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ANNEX TO THE

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

PROGRESS REPORT ON THE SINGLE EUROPEAN ELECTRONIC COMMUNICATIONS MARKET 2008 (14th REPORT)

{COM(2009) 140 final}

2. FIXED MARKET

This section looks at the number of fixed telecommunications operators (fixed voice telephony and network services) and at the level of competition in the fixed market. It includes data on the number of fixed network operators and public fixed voice telephony operators authorised to provide public voice telephony and to operate a public network at July 2008. The estimated number of players actually active in the fixed market and the incumbents' market shares in the fixed voice telephony market have also been shown.

Data on the number of operators refer to July 2008, while data on the incumbents' market shares in the fixed voice telephony market refer to the end of 2007.

Information has been provided by national regulatory authorities.

2.1. PLAYERS IN THE FIXED MARKET

Under the new regulatory framework for electronic communications, operators are only subject to a general authorization regime. Undertakings may be required to submit a notification but may not be required to obtain an explicit decision or any other administrative act. Granting of individual rights of use is required only for scarce resources such as radio spectrum or numbers.

Given the above, the database set up by the national authorities may be very different across the Member States and may include a variety of operators: fixed network operators, service providers, voice over IP services, cable operators as well as wireless local loop, and mobile and satellite operators for the fixed part of their networks and services.

Some Member States are now not able to provide detailed information on the number and types of services provided by the operators that may include other services in addition to public telephony and/or public network services. Therefore, the figures on the number of operators should be considered only as estimates. Furthermore, in some Member States the figure for 2006 is not comparable with the previous implementation reports given the change in the authorization regime.

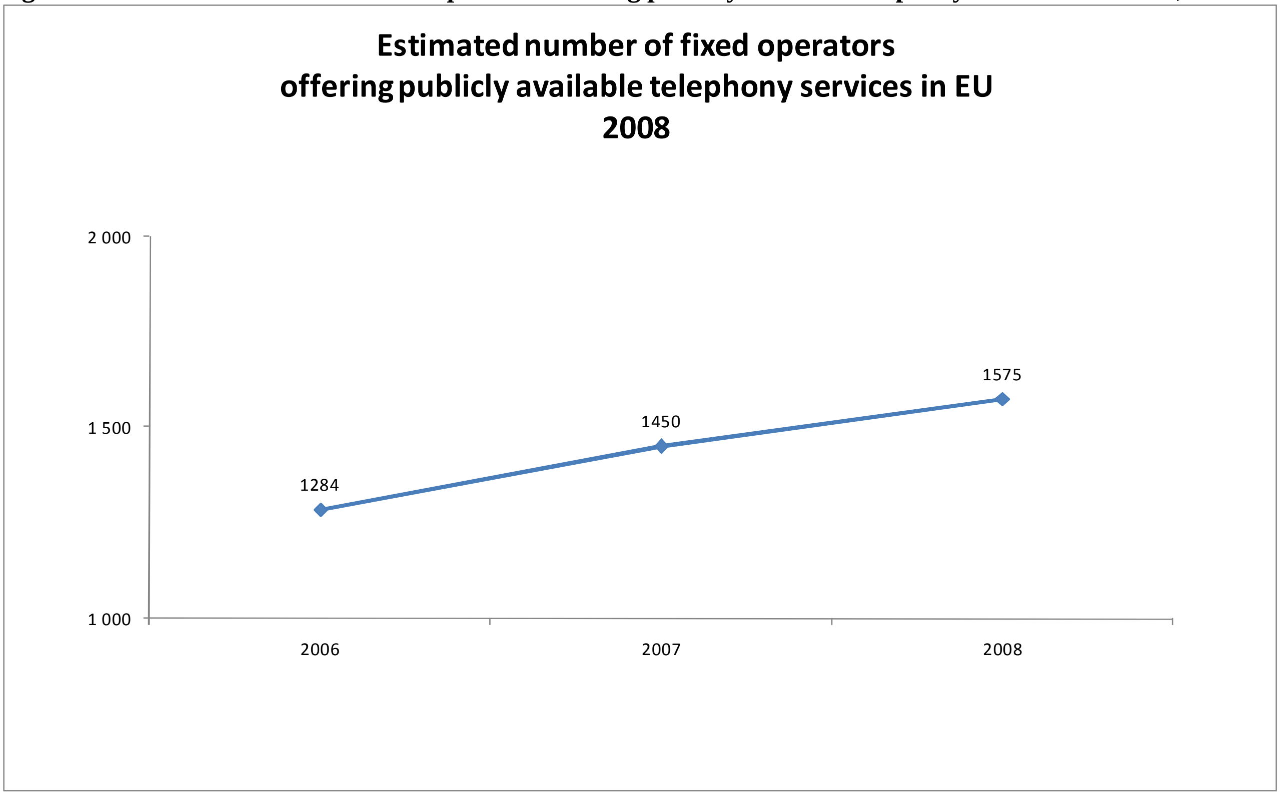
The figures do not take into account operators acting as resellers or offering services based exclusively on pre-paid cards. The figures include cable TV operators that also provide voice telephony or network services.

While it is difficult to measure the exact difference since 2007, data shows that there has been an increase in the number of operators authorised to provide fixed services, even if to a lower extent than in previous years.

As of December 2007 the total number of major competing operators (i.e. operators that along with the incumbent operator have a combined market share of around 90% of the global telephony market) in the EU is around 100. In ten Member States there are five or more major competing operators. In six new Member States, competition is still at an early stage with the incumbents' retaining more than 90% of the market and a low level of competition mainly concentrated in the international calls market.

Data on the number of operators were provided by the national regulatory authorities and refer to July 2008. Data on the market shares refer to December 2007.

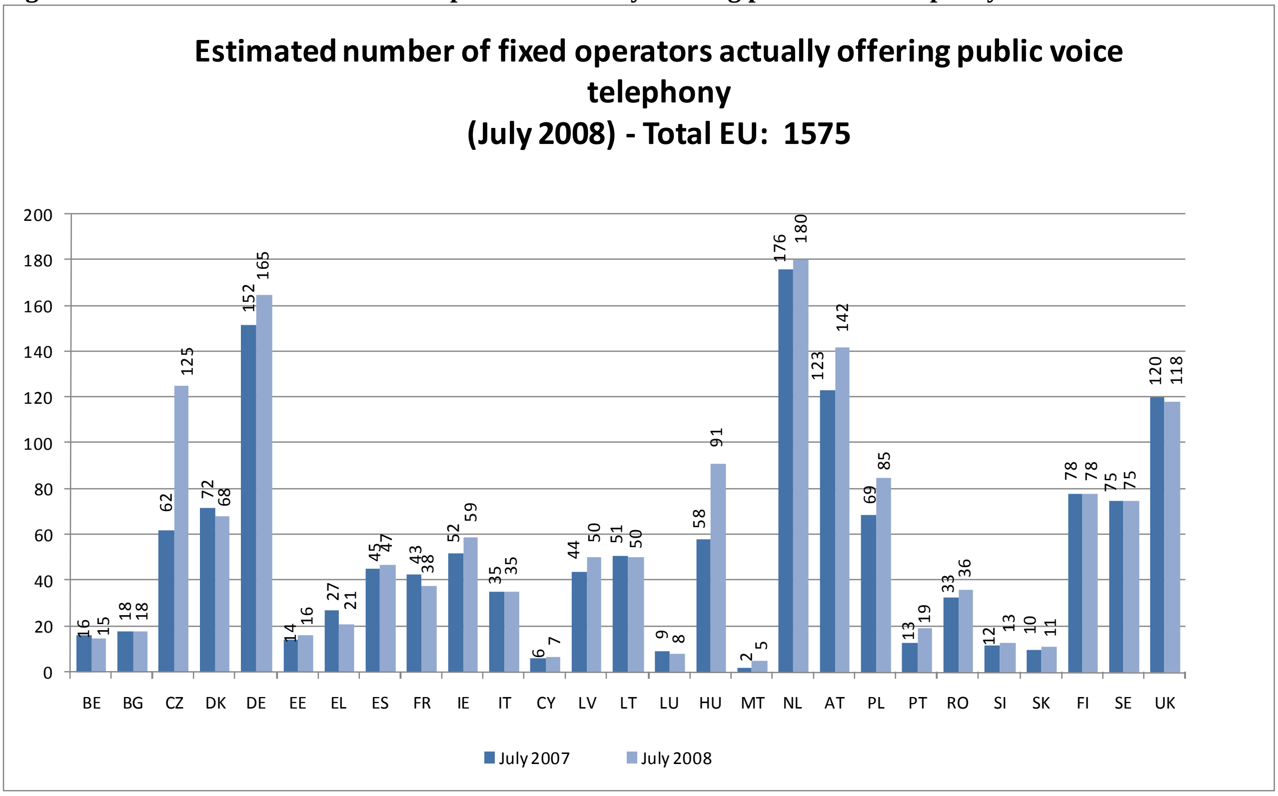
Figure 32: Estimated number of fixed operators offering publicly available telephony services in the EU, 2008



2.1.1. Public fixed voice telephony operators

The chart below shows the total number of operators that are actually offering publicly available telephony services. 'Publicly available telephone service' is defined as a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan.
The figures indicate the total number of local and/or national operators, including the incumbent, effectively providing commercial voice telephony and network services to residential and/or business customers irrespectively of the scope of their offer (national/international calls). Cable operators providing public voice telephony are also included as well as managed VoIP operators

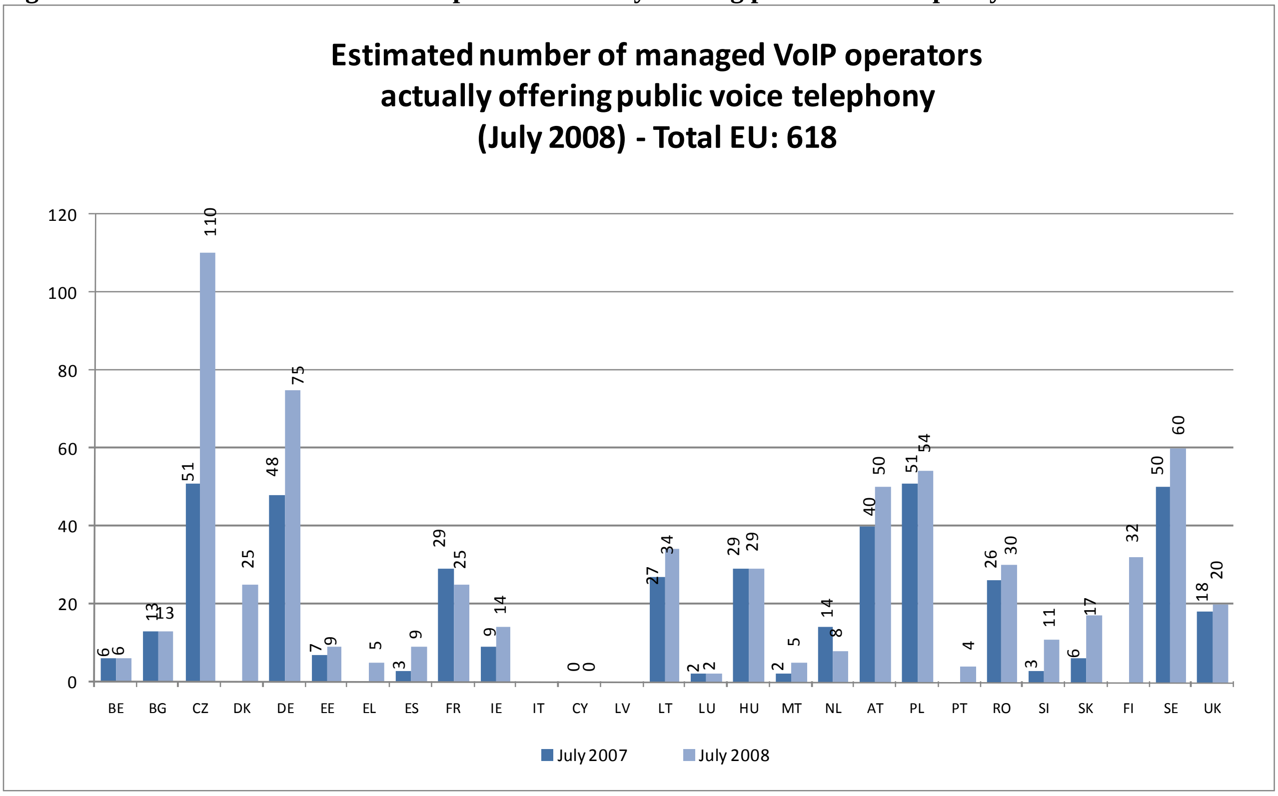
Figure 33: Estimated number of fixed operators actually offering public voice telephony 2008



<u>Belgium</u>: PATS : 12 with CPS + Belgacom + Tecteo + Coditel Brabant ;
<u>Bulgaria</u>: Data in total number of operators that are actually offering publicly available telephony services includes the incumbent
<u>Greece:</u> For 2007 Total number of operators that are actually offering publicly available telephony services indicates the number of operators, who have received a range of (geographic) numbers from the National Numbering Plan.
<u>France:</u> Data as of March 2008
<u>Austria:</u> estimates based on national data request for 2007
<u>Portugal:</u> The total number of operators includes the incumbent (PT Comunicações) and 2 fully-owned PT subsidiaries (PT Prime and TMN).
<u>Romania:</u> A corrected figure for 2007 number of voice telephony operators has been provided

The following chart shows the estimated number of managed VoIP operators offering public voice telephony services 'Managed VOIP (voice over broadband) operator' is defined as an operator providing a publicly available telephone service (PATS) using voice over internet protocol technology (VoIP), whereby the operator controls the quality of service provided. Unmanaged voice and 'peer to peer' services should not be included. PATS should include access to emergency services.

Figure 34: Estimated number of VoIP operators actually offering public voice telephony 2008



Data not available for Italy and Latvia.
Belgium: Belgacom, Telenet, Scarlet, KPN Belgium, Tecteo, Coditel Brabant
Bulgaria: Data for total number of managed VoIP operators that are actually offering public voice telephony as of December, 31, 2007
Spain: A corrected figure for 2007 number of VoIP operators has been provided
France: Data as of March 2008
Italy: Data not available.
Austria: estimates for 2008 based on national data request for 2007
Romania: Estimated figures

2.2 INCUMBENTS' MARKET SHARE IN THE FIXED VOICE TELEPHONY MARKET

This section shows the incumbents' market share in the fixed voice telephony markets.
Apart from the overall fixed voice telephony market, submarkets for fixed calls to mobile networks, national fixed calls (including phone local calls, local calls to internet, long-distance calls and fixed calls to mobile networks) and international fixed calls are also shown.
Figures for market shared are calculated on retail revenues and outgoing minutes of traffic. Market share based on retail revenues exclusively refers to revenues from call markets and does not include any access revenue.
The EU averages are weighted according to the population of each MS. Furthermore, data from Bulgaria and Romania have not been taken into account as both countries were not part of the EU in the period covered (2004-2006).
The market shares are based on traffic/revenues from publicly available telephone services and include managed Voice over IP Services (VoIP) and calls made from public payphones. Traffic/revenues from peer-to-peer VoIP, simple reselling and calling cards are excluded. However, the above criteria are not followed by all MSs. For this reason the figures are not strictly comparables between countries.
Figures have been provided by NRAs and refer to 31 December 2007 (data for the United Kingdom are for calendar year). Data for some countries (like Germany, Cyprus and Finland) are estimations by NRAs.

2.2.1. EU average incumbents' market share.

The following charts show the trend for the EU weighted average of the incumbents' market share in the major segments of the voice telephony market since 2004.

Figure 35: EU incumbents' overall average market share on the fixed voice telephony market (all types of calls)

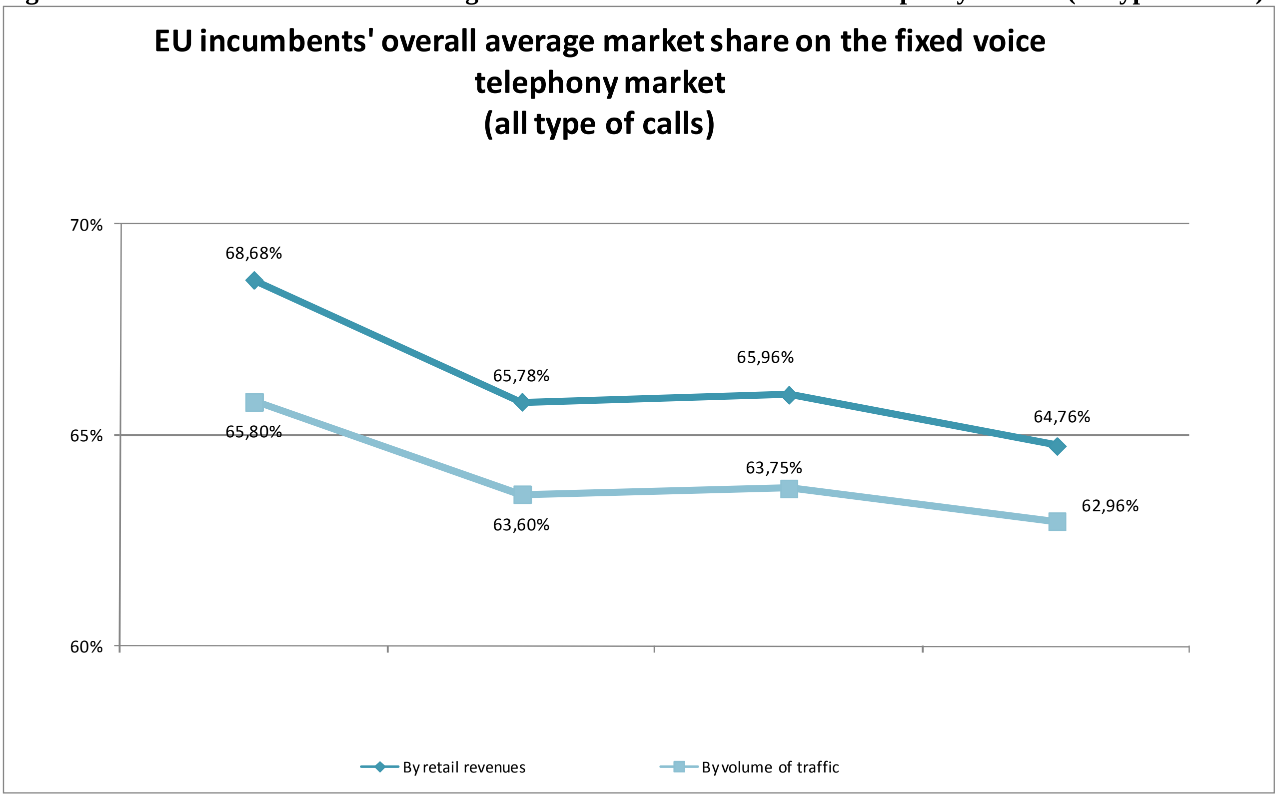
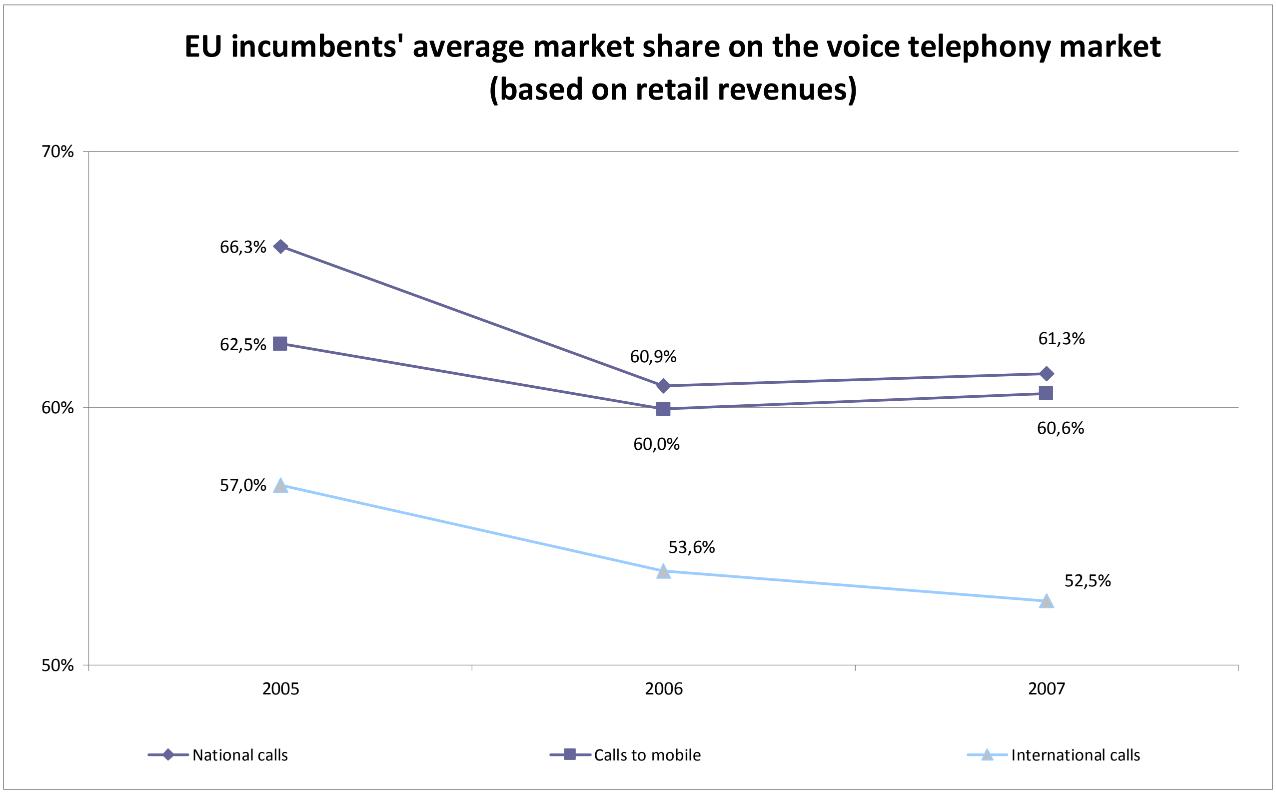
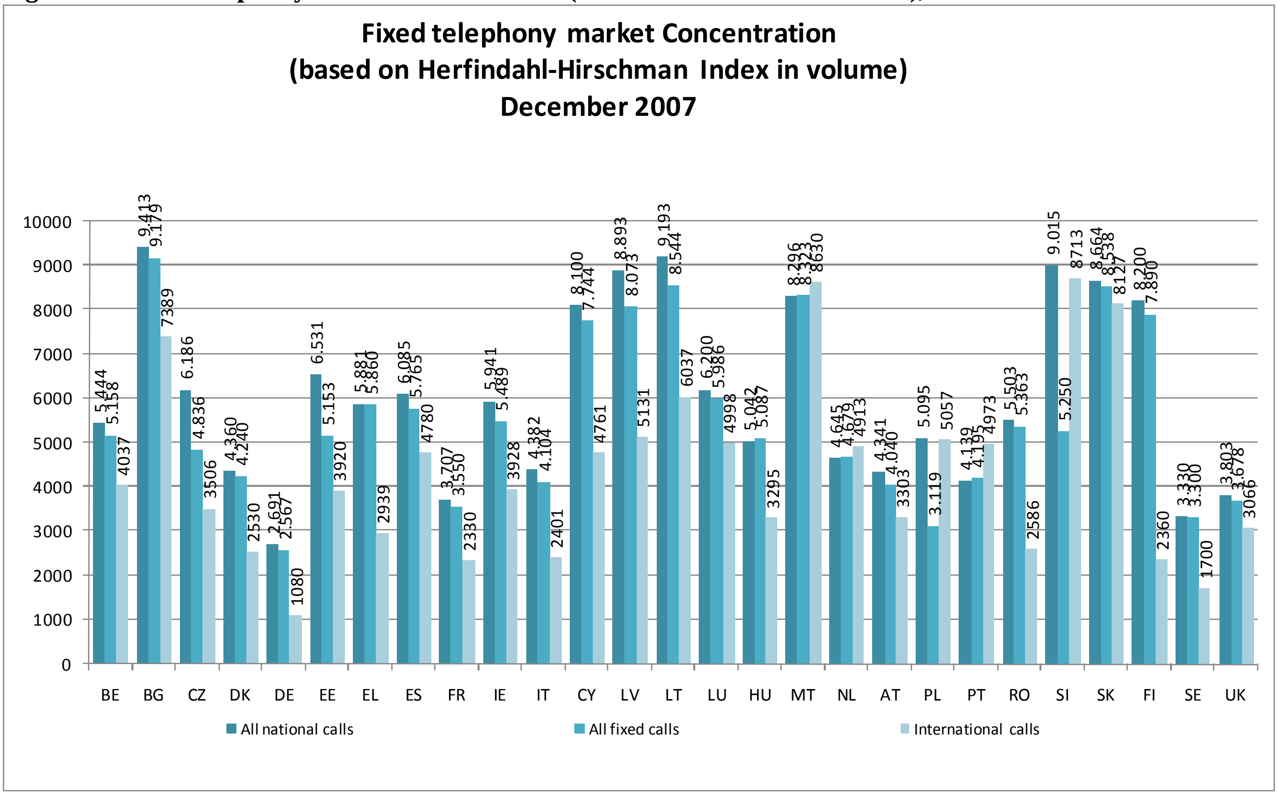


Figure 36: EU incumbents' average market share on the voice telephony market (based on retail revenues)



The following chart shows the indexes of concentration for the fixed telephony market in the MSs at 31 December 2006 based on the Herfindhal-Hirschman index. This is a market concentration index defined as the sum of the squares of the market share of the competitors in the relevant markets. The index can take the value of 10 000 when the market is entirely controlled by a single firm and it decreases as concentration reduces. Comparisons between the other MSs should be considered as indicatives, since the reference markets are not completely homogeneous.

Figure 37: Fixed telephony market concentration (Herfindahl-Hirschman Index), 2007



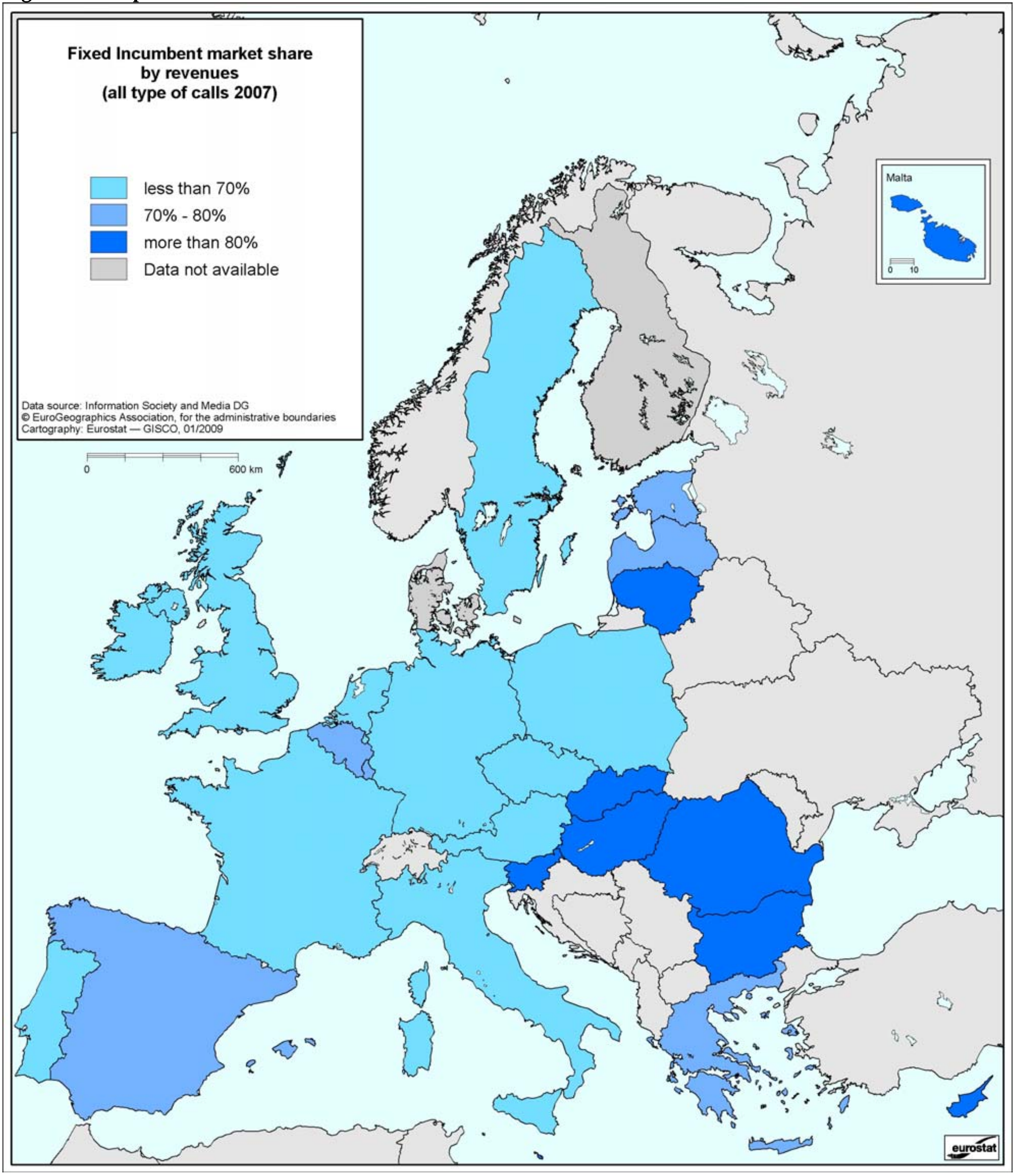
Belgium: Herfihndahl index based on revenues
Cyprus: approximation. based on 90-95% for the market volume.

Germany: On the basis of outgoing minutes Data as of 31.12.2006
Estonia: Fixed call minutes All fixed calls (revenues)
Spain: Figure for 2006 revised
Luxembourg: based on outgoing minutes.
Portugal: revenue based.

2.2.2. Incumbent's overall market share in each Member State

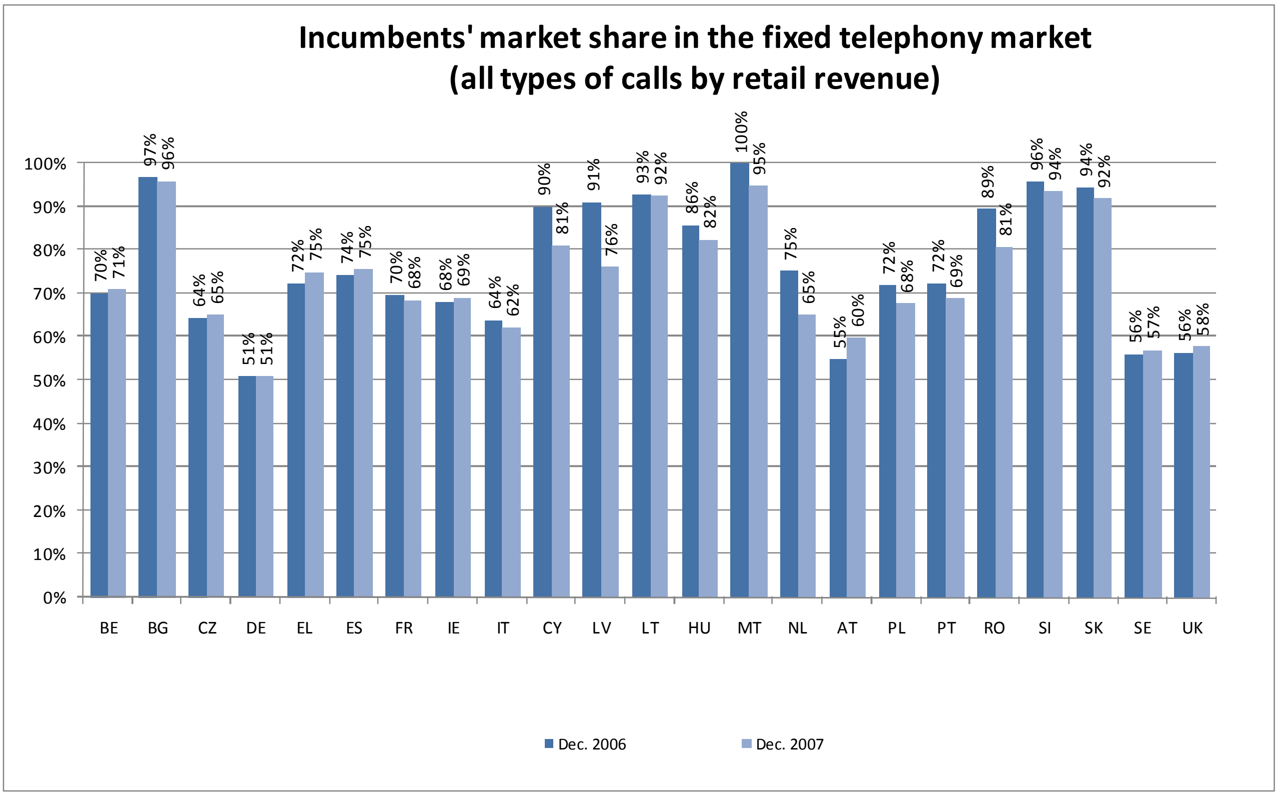
The following charts shows the incumbents' market share in the overall fixed voice telephony market by retail revenues and by minutes of outgoing traffic. All types of calls are included: local phone calls, local calls to internet, long-distance calls, international calls and fixed calls to mobile networks. Market share based on retail revenues does not include any access revenue. Figures are not available for some MSs.

Figure 38: Map of the fixed incumbents' revenues market share in the EU

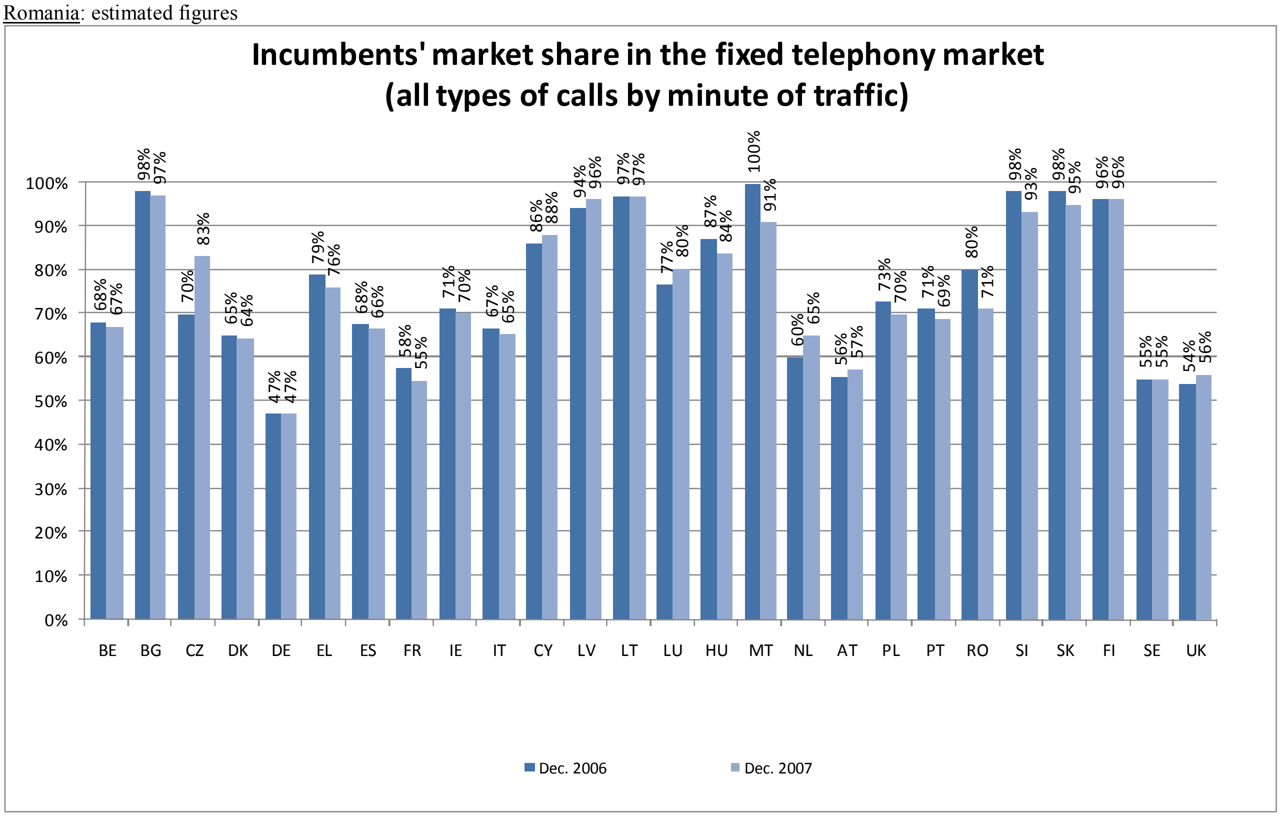


Romania: estimated figures

Figure 39: Incumbent market share in the fixed telephony market



Data not available for Denmark and Finland
Estonia and Luxembourg: Market shares are confidential
Romania: estimated figures

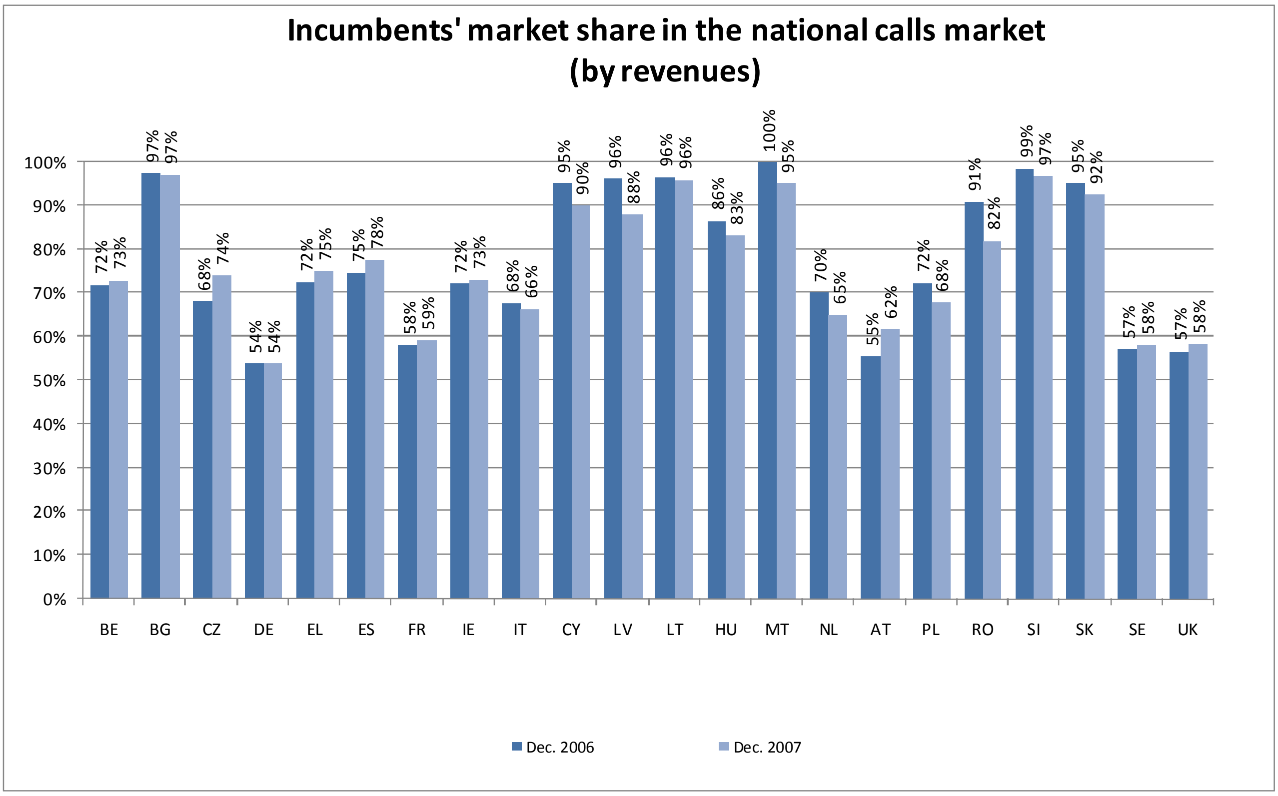


Estonia: Market shares are confidential.
Italy: values on national calls only

2.2.3. Incumbent's market share in the different segments of the market

The following charts show the incumbents' market share in the national calls, international calls and fixed calls to mobile networks by retail revenues and by minutes of outgoing traffic. The national calls market includes local phone calls, local calls to internet, long-distance calls and fixed calls to mobile networks. Figures are not available for some MSs.

