Around 42.1 per cent of households with multiple play access are customers of Zon Group. Customers of Cabovisão and PT Comunicações Group represent 28.7 and 19.0 per cent, respectively.

¹⁰ The universe is composed of individuals of 15 years or more who reside in private housing units located in Mainland Portugal or in the Autonomous Regions (Azores and Madeira). The sample is representative at the level of NUTS I having been composed of 2040 interviews on the Mainland and 780 interviews in each of the Autonomous Regions. Households were selected by means of proportional stratified random sampling according to the crossing of the NUTS II Region variables and the size of the household. Within each household one individual was selected by means of sampling by quotas guaranteeing the marginal totals of the sex, age class, level of education and employment status variables, according to the General Population Census (2001) of the National Institute of Statistics (INE). The gathering of information was by CAPI - Computer Assisted Personal Interviewing which took place between 5 November and 29 December 2008. The results regarding the Mobile Telephone Service are based on the universe of the individuals and present a maximum margin of error of less than 2 p.p. (with a degree of reliability of 95 per cent). The results regarding the Fixed Telephone Service, internet Service and paid Television Service are based on the universe of the households and present a maximum margin of error of less than 3 p.p. (with a level of reliability of 95 per cent). The company TNS-Euroteste was responsible for the fieldwork and data handling.

¹¹ E-Communications Household Survey, June 2008

Percentage of multiple play offers customers per operator
Graph 2.9



Characterization of residential consumers of multiple play offers

According to the information available:

- users of triple and double play offers (I+TV) tend to be concentrated in the areas of Lisbon and the Autonomous Region of Madeira, respectively, and relate to larger households with children and of a higher social class. In addition, there is a greater tendency for the individual respondent of these households to be younger, with

higher levels of education and with the employment status of student;

- households which have electronic communications services which are not bundled tend to be smaller, with elderly persons and of a lower social class. On the other hand, individual respondents belong to older age groups and have lower levels of education. They also tend to be part of the group of retired persons. These households are located in the Algarve, North and Centre regions.

Profile of users of multiple play services
Table 2.15

	NUTS II Region	Family structure			Social class of household	Age group	Education level	Employment status
		No. of individuals	Children	Elderly persons				
None	Algarve, North, Centre	<=2		sim	D	>=65 years	Equal to or lower than 4th grade	Retired
I + F + TV	Lisbon	>=3	yes		C1, A/B	<45 years	Greater than or equal 9th grade	Student
I + TV	Lisbon and Madeira							

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008

Note1: Social class is determined according to the level of education and profession of the highest paid individual in the household. Social class A is the highest and social class D is the lowest.

Satisfaction of residential consumers of multiple play offers

The average level of satisfaction with the services of the providers which offer multiple play is slightly higher than the average level of satisfaction expressed by individuals who do not consume these offers. The highest level of satisfaction is for the internet + paid TV bundle, in particular due to the presence of the latter service.

Satisfaction with the bundled internet service is greater than that shown by individuals with internet which is not bundled.

Satisfaction with the fixed telephone service tends to be greater when this service is bundled in conjunction with the internet access service.

Average level of satisfaction with the service provided in multiple play
Table 2.16

Consumption of bundled services	Average level of satisfaction ⁽¹⁾ with the service provided by the operator			
	F	I	TV	Total ⁽²⁾
None	7.0	6.8	7.1	7.0
I + F	7.3	6.9	6.9	7.1
I + F + TV	7.3	7.3	7.3	7.3
I + TV	7.1	7.2	7.6	7.4
F + TV	7.2	6.7	7.5	7.3
Total ⁽³⁾	7.1	7.0	7.2	7.1

Unit: scale 1 to 10

Source: ICP-ANACOM, Electronic Communications Consumer Survey, December 2008.

(1) Scale: 1 (Very dissatisfied) to 10 (Very satisfied)

(2) Estimate made from the average of the levels of satisfaction in each of the services included in the bundle.

(3) Average satisfaction with the respective service regardless of whether it is included in a bundle.

Note 1: The averages highlighted in green indicate those which are significantly different (in the column) according to the test of equality between averages. Light green shows the higher averages and dark green the lower ones.