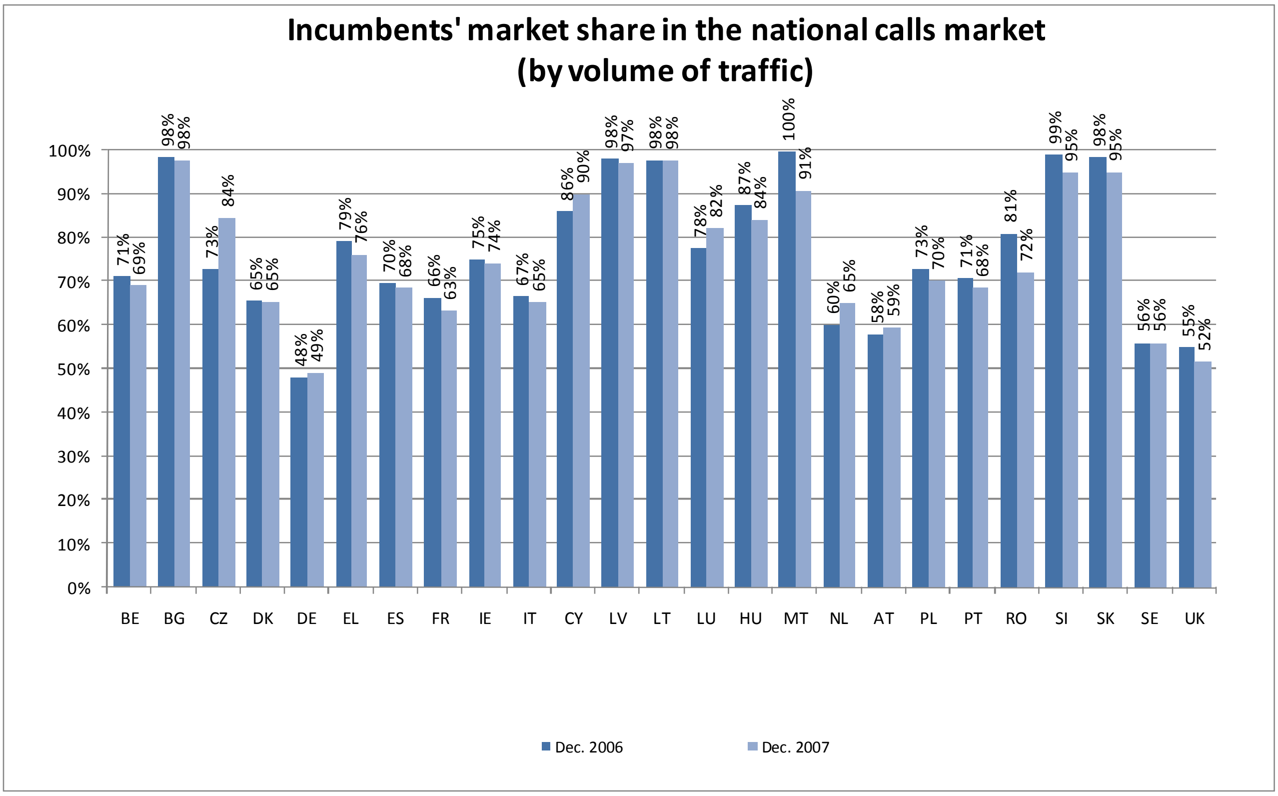
Figure 40: Incumbents' market share in the national fixed telephony market by retail revenue and minutes of traffic



Data not available for Denmark and Finland

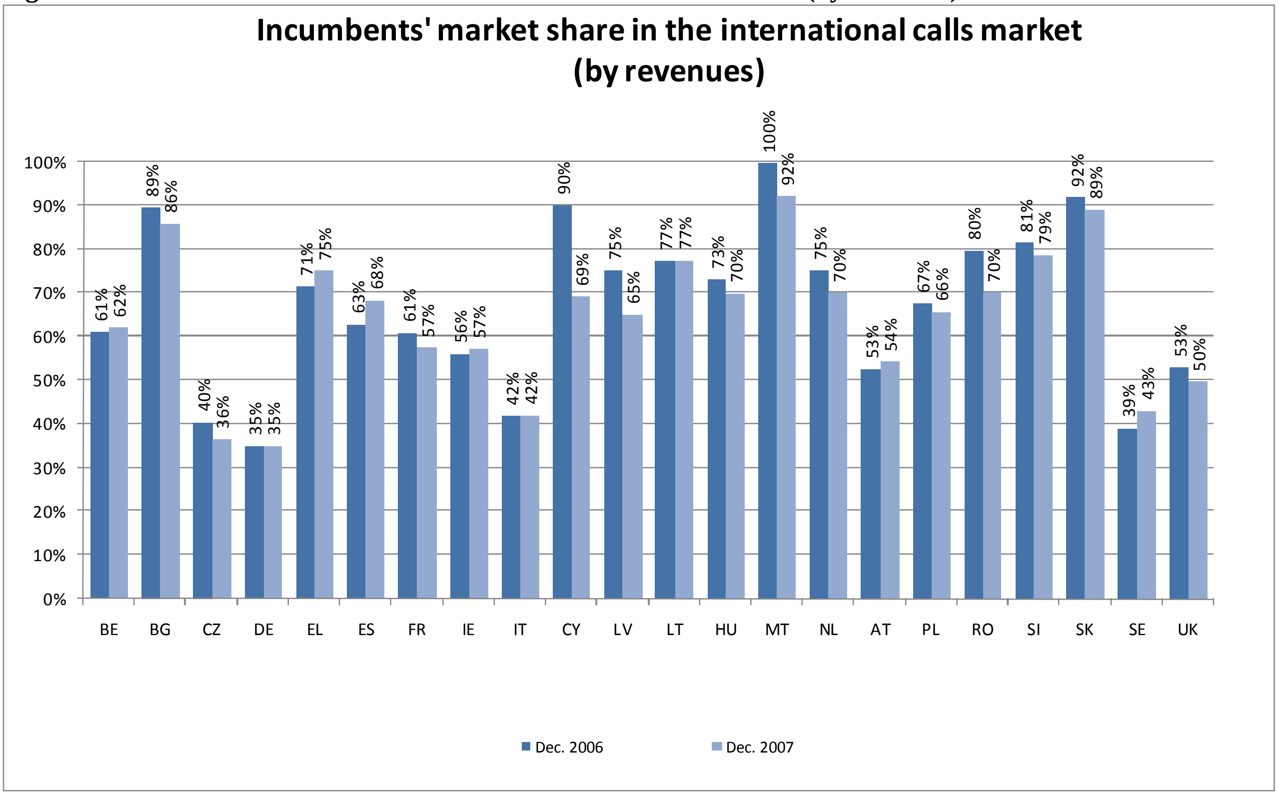
Estonia and Luxembourg: Market shares are confidential

Romania: estimated figures



Estonia: Market shares are confidential.
Finland: Data not available.

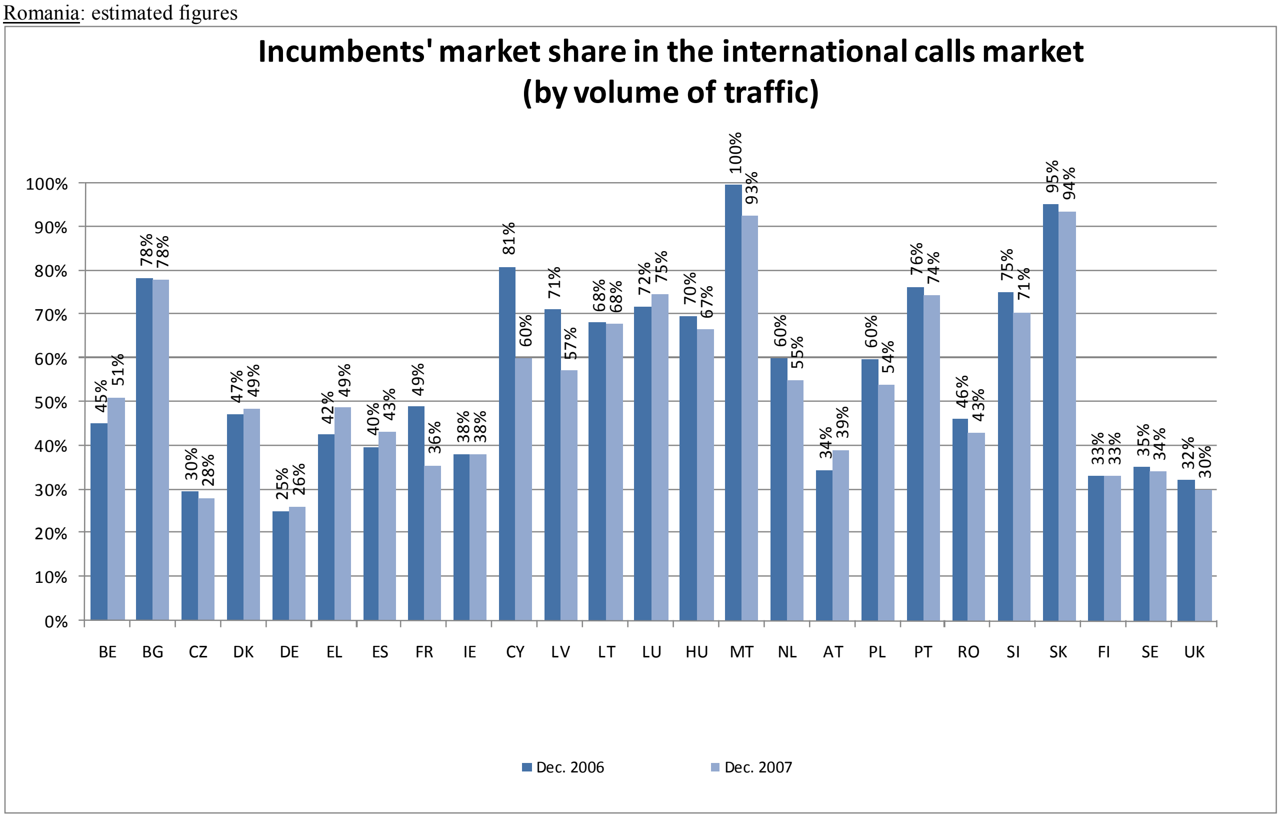
Figure 41: Incumbents' market share in the international calls market (by revenues)



Data not available for Denmark and Finland

Estonia and Luxembourg: Market shares are confidential

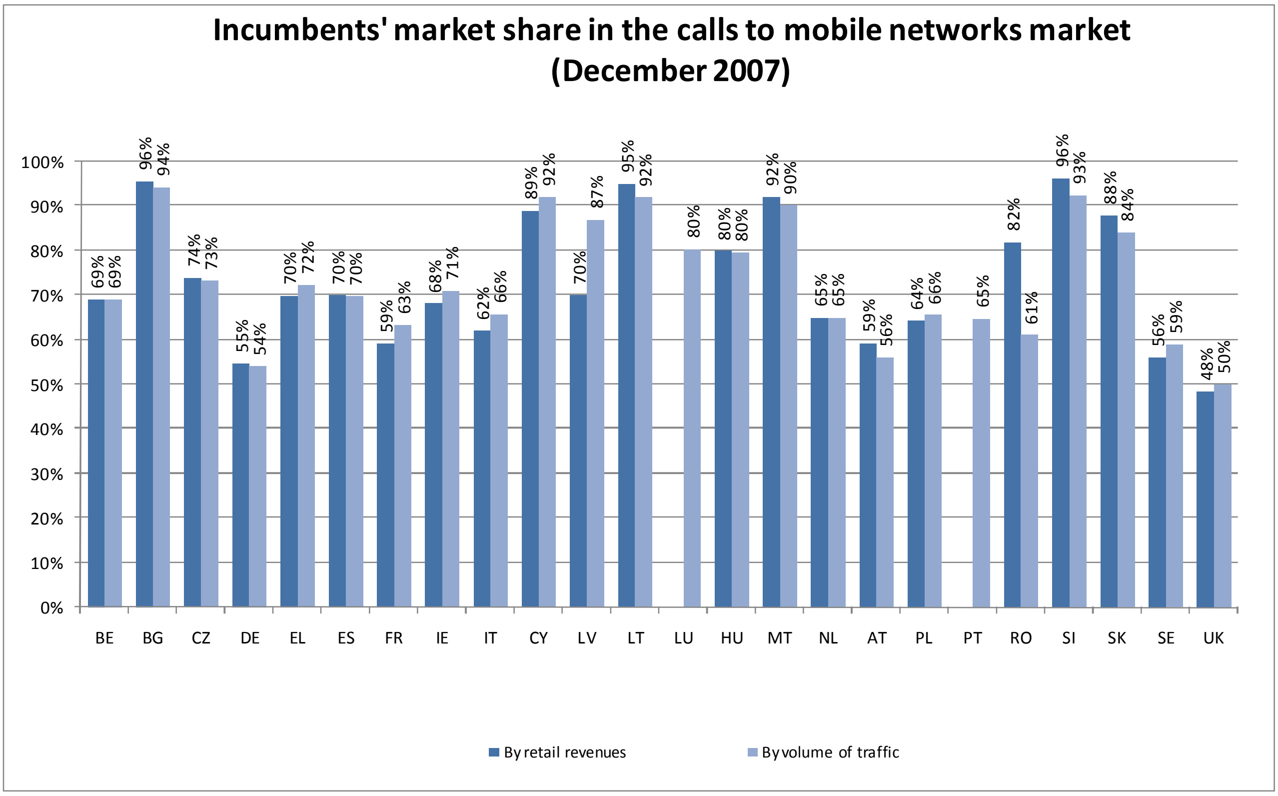
Romania: estimated figures



Estonia: Market shares are confidential

Greece: International calls through prepaid cards have been taken into account

Figure 42: Incumbents' market share in the fixed telephony market (calls to mobile) by retail revenue and minutes of traffic



Data not available for Denmark and Finland

Belgium: Reviewed figure of 2006 and figure of 2007: calculation based on the whole year instead of the 2nd semester.

Cyprus: Estimated

Estonia: Market shares are confidential

France: 2007 figures are estimations. 2006 figures have been updated

Luxembourg: Revenues market shares are confidential.

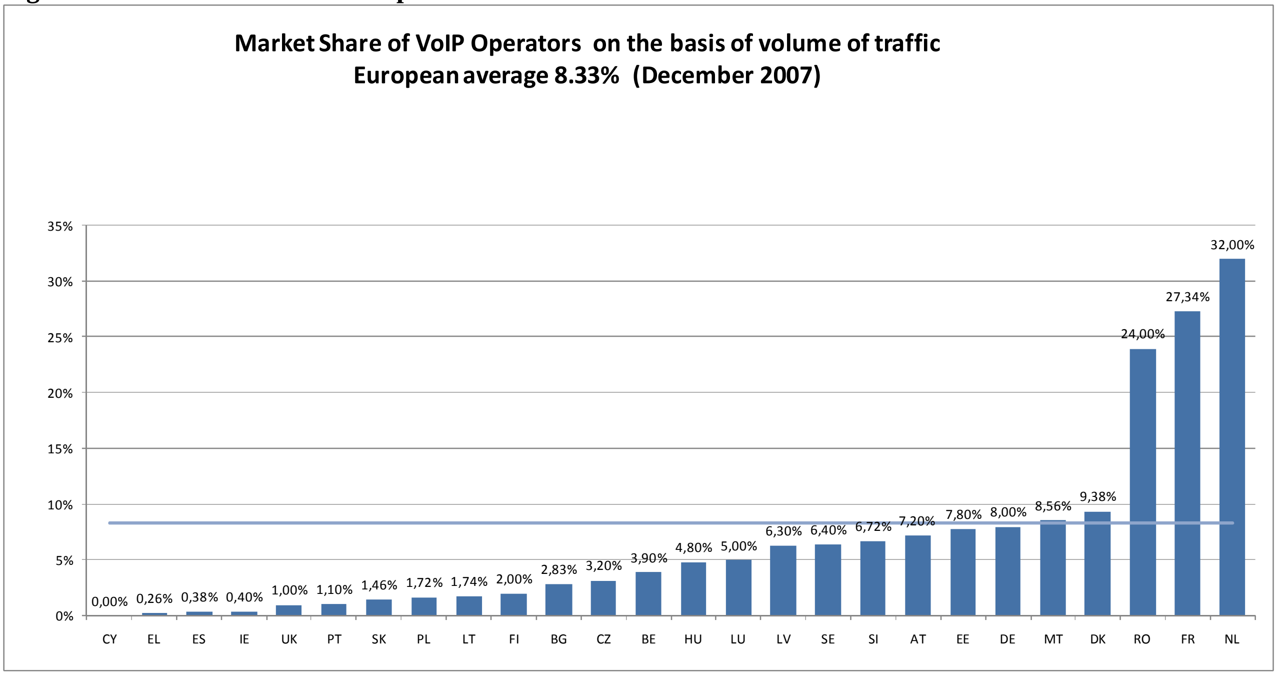
Austria: Fixed market shares are confidential

Romania: estimated figures

2.2.4 VoIP market share

The following chart shows the available data for operators' market share on the voice over broadband market. The market shares have been calculated on the basis of outgoing minutes of traffic for all fixed calls as of 31 December 2007. The figures consider only managed VoIP services meaning publicly available telephone services (PATS) using voice over internet protocol technology), whereby the operator controls the quality of service provided though an IP network, at a speed over 128 Kbit/sec. Unmanaged voices over IP and peer-to-peer services are not included. However, the above criteria are not followed by all MSs and the figures are not strictly comparables between countries.

Figure 43: Market share of VoIP operators on the basis of volume of traffic 2007



Belgium: Figure underestimated as Telenet doesn't provide a split between VoB calls and other calls. Based on figures of KPN Belgium, Coditel, Tecteo, Belgacom, Scarlet

Denmark: Incl. VoiP with no quality of service

Luxembourg: The market share of VoIP Operators (5%) is an estimation for managed and unmanaged VoIP traffic. There are no 'Voice over Broadband' Operators active in Luxembourg, with the exception for CATV operators offering telephony by IP.

Italy: Not available

Ireland: Estimate.

Cyprus: Not managed end to end.

Austria: estimate based on number of VoB subscribers

Finland: Estimation based on number of subscriptions

2.3. CONSUMERS' CHOICE OF FIXED OPERATORS

This section analyses the fixed voice telephony market from the point of view of consumers. It gives information on the percentage of subscribers using an alternative provider other than the incumbent (for phone services and direct access) and the facilities used by alternative operators for the provision of voice telephony.
The data presented below have been provided by the national regulatory authorities and, unless otherwise indicated, report the position as of July 2007. Figures for countries not included in the charts are not available and are not always comparable with those published in previous reports due to changes in the methodologies and/or in the classifications used by the Member States. Furthermore, separate data for type of calls are not available in a number of Member States. Information on consumers' use of alternative providers is unavailable in a number of new Member States. For these reasons the figures presented in this section should be considered as indicative.

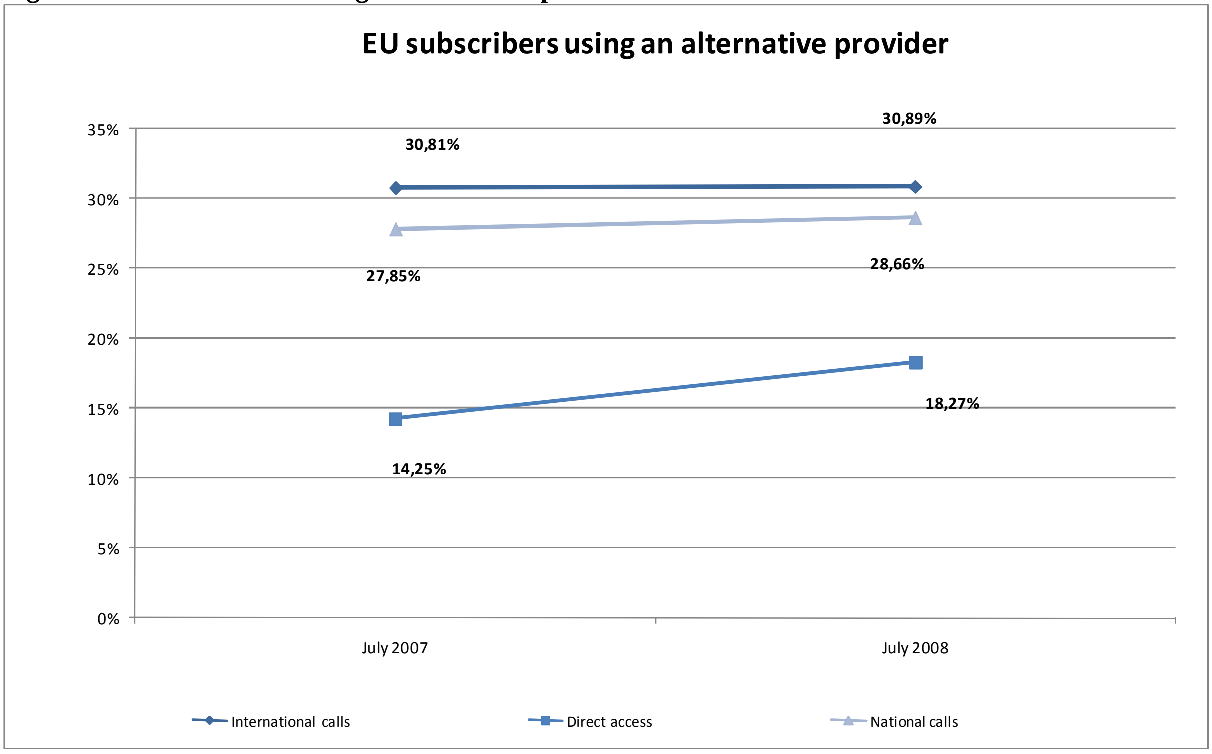
2.3.1. Percentage of subscribers actually using an alternative provider other than the incumbent

Incumbents' customers have the possibility of using an alternative provider, either by dialling a call-by-call prefix (*carrier selection, CS*) or by choosing to route all calls by default to the network of an alternative operator (*carrier pre-selection, CPS*). The use of an alternative operator through carrier selection/carrier pre-selection does not exclude the possibility of also using the incumbent's services. *Direct access* is also available to users through alternative operators' proprietary wireline/wireless access or through unbundled local loops leased from the incumbent. The following chart shows the percentage of EU subscribers (residential and business) using an alternative provider for local, long distance and international calls and for direct access[1].

[1] The methodology for the calculation of the percentage of subscribers (residential + business) actually using a provider other than the incumbent operator for national calls is the following:
[X = sum of all alternative operators' subscribers (residential + business) with CPS contract + sum of all alternative operators' subscribers (residential + business) with direct access for voice telephony (ULL and proprietary infrastructure)]/[total number of residential + business subscribers of the incumbent and new entrants, with a standard/party/group telephone lines access. Direct telephone line access provided by an alternative operator can either be through proprietary infrastructure or full ULL (active lines)]. The same calculation applied for international calls, with the addition to [50% of all alternative operators' subscribers (residential and business) with CS contract] to the nominator (top number).
The percentage of subscribers actually using a provider other than the incumbent for direct access is calculated as the total number of subscribers with direct access, fully ULL connection or with a cable access owned by an alternative operator.

As of July 2007, almost 30% of EU subscribers used an alternative provider to route international calls, almost 28% for national calls. At the same time, direct access from alternative providers was used by 13.5% of EU subscribers. Since last year, the percentage of subscribers using an alternative provider has significantly grown. The trend of the EU average should be considered as indicative, since not all data are available for all Member States.

Figure 44: EU subscribers using an alternative provider



Belgium: 2008: data for year 2007

Bulgaria: Most operators can not separate data for type of calls. Therefore the figures in positions national calls and international calls should be considered as indicative. Data as of July, 2007 are recalculated.

Denmark: The indicate figure comprises only direct access via. PSTN or ISDN and thus excludes direct access to fixed network telephony via. Cable or WIMAX. Please note that direct access through alternative operators presently owned by TDC is included in the reported figures.

Germany: estimation

Greece: National and international calls, figures refer to 31/12 of the previous year. Direct Access refers to 1/7 of the respective year.

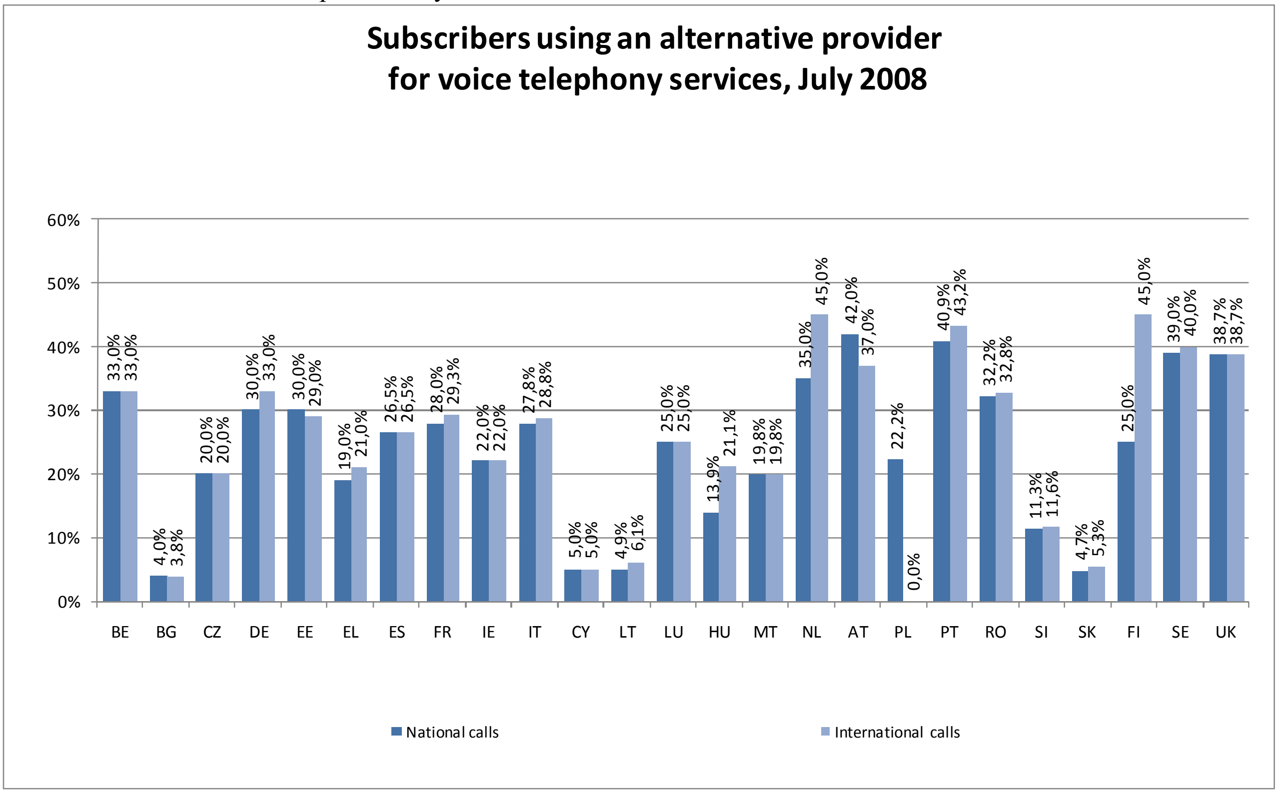
France: VGA offers included except for direct access

Luxembourg: Data refers to end of previous year and to lines instead of subscribers.

Netherlands: The percentage is an approximation, as the exact figure is confidential.

Austria: estimates based on national data request for 2007

The following charts illustrate the percentage of subscribers using an alternative provider for voice telephony services through carrier selection and/or carrier pre-selection and/or direct access. Where available, separate figures for national and international calls are given.
Figures for some countries are not comparable with 13th Implementation Report due to a change in the national data collection or to different data provided by NRAs.

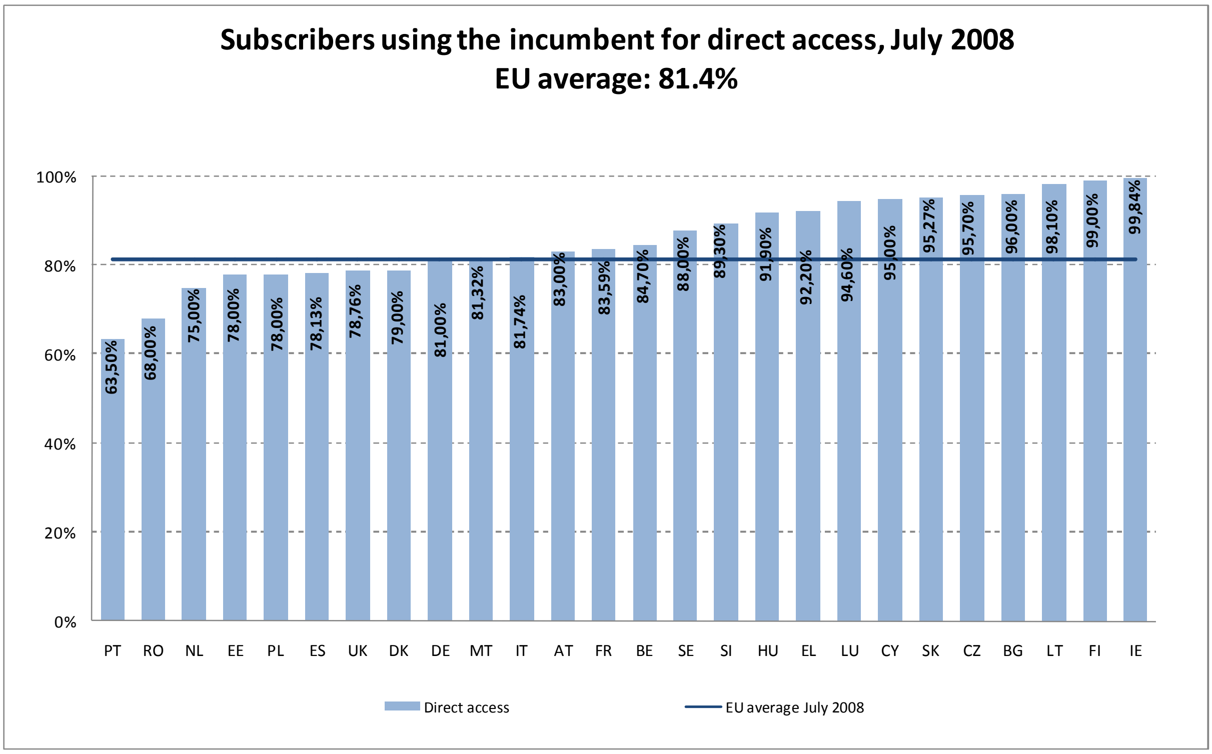


Cyprus: based on estimations

Luxembourg: Data refers to end of previous year and to lines instead of subscribers.

Poland: Not able to distinguish between national and international calls
Austria: estimates for 2008
Slovenia: Based on access lines.
Finland: Based on estimations

Figure 45: Subscribers using the Incumbent for direct access, 2008



Luxembourg: Data refers to end of previous year and to lines instead of subscribers.

Malta: some subscribers are double counted since certain customers are subscribed to both incumbent and another provider.

Austria: estimates for 2008

Slovenia: Based on access lines.

2.3.2. Facilities used by new entrants for the provision of voice telephony

This section provides information on the facilities used by new entrants to offer voice telephony, particularly to residential users.

Data have been provided by the national regulatory authorities and refer to July 2007.

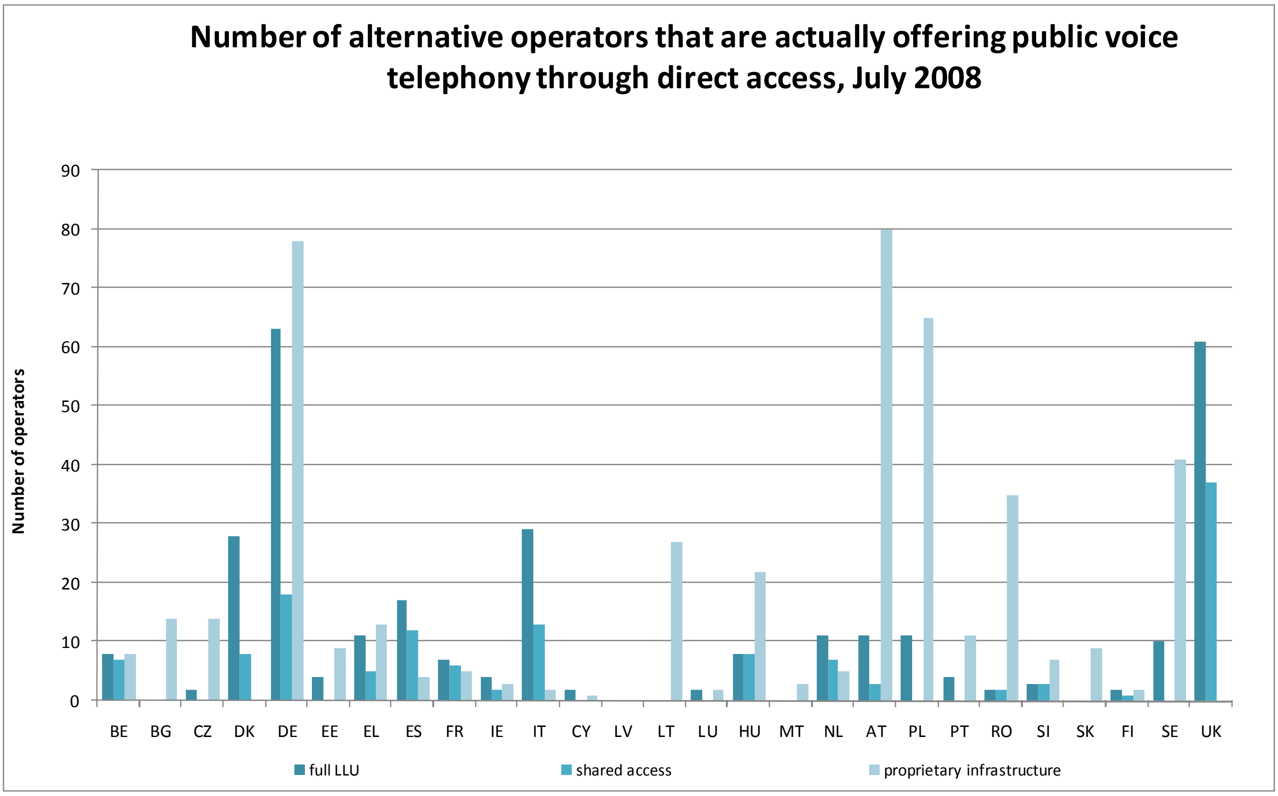
Alternative operators can route users to their network either through a carrier selection system (CS), whereby a user dials a prefix on a call-by-call basis, or by carrier pre-selection (CPS), where the user's calls are routed to the new entrants' network on an automatic basis. New entrants can also provide voice services via direct access to users (through proprietary wire/wireless access or through unbundled local loops leased from the incumbent).

These facilities are not mutually exclusive and very often the same operator uses all three at the same time depending on the type of customers (business or residential), the type of services (national or international calls), the geographical area, the availability of LLU, etc. The following figures should therefore be read separately and not aggregated as country totals.

The following four charts show the number of operators using full local loop unbundling, shared access and proprietary infrastructure by Member State for July 2007. The charts also present an estimate of the number of operators using these facilities as a percentage of the number of active alternative operators (excluding the incumbent). The figures do not show to what extent the operators are offering services to residential and/or business users; nation-wide or only in local areas; in some cases it is not possible to discern whether operators offer all types of calls or only long-distance and international calls.