Profile of the business (SME) consumer of electronic communications

The next analysis will be of the business (SME) consumer of electronic communications in an integrated perspective using the Survey on the Use of Electronic Communications by Portuguese Companies¹² of December 2007 for this purpose.

The first section will present the penetration of the various services in small and medium-sized enterprises, highlighting the subscription to multiple play offers. The second section will analyze the profile of the business user of electronic communications services.

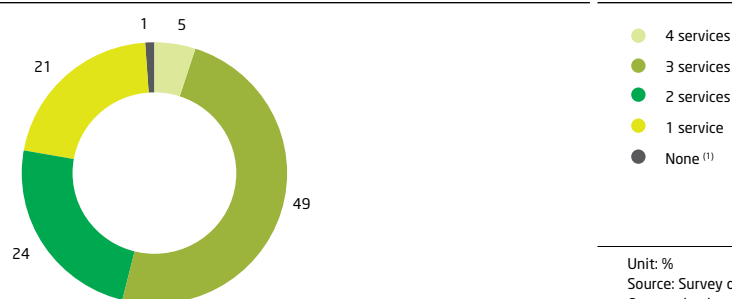
¹² The universe of this study refers to Micro, Small and Medium-Sized Enterprises (SME), with their head office in Portugal, the economic activity of which falls within one of the following sections and groups of CAE codes (Rev. 2.1): Section D (Manufacturing Industries), Section F (Construction), Section G (Wholesale and retail commerce, repair of automobile vehicles, motorcycles and goods for domestic and personal use), Group H 551 (Hotel establishments), Group H 552 (Camp sites and other short stay accommodation), Section I (Transport, storage and communications), Section K (Real estate activities, rentals and services provided to companies), Group O 921 (Cinematographic and video activities) and Group O 922 (Radio and Television Activities). The sampling plan includes a pre-stratified multi-stage probability sample. The national territory was divided into strata, according to the NUTII region and the presence of the telecommunications operators in each region. A two-stage sample was carried out in each stratum. The first stage of sampling corresponds to the selection of parishes (with unequal probabilities in proportion to the number of companies they include, in relation to the target population) and the second stage corresponds to the selection of companies (by means of stratified random sampling by sector of activity and size of company). 2403 interviews were conducted guaranteeing an absolute maximum margin of error of 2.0 (semi-amplitude of a reliability interval of 95 per cent for one proportion). The specific unbundlings within each electronic communications service translate into greater errors: mobile telephone service (2.4), fixed telephone service (2.0) and internet access service (2.5). The fieldwork was carried out by the company Qmetrics, S.A. Face to face interviews were carried out supported by the CAPI System (Computer Assisted Personal Interviewing) from 21 November to 21 December 2007 and from 3 to 15 January 2008. The estimation used extrapolators calculated by Qmetrics, S.A. The extrapolators allowed for adjustment of the results obtained to known totals of additional variables (NUTS II, sector of activity and company size from physical data from Dec/2006 and economic data from Dec/2005 of the National Institute of Statistics) with the objective of correcting distortions observed in the sample.

Penetration of services

At the end of 2007, half of the companies with less than 250 employees had three electronic communications services. The simultaneous use of four electronic

communications services (M+F+I+TV) is much lower in the business field: only 5 per cent of the companies under analysis reported that they had access to four services.

Distribution of companies by the number of electronic communications services they have
Graph 2.10



Unit: %
Source: Survey on the Use of Electronic Communications by Portuguese Companies, December 2007.

⁽¹⁾ No telecommunications in the company's name (use personal telecommunications or of another company)

Around 44 per cent of the companies under analysis use fixed and mobile telephone services in conjunction with fixed broadband (M+F+FBB).

The exclusive use of the telephone service is still quite significant among Portuguese companies with less than

250 employees. It is estimated that 18 per cent of the companies use only the fixed telephone service and that 15 per cent have access to both telephone services (M+F). The exclusive use of the mobile telephone service is very small (3 per cent).

Penetration of services and combinations of services in companies
Table 2.17

	%
M + F + FBB	44.3
F	18.2
M + F	14.8
F + BLF	8.2
M + F + FBB + TV	3.6
M	2.7
Others ⁽¹⁾	7.2
None ⁽²⁾	1.0
Total	100

Unit: %
Source: Survey on the Use of Electronic Communications by Portuguese Companies, December 2007.

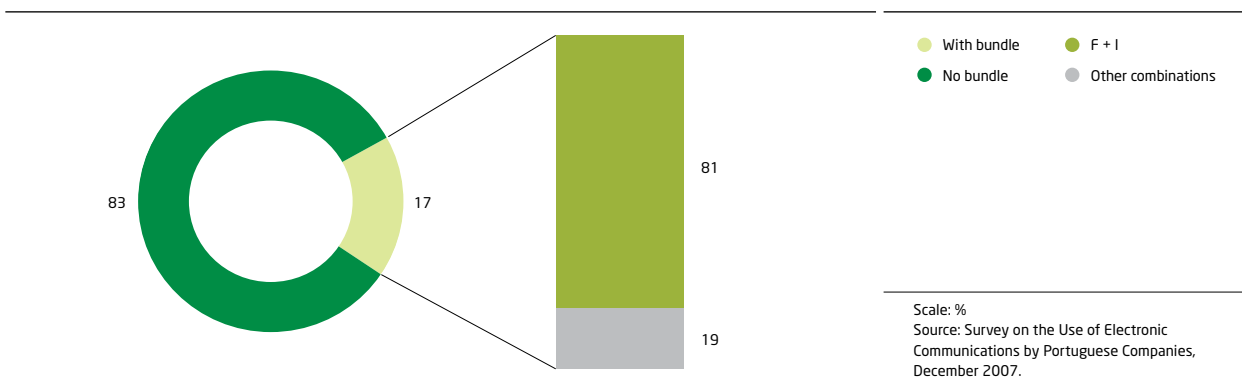
(1) Practically includes combinations of the internet (MBB, FBB, NB) with the other electronic communications services (M, F, TV).

(2) No telecommunications in the company's name (use personal telecommunications or of another company).

Subscription to multiple play offers is lower among business customers, in comparison with residential customers. Multiple play offers are used by around 17 per cent of companies with less than 250 employees, highlighting the

predominance of the double play bundle composed of the fixed telephone service and access to the internet (used by 81 per cent of the companies with bundled services).

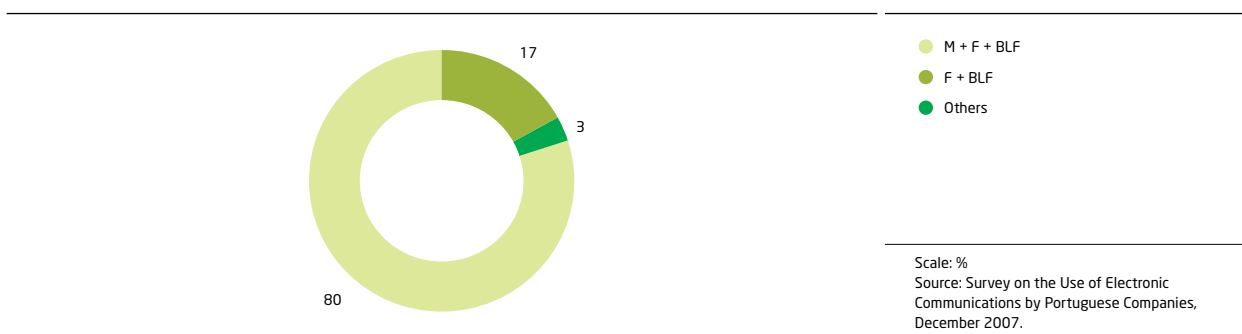
Multiple play electronic communications services
Graph 2.11



4 out of every 5 companies with the double play service (F+I) have the fixed telephone service, access to fixed

broadband internet and the mobile telephone service (M+F+FBB).

Integrated use of services by companies with F+I double play
Graph 2.12



Characterization of the business (SME) user of electronic communications services

A characterization of the business (SME) user of electronic communications services will be presented below, taking

into account the sector of activity in which the company is included, the size of the company and the number of years it has been in the markets in which it operates.

Characterization by sector of activity

According to the data of the Survey on the Use of Electronic Communications by Portuguese Companies of 2007, companies in the subsectors of construction, real estate activities and other services (transport, communications, cinematographic activities, radio and television) tend to

have a more intensive subscription rate regarding the two telephone services (fixed and mobile) in conjunction with fixed broadband. In each of these subsectors over 65 per cent of the companies have these three services (M+F+FBB).