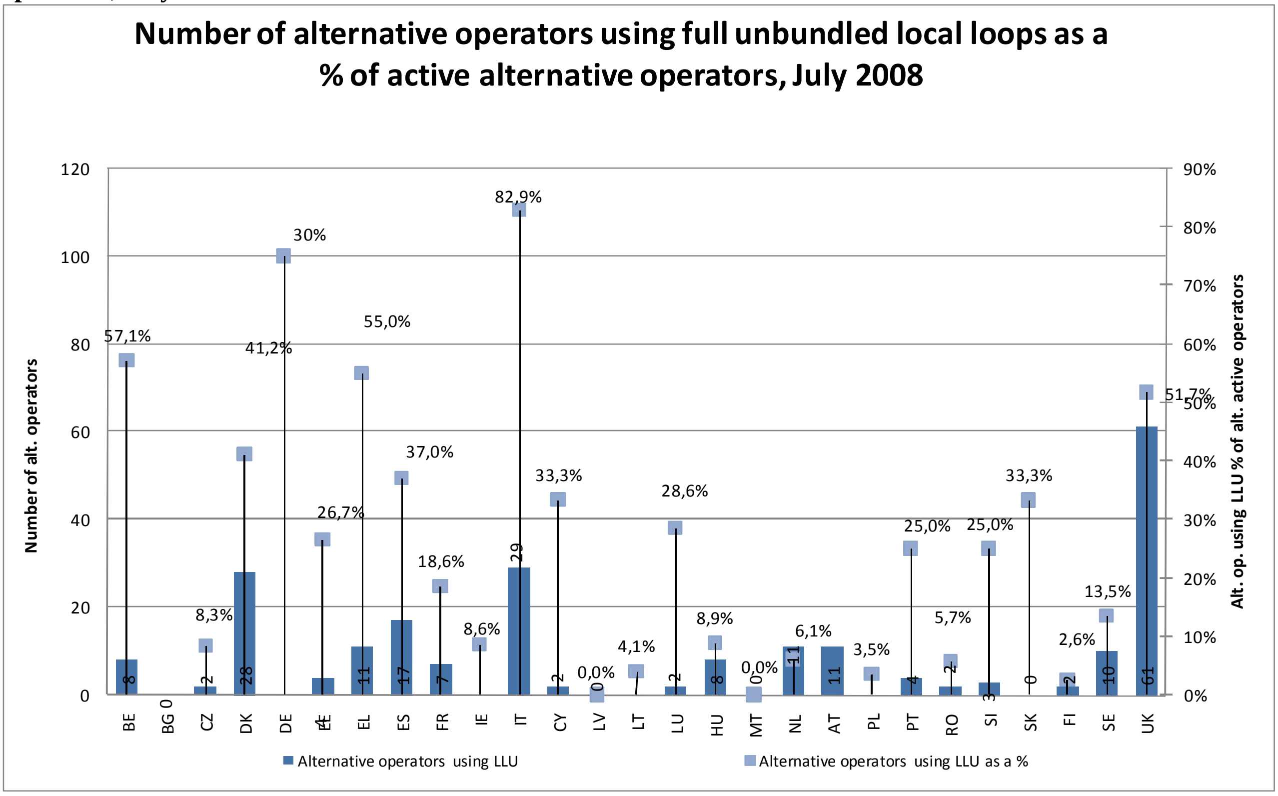
As of 1 July 2007, 21,15% of EU alternative operators offered the voice telephone service through full unbundled local loop, 8,41% through shared access and 29,40% through proprietary infrastructure.

Figure 46: Number of alternative operators offering public voice telephony through direct access, 2008



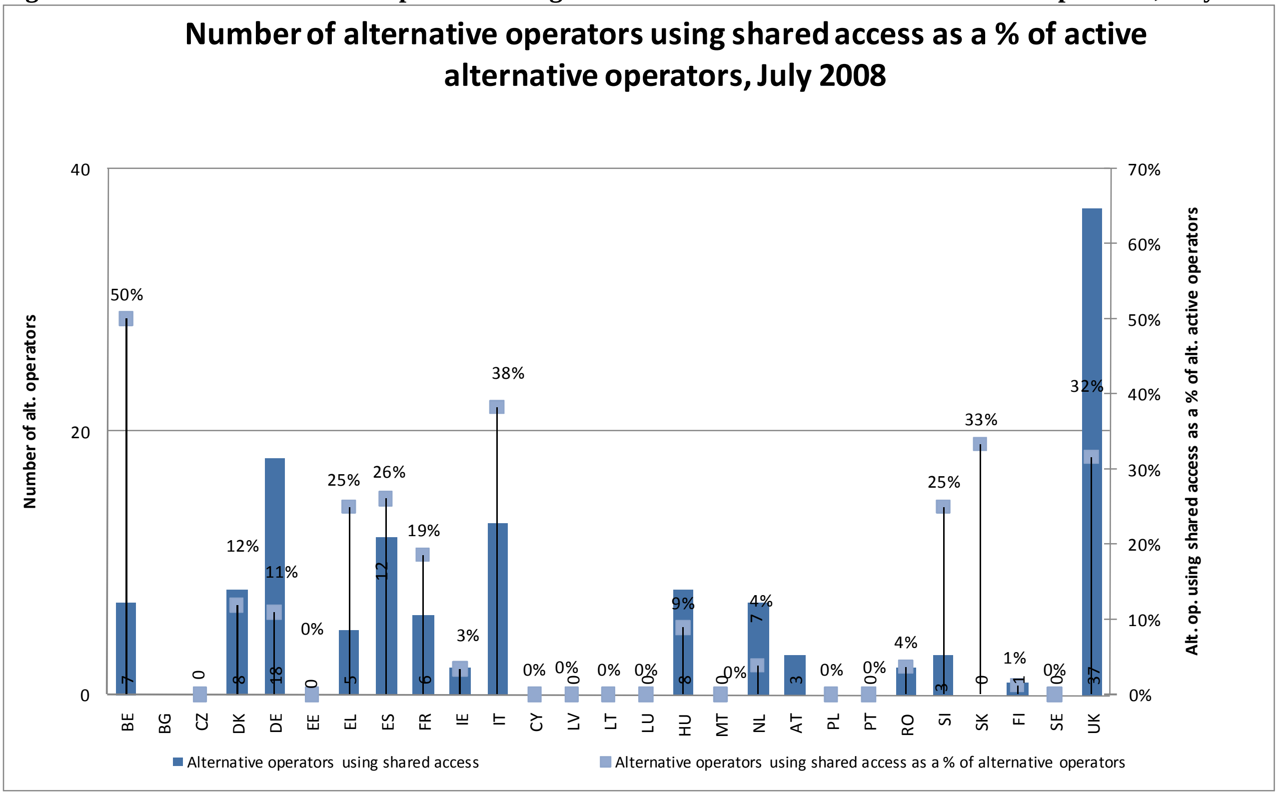
Data not available for Latvia
Germany: 78 operators provide public voice telephony via proprietary infrastructure. Of those 30 are city carrier and 48 cable operators. However, only approximately 1% of all access lines from alternative operators is based on own infrastructure.
Lithuania: Proprietary infrastructure includes cable TV operators that provide fixed telephony
Netherlands: there are approx. 50 small/local cable and FttH operators with proprietary infrastructure that offer voice
Austria: estimates for 2008

Figure 47: Number of alternative operators using full unbundled local loop as a % of active alternative operators, July 2008



Belgium: The figures for LLU and shared access correspond to the number of agreements with Belgacom.
Proprietary infrastructure: Telenet; Coditel, Tecteo, NewIco, Verizon, Colt Telecom, Scarlet, BT
Denmark: Total operators, providers of one or more of the following services: PSTN, ISDN2, ISDN30, FlexISDN, VoIP, CS and/or CPS. VoIP derived form MDA . Number of agreements between the incumbent and alternative operators. Information about whether these operators are actually offering public voice telephony through the LLU's is not available.
Germany: Figure based on contractual agreements (128) with the incumbent.
Spain: 2007 Figure for full LLU corrected
Lithuania: number of agreements between incumbent and alternative operators
Austria: estimates based on national data request for 2007
Poland: Data on 15th May 2008

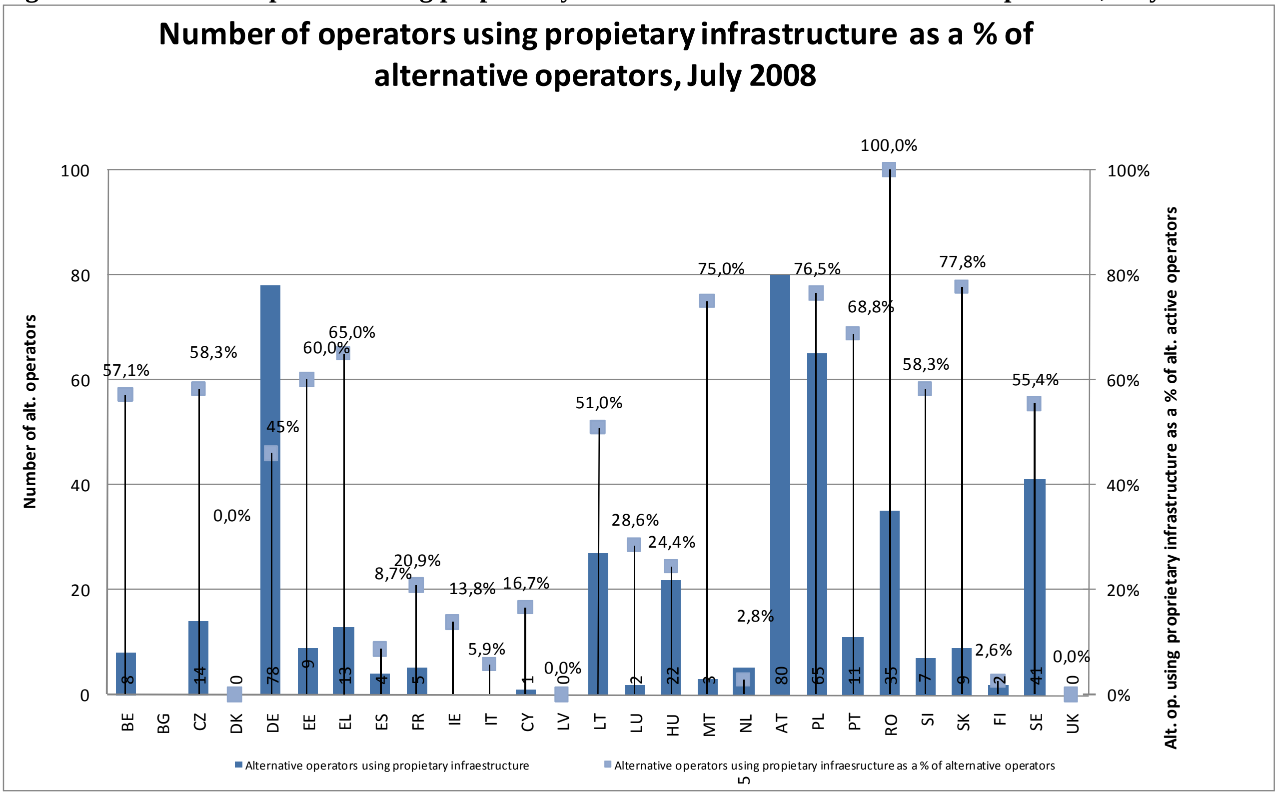
Figure 48: Number of alternative operators using shared access as a % of active alternative operators, July 2008



Germany: Figure based on contractual agreements (18) with the incumbent.

Poland: Data on 15th May 2008

Figure 49: Number of operators using proprietary infrastructure as a % of alternative operators, July 2008



Germany: A total of 78 operators provide public voice telephony via proprietary infrastructure. Of those are 30 city carrier and 48 cable operators. However, only approximately 1% of all access lines from alternative operators is based on own infrastructure.

Poland: Data as of 15th May 2008
Austria: estimates for 2008

2.4. FIXED NUMBER PORTABILITY

Fixed number portability enables fixed subscribers to retain their number when they move from one operator to another. Figures are provided by NRAs and refer to the number of transactions calculated up to 1st October each year, unless stated otherwise under each table.

Number portability is not yet in place in Romania and Bulgaria however it expected to start being implemented in 2008. Only one country (Slovakia) has started to implement fixed number portability in 2007.

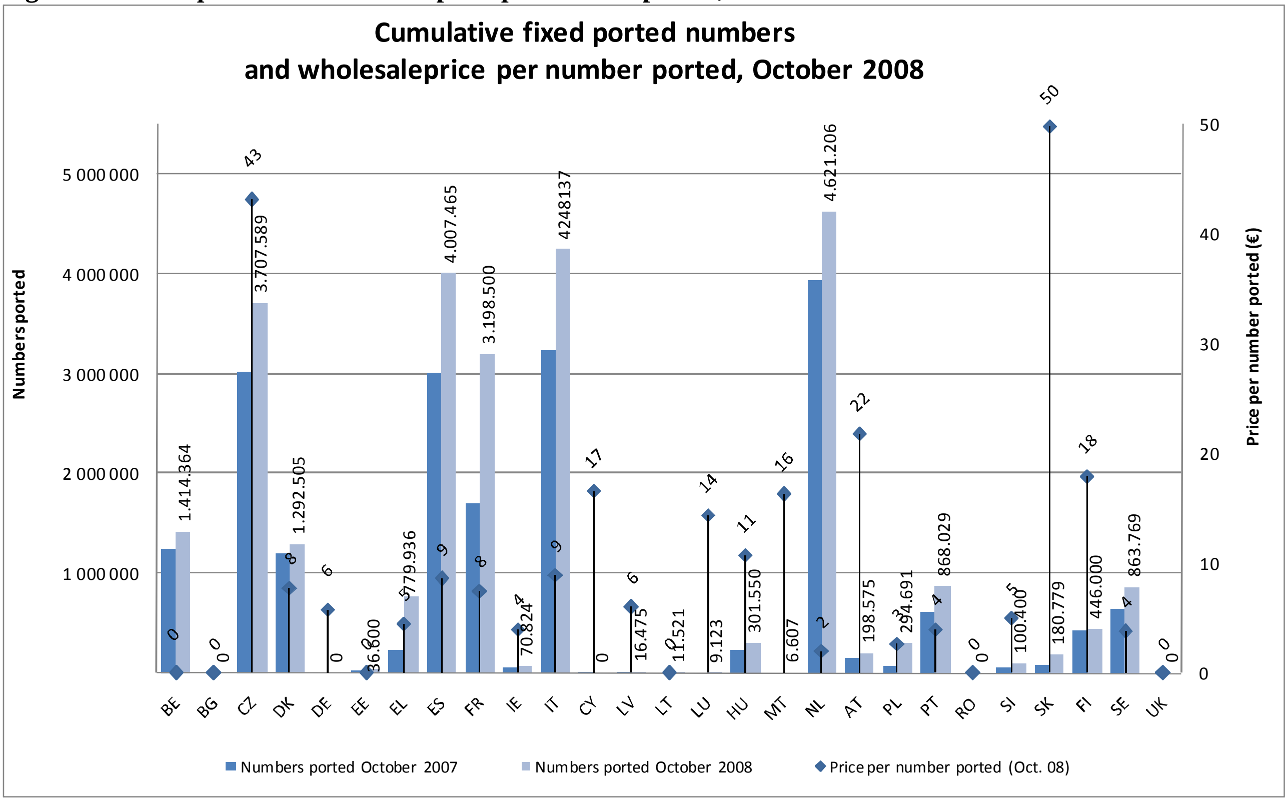
Fixed number portability has continued to play an important role in encouraging competition. As of October 2007, almost 19 million subscribers in 23 Member States have ported their number since the introduction of this possibility (5 million from October 2006 and October 2007). Apart from the countries that have introduced fixed number portability only during 2007 (Malta and Slovakia), there has been significant growth in the amount of fixed numbers ported in Greece, Spain, France, The Netherlands, Slovenia and Czech Republic.

Inter-operator prices for fixed number portability refer to the amount charged by the incumbent to the recipient operators for porting one telephone geographic number (excluding VAT). This price may vary depending on a number of factors. In some countries the price for a non - geographic number is different. Where available, information on price for non-geographic number portability is added in the footnote.

In Estonia, Lithunia and Malta, there is no charge for the porting of fixed numbers.

According to the data at our disposal for 22 Member States, the EU weighted average price as of October 2007 for a fixed number ported is € 9.69. Prices in the Czech Republic, Ireland, Austria and Finland are significantly higher than the EU average, while in 7 Member States (Belgium, Denmark, Germany, Latvia, Italy, Slovenia and Sweden) prices are below 10 €. The fixed number portability is free of charge in Lithuania and in Estonia. Since October 2006 a significant decrease in the price for number portability has occurred in Ireland (-48%), Portugal (-60%), Slovenia (-50%), and Sweden (-70%). No country had significant price increase.

Figure 50: Fixed ported numbers and price per number ported, October 2008

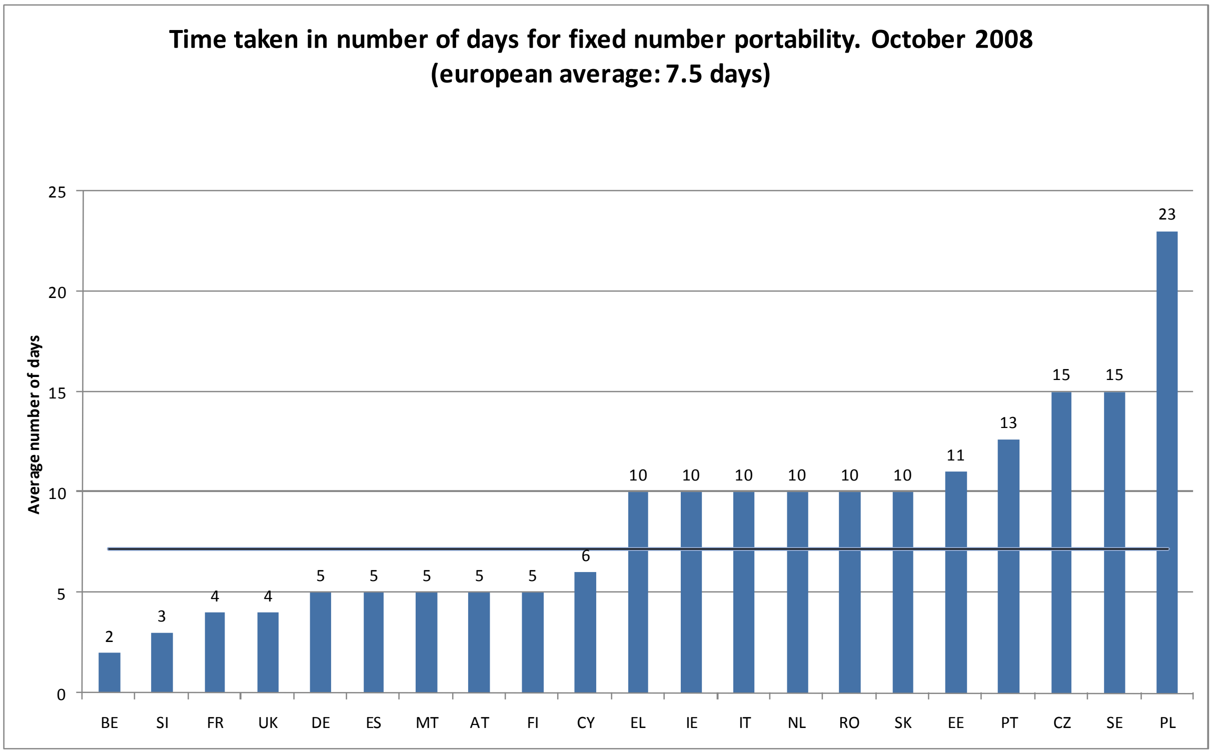


Czech Republic: The price represents a single order.

Germany: The total number of ported numbers is not available.

Romania: fixed & mobile number portability is operational starting with 21st October 2008; the maximum regulated tariff is 13Euro/ fixed number ported

Figure 47: Fixed ported numbers and price per number ported, October 2008



Bulgaria: Fixed portability is not implemented yet.
Romania: fixed & mobile number portability available starting with 21st October 2008; the maximum regulated number of days for fixed portability is 10

2.5. PUBLIC VOICE TELEPHONY TARIFFS

This section examines the monthly rental charges and the main tariffs for public fixed voice telephony charged by the incumbent operators in each Member State in September 2008. The price trend over the past 11 years is also analyzed.

The incumbent operators are: Belgacom for Belgium, BTC for Bulgaria, Telefonica O2 for Czech Republic, TDC for Denmark, Deutsche Telekom for Germany, Elion for Estonia, OTE for Greece, Telefonica for Spain, France Telecom for France, Eircom for Ireland, Telecom Italia for Italy, CYTA for Cyprus, Lattelekom for Latvia, TEO LT for Lithuania, P&T Luxembourg for Luxembourg, Magyar Telekom for Hungary, GO for Malta, KPN for the Netherlands, Telekom Austria for Austria, Polish Telecom for Poland, Portugal Telecom for Portugal, RomTelecom for Romania, Telekom Slovenije for Slovenia, Slovak Telecom for Slovakia, TeliaSonera for Finland, TeliaSonera for Sweden, and British Telecom for the United Kingdom.

The incumbent operators still retain a large market share, but new entrants/alternative operators are increasingly gaining market share by offering cheaper prices for certain types of calls (usually long-distance (national) or international) or destination and/or using chepaer technologies (IP). The prices charged by incumbents do not necessarily, therefore, represent the lowest prices available. A comparison between the rates charged by incumbents and alternative operators for a sample of countries is also shown.

The figures and information are taken from a study carried out for the Commission by Teligen, Strategy Analytics Ltd. The data are collected from primary sources (i.e. directly from the incumbent operators).

NRAs were given the possibility to check and validate these data before finalizing this report. In a few cases the NRAs have declined to comment on the data because of lack of insight into the operator's pricing.

Different sets of charges for fixed national voice telephony services are shown in the following sections:

- the monthly rental charged by incumbent operators;
- the charges for a composite basket of calls (national, international fixed calls and calls to mobile), that gives an estimate of the average monthly spending by a typical “European business/residential user” for the whole range of calls;
- the charges for a basket of national calls, that gives an estimate of the average monthly spending by a typical “European business/residential user” for fixed national calls;
- the basket of international calls for each country that indicates the average charge for calls from the originating country to OECD destinations. In addition, the price of individual calls to specific destinations is also shown.
- the price of some individual calls (3- and 10-minute local, national and international calls) at peak time, inclusive of any initial charge. For those countries where unit-based charging is used, the price of a whole unit is calculated.

For the various types of calls, a benchmark based on a comparison with US and Japan is also included.

The EU average tariffs shown in the charts are weighted average (by population of the Member States). The following charts show the incumbent’s monthly line rental charges for residential and business users in September 2007 and September 2008. In order to reflect the real charges actually paid by users, values are expressed in €, including VAT for residential users and excluding VAT for business users.

A number of countries have different rental charges for business and residential customers.

In some countries the monthly rental will depend on where in the country the line is connected. The charges shown are for the capital/most densely populated area.

2.5.2. Monthly rental charged by the incumbent operators

The following charts show the incumbent's monthly line rental charges for residential and business users in September 2007 and September 2008. In order to reflect the real charges actually paid by users, values are expressed in €, including VAT for residential users and excluding VAT for business users.

A number of countries have different rental charges for business and residential customers.

In some countries the monthly rental will depend on where in the country the line is connected. The charges shown are for the capital/most densely populated area.

Figure 51 Residential monthly rental

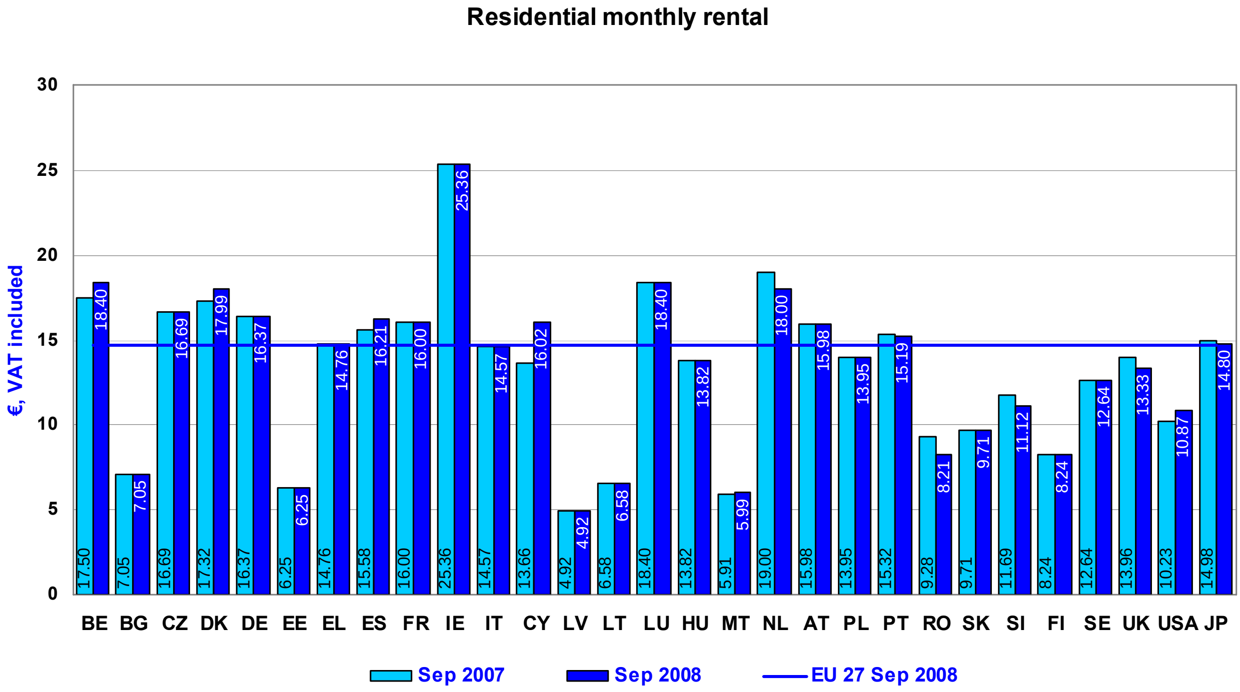
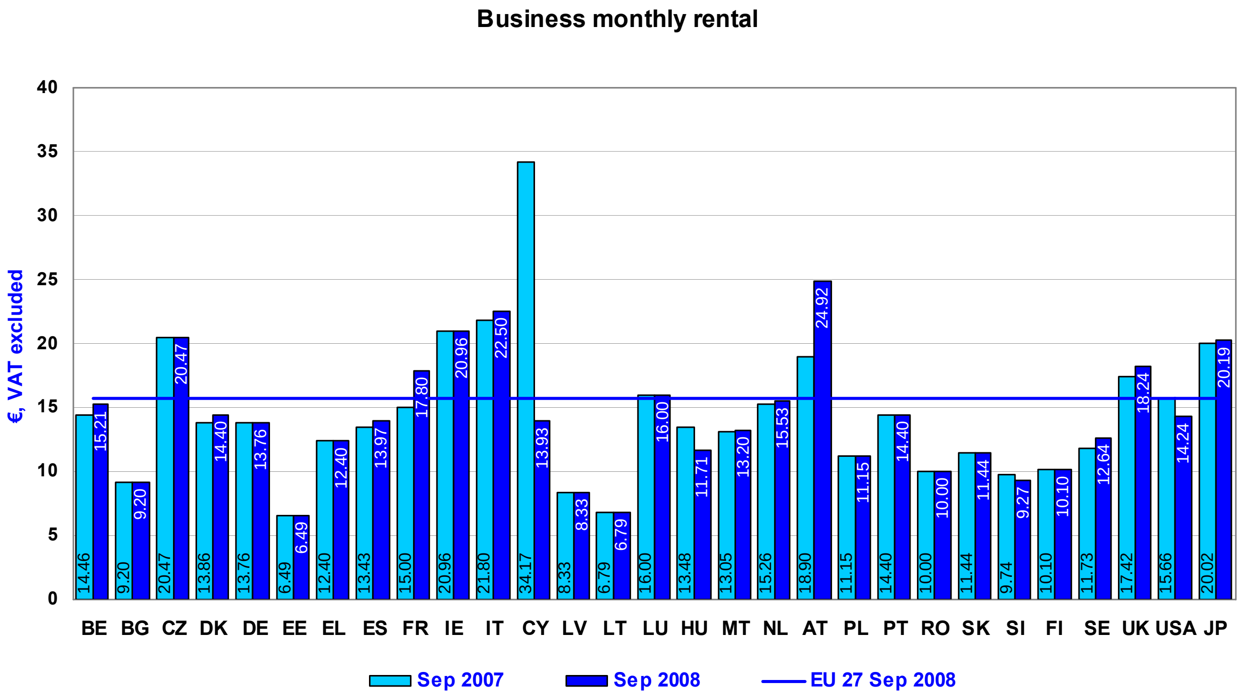


Figure 52: Business monthly rental



The following charts show the EU weighted average variation in nominal terms of the residential and business monthly line rental charge.

Figure 53: Residential rental per month

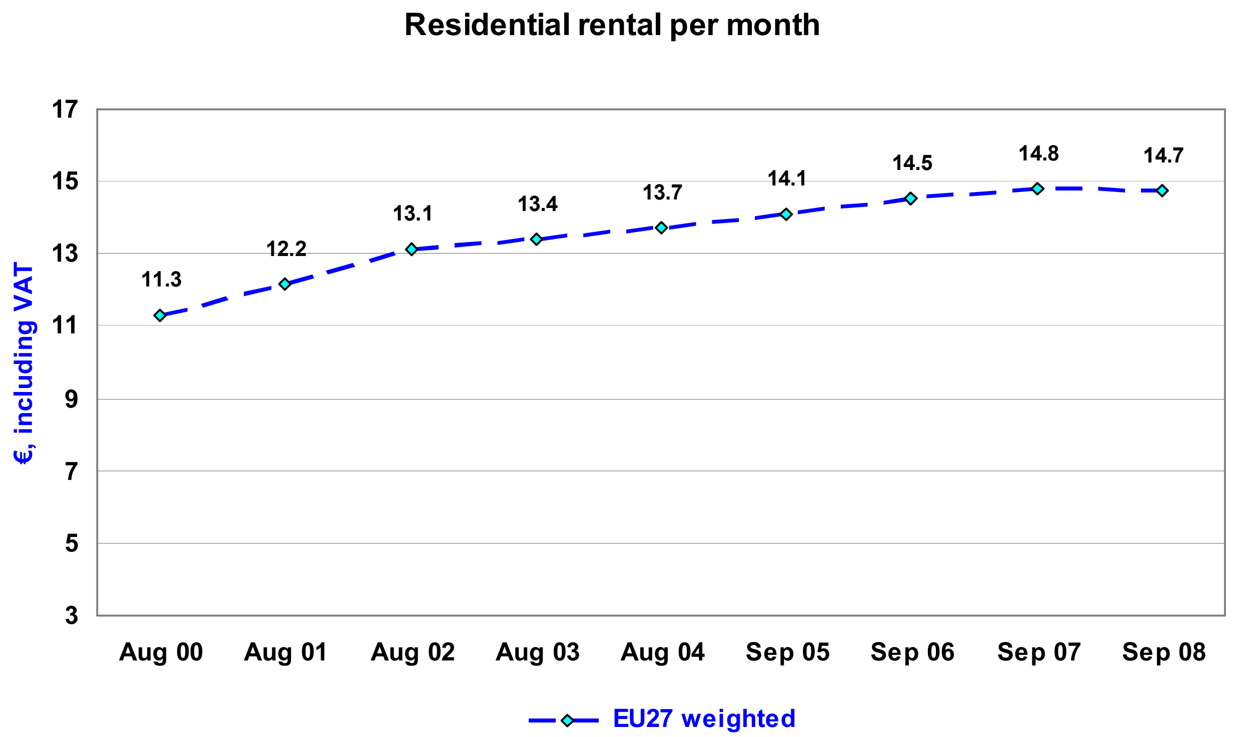
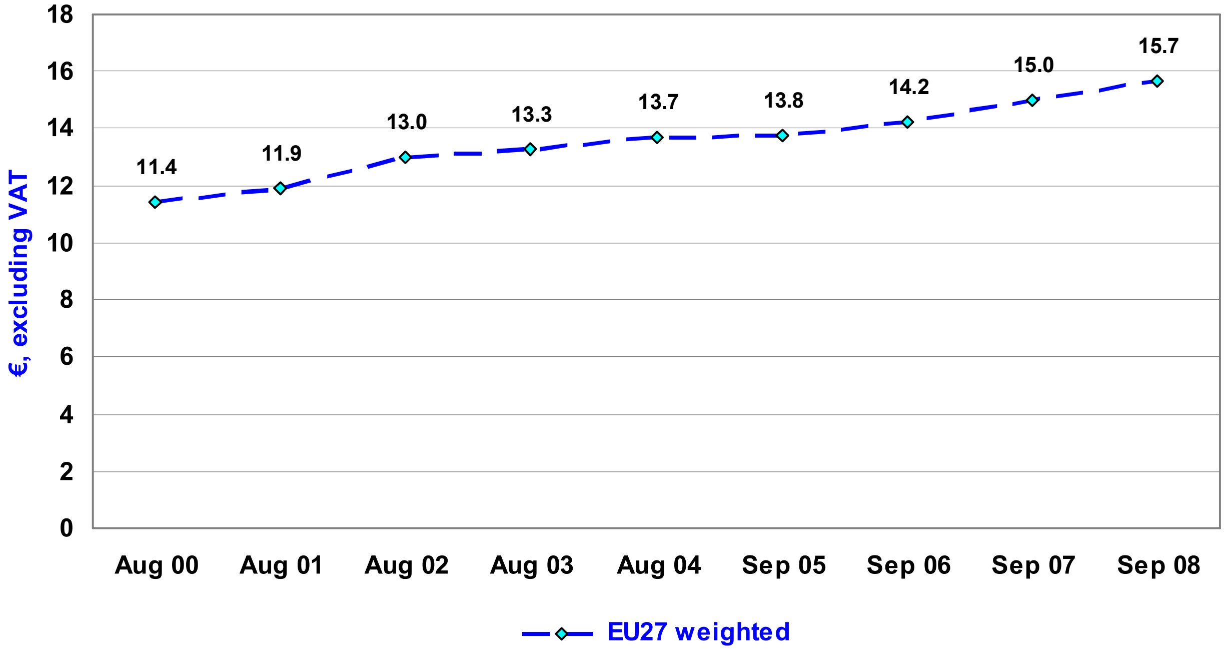


Figure 54: Business rental per month

Business rental per month



2.5.3. Average monthly expenditure (composite call basket)

The figures presented in this section are intended to provide an estimate of the average monthly expenditure of a "standard" European consumer (business and residential). The Basket Methodology for Telecommunications Cost Comparison has been devised by the OECD and accepted in most countries as the most stable and neutral method of comparison.

The user is assumed to have a contract for the provision of voice telephony services with the incumbent operator and to use only this operator for all types of calls (local, national, international, calls to mobile). Since consumers are making increasing use of call-by-call carrier selection, in particular for specific highly discounted types of calls (i.e. international and national), the figures given below are purely indicative, and do not necessarily reflect the cheapest solution available.

The charts below show the average monthly expenditure for standard residential and business users as of September 2008, expressed in €, based on the standard tariffs charged by the incumbent operators (i.e. excluding any discount packages). This means that lower costs can be achieved if the user subscribes to one or more discounted packages.

The basket of calls used to estimate average monthly expenditure is the "2000 composite OECD basket" which includes fixed national calls, international calls and calls to mobile networks.

The OECD residential/business baskets are defined as follows (on an annual basis):

The fixed (i.e. non-recurring) charges include the annual line rental charge plus the charge for the installation of a new line (depreciated over five years). Fixed charges for residential users include VAT, while for business users VAT is excluded.

The usage charge for residential users refers to a basket of 1.200 national calls to fixed lines, plus 120 calls (with an average duration of two minutes) to mobile networks (representing 10% of the number of calls to fixed lines), plus 72 international calls (representing 6% of the number of calls to fixed lines). The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (four calls during the week and two during the weekend). The call duration varies from 2.5 to 7 minutes, depending on time and distance. The usage for residential users is weighted towards off-peak hours, and with typically long calls. Only 36% of the calls are within normal business hours; 74% are for distances below 10 km; 9% are for distances above 100 km.

The usage charge for business users refers to a basket of 3 600 national calls to fixed lines plus 360 calls (with an average call duration of two minutes) to mobile networks, plus 216 international calls. The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (four calls during the week and two during the weekend), and with a call duration of 3.5 minutes regardless of time of day and distance. The usage for business users is weighted towards business hours, and with typically short calls. Over 86% of the calls are within normal business hours; 64% are for distances below 10km; 12.5% are for distances above 100 km.

A full description of the methodology can be found at the end of this report.

There was a revision of the OECD baskets in February 2006.
Highlights of the "new 2006 OECD baskets" are:
Five new baskets for Low, Medium and High residential usage and business baskets for SOHO and SME usage.
Fixed to Mobile calls now include calls to up to four national mobile networks, weighted by subscriber numbers.
A range of tariff packages from the incumbent operator are now included, with automatic selection of the cheapest package for each basket.
Traffic weights and volumes have been updated with recent information.

Low usage residential basket

The usage charge for low usage residential users refers to a basket of 600 calls, where 76% (456 calls) are to national fixed lines, 19% (114 calls) are to mobile networks, and 5% (30 calls) are to international destinations. The usage for residential users is weighted towards off-peak hours, and with typically long calls. 58% of the calls are within normal business hours; 76.5% are for distances below 10 km; 7% are for distances above 100 km.

Medium usage residential basket

The usage charge for low usage residential users refers to a basket of 1200 calls, where 75% (900 calls) are to national fixed lines, 23% (276 calls) are to mobile networks, and 2% (24 calls) are to international destinations. The usage for residential users is weighted towards off-peak hours, and with typically long calls. 55.5% of the calls are within normal business hours; 70% are for distances below 10 km; 11.5% are for distances above 100 km.

High usage residential basket

The usage charge for low usage residential users refers to a basket of 2400 calls, where 65% (1560 calls) are to national fixed lines, 31% (744 calls) are to mobile networks, and 4% (96 calls) are to international destinations. The usage for residential users is weighted towards off-peak hours, and with typically long calls. 60.5% of the calls are within normal business hours; 78% are for distances below 10 km; 7% are for distances above 100 km.

The usage charges for national calls to fixed lines for residential users are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (4 calls during the week and 2 during the weekend). The call duration varies from 3.7 to 7 minutes, depending on time and distance.

SOHO business basket

The usage charge for low usage residential users refers to a basket of 1800 calls, where 67% (1206 calls) are to national fixed lines, 29% (522 calls) are to mobile networks, and 4% (72 calls) are to international destinations. The usage for business users is weighted towards business hours, and with typically short calls. 79% of the calls are within normal business hours; 68.5% are for distances below 10 km; 12.5% are for distances above 100 km.

SME business basket

The usage charge for low usage residential users refers to a basket where 30 users each have 2800 calls, where 72% (2016 calls) are to national fixed lines, 20% (560 calls) are to mobile networks, and 8% (224 calls) are to international destinations. The usage for business users is weighted towards business hours, and with typically short calls. 81% of the calls are within normal business hours; 70.5% are for distances below 10 km; 11% are for distances above 100 km.

The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (4 calls during the week and 2 during the weekend). The call duration varies from 1.9 to 3.1 minutes, depending on time and distance.
The 2006 OECD baskets revision brought a new element into the baskets, namely the inclusion of more tariff packages for each country. This allows for a comparison of the “standard” package with the “cheapest” package.

2.5.3.1 "2000 Composite OECD baskets"

Figure 55: Average monthly expenditure (composite basket) residential users

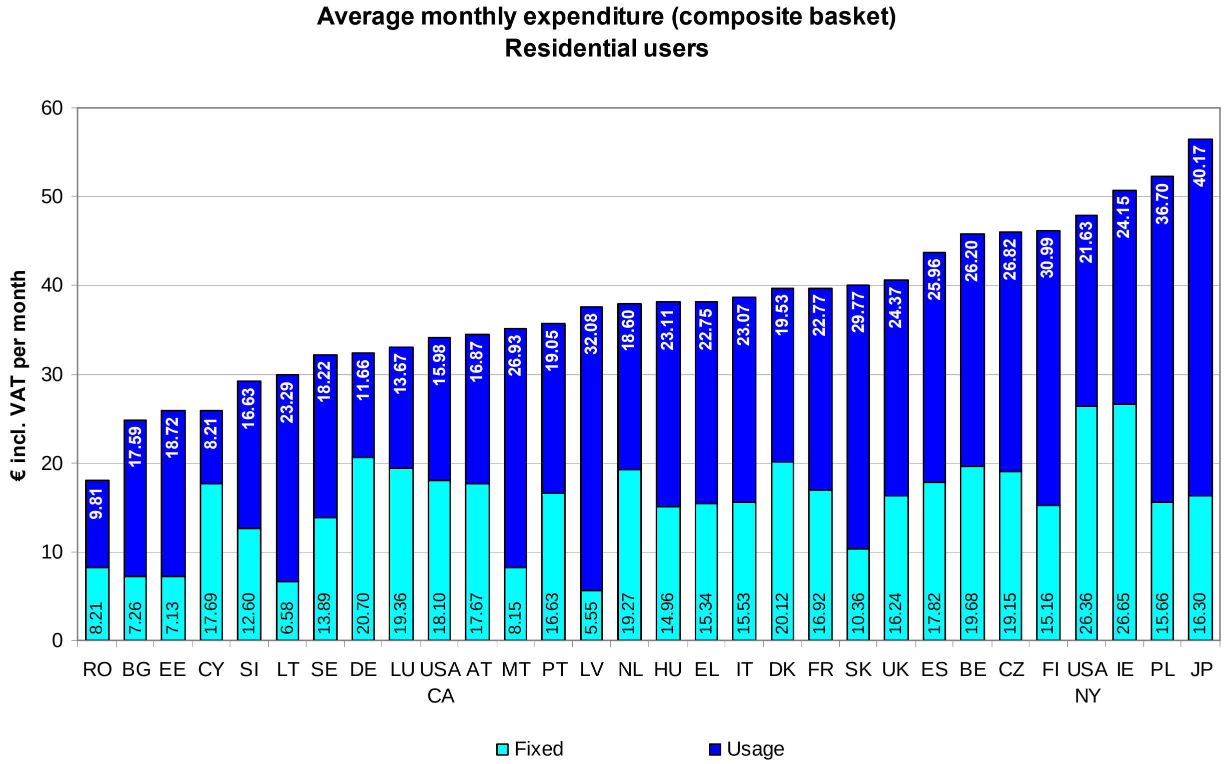
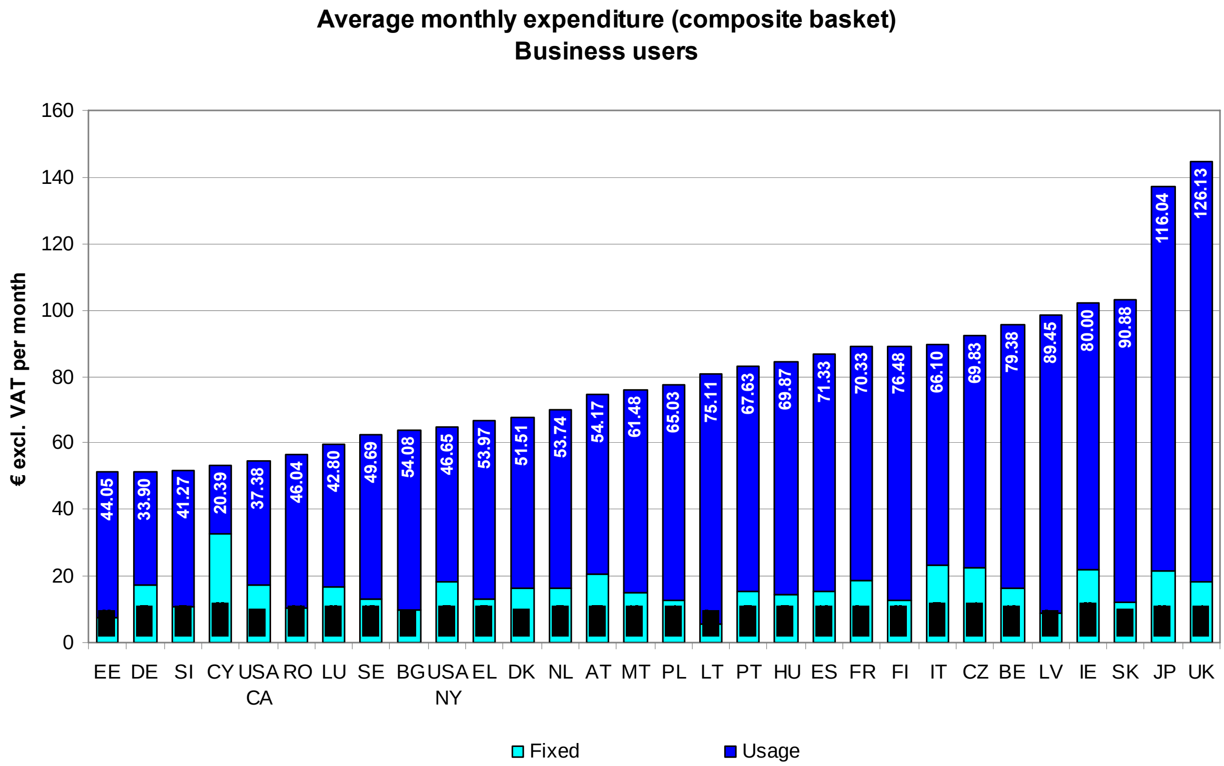


Figure 56: Average monthly expenditure (composite basket) business users



2.5.3.2. "2006 OECD Baskets"

Figure 57: OECD baskets for PSTN, 2008. Low usage residential basket

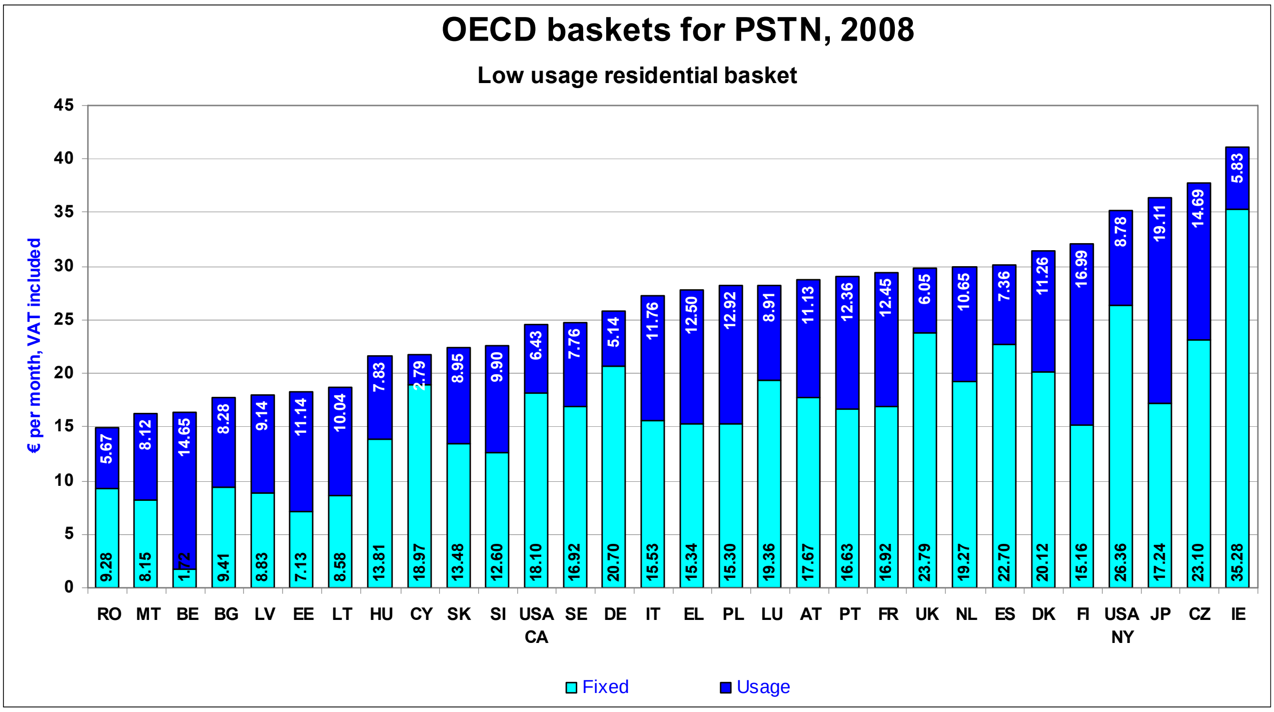


Figure 58: OECD baskets for PSTN, 2008. Medium usage residential basket

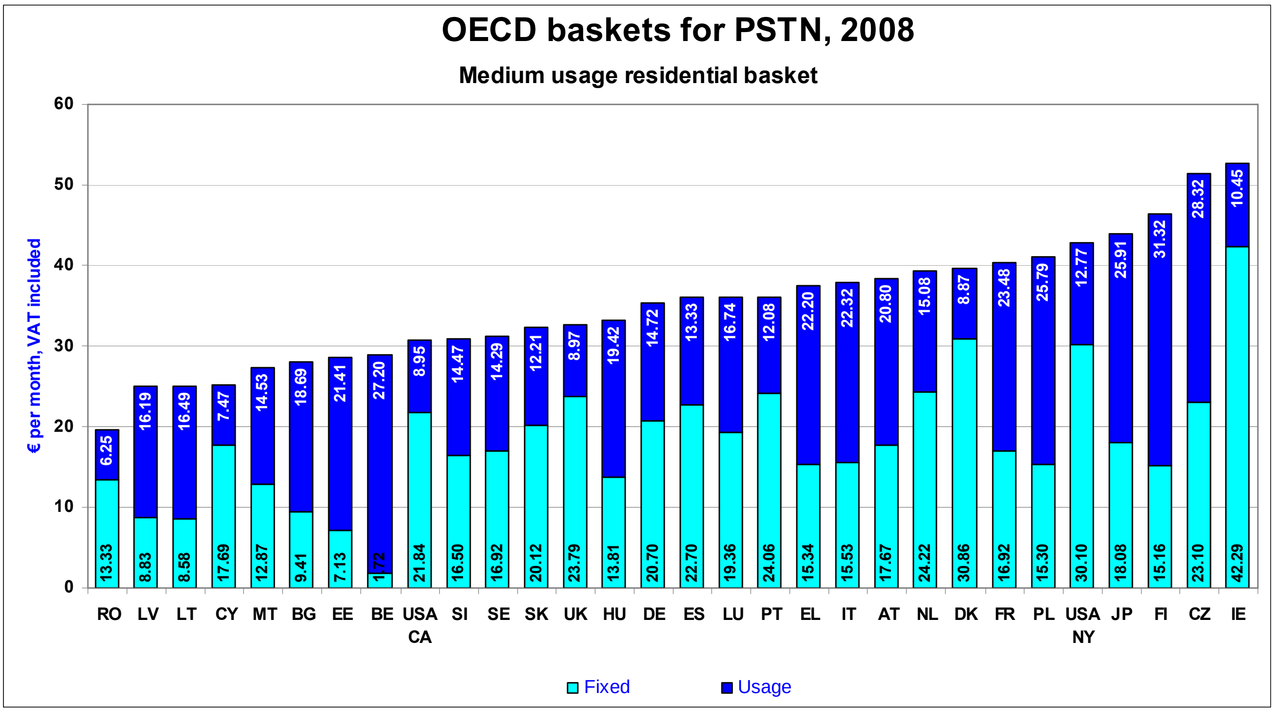


Figure 59: OECD baskets for PSTN, 2008. High usage residential basket

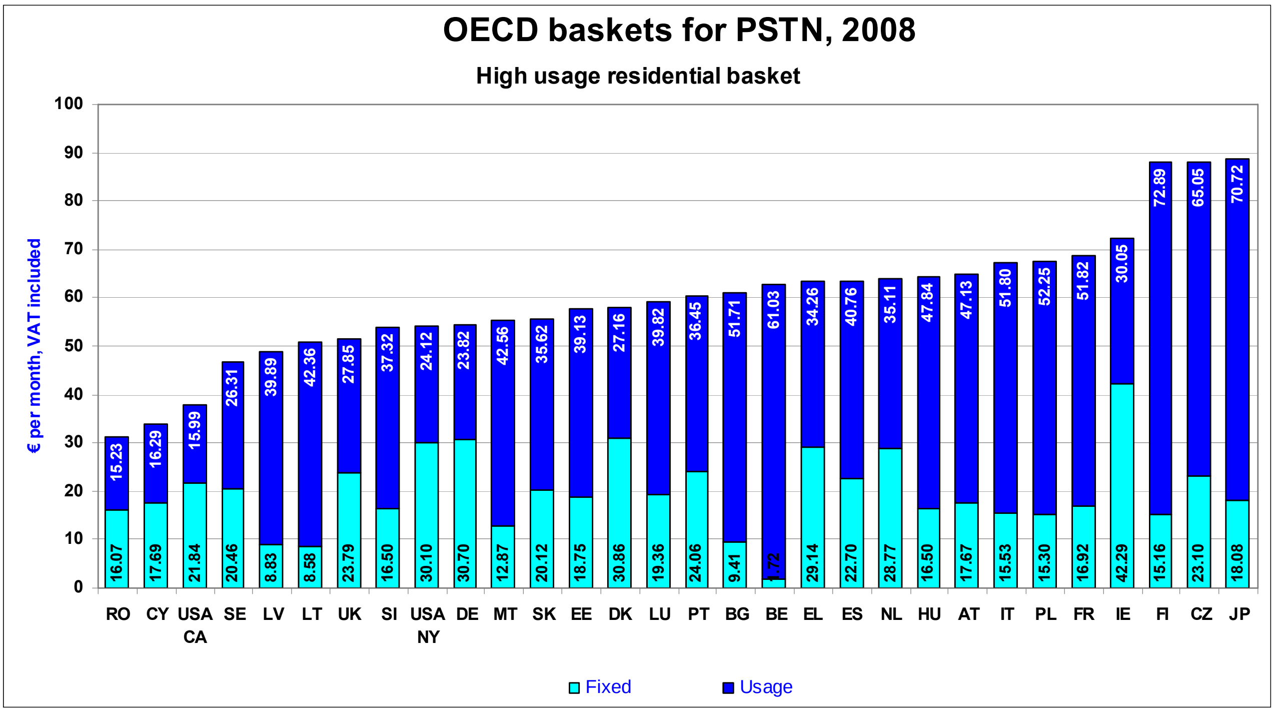


Figure 60: OECD baskets for PSTN, 2008. SOHO business basket

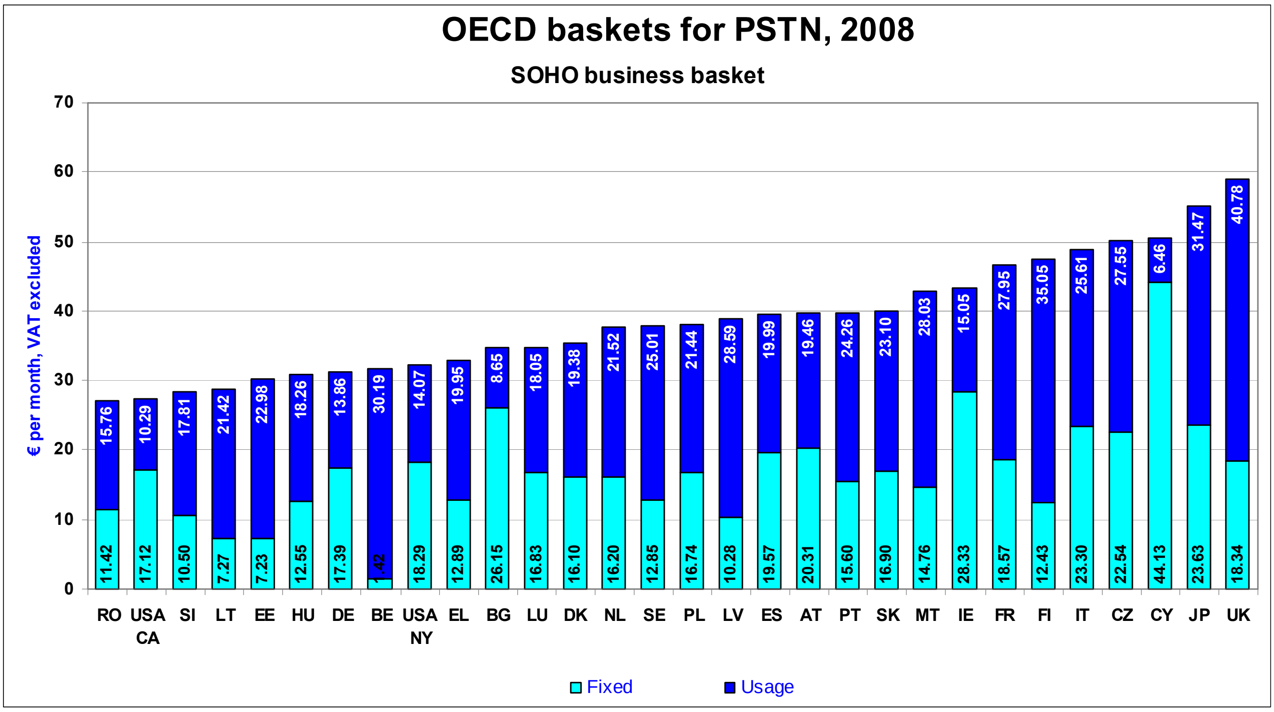
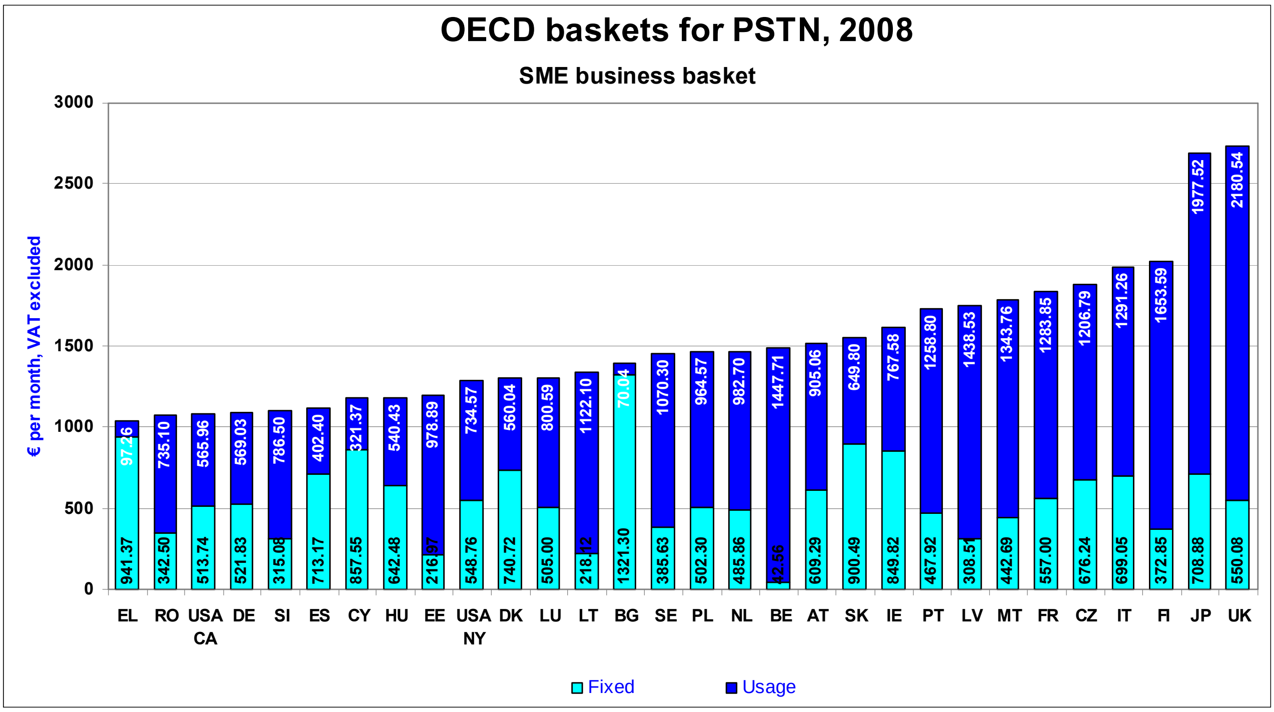


Figure 61: OECD baskets for PSTN, 2008. SME business basket



2.5.3.3. Comparison of the "standard" package with the "cheapest" package

Total cost for "standard" package is compared with the equivalent cost for the "cheapest" package.
As some operators do not clearly publish a range of discount package options, only standard package is included in such cases.

Figure 62: OECD Residential composite basket

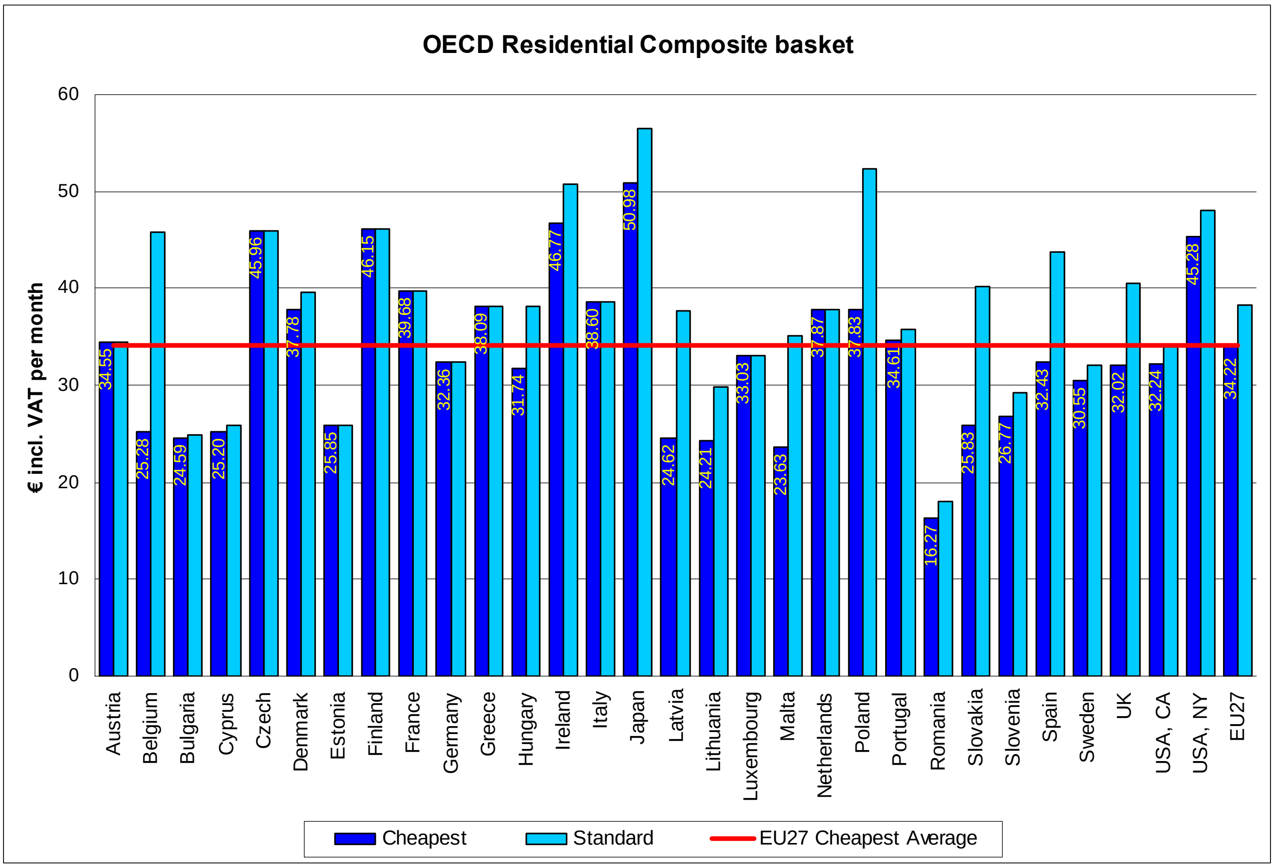
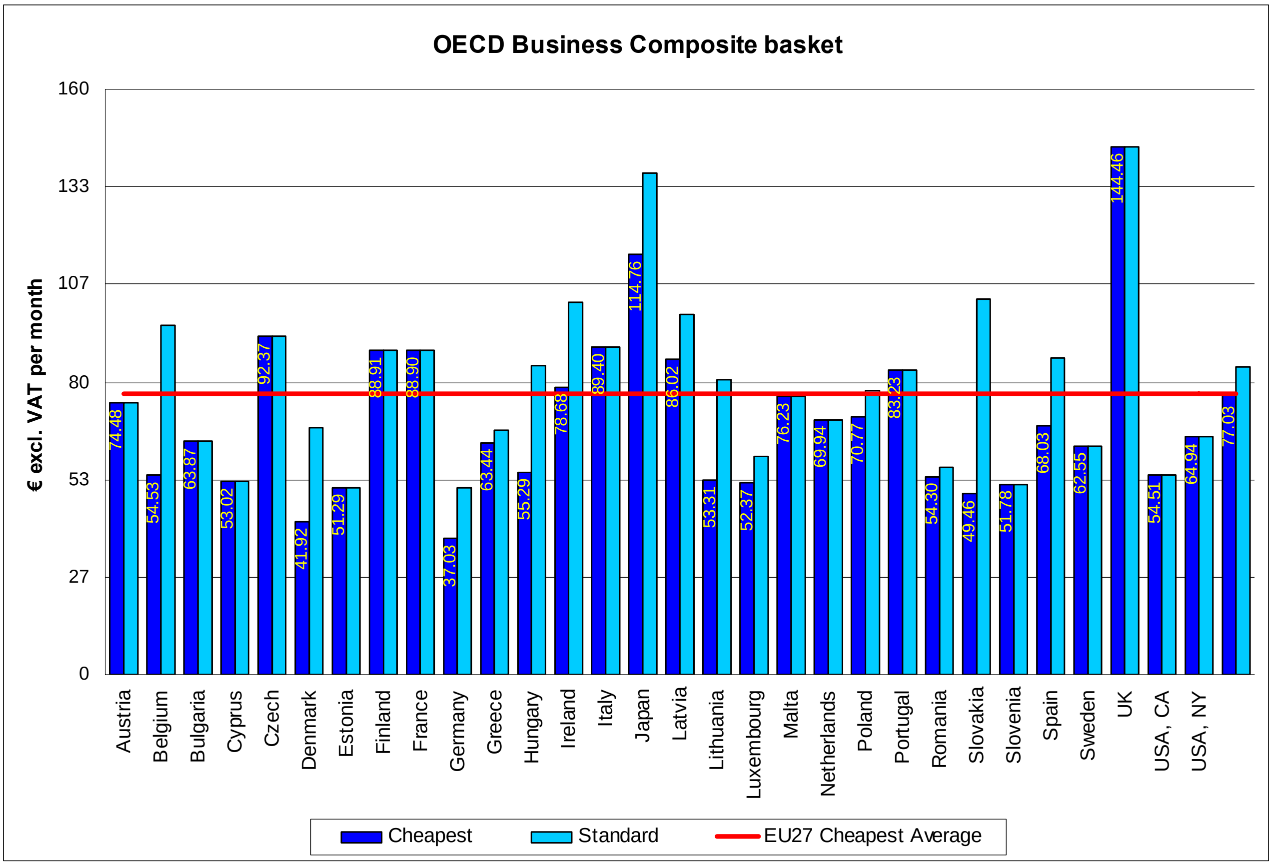
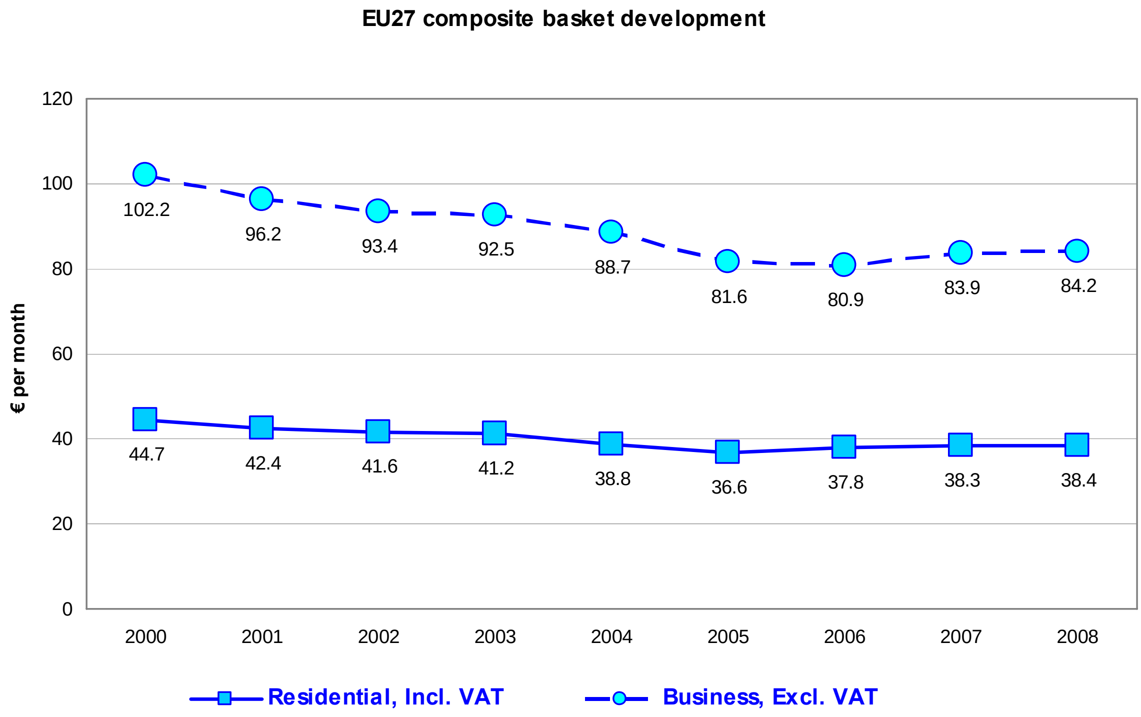


Figure 63: OECD Business composite basket



2.5.4. Trend of the basket for fixed national calls (composite basket)

Figure 64: EU composite basket development



2.5.5. Incumbent operator price for an average fixed international call (international call basket)

The basket of international calls for each country provides an estimate of the average cost of an international call.

For the basket comparison of international PSTN call charges, the OECD traffic weight basket methodology is used. The basket calculates an average charge for calls to all OECD destination countries.

The residential basket includes VAT. Call charges are weighted between peak and off-peak hours: 25% for peak hours and 75% for off-peak hours. The business basket excludes VAT. Call charges are weighted 75% for peak hours and 25% for off-peak hours. International call charges vary widely with the destination, and the basket results are based on a weighted average call charge. Traffic weighting is used, as defined by the OECD for the destination weighting, as per the revision in 2000. This method applies a weight to each destination based on the traffic volumes reported on that route (ITU statistics).

All tariffs are standard prices from incumbent operators, and both these operators and new entrants/alternative operators may offer lower prices.

The EU average value is the average of the EU countries weighted according to the national population.

A full description of the methodology can be found at the end of this report.

Figure 65: Average price for an international call, residential user

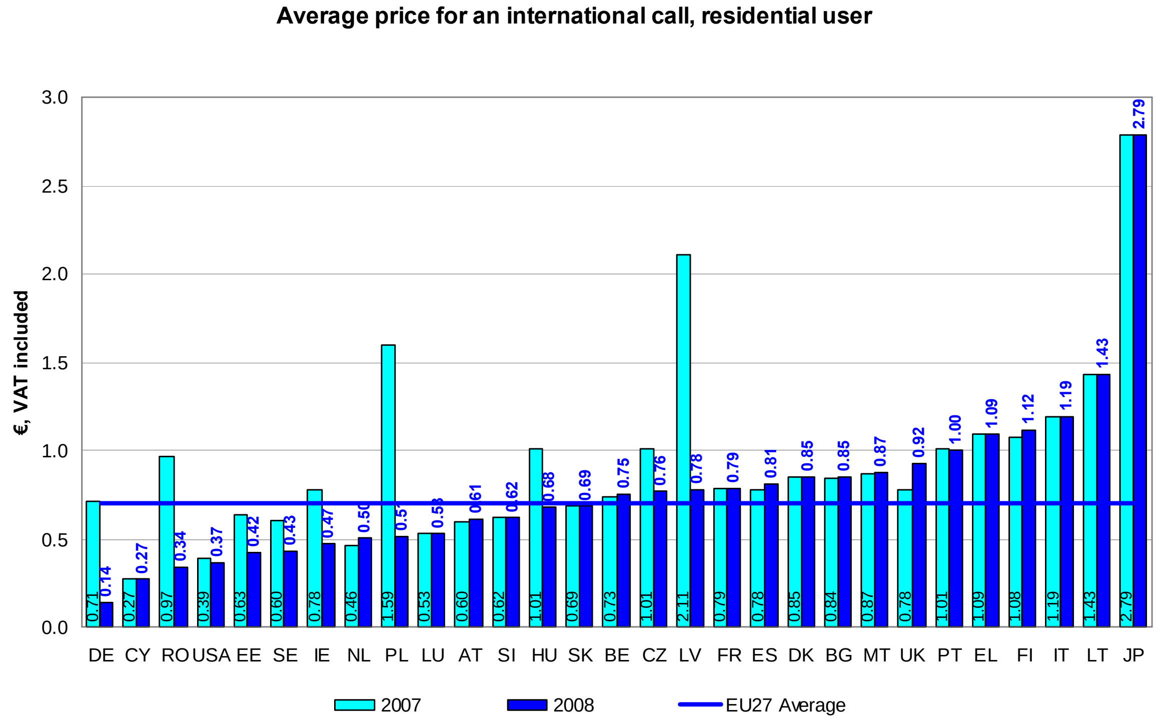


Figure 66: Average price for an international call, business user

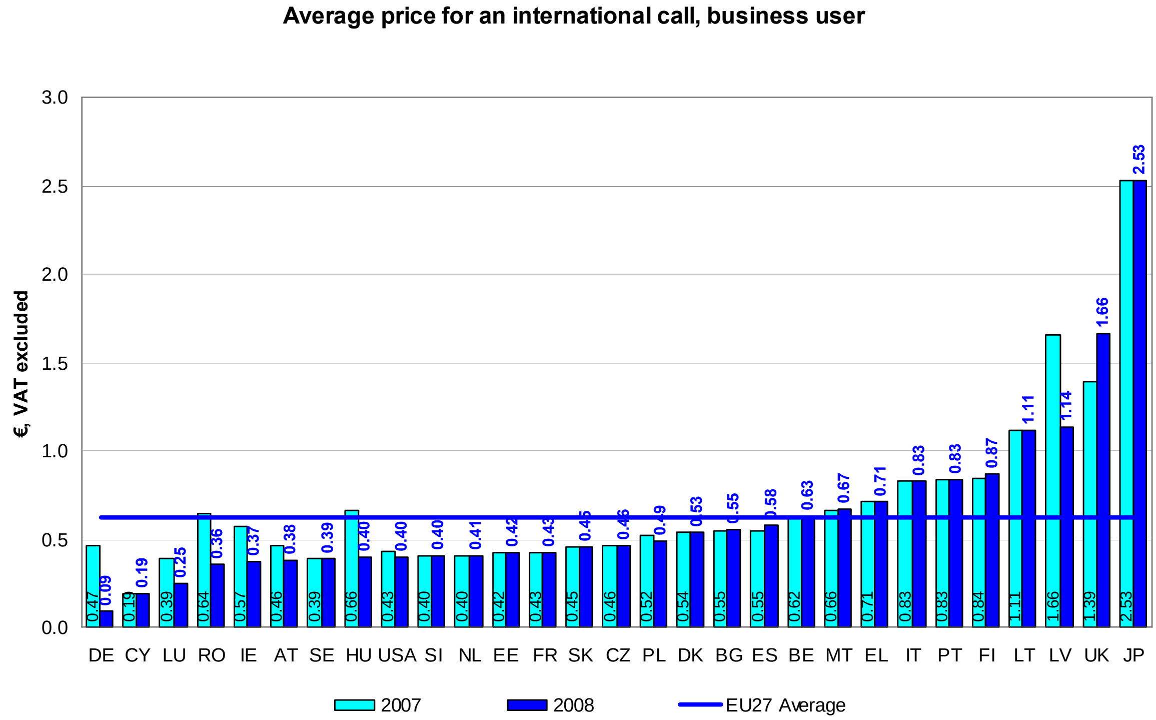
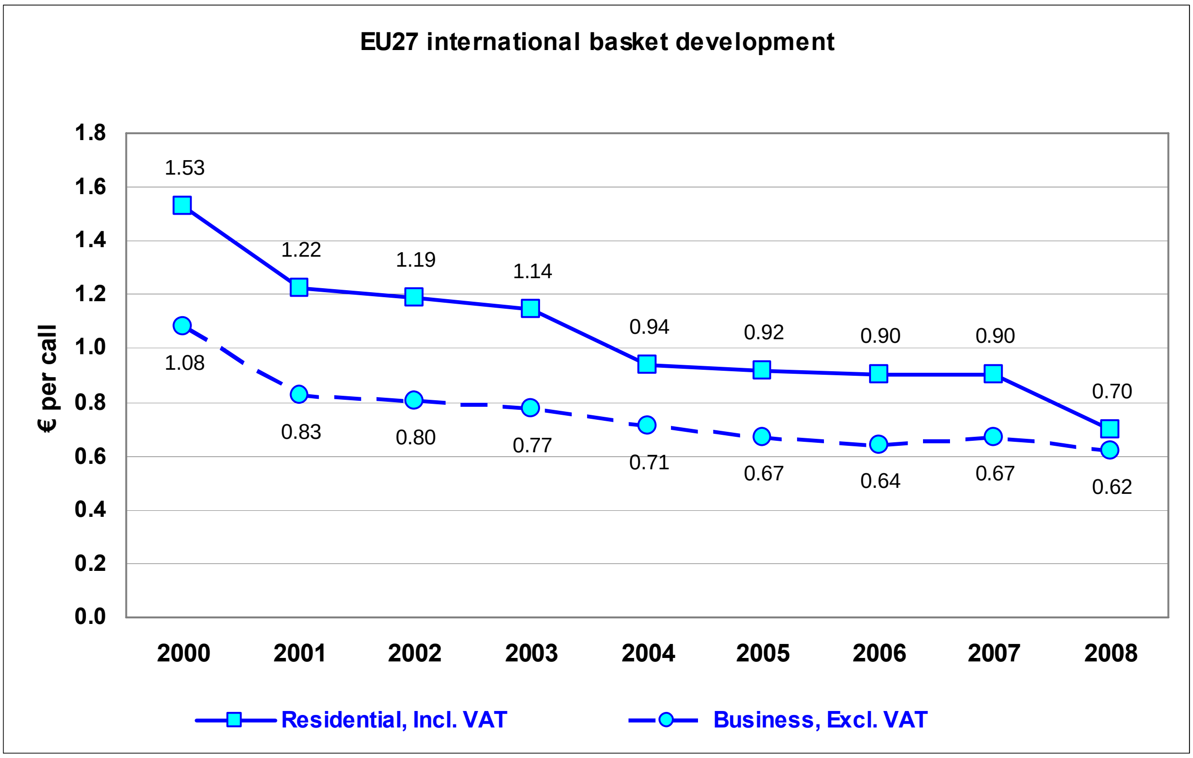


Figure 67: EU 27 international basket development



2.5.6. Price of fixed national calls by the incumbent operator

2.5.6.1. Prices charged by the incumbent operators for individual fixed national calls

This section shows the prices charged by the incumbent operators for individual fixed calls (the same call prices apply to business and residential users). For those countries where unit based charging is used, the cost of the amount of full units is calculated. Any call set-up charges, minimum charges and/or call specific duration allowances have been taken into account.