Penetration of electronic communications services in SMEs by sector of activity
Table 2.18

Integrated consumption of services	Manu- facturing	Construction	Commerce	Tourism	Real Estate activities	Other services	Total
M + F + FBB	41	68	36	25	68	71	34
F	17	3	26	11	3	3	27
M + F	21	11	17	2	3	3	16
F + FBB	6	4	10	29	7	12	10
M + F + FBB + TV	1	2	3	26	10	7	3
M	2	4	3	0	1	1	4
Others	11	9	6	9	8	3	7
Total	100	100	100	100	100	100	100

Unit: %

Source: Survey on the Use of Electronic Communications by Portuguese Companies, December 2007.

Note 1: The group "other services" includes the following subsectors: Transport, Communications, Cinematographic Activities, Radio and Television

Note 2: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 3: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

The tourism subsector can be highlighted for the fact that the penetration of combinations of services which include fixed broadband is relatively higher (F+FBB and M+F+FBB+TV).

The exclusive use of the two telephone services (fixed and mobile) is relatively higher in the manufacturing sector. In the commerce subsector the companies tend to give preference to the telephone service, with exclusive access to the fixed telephone service standing out in this case.

Characterization by size and age of company

The size of the company influences the use of services. On one hand, companies with 5 or more employees present a relatively higher penetration of the two telephone services (fixed and mobile) in conjunction with fixed broadband. On the other hand, smaller companies (fewer than 5 employees) demonstrate less adhesion to these services. In this latter group, the penetration of the fixed telephone service can be highlighted, particularly in exclusive use, but also in conjunction with the mobile telephone service or fixed broadband.

Electronic communications services the company has by company size
Table 2.19

Integrated consumption of services	1-4 employees	5-9 employees	10-24 employees	25 or + employees	Total
M + F + FBB	34	62	57	64	46
F	27	6	10	4	14
M + F	16	15	11	4	10
F + FBB	10	6	8	6	12
M + F + FBB + TV	3	4	6	5	4
M	4	1	1	0	4
Others	7	7	7	18	9
Total	100	100	100	100	100

Unit: %

Source: Survey on the Use of Electronic Communications by Portuguese Companies, December 2007.

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

Although less overtly, the age of the company also reflects different uses of electronic communications services. The older companies (that have been in the market for over 25 years) stand out in terms of exclusive use of the fixed

telephone service. More recent companies tend to present a relatively higher penetration of fixed broadband in conjunction with the telephone service (fixed and/or mobile).

Electronic communications services the company has by number of years in the market
Table 2.20

Integrated consumption of services	1-4 years	5-9 years	10-24 years	25 or + years	Total
M + F + FBB	46	48	48	36	45
F	14	14	16	30	18
M + F	10	12	17	16	15
F + FBB	12	11	5	8	8
M + F + FBB + TV	4	3	3	5	4
M	4	4	2	1	3
Others	9	7	9	5	7
Total	100	100	100	100	100

Unit: %

Source: Survey on the Use of Electronic Communications by Portuguese Companies, December 2007.

Note 1: The proportions highlighted in yellow are the result of a reduced number of sample observations ($n < 30$), and therefore some caution should be taken when interpreting them.