Prices refer to peak hours (weekdays 11:00 am) and are expressed in €-cents including VAT. Except where otherwise specified, the figures refer to September 2008. Prices are indicated for three-minute and ten-minute calls over two distances: 3 km (equivalent to a local call) and 200 km (equivalent to a national call). In several countries the tariff changes at exactly one of these distances: in these cases, the rates for the lower distance band are used.

The price of a three-minute call is more affected by the magnitude of the call set-up charge than the price of a ten-minute call.

Where different tariff packages exist, the basic, residential package is selected. Otherwise the standard tariff is used. No discount packages are taken into account.

The EU average value is the average of the EU countries weighted according to the national population.

Figure 68: Local call charge, 3 min

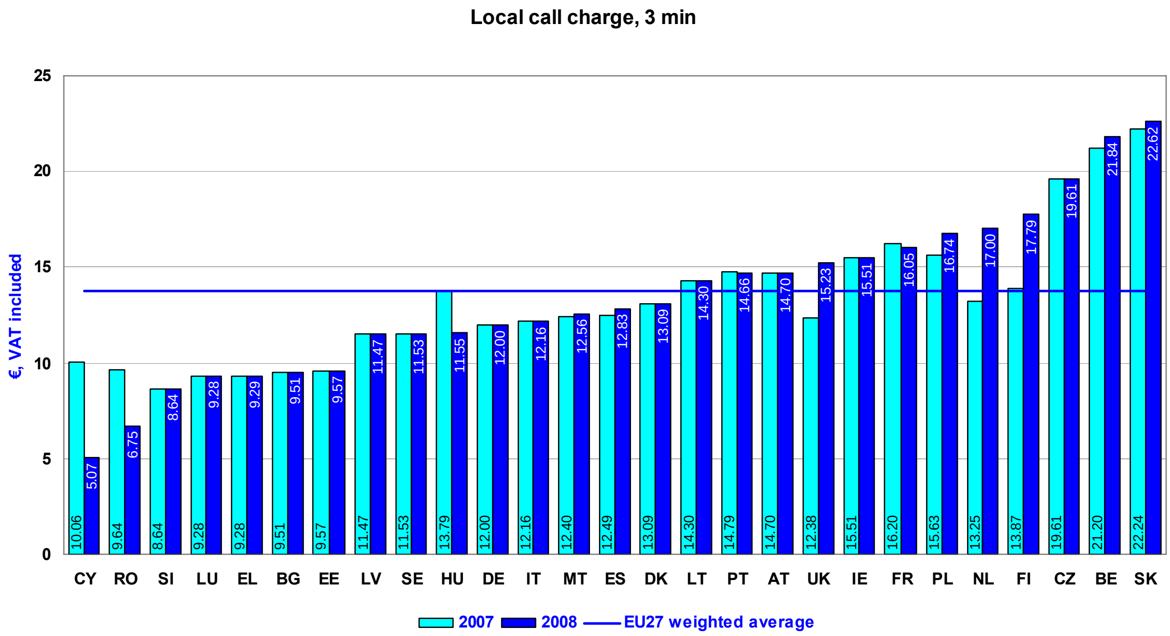


Figure 69: Local call charge, 10 min

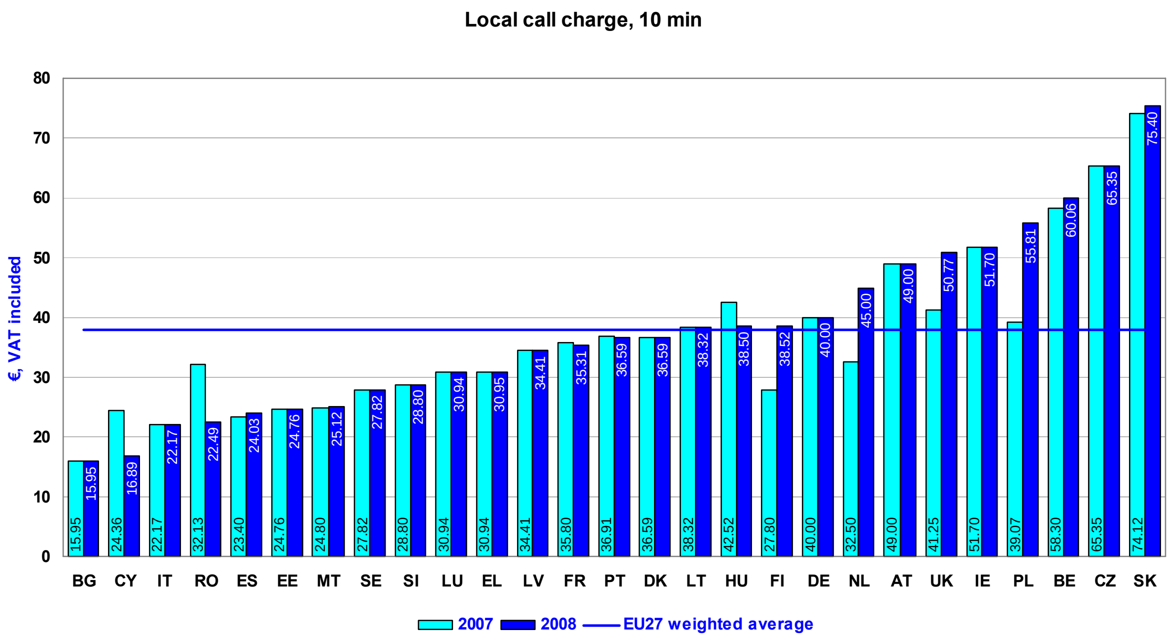


Figure 70: National call charge, 3 min

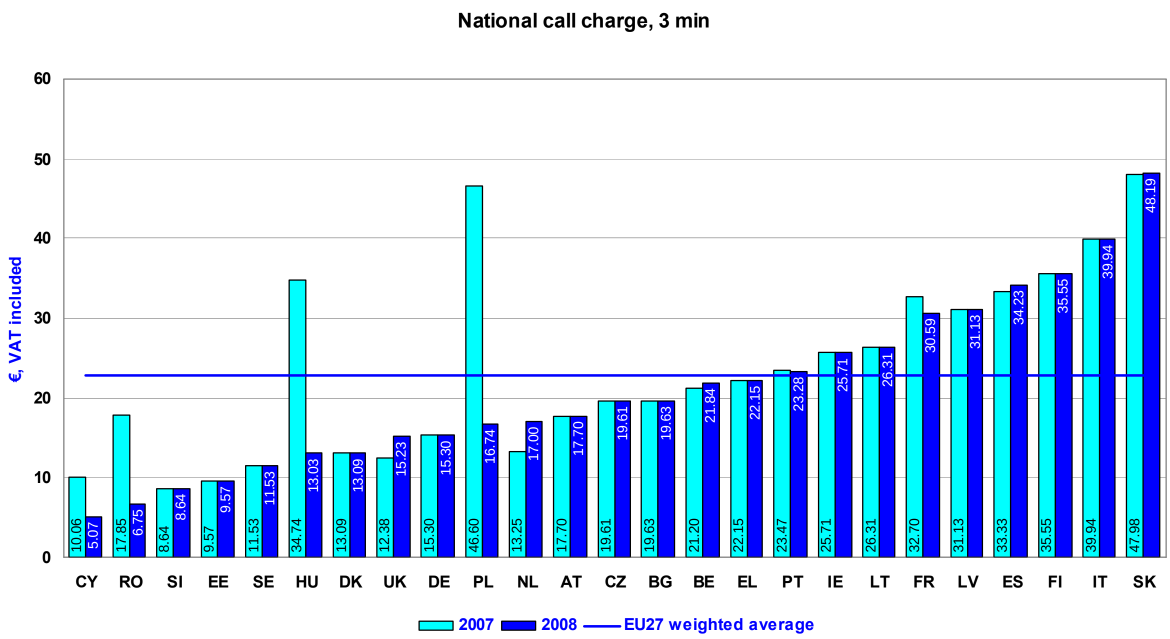


Figure 71: National call charge, 10 min

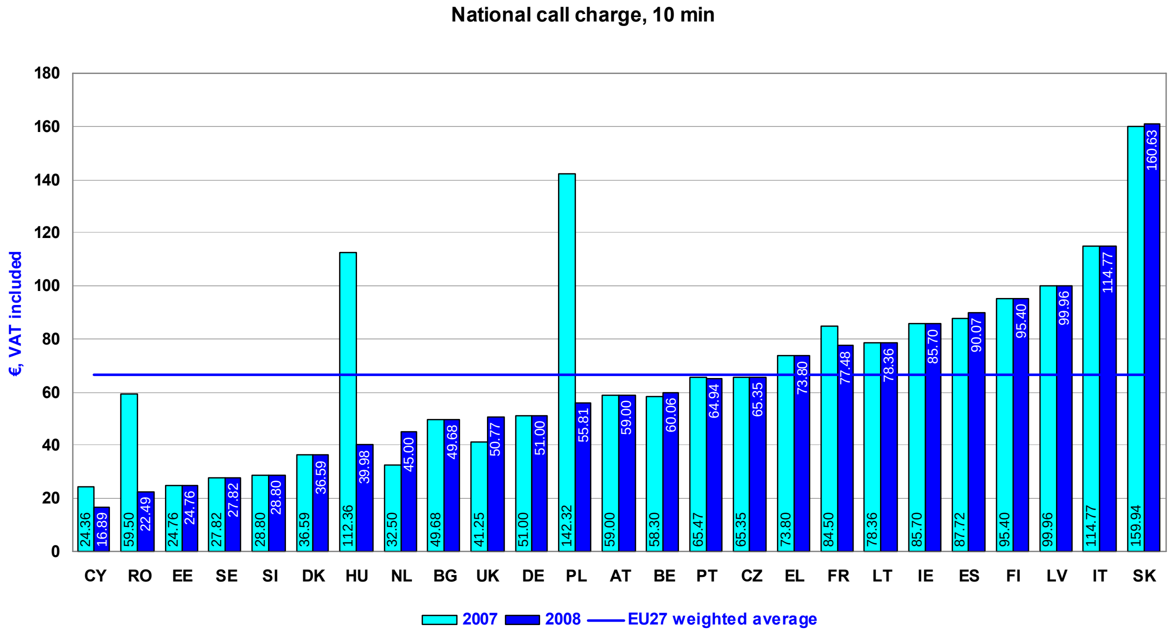


Figure 72: Local and National call charge, 3 min, EU27 weighted average

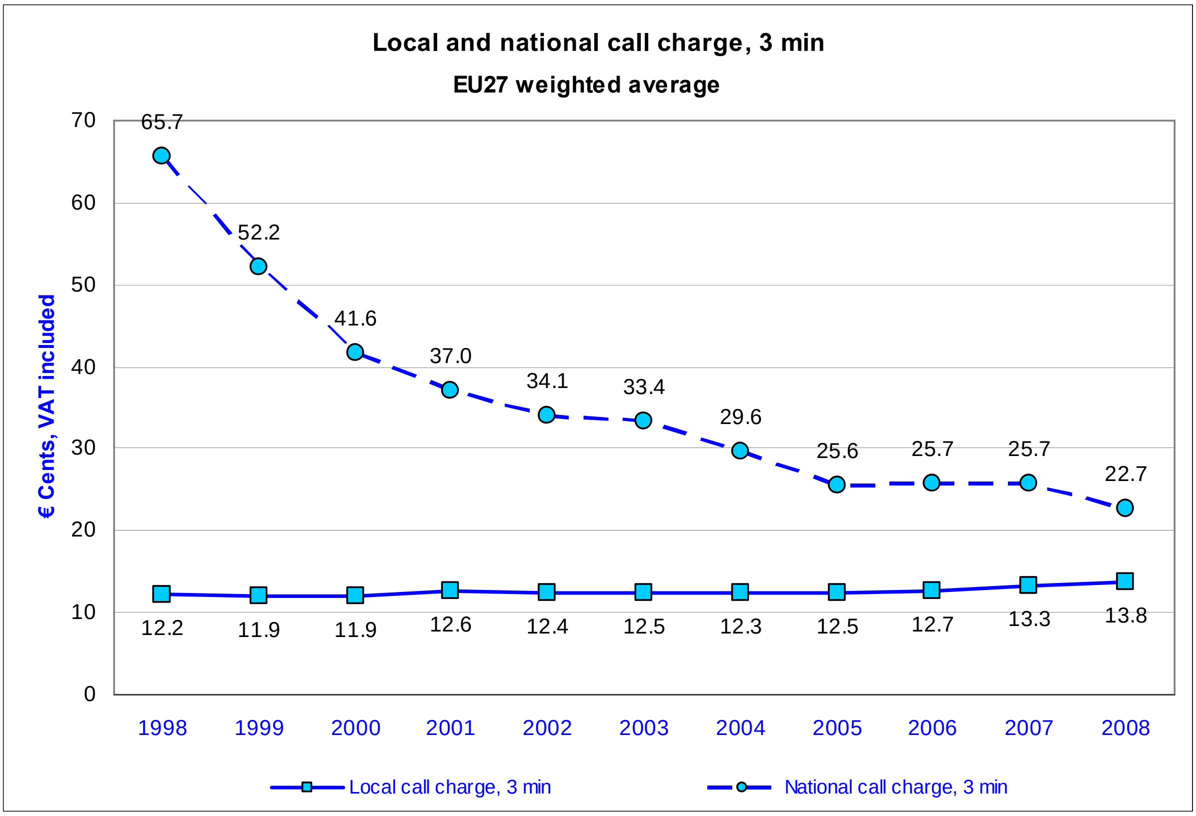
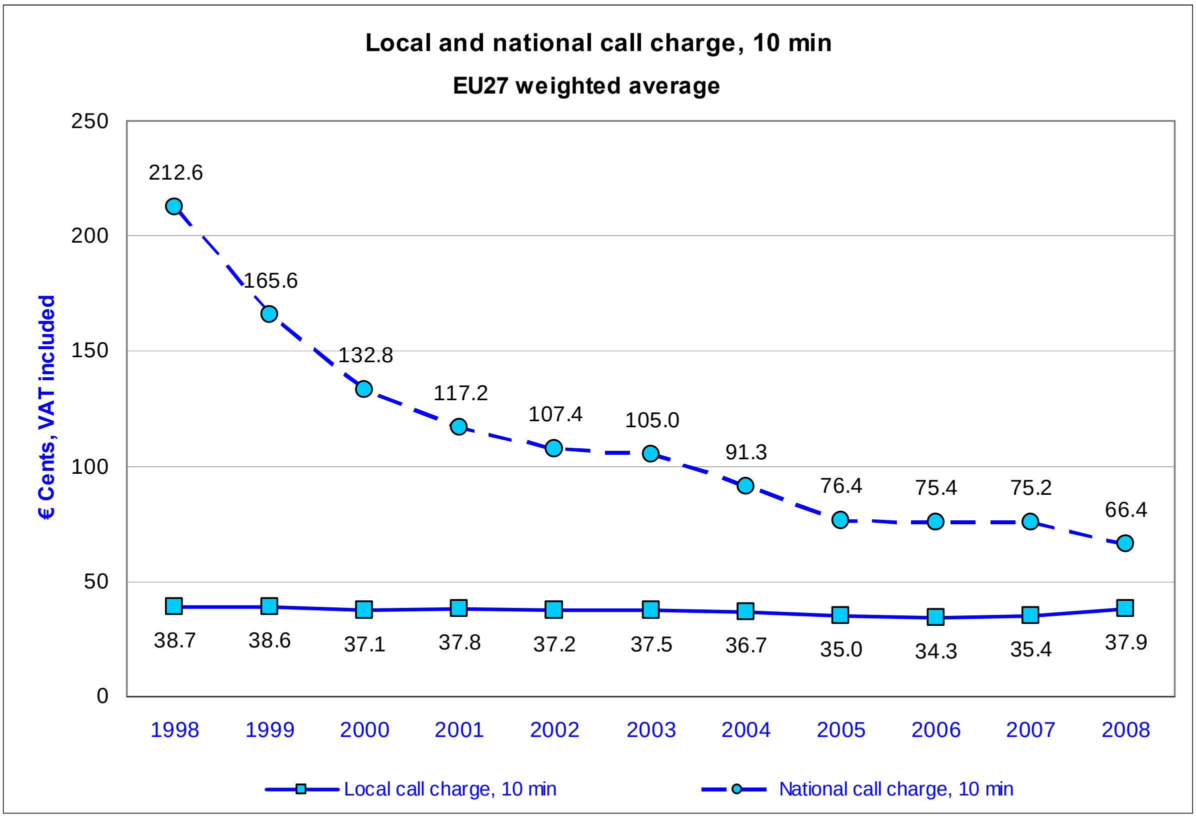


Figure 73: Local and National call charge, 10 min, EU27 weighted average



2.5.7. Price of fixed national calls by alternative operators

This section compares the prices charged for public voice telephony services by the incumbent operators and by the largest competitor in each Member State. The tariff packages selected will impact on this comparison, although care has been taken to ensure reasonable comparability.

In this report the following second largest operators have been covered for the year 2008. In some cases there has been a change of “second operator” from last year, and these are marked with an *.

	Second largest	**Competing service type**
Belgium	Telenet	PSTN / IP
Bulgaria	Orbitel	IP
Czech Republic	České Radiokomunikace	PSTN / IP
Denmark	Tele2	PSTN
Germany	Arcor	PSTN
Estonia	Starman	IP
Greece	Tellas	PSTN
Spain	Ono	Cable
France	NeufCegetel	PSTN
Ireland	BT	PSTN
Italy	Wind	PSTN
Cyprus	CallSat	?
Latvia	Telecom Baltija	PSTN / IP
Lithuania	Eurocom *	PSTN
Luxembourg	Tele2	PSTN
Hungary	Tele2	PSTN
Malta	---	---
Netherlands	Pretium	PSTN
Austria	Tele2	PSTN
Poland	Tele2	PSTN
Portugal	Sonaecom (Novo Optimus)	PSTN
Romania	RCS&RDS	PSTN
Slovakia	GTS Nextra	PSTN / IP
Slovenia	T-2	IP
Finland	Elisa	PSTN
Sweden	Tele2	PSTN
UK	Virgin	PSTN / IP

Figure 74: 3 min calls, incumbent and competitor's price

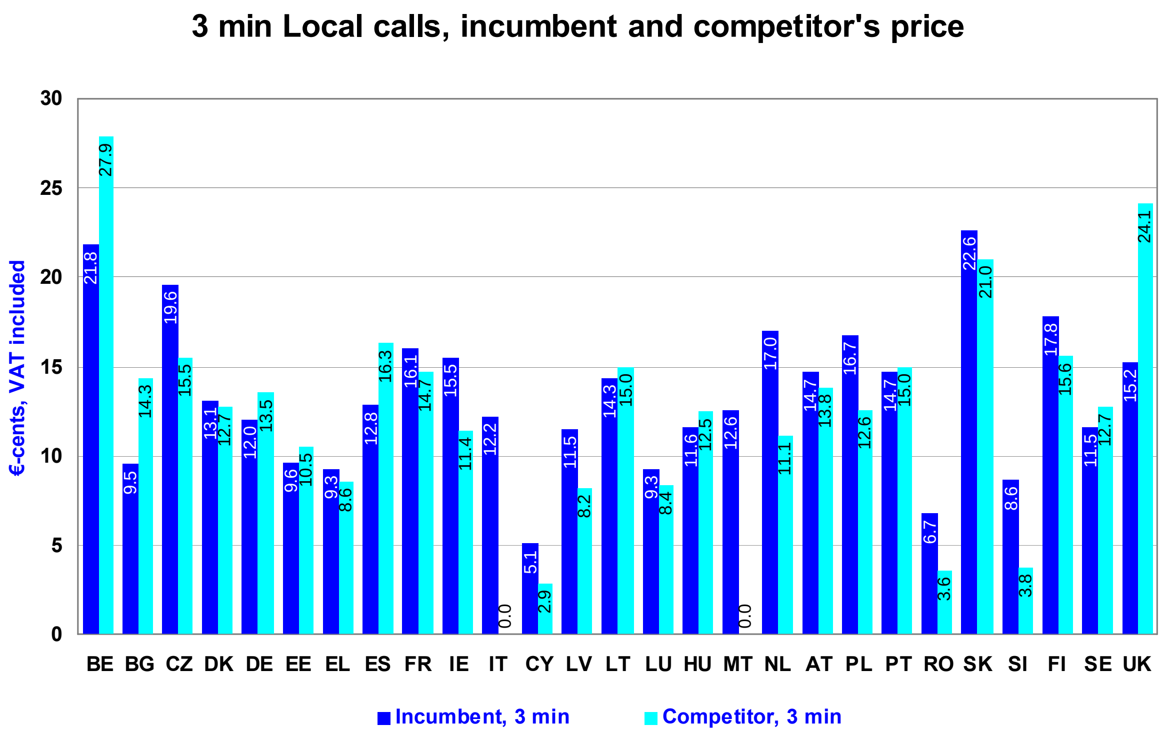


Figure 75: 10 min local calls, incumbent and competitor's price

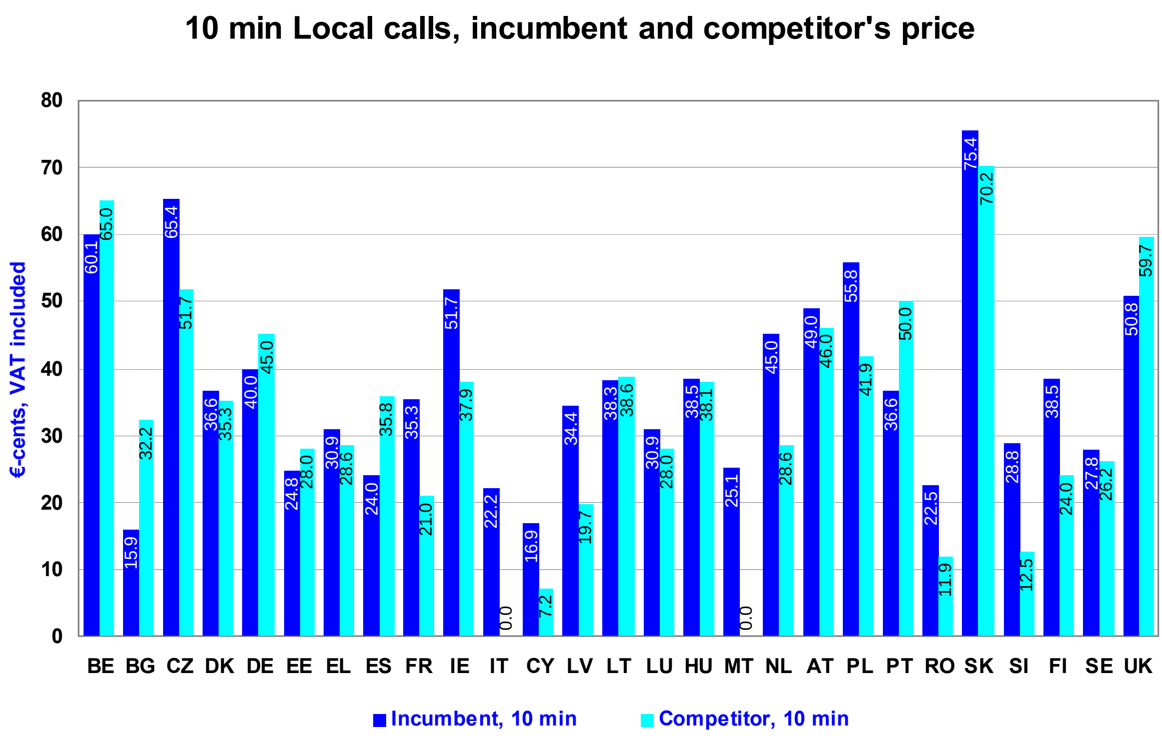


Figure 76: 3 min national calls, incumbent and competitor's price

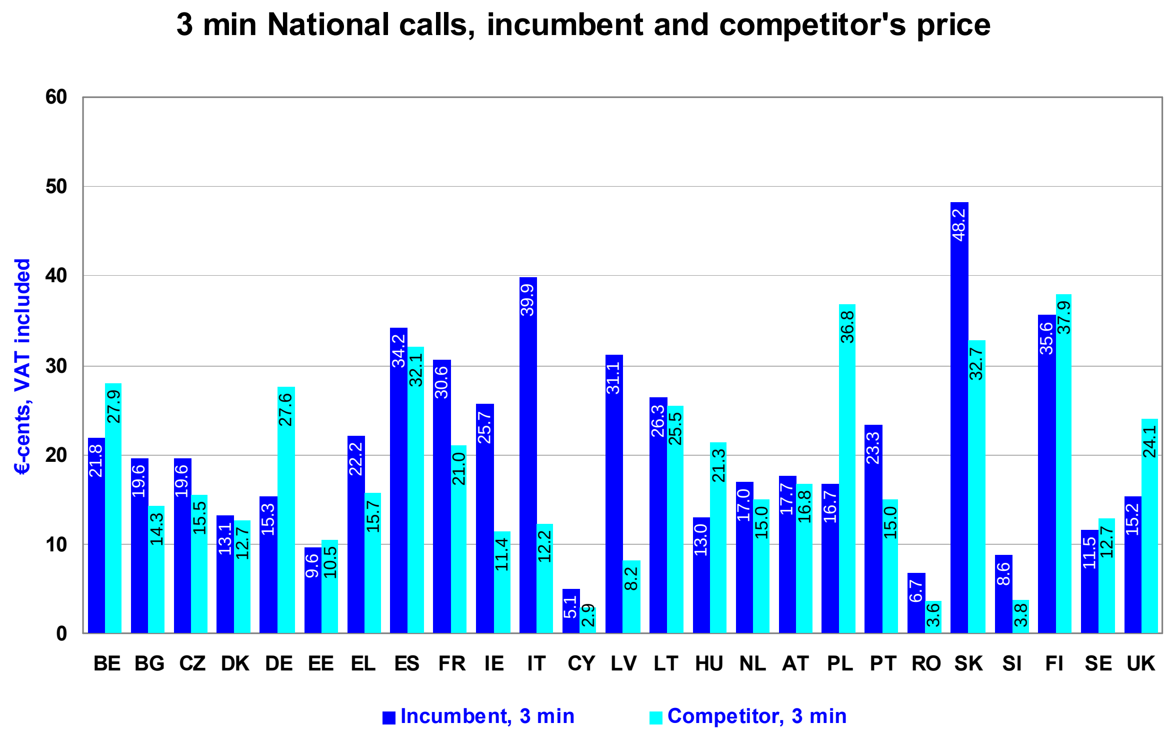
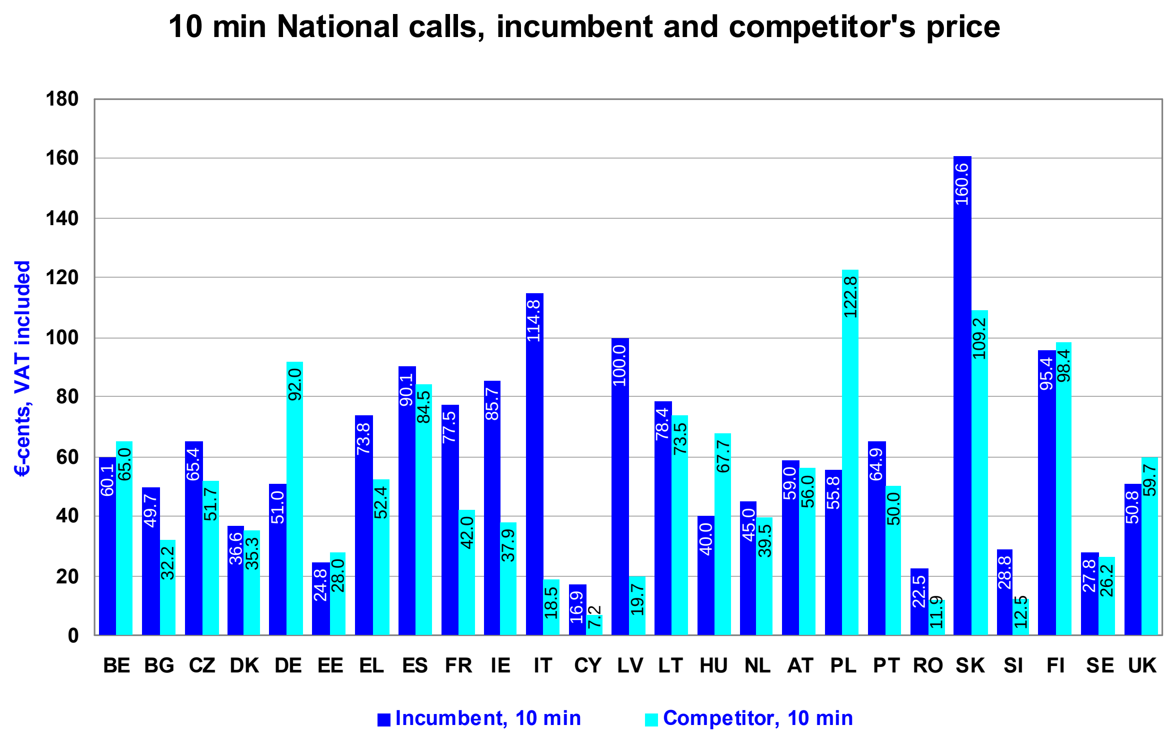


Figure 77: 10 min national calls, incumbent and competitor's price



2.5.8. Incumbent operator price of calls to EU, Japan, USA

The following charts show the prices of a 10-minute international call (including VAT) during peak hours (weekday 11:00 am) to four different destinations: Near EU country, Distant EU country, USA and Japan. Figures are expressed in €, including VAT, and they refer to the European incumbent operators and the EU weighted average.
The table below summarizes the definition of near and distant EU destination countries.

From:	Near EU	Far EU
BE	FR	EL
BU	EL	PT
CZ	DE	FI
DK	SE	EL
DE	FR	EL
EE	FI	EL
EL	IT	DK
ES	PT	DK
FR	BE	EL
IE	UK	EL
IT	EL	DK
CY	EL	DK
LV	SE	EL
LT	SE	EL
LU	DE	EL
HU	AT	FI
MT	IT	FI
NL	DE	EL
AT	DE	EL
PL	DE	EL
PT	ES	DK
RO	HU	PT
SK	CZ	FI
SI	AT	FI
FI	SE	EL
SE	DK	EL
UK	FR	EL

Figure 78: 10 min call to near EU country

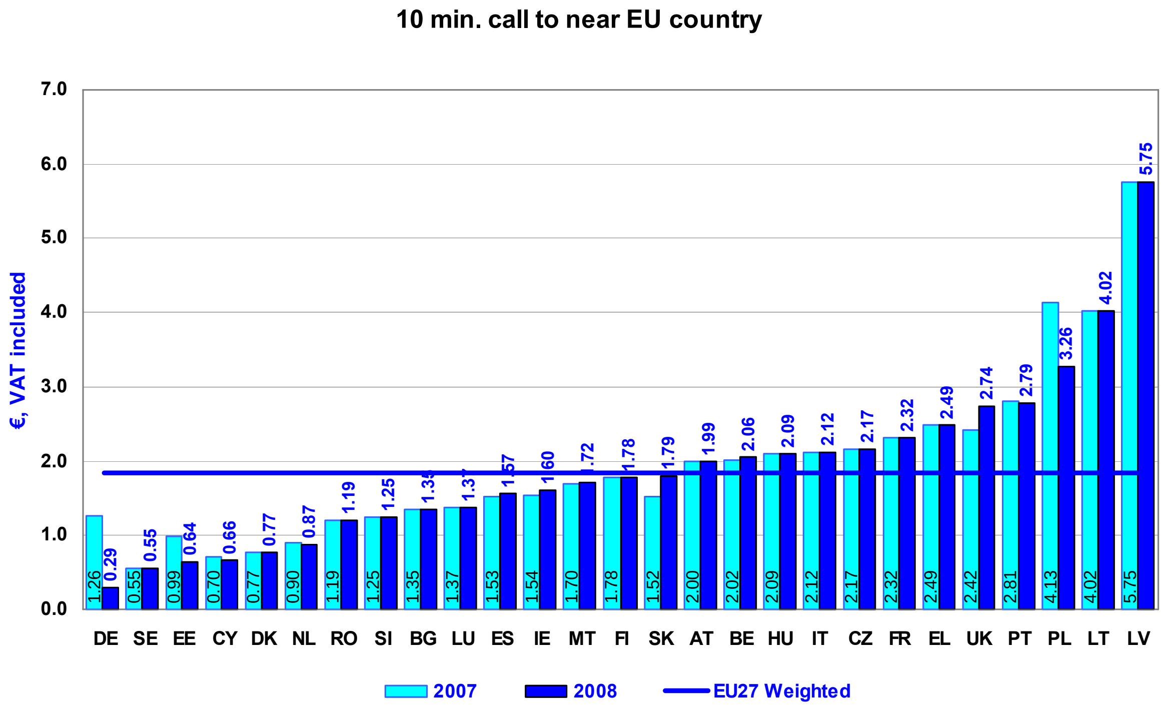


Figure 79: 10 min call to distant EU country

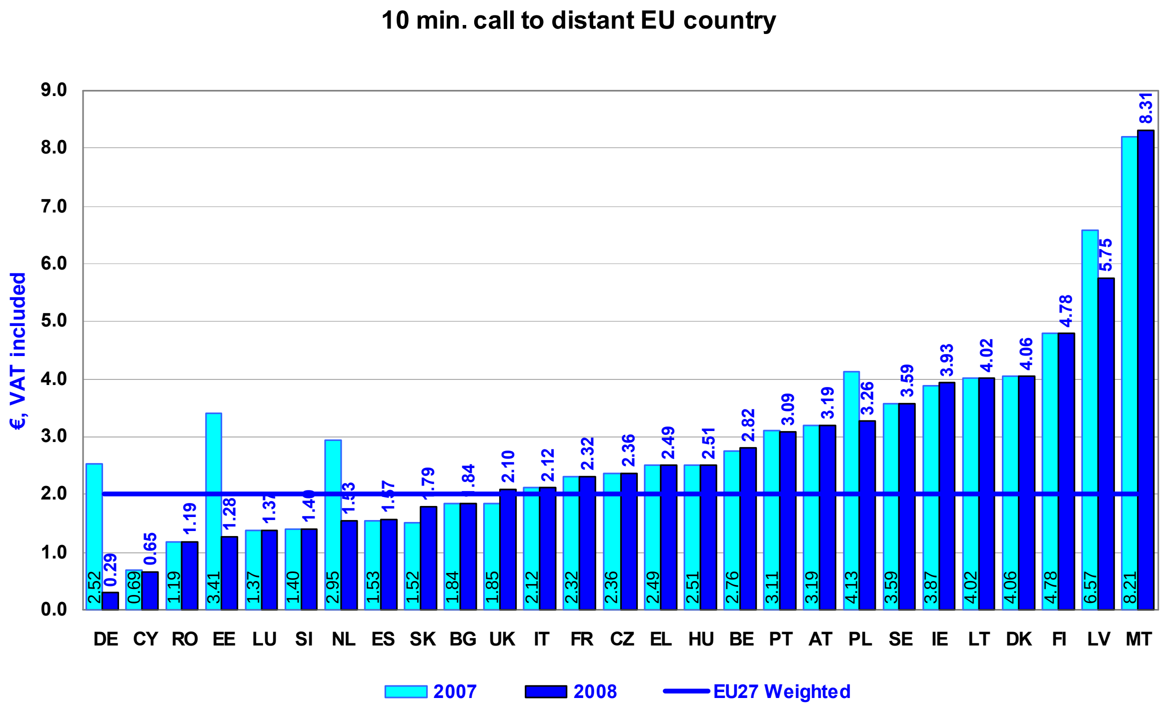


Figure 80: 10 min call to USA

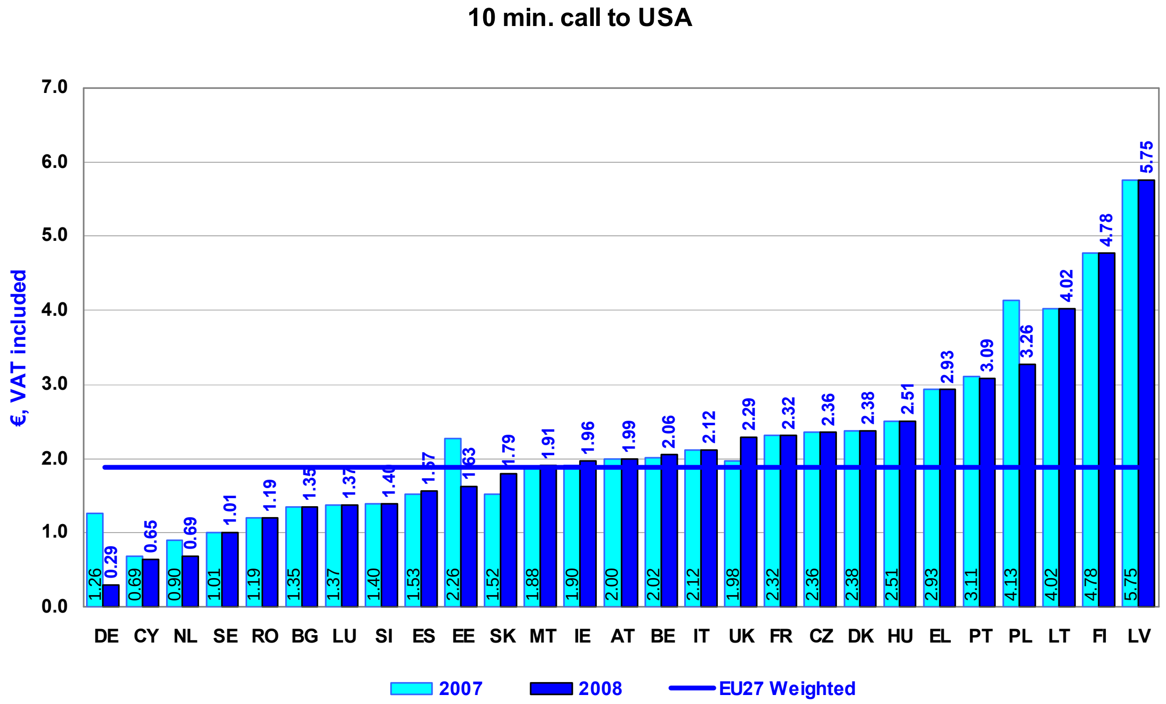
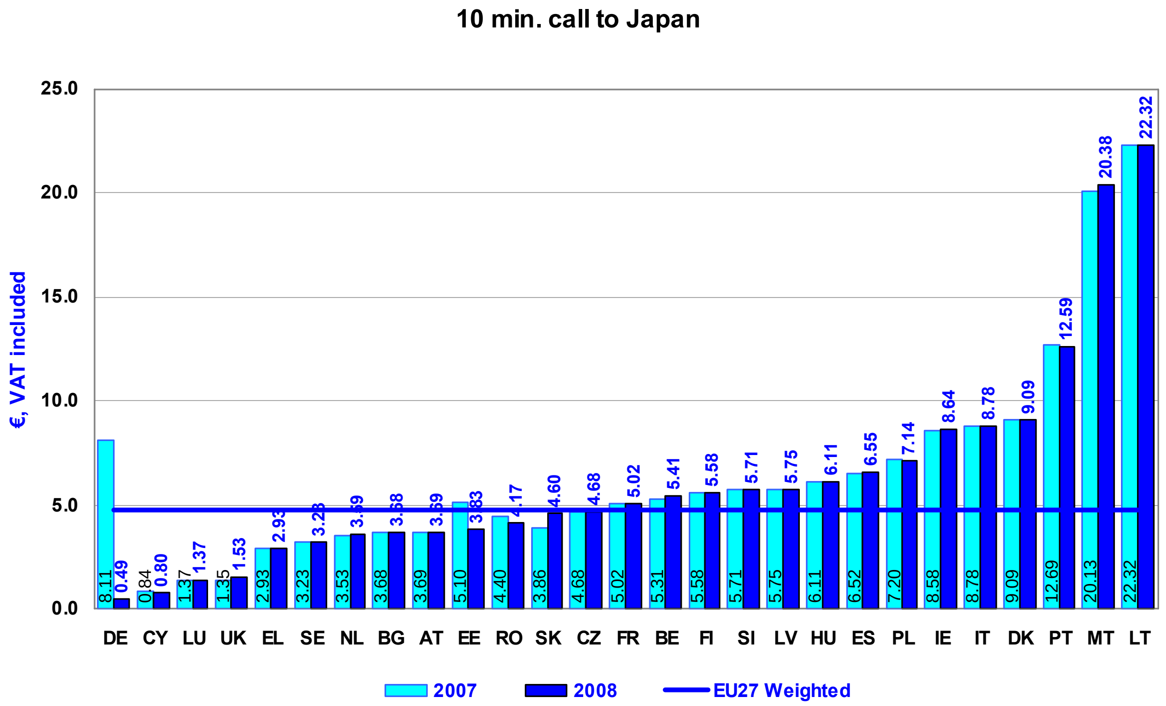


Figure 81: 10 min call to Japan



2.5.9. Alternative operators' price for fixed international calls

The equivalent prices for competitor providers in the EU countries are shown in the charts below. One competitor per country has been analyzed. The prices are shown for a 10 minute call, at peak time weekdays. Prices include VAT and are applicable for September 2008.

Figure 82: 10 min call to near EU country, incumbent's and competitor price

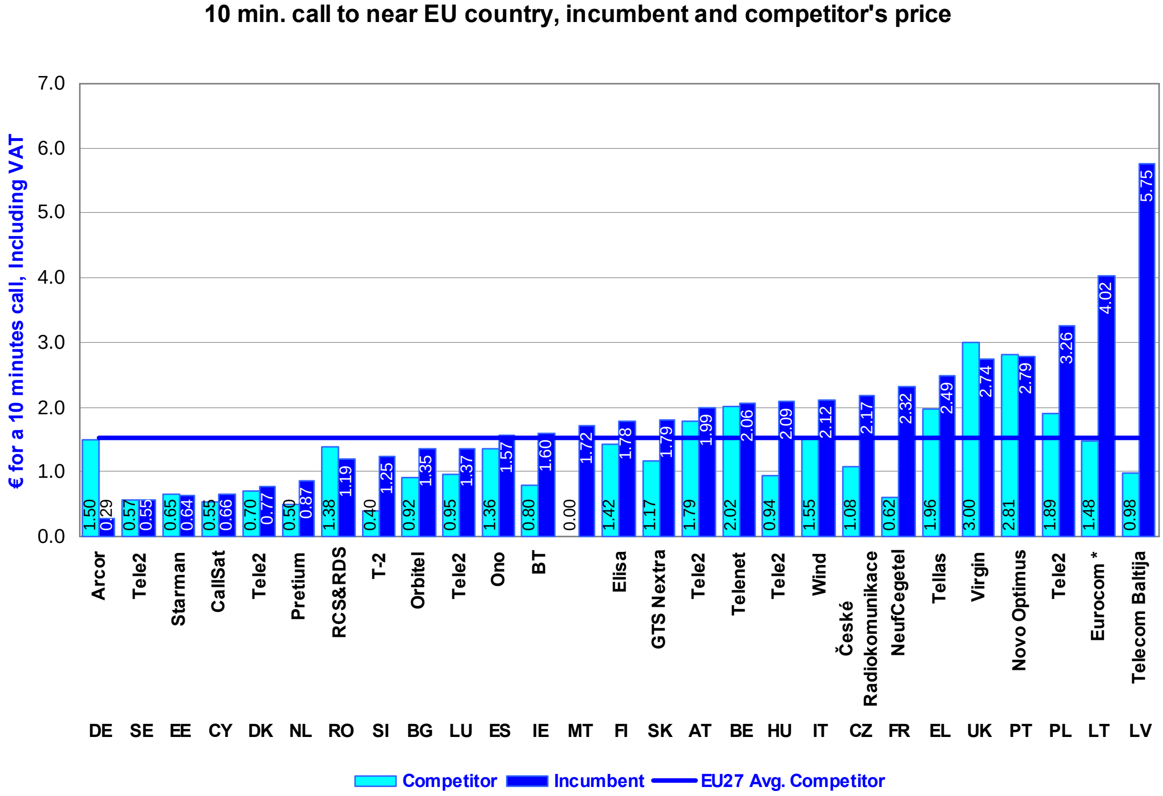


Figure 83: 10 min call to distant EU country, incumbent's and competitor price

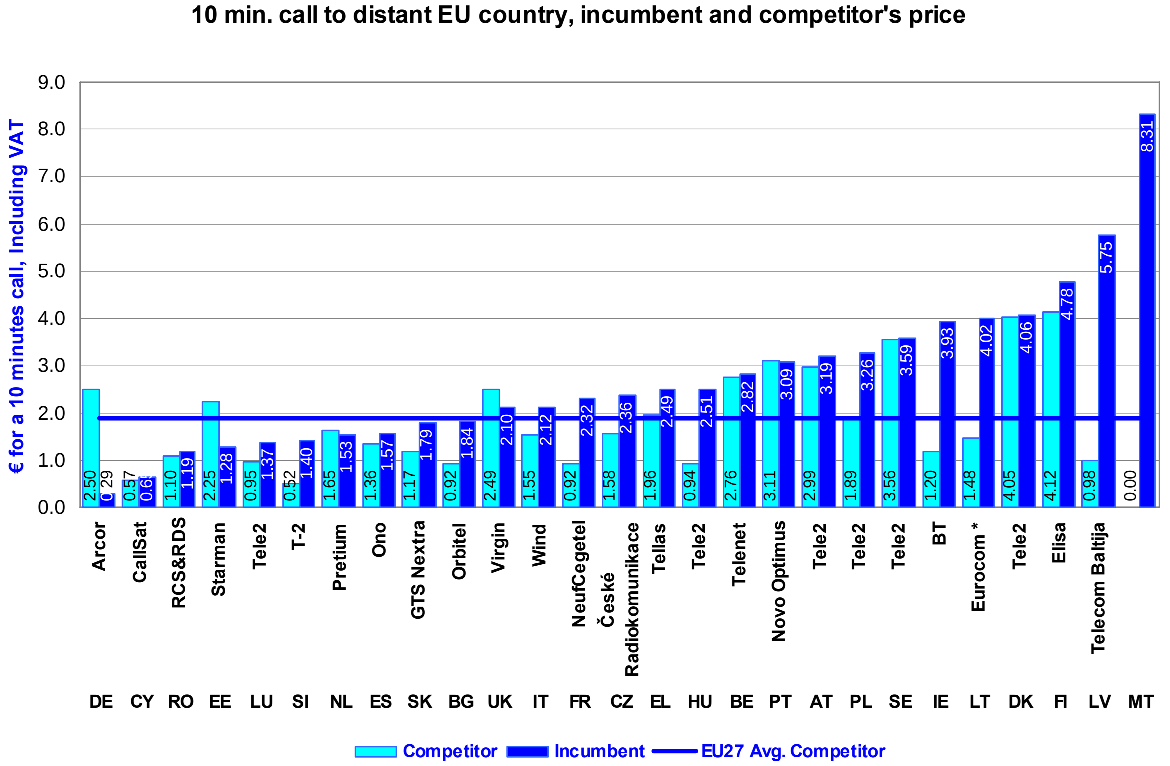


Figure 84: 10 min call to USA, incumbent and competitor's price

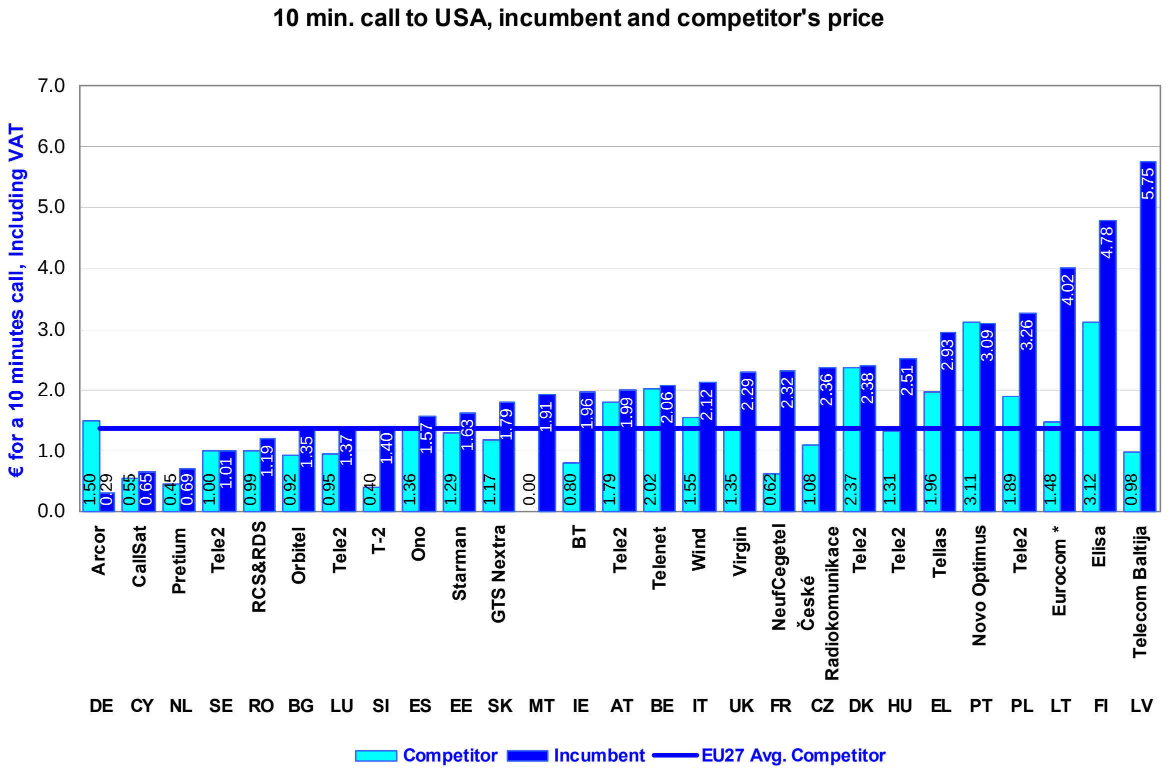
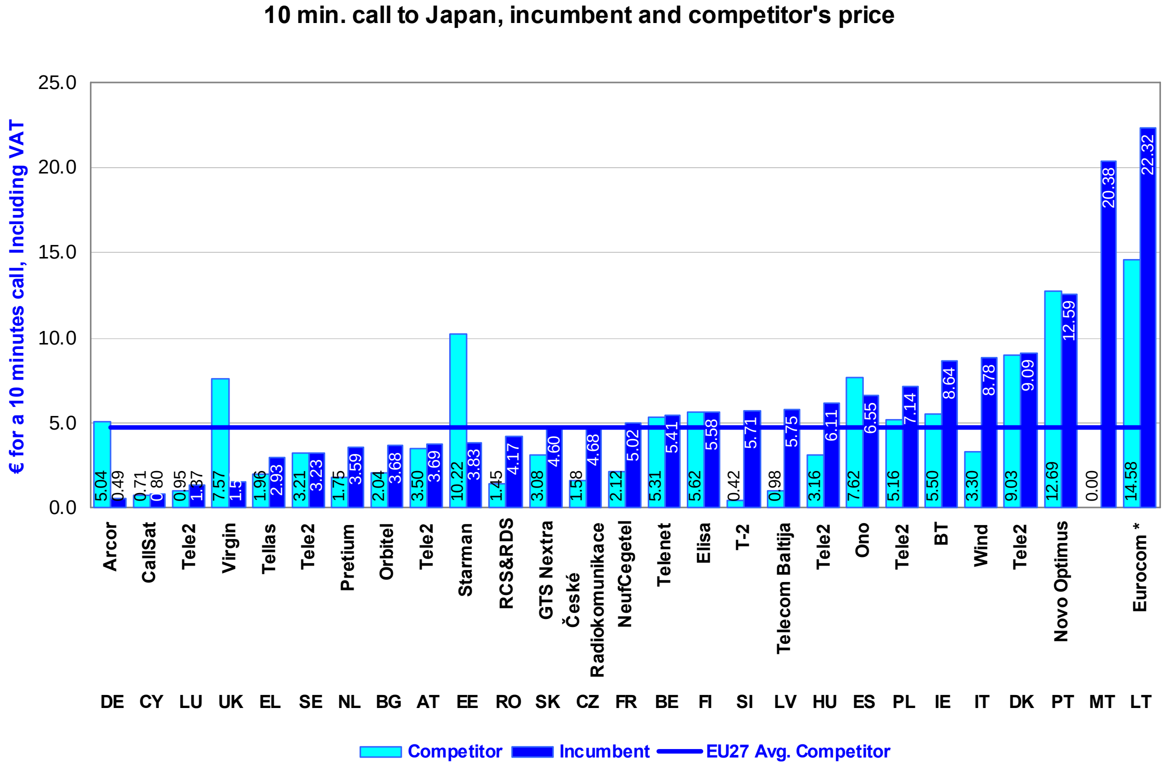


Figure 85: 10 min call to Japan, incumbent and competitor's price



2.6. CALL TERMINATION ON INCUMBENT'S FIXED NETWORK

This section analyses the interconnection charges for call termination on the incumbent's fixed network. The figures show the charges per minute based on the first three minutes of a call at peak-time, VAT excluded.
The figures may have been approved by the NRA or simply agreed between operators, where the legal framework does not require NRA approval.
The following chart shows the EU weighted average for the interconnection charges since 2005 for local level, single and double transit. The exchange rates for 2007 have been applied to the years 2005-2007 for the non euro-zone countries. Compared to October 2006, the EU weighted average charge for call termination on the incumbent fixed networks, is still decreasing (for single transit and for double transit (-0.13 €-cent)) however it has remained stable for local level. When comparing the categories of fixed interconnection fees, double transit represent in 2007 about twice the price of local level. Looking at the evolution of the interconnection charges on a per-country basis the following comments can be made:

- The lowest local level interconnection fee is to be found in the United Kingdom (0.11€-cent), and Cyprus (0.31€-cent). Finland has the second highest interconnection fee for local and the highest fee for single transit at 1.92 €-cents. .Lithuania has the highest fee for local and double transit, respectively at 2.61 and 3.5 €-cents, however the data for single transit in this country is not available.
- Sweden and the United Kingdom have the lowest single transit interconnection fees, respectively 0.12 and 0.23 €-cents.
- Romania has lower interconnection charges at all levels than Bulgaria.

The downward trend continues in Estonia (-60% for local level and -46% for single transit), Slovakia (-69% for local level and +42% for single transit), Malta (-48% for all levels).

Figure 86: EU fixed interconnection charges for call termination on incumbents' network, EU weighted average

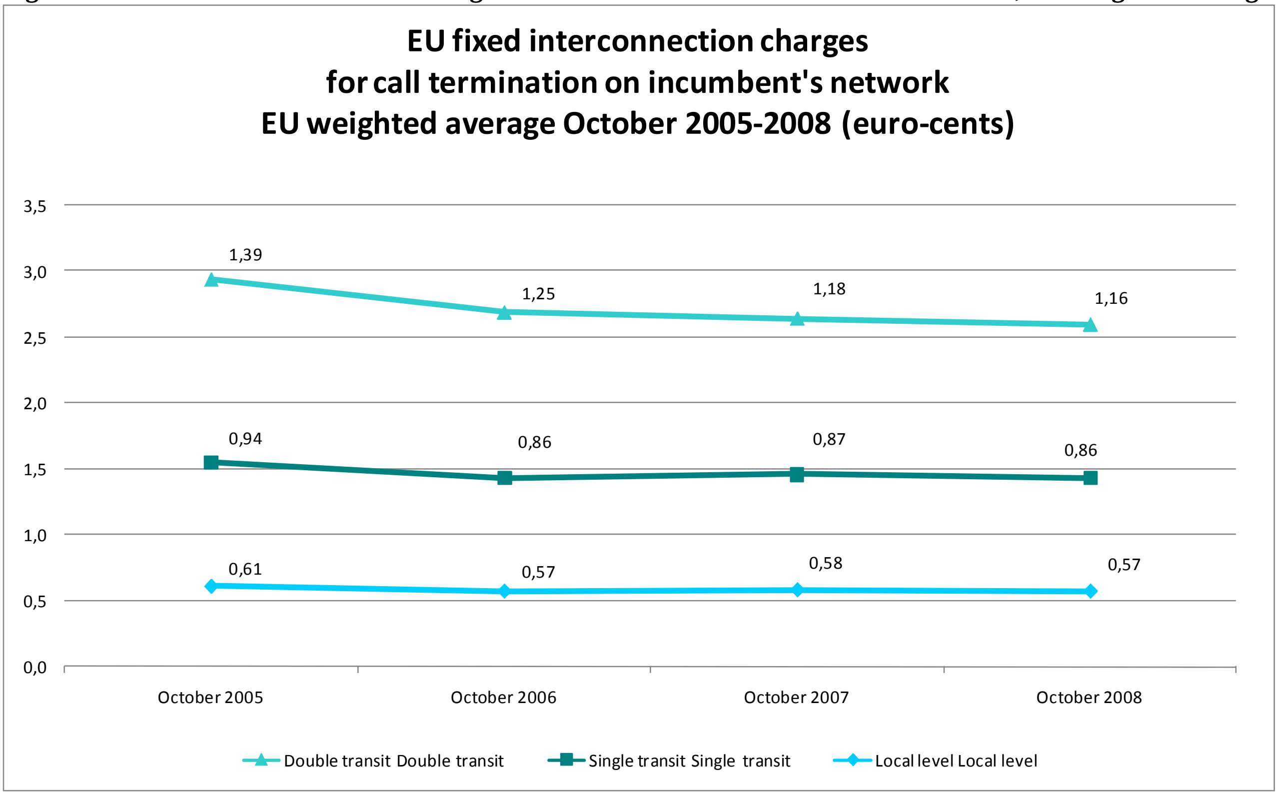
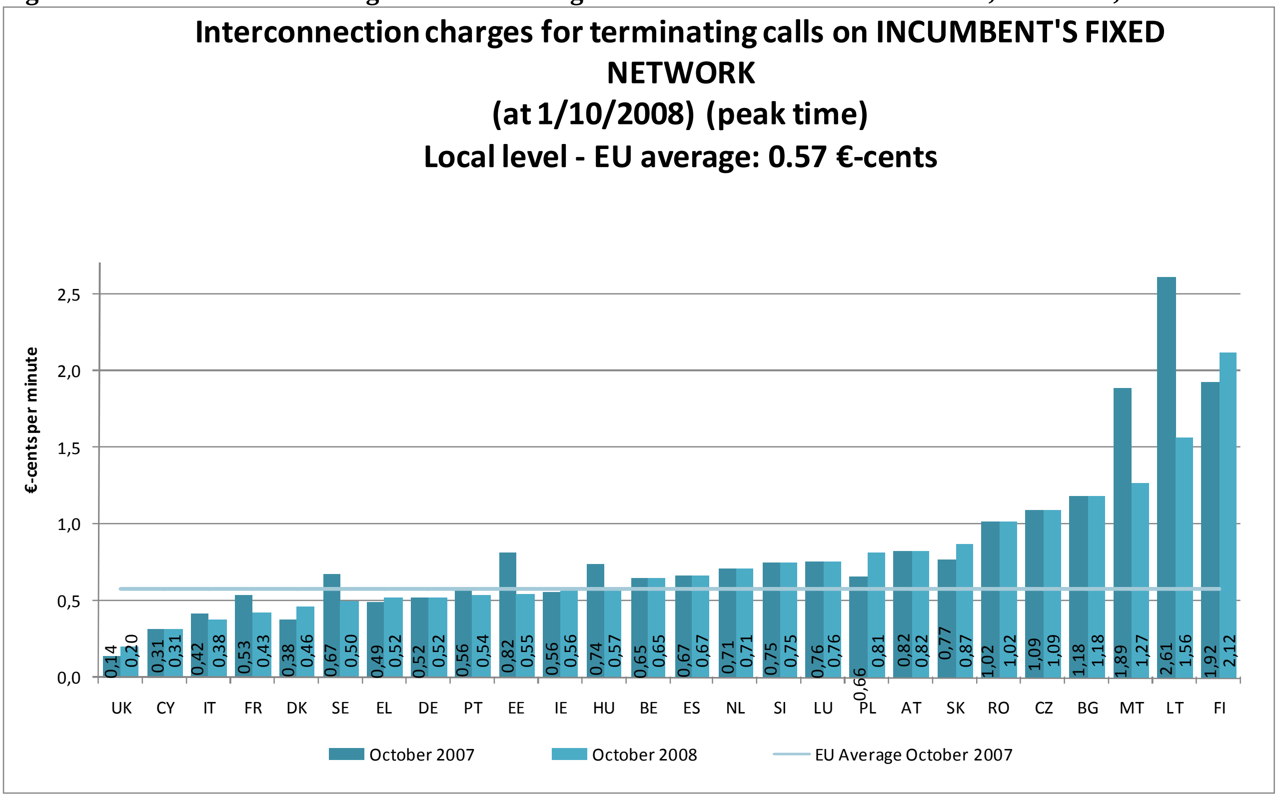
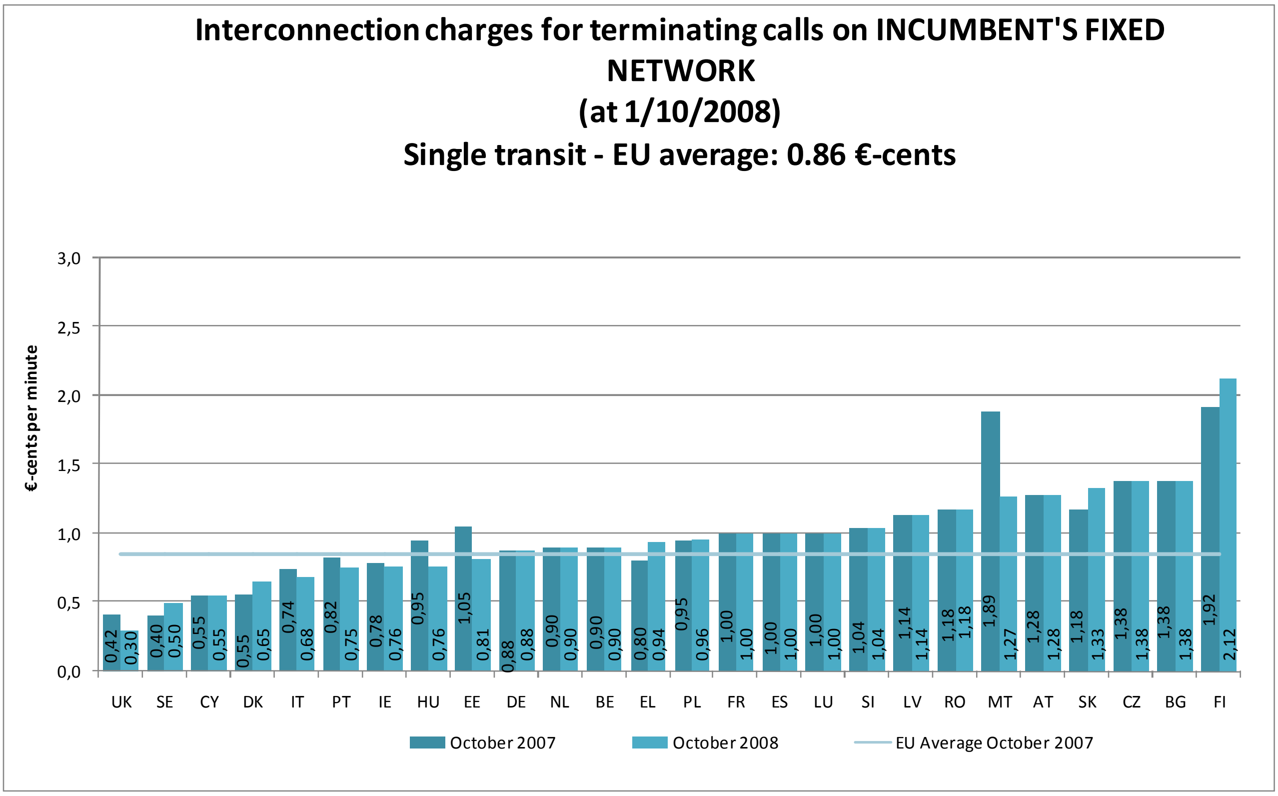


Figure 87: Interconnection charges for terminating calls on Incumbents' fixed network, local level, October 2008



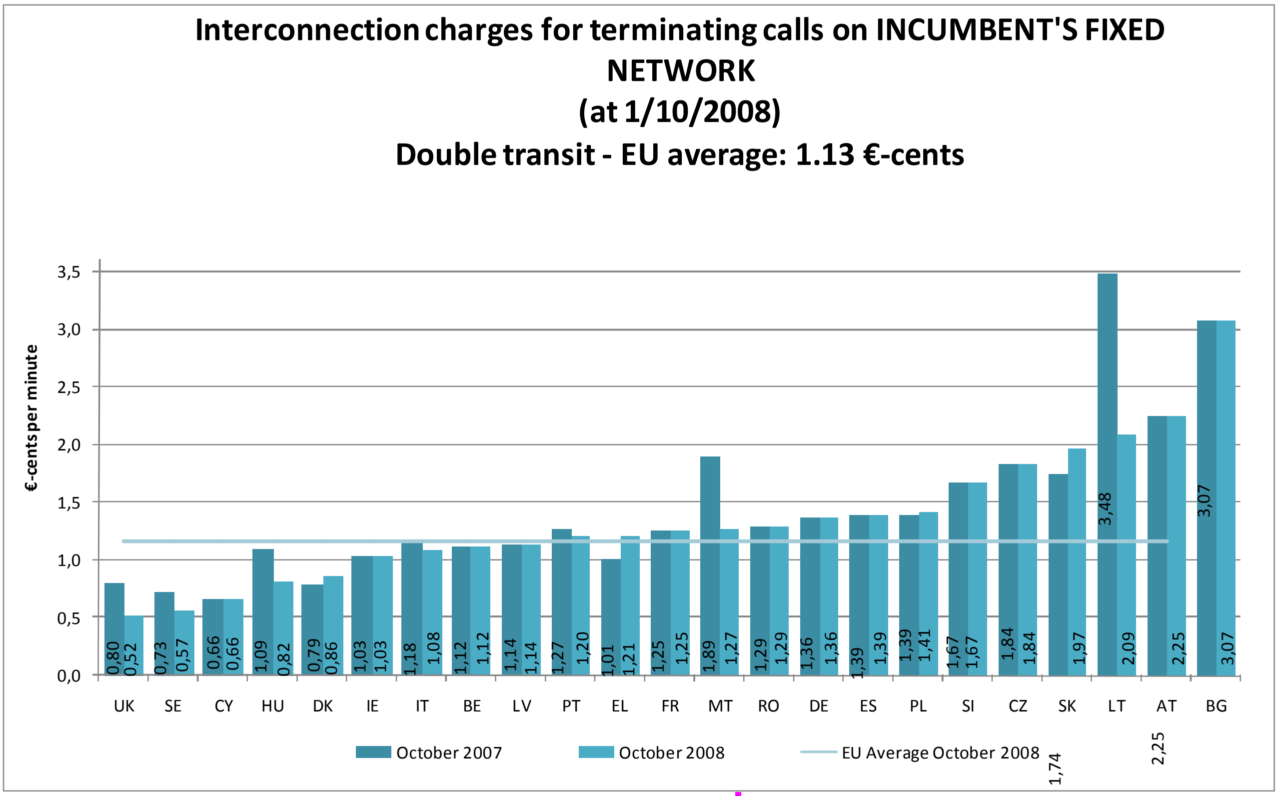
Malta: Due to size of country Malta has one geographical rate for local, single transit and double transit
Romania: Starting with 1st September 2008, the maximum average weighted tariffs RTC is obliged to charge are: 0.84 eurocents for local, 0.97 eurocents for single transit and 1.06 eurocents for double transit

Figure 88: Interconnection charges for terminating calls on Incumbents' fixed network, single transit, October 2008



Malta: Due to size of country Malta has one geographical rate for local, single transit and double transit
Romania: Starting with 1st September 2008, the maximum average weighted tariffs RTC is obliged to charge are: 0.84 eurocents for local, 0.97 eurocents for single transit and 1.06 eurocents for double transit

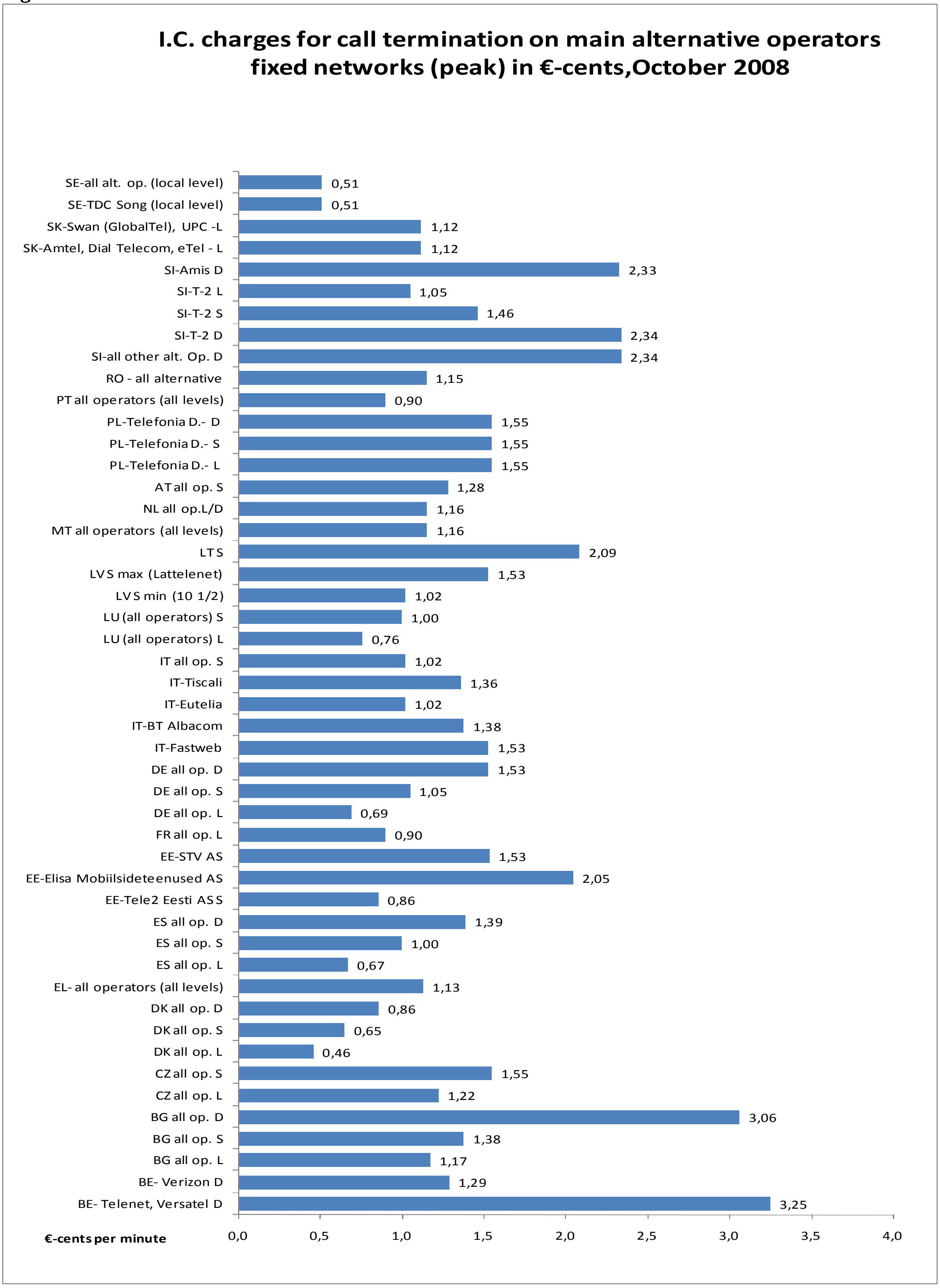
Figure 89: Interconnection charges for terminating calls on Incumbents' fixed network, double transit, October 2008



Czech Republic: double transit is not regulated being a subject of bilateral agreements.
Malta: Due to size of country Malta has one geographical rate for local, single transit and double transit
Romania: Starting with 1st September 2008, the maximum average weighted tariffs RTC is obliged to charge are: 0.84 eurocents for local, 0.97 eurocents for single transit and 1.06 eurocents for double transit

2.7. CALL TERMINATION ON ALTERNATIVE OPERATORS' FIXED NETWORKS

Figure 90: call termination in main alternative fixed networks 2008



Legend: L: Local, S: Single transit, D: Double transit
Cyprus, Hungary, Romania, Slovenia, Finland, United Kingdom: Data not available
France: Data not available
Ireland: No transit data available

3. BROADBAND ACCESS AND PRICING

3.1. BROADBAND ACCESS DEFINITIONS

This section provides data on the number and type of broadband lines supplied by both incumbent operators and new entrants/alternative operators in the EU. It also contains information on access lines provided by means of alternative technologies such as wireless access (WLL), fibre and cable modems. Data on mobile broadband access is also available, however data is not of the same quality for all countries. Data on speeds is partially available.
Information has been provided by the national regulatory authorities through the COCOM questionnaires on data for local broadband access. Given the rapid developments in this sector, it has been agreed with NRAs to update the questionnaires on a regular basis in January and July. Unless otherwise stated, the data below refer to the market situation at 1 January 2009.
The definitions used in the charts and data below are as follows:
- Fully unbundled lines: Fully unbundled lines supplied to other operators, excluding experimental lines. In the case of full unbundling, a copper pair is rented to a third party for its exclusive use. As fully unbundled lines (LLU) supplied by the incumbent operator to the new entrants could in principle be used for services other than broadband, the total number of LLU for access to internet will be lower than the total number of LLU.
- Shared access lines supplied by the incumbent to new entrants: Shared access lines supplied to other operators, excluding experimental lines. In the case of shared access, the incumbent continues to provide telephony service, while the new entrant delivers high-speed data services over that same local loop.
- Bitstream access: Supplied to new entrants. Bitstream access refers to the situation where the incumbent installs a high-speed access link to the customer premises and then makes this access link available to third parties, to enable them to provide high-speed services to customers. Bitstream depends in part on the PSTN and may include other networks such as the ATM network. Bitstream access is a wholesale product that consists of the provision of transmission capacity in such a way as to allow new entrants to offer their own, value-added services to their clients. The incumbent may also provide transmission services to its competitor, to carry traffic to a 'higher' level in the network hierarchy where new entrants may already have a broadband point of presence.
- Simple resale: In contrast to bitstream access, simple resale occurs where the new entrant receives and sells on to end users - with no possibility of value added features to the DSL part of the service - a product that is commercially similar to the DSL product provided by the incumbent to its own retail customers, irrespective of the ISP service that may be packaged with it. Resale offers are not a substitute for bitstream access because they do not allow new entrants to differentiate their services from those of the incumbent (i.e. where the new entrant simply resells the end-to-end service provided to him by the incumbent on a wholesale basis).
- Incumbent's DSL lines: Provided to end users by the incumbent, its subsidiaries or partners (for example an associated company such as a joint venture providing ISP services).
- WLL: Internet broadband connections by means of wireless local loop (sometimes referred to as fixed wireless access).