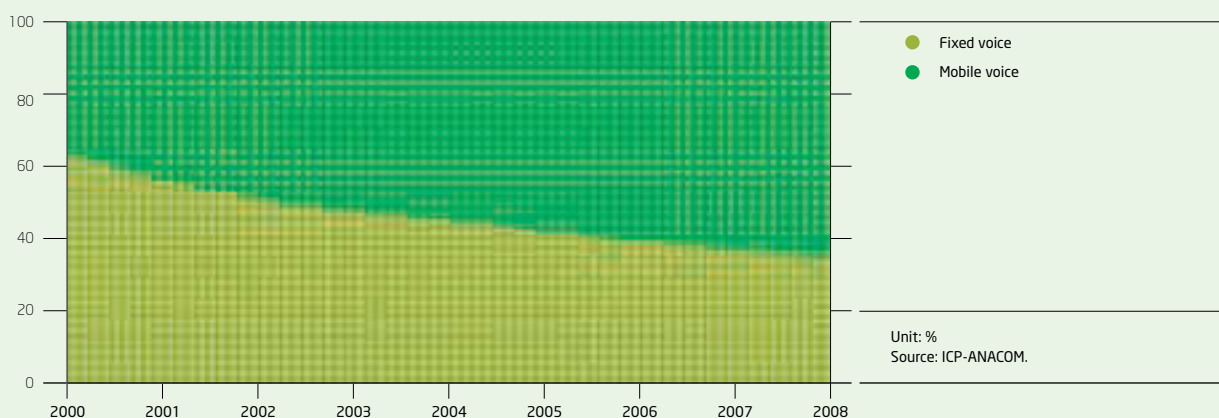
Note 2: The proportions highlighted in green indicate those which are significantly different (in the row) according to the test of 2 samples for proportions. Light green highlights the higher proportions and dark green the lower proportions.

I – The overall effect of fixed-to-mobile replacement in the telephone service

In chapter 3 it was argued that the so-called ‘fixed-to-mobile replacement’ is one of the factors responsible for the decline in the fixed telephone service. In fact, the main factor indicated by consumers for not adhering to the FTS is

the use of the mobile phone, and the weight of mobile telephone traffic has been increasing. In 2008 it represented around 66 per cent of the total voice traffic.

Voice traffic (in minutes) on the fixed network and mobile network
Graph I.1



Therefore, and without wishing to anticipate any decision on the definition of relevant markets, it will be interesting to analyze the telephone service regardless of the platform on which the service is provided.

When the volume of minutes of voice traffic is counted in overall terms, it can be seen that this has increased by an

average of almost 5 per cent a year, since 2004. In 2008, voice traffic in terms of minutes actually recorded the greatest growth rate in the last 5 years. The number of minutes of conversation grew around 7.4 per cent on the previous year, totalling around 23.3 billion minutes.

Volume of traffic of voice service (minutes)
Table I.1

	2007	2008	2008/2007 var.	2004/2008 average var.	2004/2008 var.
Fixed voice	8,031,731	8,011,538	-0.3%	-2.2%	-8.5%
Mobile voice	13,645,868	15,267,324	11.9%	9.4%	43.4%
Total voice traffic	21,677,599	23,278,863	7.4%	4.7%	20.0%

Unit: thousand minutes, %
Source: ICP-ANACOM.

In 2008, each client with the fixed and/or mobile telephone service¹³ spent, on average, around 240 minutes per month on the telephone.

The volume of calls has also grown, although the rates are, roughly, around half of the growth rate of the minutes. In

total, the number of calls increased 3.5 per cent from 2007, totalling around 10.2 million calls.

Volume of voice traffic (calls)
Table I.2

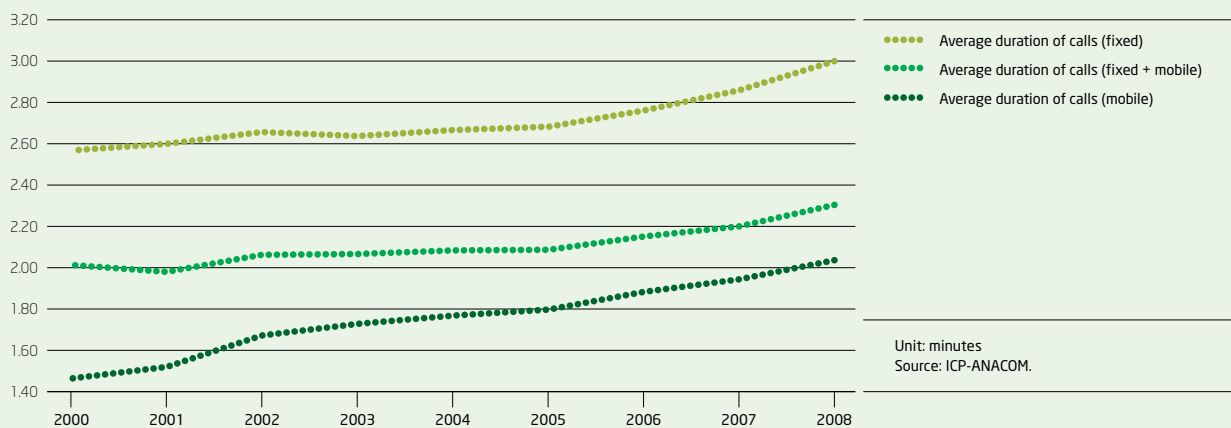
	2007	2008	2008/2007 var.	2004/2008 average var.	2004/2008 var.
Fixed voice	2,807,644	2,675,191	-4.7%	-5.0%	-18.7%
Mobile voice	7,035,021	7,507,679	6.7%	5.5%	24.0%
Total voice traffic	9,842,664	10,182,888	3.5%	2.2%	9.0%