- Cable modem: Internet broadband connections by means of cable TV access.
- L.L. or Other traditional wireline access: Internet broadband connections by means of dedicated capacity (Leased Lines) provided over metallic copper pairs, including tail ends or partial circuits. “Incumbent's leased lines” includes only retail lines and excludes lines provided to other operators. “New entrants' leased lines” includes all retail lines provided to end users, even if based on wholesale lines supplied by the incumbent.
- Fibre to the home: Internet broadband connections by means of fibre optic.
- Satellite: Internet broadband connections via satellites.
- Powerline communications: Internet broadband transmitted over utility power lines.
- Other categories: Internet broadband connections by means of local area networks, other.
- Retail access: Access provided to end users.
- Incumbents are defined as the organisations enjoying special and exclusive rights or *de facto* monopoly for provision of voice telephony services before liberalisation, regardless of the role played in the provision of access by means of technologies alternative to the PSTN.
- “New entrants” refers to alternative telecommunications operators, as well as internet service providers (ISPs).
- Mobile BB "lines" - access to dedicated data services via data modems/cards/USB keys and/or a number of active mobile handset users involved in transactions, whereby a user accessed advanced data services such as web/Internet content, online multiplayer gaming content, video on demand (VoD) or other equivalent advanced data services (excluding SMS and MMS), in the last 90 days.
- Broadband capacity: Capacity equal to, or higher than, 144 Kbit/s.

3.2. WHOLESALE ACCESS

This section shows the availability of fixed wholesale access lines supplied by incumbent operators to new entrants. Separate figures are provided for fully unbundled lines, shared access, bitstream access and resale.

Figure 91: Number of lines and agreements for fully unbundled local loop, shared access, bitstream access and resale on 1 January 2009.

Jan-09	Incumbent's PSTN activated main lines	Availability of wholesale access									
		Fully unbundled lines			Shared access lines supplied by			Wholesale DSL lines supplied			
								Bitstream access		Simple resale	
Country		Unbundled lines	FUL Requested lines	FUL N. of agreements	Shared lines	SAL Requested lines	SAL N. of agreements	Bitstream N. lines	Bitstream N. agreements	ResaleN. lines	Resale N. agreements
BE	4010973	61748		8	34570		7	287515	10	15450	14
BG	2132669				2	10	3	161	8	8212	1
CZ	confidential	confidential		confidential	confidential		confidential	confidential	confidential		
DK	2362060	244631		25	57244		8	123721	24	31326	15
DE	36947000	8270000		120	116000		19	800000e	6	1700000e	22
EE	414000	7674	720	7				83	1		
IE	1709520	17284	111	7	5369	91	7	182384	15		
EL	5253695	589234	24567	19	56890	558	7	94413			
ES	15751140	835831		16	862418		11	345226	26	82752	2
FR	8325505	4938531			1392973			2102515		93984	
IT	17274050	4732428	50024	32	586308	1045	14	1380000	172		
CY	408784			3	327		3	197	2		
LV	600000	471		2	11		2	648	10	556	
LT	703372e	473e		2e				2282e	10e		
LU	220864	12788	382	4	33	0	4	0		14132	6
HU	2795000	13022	95	8	5881	44	8	204320	22		
MT	187588							8351	11		
NL	5215000	459000		9e	194000		9e	confidential	5e		
AT	2540000e	293909	1995	36	127		3	60408e			
PL	8016805	1544	987	13	88		13	347474	18		
PT	2777387	305244	2797	4				49820	11	1435	6
RO	3000000	1546		17	414		17				
SI	764094	50023	700	3	23322	185	3	18546	4		
SK	966148							24935	19		
FI	2050000	347600			56200			58800			
SE	4644000	407524			192164			1000e		85000e	
UK	20766294e	1596280		63	3906327		39	704050	36	7369538	489

Data for the Netherlands as at October 2008.
e – estimated figures.
DE: Data on incumbent's activated main lines – including incumbent's active analogue and ISDN access lines, FULL and SA. Excluding bitstream, DSL resale, public payphones and self-supply.
ES: Provisional figures.
FR: Provisional figures of 25 January 2009.
LT: Incumbent's FULL lines are used on the retail level by new entrants for the provision of other data transmission services (eg. VPN) and 10 lines are used for provision of broadband internet access services.
HU: There are three incumbent operators.
AT: Where estimates are used, data is based on extrapolation of data as at 31 October 2008.
RO: A total of nine agreements concluded both for full and shared access.
FI: There are more incumbent operators.
SE: Incumbent's activated main lines – total number of active PSTN and ISDN subscriptions.

3.3. RETAIL FIXED BROADBAND ACCESS

This section provides information on the deployment of fixed broadband access lines by incumbents (and their subsidiaries or partners) and by new entrants (alternative telecom operators or Internet Service Providers) to end-users.

Fixed broadband access can be provided by different means: DSL lines, cable modem, wireless local loop (WLL), fibre, dedicated leased lines and other access (such as satellite, powerline communications, local area networks, etc.).

New entrants' DSL lines can be provided to end users by means of fully unbundled or shared access lines, bitstream access or resale. In some Member States, new entrants have started rolling out parallel DSL networks.

In all the charts below on fixed broadband retail lines the data refer to 1 January 2008 and 1 January 2009. In some cases only estimates are available or data is from 1 October 2008.

The following figure shows the total number of fixed broadband access lines for each Member State, provided by both incumbents and new entrants/alternative operators, and including all types of fixed broadband connections.

Figure 92: Number of fixed broadband lines by operator and technology on 1 January 2009

Jan-09	Availability of incumbent's and new entrants' retail broadband access to internet																						
		New entrants' DSL lines on PSTN					Incumbents' access lines by other means								New entrants' access lines by other means								
Country	Incumbent's DSL lines	Own network	Full ULL	Shared access	Bitstream access	Resale	Inc. WLL	Inc. Cable modem	Other traditional wireline access	Inc. Fiber to the home	Inc. Satellite	Inc. PLC	Inc. Other	Public access WIFI Hotspots	New E. WLL	New E. Cable modem	New E. Other traditional wireline access	New E. Fiber to the home	New E. Satellite	New E. PLC	New E. Other	Public access WIFI Hotspots	Total number of new entrants
BE	1343260		47872	17194	204387	98360			5433						20040	1200198	1145	716					
BG	247751				132	8212			596				14		5078	103048e	683	14413	7		473155e		656
CZ	592539	500	39848	10227	54558										620000	382512		70000					
DK	827820		236149	66852	75794	33538		306522	17762				16760		24284	232414	3919	87991	5		110890		59
DE	10594000	12000e	7700000	116000	800000e	1700000e			28000		7000			8000		1600000	27000e		24000	10000			100
EE	129387	1608	5186		83	40	5617			39173			534	170	7712	74573	21821	28673			15029	1040	87
IE	454989		17284	5369	182384		321		4012		147			1055	114012	96678	4988	6277	2730		1180	310	43
EL	864021		485030	56890	94413						386				1001		2857	2016					22
ES	5156701		835831	862418	345226	82752				23611	10114				55359	1775842	5467	2590	1058		496		18
FR	8325505		4938531	1392973	2102515	93984				14500e						800000e		20000e					
IT	6754000	763	2563439	202000	1380000	2790			268	506	7294		424	4844	3200		5400	308133	74009		2296		181
CY	115629		23537	327	197				124e		21			66	20e	3313e	37e		97				
LV	183164		268	8	45	556	102			152			378		14383	37217	8275	7446	329	16	143557		236
LT	252000e		10e		2282e		21400e		70e	21950e				4000e	37418e	66078e	2040e	135207e	201e		49691e	293e	112e
LU	97326	21	10170	0		14132		701	409	263				41	140	16259e	10	70	0	0		90	
HU	583454		13022	5881	204320		2000e	96893	900e						85000e	645464e	1800e	1000e	710				516e
MT	37599				8351										2882	49277						33	16
NL	confidential		459000	194000	confidential											2192000		100000e					
AT	810000e		274417	127	60408e										35000e	595000e		4800e		5300e	1000e		
PL	2423804	246259	1544	88	339395			112291					1691		20532	1287598	2285	3120			604055	309	3600e
PT	711460		296337		49620	1435			721	419	19			1460	21647	668815	2173	2006	1				33
RO	654000	742	1129						782	673					27400	465400	13	88500	420		1271400	948	1103
SI	193962		50023	23322	18546		48			15426				66	209	95076	266	29138	6		48	649	51
SK	304951				24935	0			549	1436					82000e	62000e	49000e	65000e	26			500	296
FI	807300		347400	26800	58800		17600	108500					119800		6600	106200				1245	25500		55
SE	1057000e		192000	408000	1000e	115000e			6000e	73000e					2000e	556000e	4000e	460000e					130e
UK	4420472	93433	1596280	3906327	704050	2949066									30000e	3688000e			6000e				

Data for the Netherlands as at October 2008.

e - estimated figures.

ES: Provisional figures.

HU: There are three incumbent operators.

AT: Where estimates are used, data is based on extrapolation of data as at 31 October 2008.

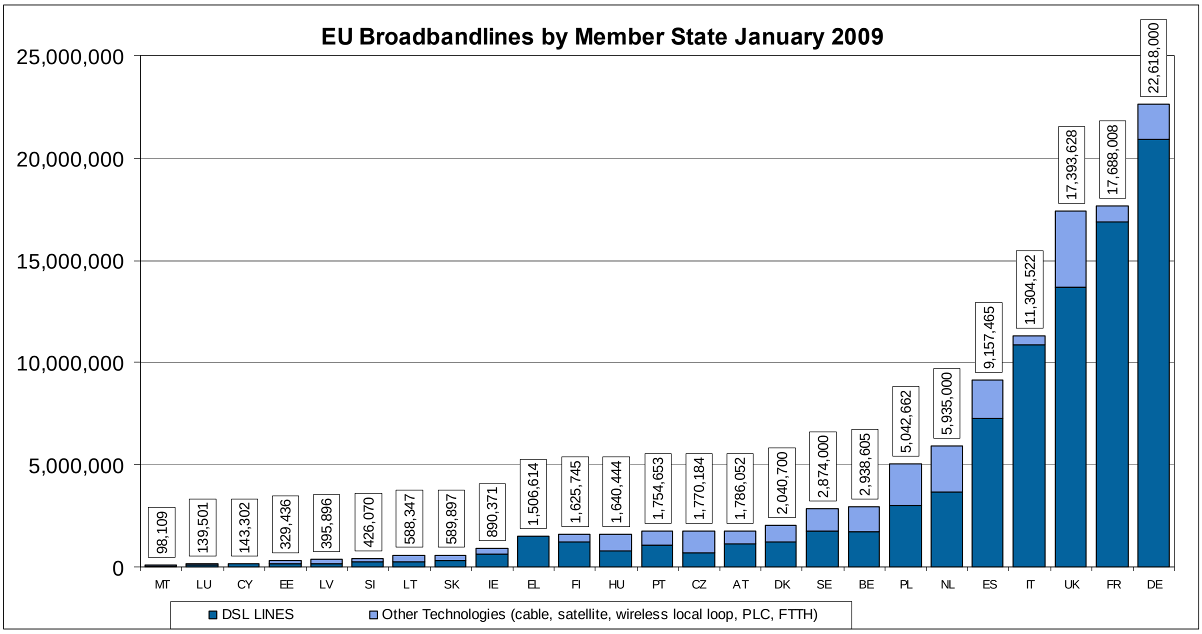
RO: Provisional figures.

SK: The Commission services believe that all bitstream lines should be reported as resale. Other traditional wireline access column contains data for both leased lines and Ethernet connections.

FI: There are more incumbent operators.

SE: FTTH columns include both FTTH lines and fibre-LAN connections.

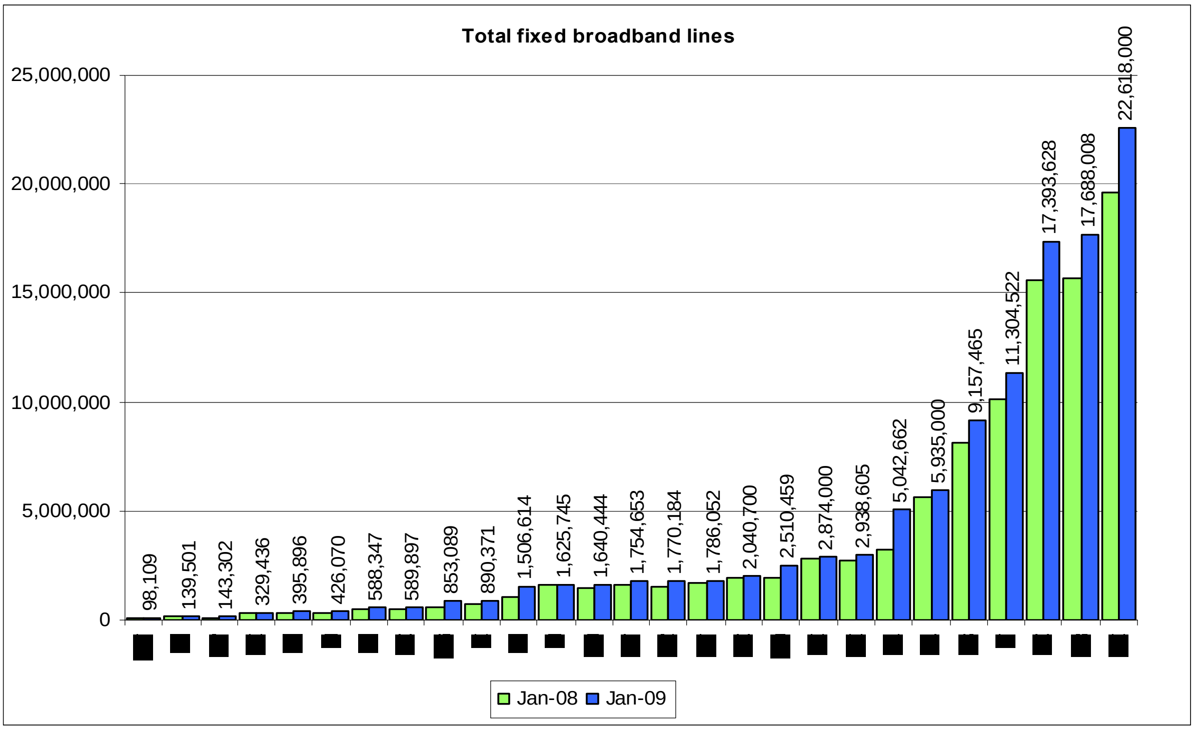
Figure 93: EU fixed broadband lines by Member States, January 2009



Data for the Netherlands as at October 2008.

The following chart presents the number of broadband lines per Member State on 1 January 2008 and 1 January 2009.

Figure 94: Total fixed broadband retail lines

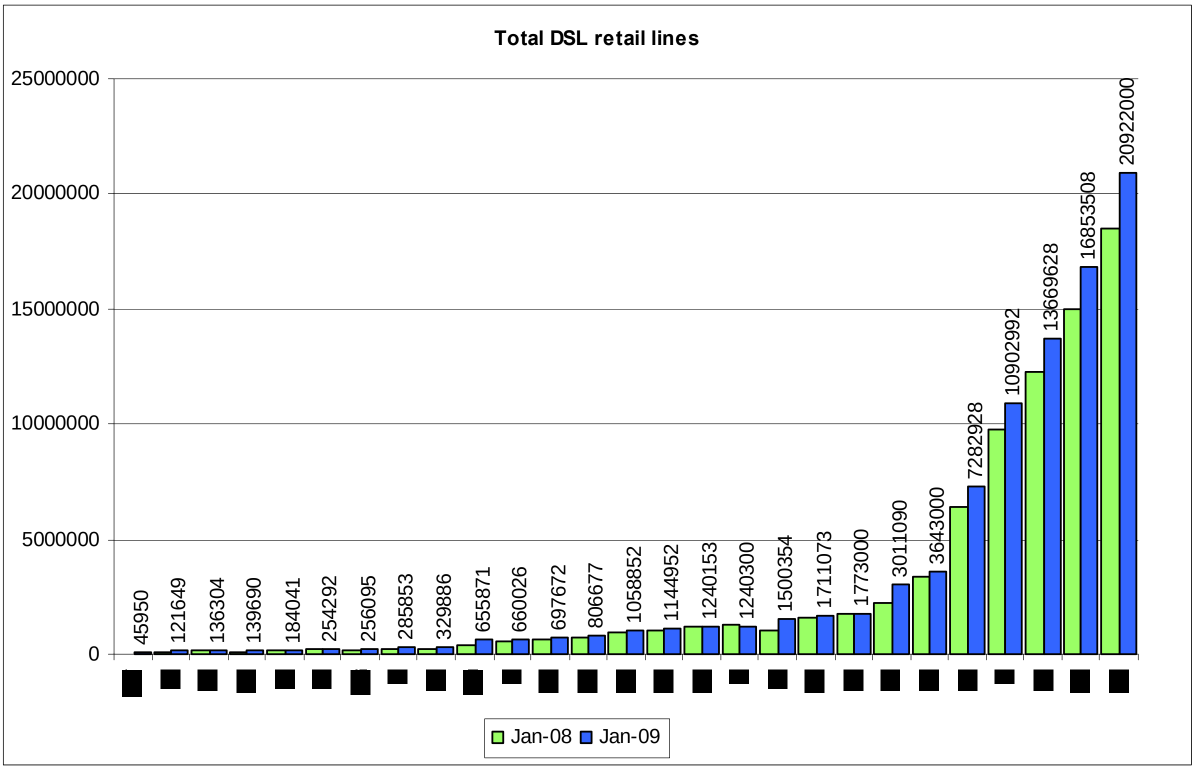


Data for the Netherlands as at October 2008.

The following two charts show the breakdown of broadband lines according to the two main groups of types of technologies.

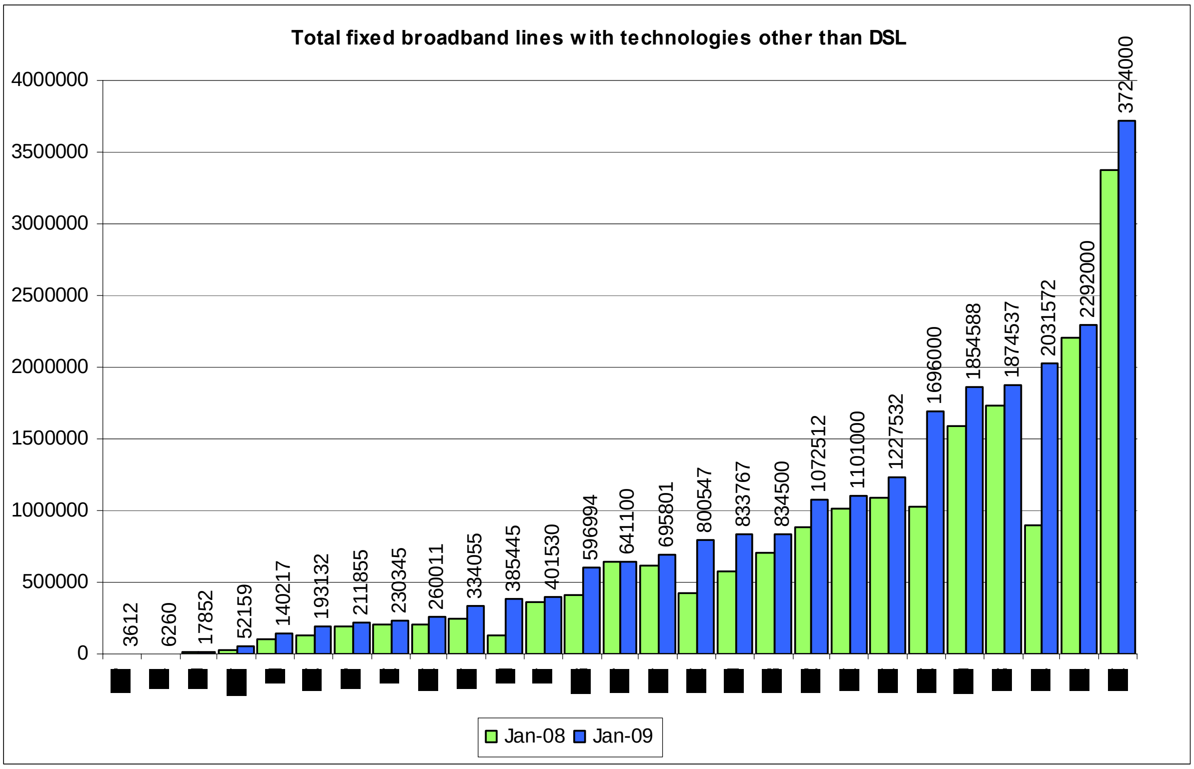
Figure 95 shows the number of DSL lines. Amongst the technologies other than DSL (**Figure 96**), cable modem is the most common technology. Other technologies are still marginal, though some (fibre to the home and WLL) are quickly developing.

Figure 95: Total DSL retail lines



Data for the Netherlands as at October 2008.

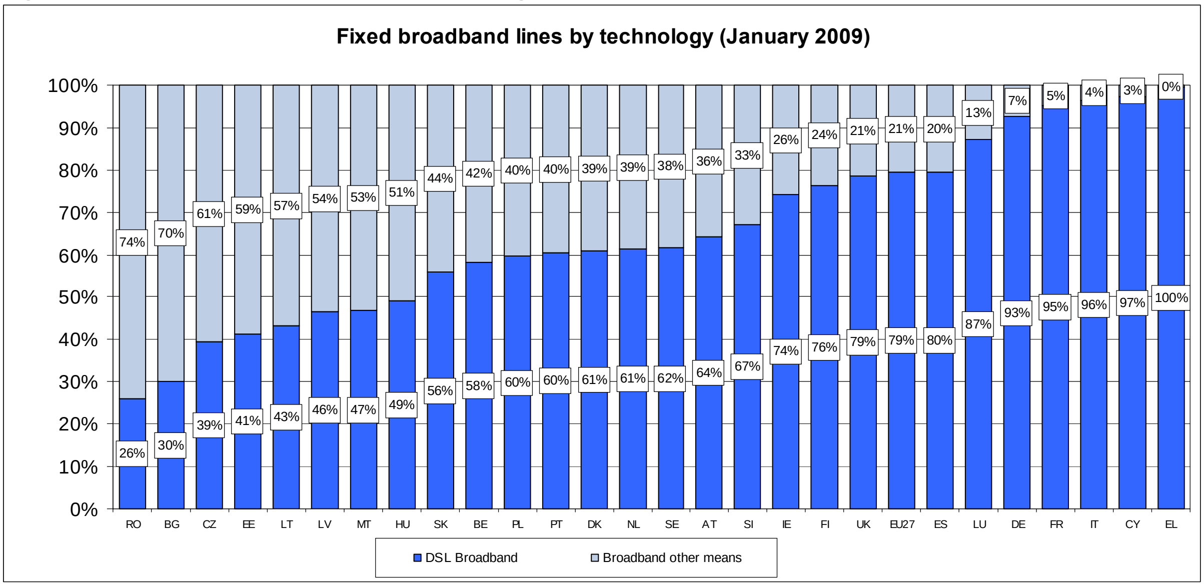
Figure 96: Total fixed broadband retail lines with technologies other than DSL



Data for the Netherlands as at October 2008.

The following charts provide information on the national broadband markets according to the technology used and the type of operator. Error! Reference source not found. shows that DSL is the predominant technology in the EU. On average, 79.4% of the EU broadband lines use DSL technologies, while in eight countries DSL lines represent less than 50% of the overall market.

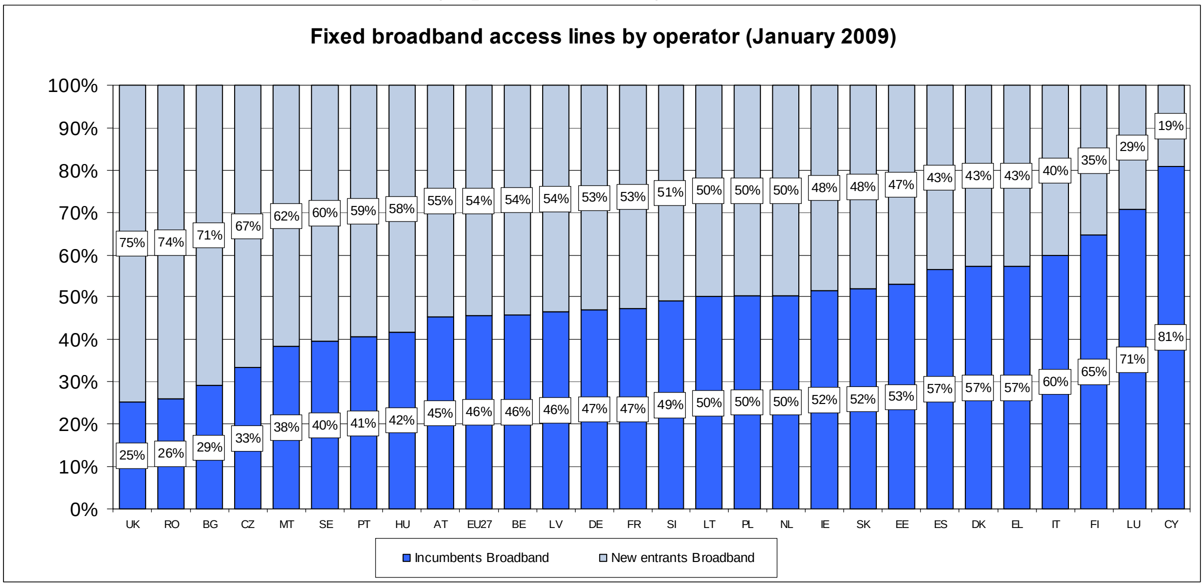
Figure 97: Fixed broadband lines by technology (January 2009)



Data for the Netherlands as at October 2008.

With regard to the market share of fixed incumbent operators and new entrants, the following chart indicates that, on average, incumbent operators control 45.6% of broadband lines, which is 0.4 percentage point less than in January 2008.

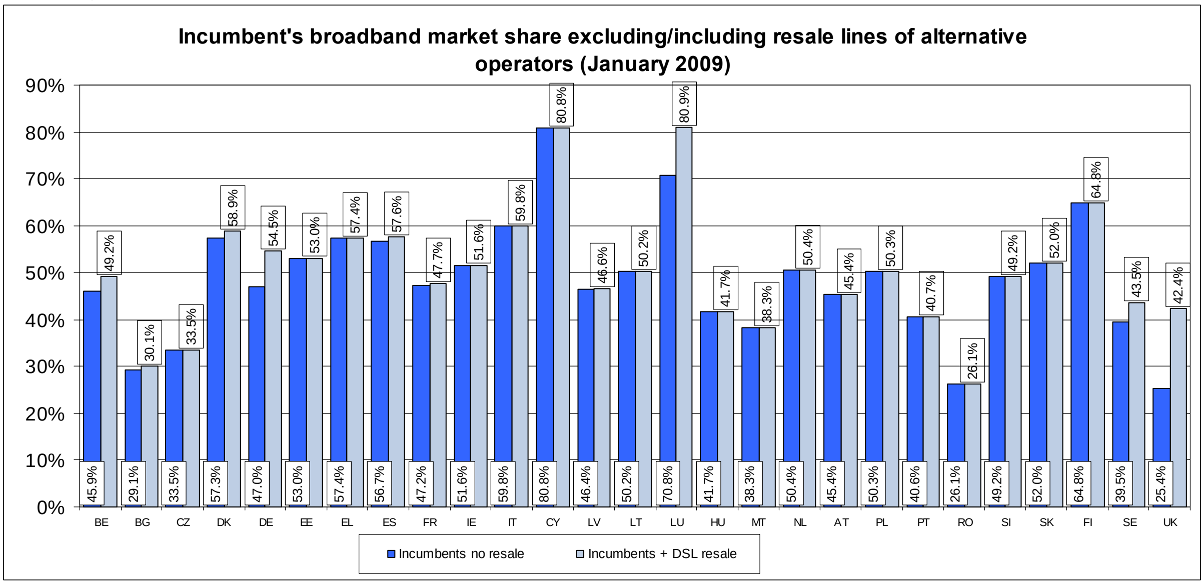
Figure 98: Fixed broadband access lines by operator (January 2009)



Data for the Netherlands as at October 2008.

However, differences in the incumbents' market share depending on whether DSL resale lines are included or not are not negligible.

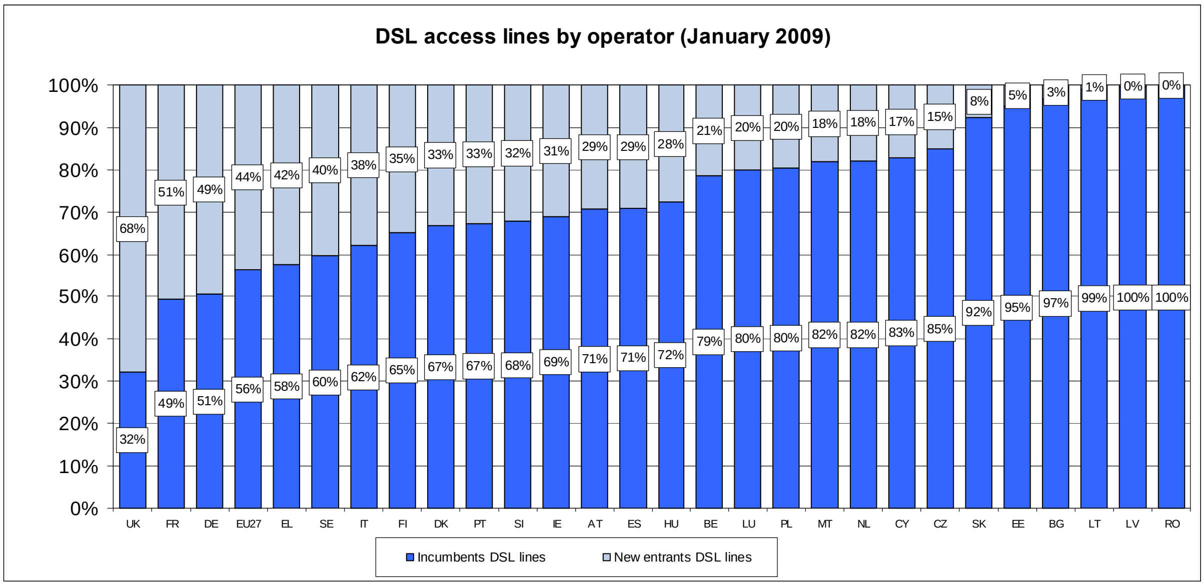
Figure 99: Incumbent's broadband market share excluding/including resale lines of alternative operators (January 2009)



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007.

Next chart presents the market share by operator in the DSL retail market. At EU level the fixed incumbent operators provide 56.3% of DSL lines. In 12 Member States the incumbent operators sell more than 80% of all DSL retail lines.

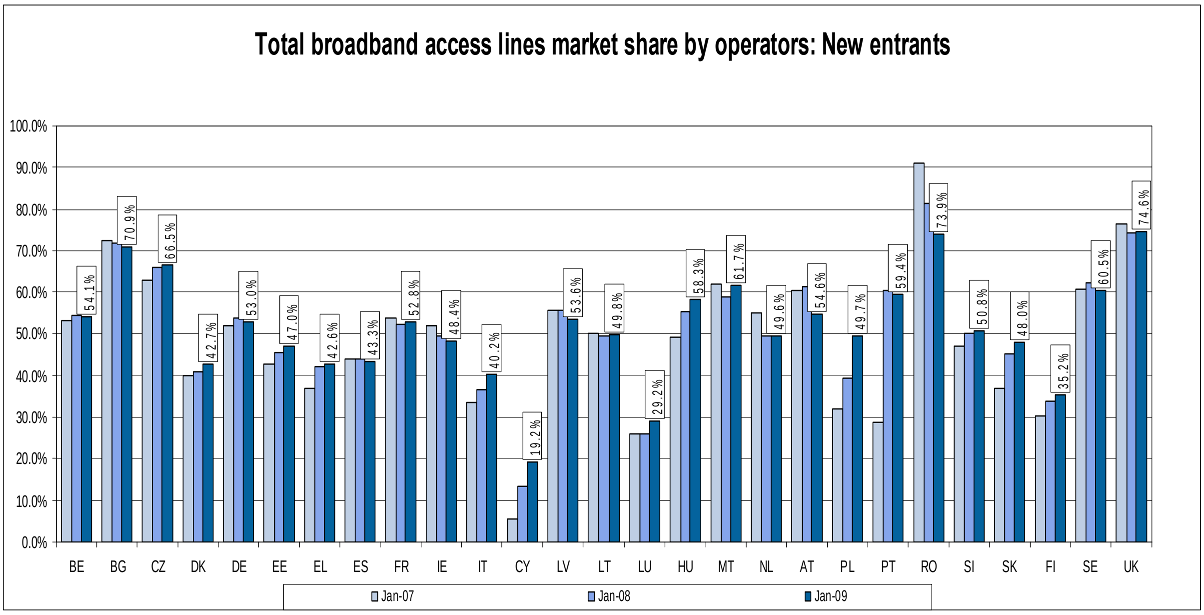
Figure 100: DSL access lines per operator (January 2009)



Data for the Netherlands as at October 2008.

The next series of charts provide further information on the trends observed in the three segments analysed previously. As can be seen in the following figure, new entrants are steadily increasing their presence in the overall fixed broadband market, with an average 54.4% market share against 54.0% a year ago. This trend is however not uniform, and in ten countries the fixed incumbent operator has increased its market share.

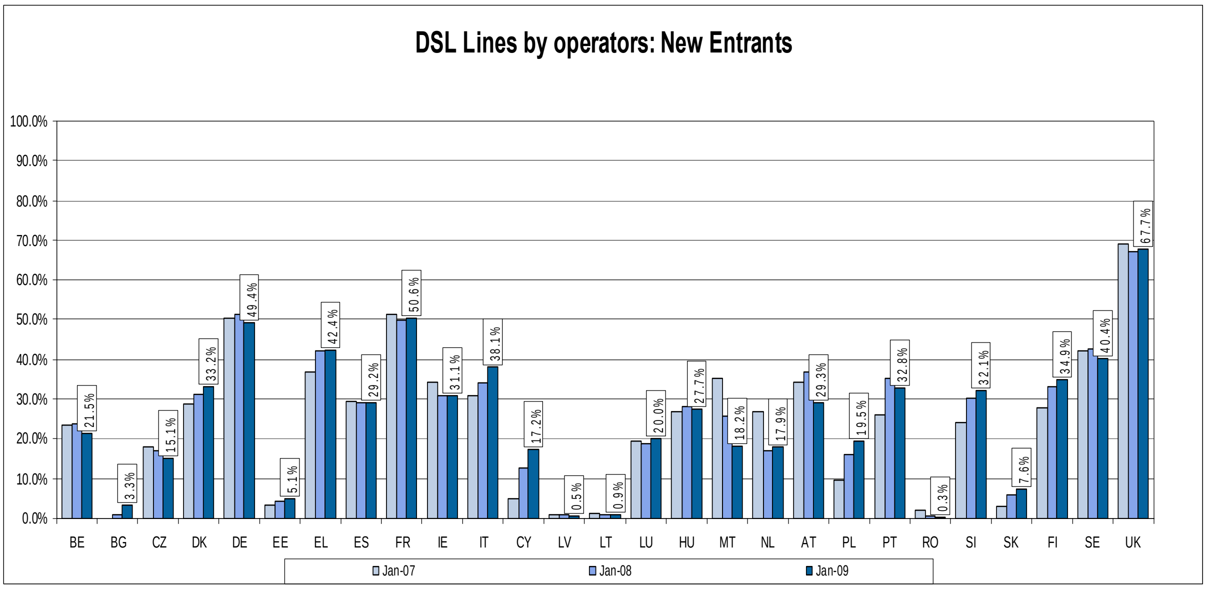
Figure 101: Trends in the fixed broadband retail lines market share: New entrants



Data for the Netherlands as at October 2008.

With regard to the trend in the number of DSL lines sold by incumbent operators in the same period, an increase of 0.1 percentage points in the period January 2008–January 2009 has been registered on average.