Unit: thousands calls, %
Source: ICP-ANACOM.

As a result of the evolution of the volume of calls and minutes presented above, the duration of calls has been

increasing since 2004. In 2008, the average duration of calls reached 2.3 minutes.

Average duration of calls
Graph I.2

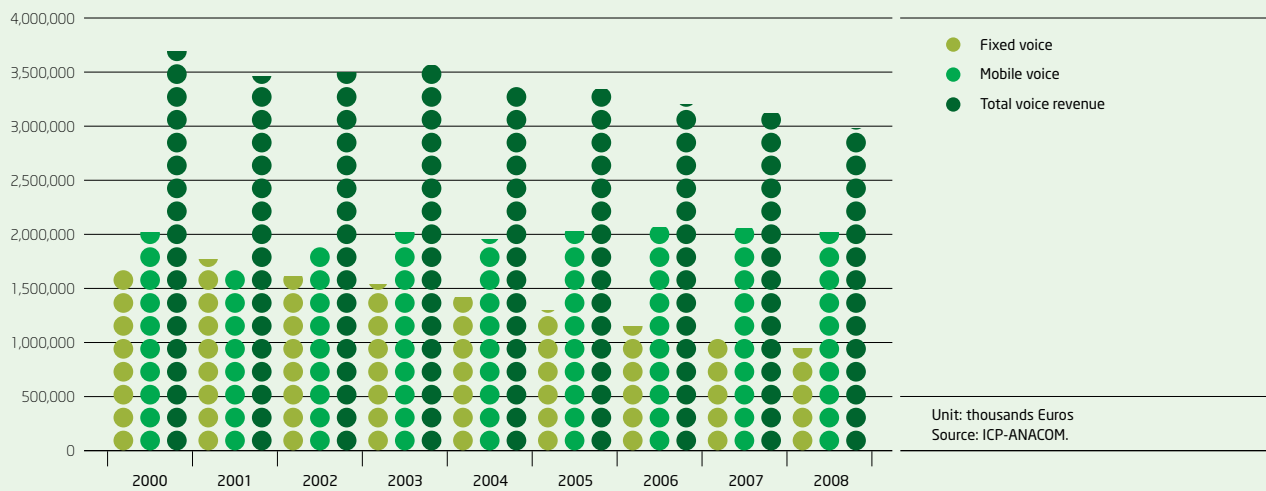


Simultaneously, the volume of revenue from voice services has been decreasing slowly and gradually, at an average

rate of 3 per cent a year, with fixed voice responsible for the greatest reduction.

¹³ Estimate calculated based on the Survey on the Consumption of Electronic Communications Services of ICP-ANACOM, of December 2008.

Revenue from the voice service
Graph I.3



Consequently, the same has occurred with unit revenue (both in terms of minutes and in terms of calls).

Average revenue per call
Table I.3

	2004	2005	2006	2007	2008
Average revenue per call (fixed)	0.427	0.415	0.392	0.375	0.357
Average revenue per call (mobile)	0.325	0.314	0.309	0.293	0.270
Average revenue per call (fixed+mobile)	0.361	0.347	0.335	0.316	0.293

Unit: Euros
Source: ICP-ANACOM.

The average revenue per call decreased around 5 per cent a year in the last five years and 7.5 per cent in the last year. In 2008, the average revenue was 0.29 Euros per call. In short, the phenomenon of fixed-to-mobile replacement is

occurring at the same time as an increase in the traffic and average duration of calls and as a reduction in the unit revenue from traffic.