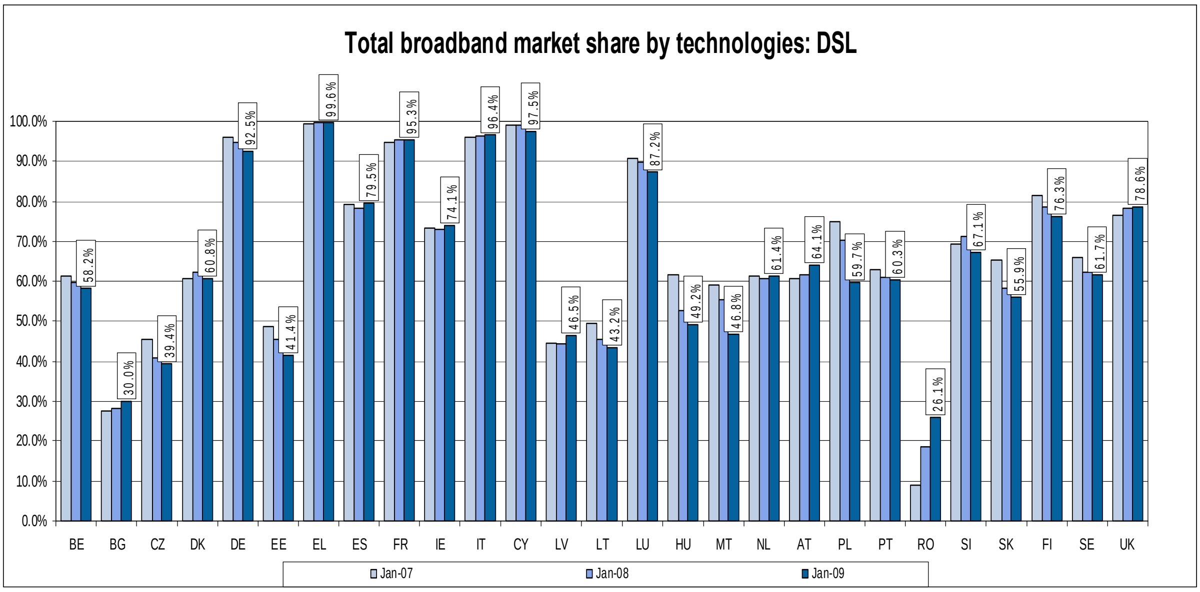
Figure 102: Trends in DSL retail lines market share: New entrants



Data for the Netherlands as at October 2008.

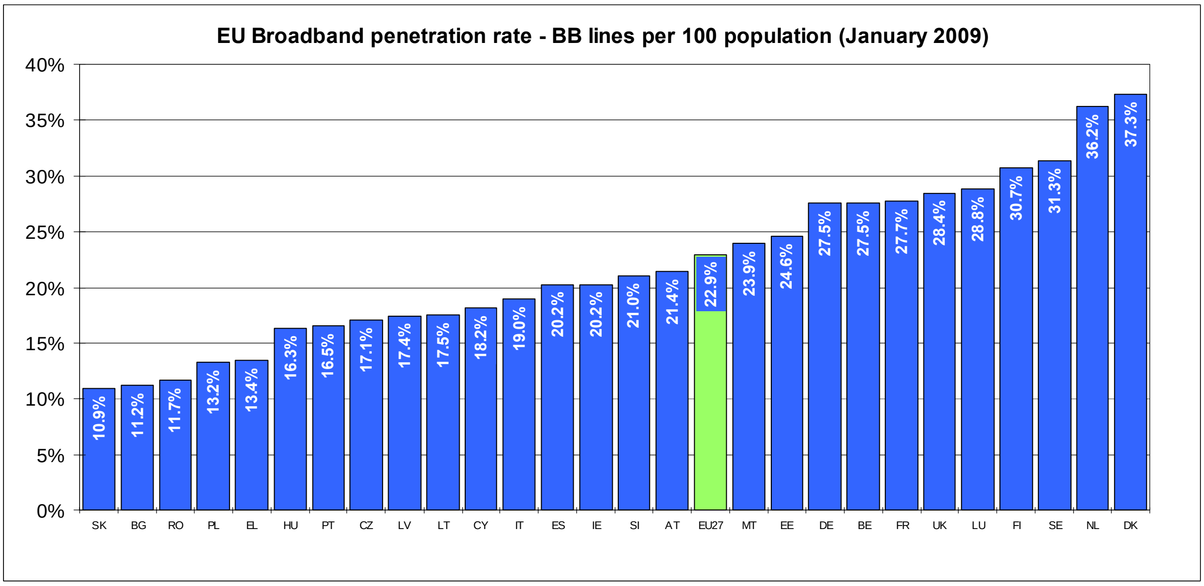
The number of DSL lines has decreased in the overall fixed broadband retail market, representing 79.4% of all broadband lines against 80.3% in January 2008. However, in 10 countries, the share of DSL has increased.

Figure 103: Trends in the DSL retail lines as % of total broadband access lines



The following chart shows the penetration rate for fixed broadband lines measured as the total number of broadband lines divided by the total population. The broadband penetration rate varies significantly across Member States ranging from 10.9% in Slovakia to 37.0% in Denmark.

Figure 104: EU broadband penetration rate (January 2009)



Data for the Netherlands as at October 2008.

3.3.1. Retail broadband lines by speeds

The next table shows how the fixed broadband lines have been distributed by various speeds as of 1 January 2009. These lines have been presented for the first time. Data is missing in part for some Member States, while some countries failed to provide any data (the Czech Republic, France, Hungary, the Netherlands, Austria and Romania). About 72% of retail lines available in January 2009 are presented below.

Figure 105: Fixed broadband lines by speeds in the EU by country

	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	Total
Above 144 Kbps and below 2 Mbps	229040	135777		249043	1406300	249940	657889	1202430		420053	3645110	143046	150908	341973	34		5427			4166937	19498		267318	128633	576100	468311	6100417	20564184
2 Mbps and above (and below 10 Mbps)	1815314	320215		1428278	17187600	77148	373453	6687633		444145	6715610	236	210023	171843	130890		82901			751202	1211951		84443	379570	716600	1425800	9568783	49783638
10 Mbps and above	794811	397097		363379	4024100	2308	475272	1132119		26173	943802	2	34971	74521	7232		9677			96285	523194		74310	81714	140300	1067595	1258061	11526923
	2839165	853089	0	2040700	22618000	329396	1506614	9022182	0	890371	11304522	143284	395902	588337	138156	0	98005	0	0	5014424	1754643	0	426071	589917	1433000	2961706	16927261	81874745

No data for CZ, FR, HU, NL, AT and RO.

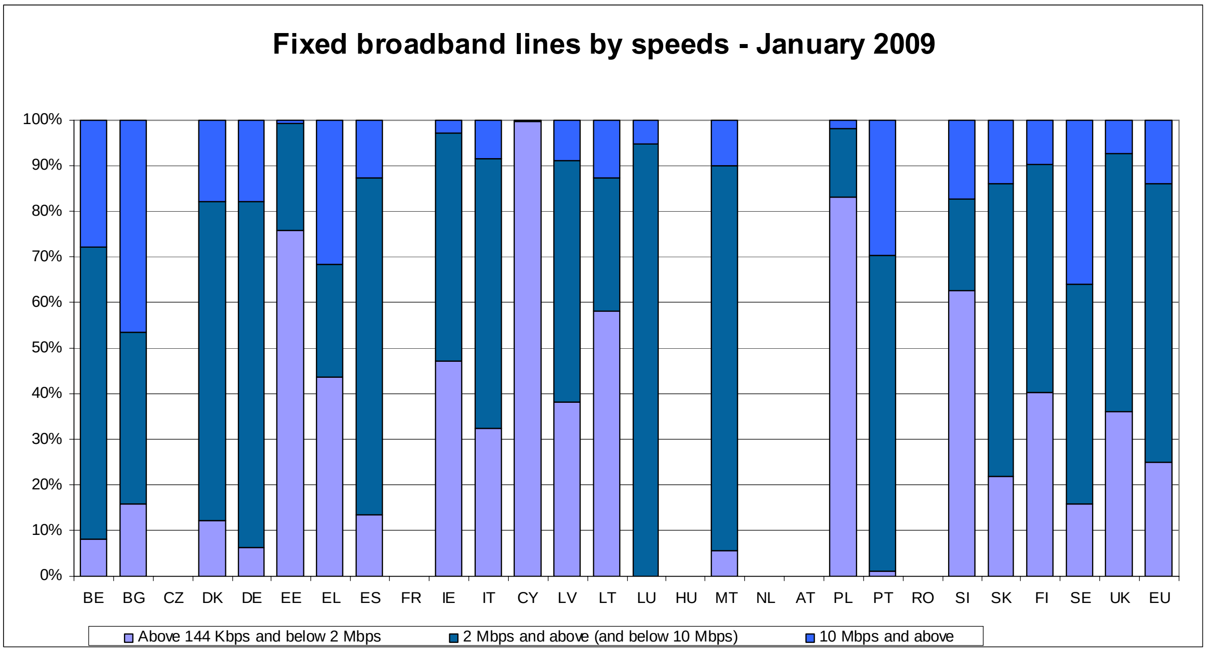
BE: Total available lines (not classified by speeds) in some cases larger than the sum of the totals per speed as not all ISPs provided the split per speed.

ES: Provisional figures.

FI: Speed split-up is calculated for all fixed connections provided by the incumbents and new entrants.

UK: Data is largely based on estimations

Figure 106 EU countries by speeds – retail fixed broadband lines



No data for CZ, FR, HU, NL, AT and RO.

Figure 107 EU countries by speeds – retail fixed broadband lines

	Above 144 Kbps and below 2 Mbps	2 Mbps and above (and below 10 Mbps)	10 Mbps and above
BE	8.1%	63.9%	28.0%
BG	15.9%	37.5%	46.5%
CZ	N/A	N/A	N/A
DK	12.2%	70.0%	17.8%
DE	6.2%	76.0%	17.8%
EE	75.9%	23.4%	0.7%
EL	43.7%	24.8%	31.5%
ES	13.3%	74.1%	12.5%
FR	N/A	N/A	N/A
IE	47.2%	49.9%	2.9%
IT	32.2%	59.4%	8.3%
CY	99.8%	0.2%	0.0%
LV	38.1%	53.0%	8.8%
LT	58.1%	29.2%	12.7%
LU	0.0%	94.7%	5.2%
HU	N/A	N/A	N/A
MT	5.5%	84.6%	9.9%
NL	N/A	N/A	N/A
AT	N/A	N/A	N/A
PL	83.1%	15.0%	1.9%
PT	1.1%	69.1%	29.8%
RO	N/A	N/A	N/A
SI	62.7%	19.8%	17.4%
SK	21.8%	64.3%	13.9%
FI	40.2%	50.0%	9.8%
SE	15.8%	48.1%	36.0%
UK	36.0%	56.5%	7.4%
EU	25.1%	60.8%	14.1%

BE: Total available lines (not classified by speeds) in some cases larger than the sum of the totals per speed as not all ISPs provided the split per speed.

3.3.2. Retail mobile broadband access

The next table shows how mobile broadband active users in the EU were distributed between the Member States on 1 January 2009. All available mobile terminals are shown for comparison. Mobile BB dedicated data services cards/modems/keys are shown separately.

Active mobile BB users/subscribers (lines) have been presented for the first time. Data is missing in part for some Member States, while some countries failed to provide any data.

Figure 108 Retail mobile broadband lines in the EU by country

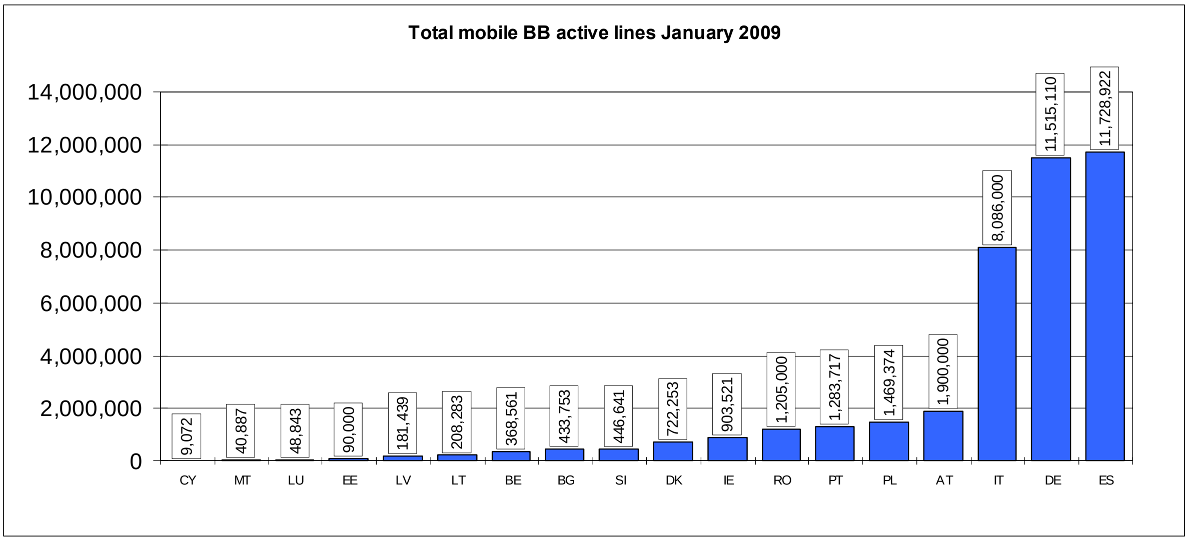
	All available terminals, SIM cards & mobile BB dedicated data services	Mobile active users - (access to dedicated data services via modems/cards and other active 3G equivalent advanced data users using mobile terminals)	Mobile BB dedicated data services cards/modems/keys only
AT	3,500,000e	1,900,000e	950,000
BE	677,197	368,561	114,677
BG	2,566,986	433,753	36,242
CY	9,072	9,072	3,000e
CZ	N/A	Confidential	Confidential
DE	17,863,441	11,515,110	1,914,092
DK	1,214,577	722,253	257,105
EE	530,000	90,000e	N/A
EL	2,864,991	N/A	184,625
ES	14,333,743	11,728,922	1,161,167
FI	1,701,000	N/A	479,900
FR	12,000,000e	N/A	1,000,000
HU	N/A	N/A	N/A
IE	1,209,235	903,521	279,296
IT	28,992,000	8,086,000	1,726,000
LT	351,660	208,283	115,988
LU	397,783	48,843	4,847
LV	1,851,361	181,439	8,239
MT	45,799	40,887	4,966
NL	N/A	N/A	N/A
PL	3,969,285	1,469,374	1,064,158
PT	4,319,850	1,283,717	879,723e
RO	2,913,000	1,205,000	288,000
SE	N/A	N/A	604,000
SI	2,101,872	446,641	46,973
SK	Confidential	Confidential	Confidential
UK	N/A	N/A	N/A
EU	105,068,922	41,724,586	11,614,486

EL, SE: Data not provided in line with the agreed methodology.
BE: For 1 January 2009 the figure is limited to the 3G/data. According to the incumbent, no 3G specific subscriptions are being sold.
CZ: Operator(s) data is confidential.
ES: Provisional figures.
LT: Availability refers to the number of active subscribers (SIM cards) who have used the UMTS (voice calls or high speed rate data transmission) services at least once during 3 months.
LU: Operators' contracts do not distinguish speed, service and actual usage.
MT: Available terminals' figure refers to prepaid and postpaid customers owning a 3G handset as at December 2008. Actual usage - users who have downloaded not more than 100kb in the last 3 months have not been included as active subscribers and their transactions have been subsequently ignored.
AT: Mobile BB dedicated data services via cards/modems/keys includes the number of contracts with dedicated data volume of 250MB or more per month as well as dedicated prepaid data services (UMTS/HSDPA).
PL: Actual usage- does not include data from two mobile operators.
SK: Operator(s) data is confidential.

FI: Mobile BB dedicated data service cards/modems/keys - flat-rate monthly tariff, unlimited data transfer, pre-determined maximum speed of data transfer. These mobile broadband subscriptions can be used via mobile phone, data modems/cards/USB keys.
SE: Data as at 30 June 2008.

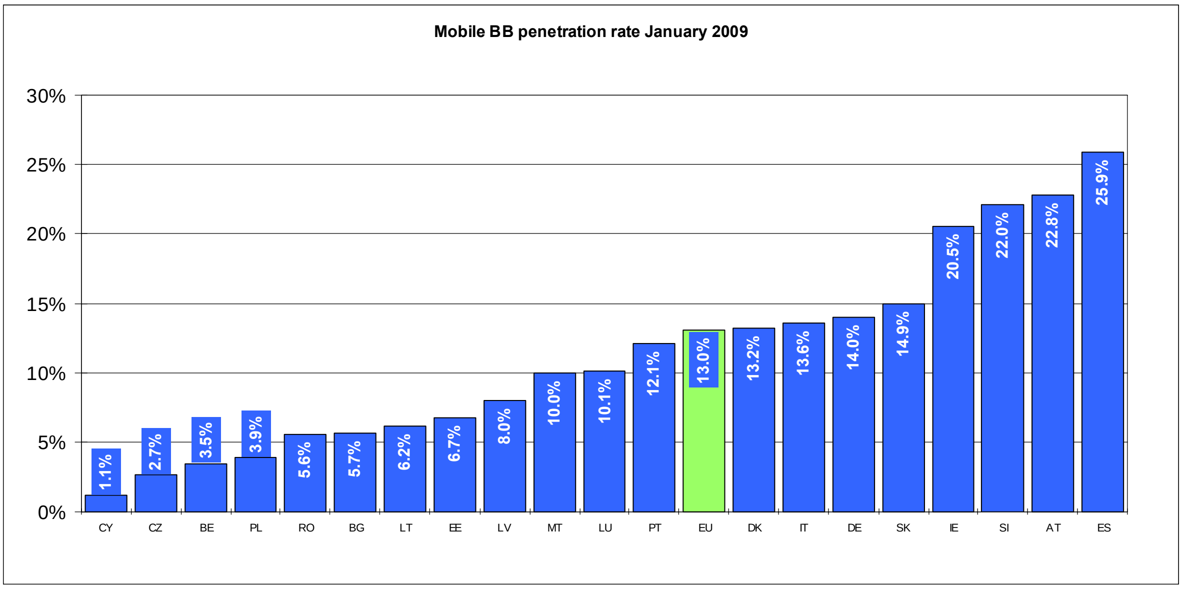
The next two figures show the distribution of mobile broadband users (lines) by country as of 1 January 2009 and the penetration rate of mobile broadband active users (i.e. users using broadband dedicated data services via data modems/cards/keys and other active 3G equivalent users using mobile terminals in last 90 days) per 100 population.

Figure 109 EU countries by number of mobile broadband lines (active users/subscribers)



EL, SE: Data not provided in line with the agreed methodology.
CZ: Operator(s) data is confidential.
SK: Operator(s) data is confidential.

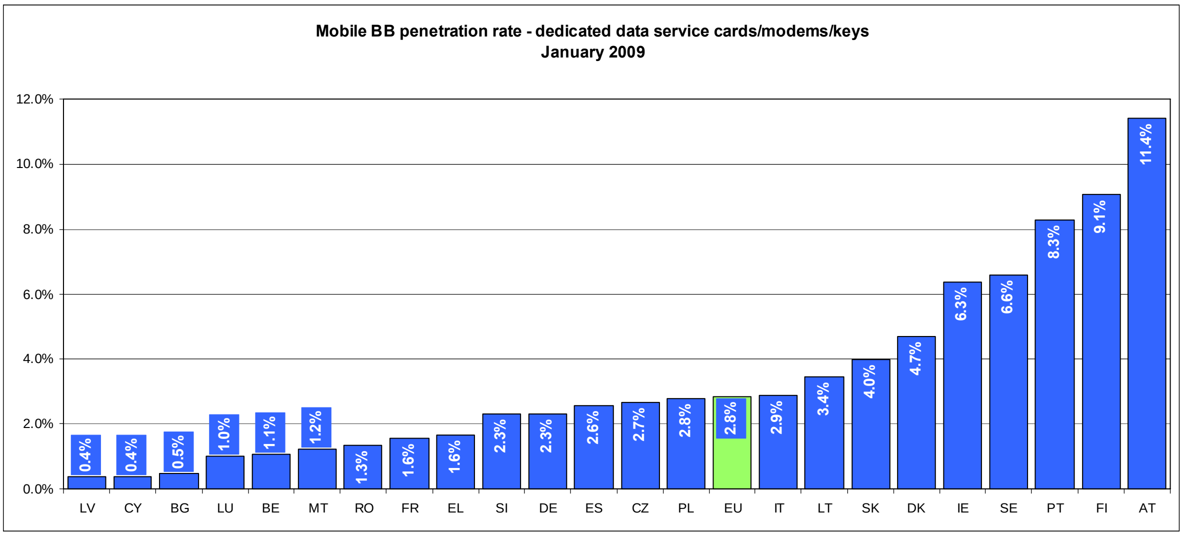
Figure 110 EU countries by number of mobile broadband users per 100 population



CZ: Only subscribers with "special tariffs" for constant availability of broadband access have been reported. Data for active mobile subscribers who have accessed services in last 90 days is not available.

However, if the penetration rate of mobile broadband active users accessing advanced data services via dedicated data modems/cards/keys per 100 population only was measured, mobile broadband penetration rate are significantly lower, the EU average being 2.8%. This type of mobile broadband usage is considered to be more comparable to the usage provided by the fixed broadband technologies.

Figure 111 EU countries by number of dedicated data service cards/modems/keys per 100 population


Mobile BB penetration rate - dedicated data service cards/modems/keys
January 2009
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
0.4%
0.4%
0.5%
1.0%
1.1%
1.2%
1.3%
1.6%
1.6%
2.3%
2.3%
2.6%
2.7%
2.8%
2.8%
2.9%
3.4%
4.0%
4.7%
6.3%
6.6%
8.3%
9.1%
11.4%
LV
CY
BG
LU
BE
MT
RO
FR
EL
SI
DE
ES
CZ
PL
EU
IT
LT
SK
DK
IE
SE
PT
FI
AT

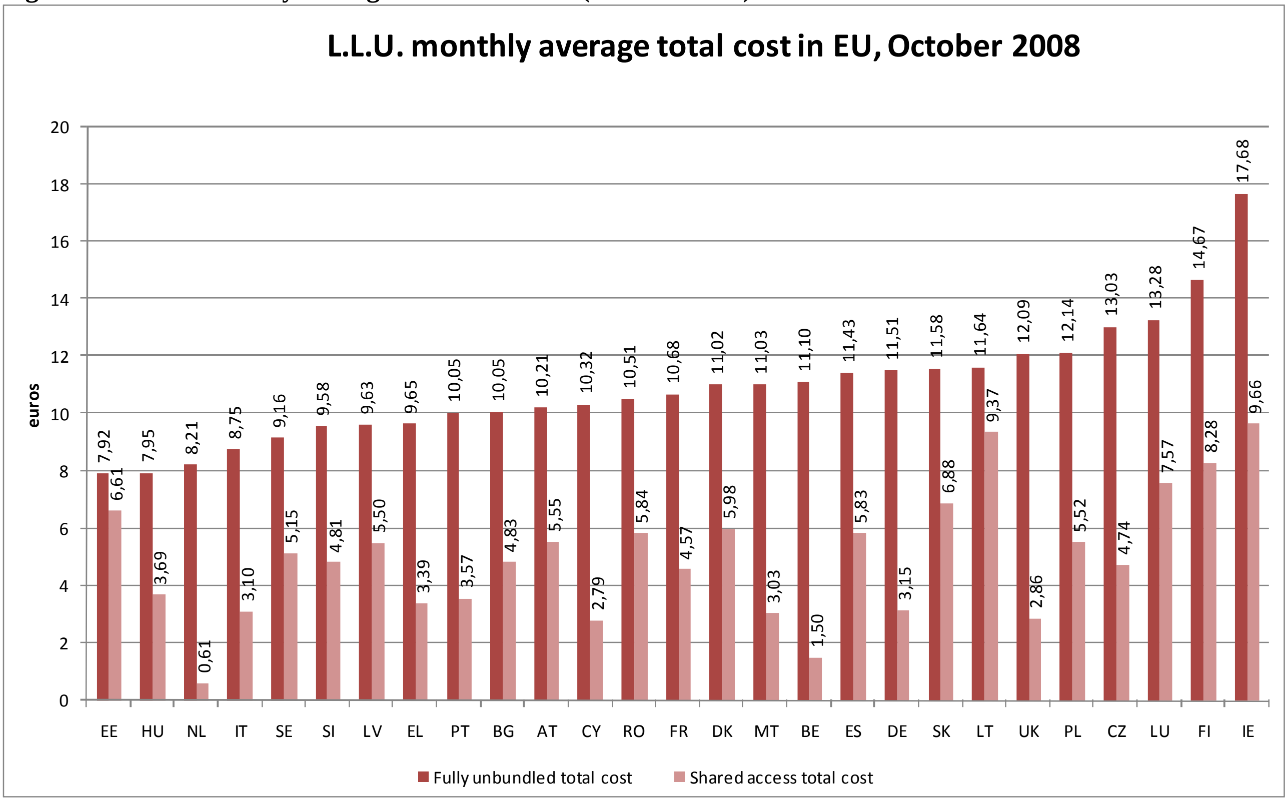
3.4. PRICES FOR UNBUNDLED LOCAL LOOP

This section illustrates the cost of connection and monthly rental for both full unbundled access (full LLU) and shared access (SA) to the loop. Monthly rental and connection fees are presented as well as the total average monthly cost (over three years).
Unless otherwise stated connection fees include the technical expertise to assess the speed that can be conveyed through and disconnection fees (where applicable). Furthermore, only the price for a single line is presented here (charges may be different in the case of subsequent access). It is assumed that the loop is active and it will be used to provide both telephony and DSL services.
Unless otherwhise stated figures exlcude a whole range of additional one-off costs that may exist in some Member States like, cost of co-location, cost for the cable termination point, cost for installation at the end-user premises, etc.
Data is not always comparable with that of the previous reports, due to changes in methodology occured in some countries.

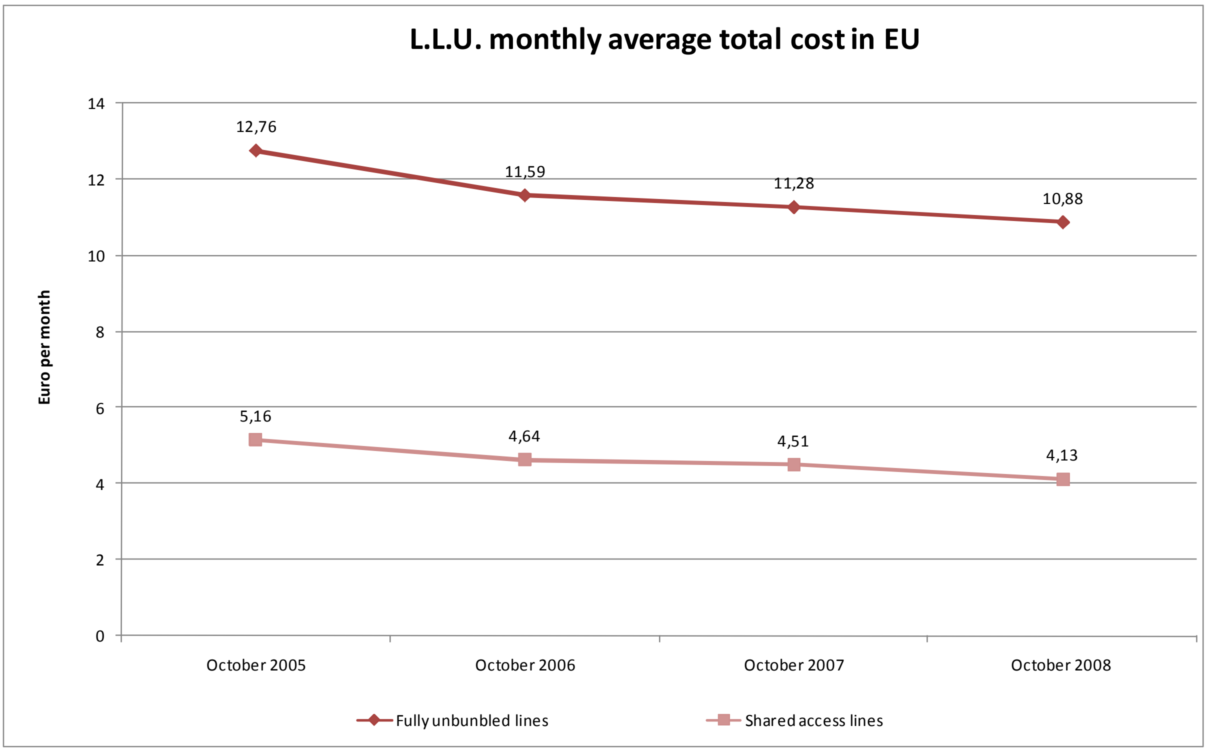
3.4.1. Monthly average total cost

The following charts illustrate the monthly total cost for the full local loop unbundling and shared access (connection and monthly fees) based on the assumption that the loop is used for three years. EU average since 2005 is also shown.

Figure 112: LLU monthly average total cost in EU (October 2008)

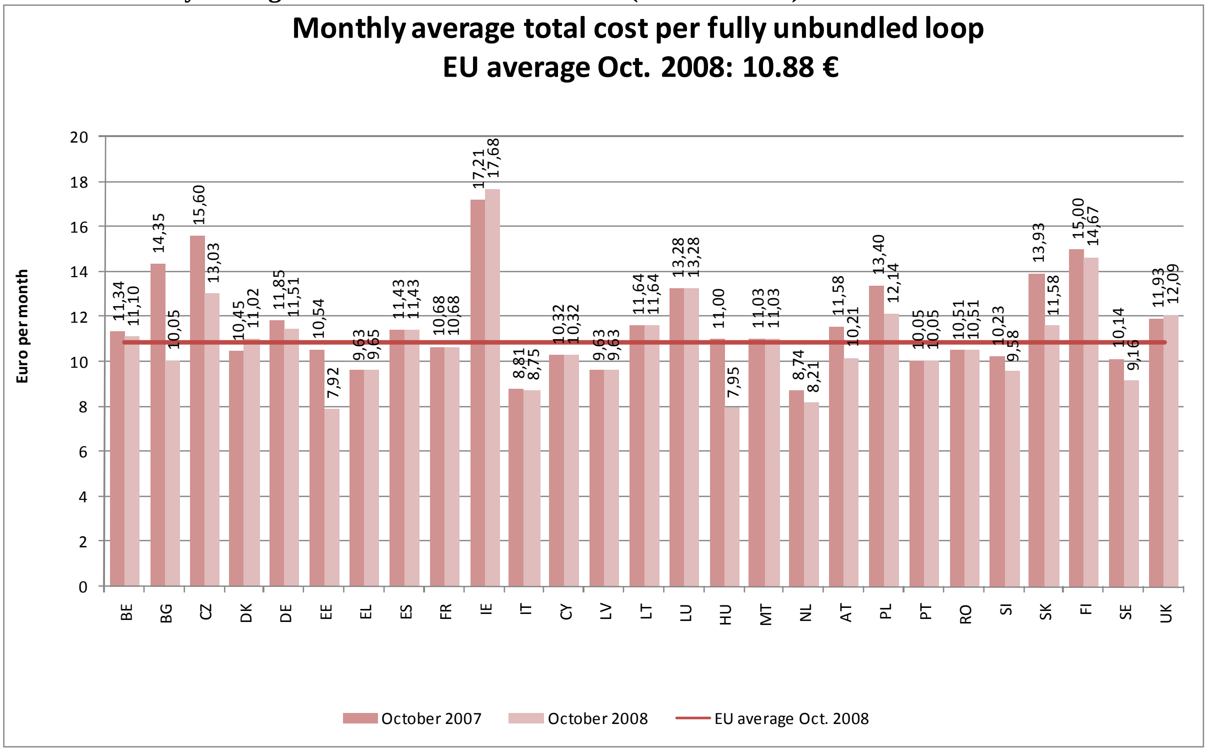


Spain: The cost of the test and disconnection fees is included in connection
Netherlands:2008 data as of 1-7-2008



Figures 2005 entries do not include data for Bulgaria and Romania.

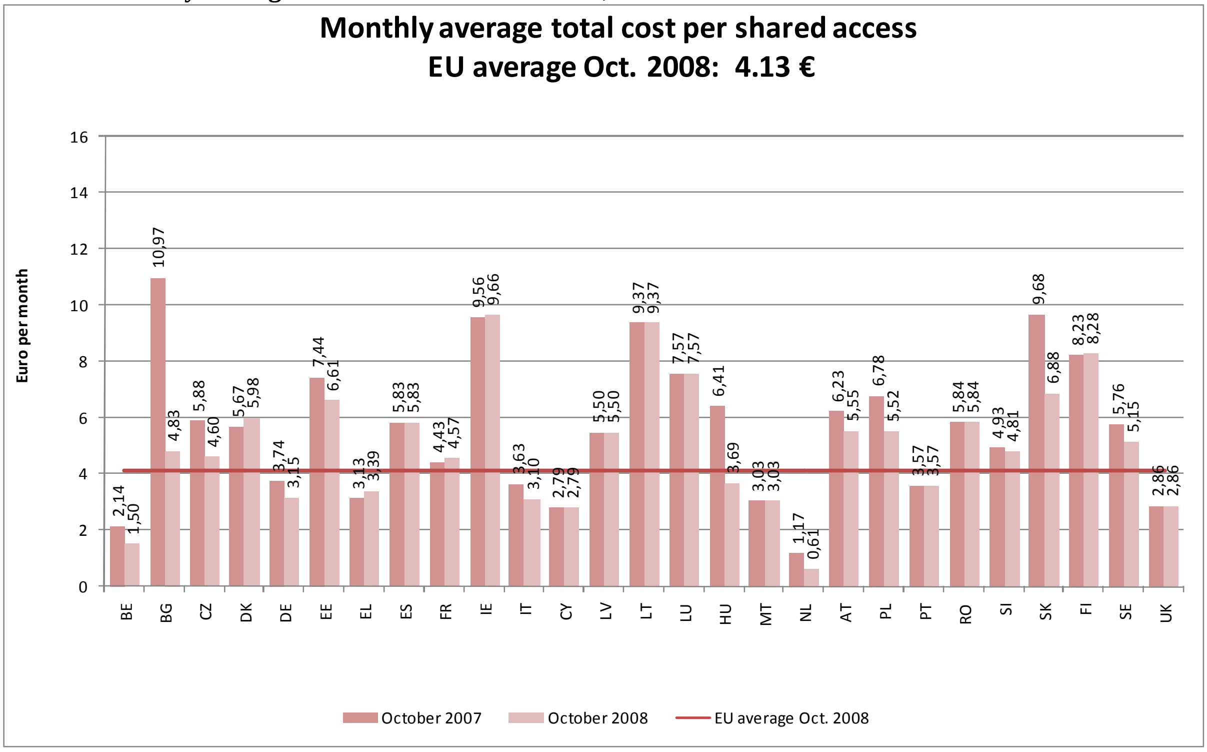
Figure 113: Monthly average total cost in EU for full LLU (October 2008)



<u>Spain:</u> The cost of the test and disconnection fees is included in connection

<u>Finland</u>: weighted average of 31 SMP operators providing ULL.

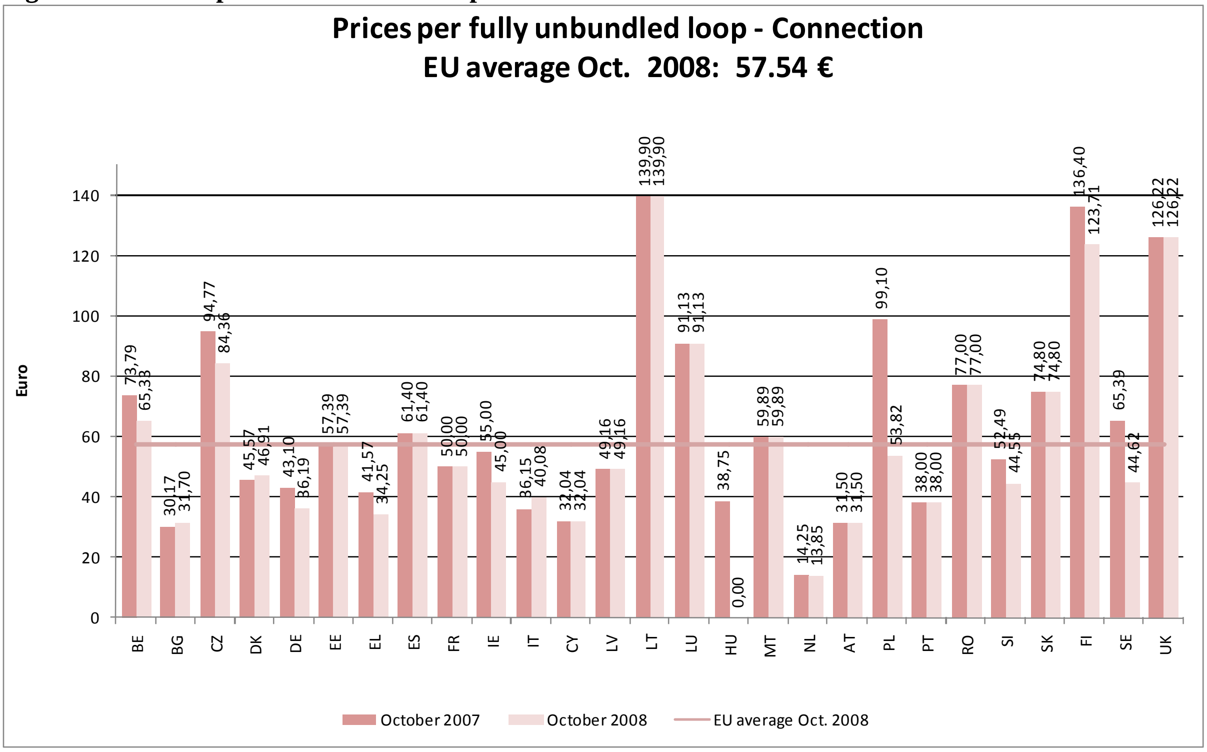
Figure 114: Monthly average total cost for shared access, October 2008



<u>Spain:</u> The cost of the test and disconnection fees is included in connection

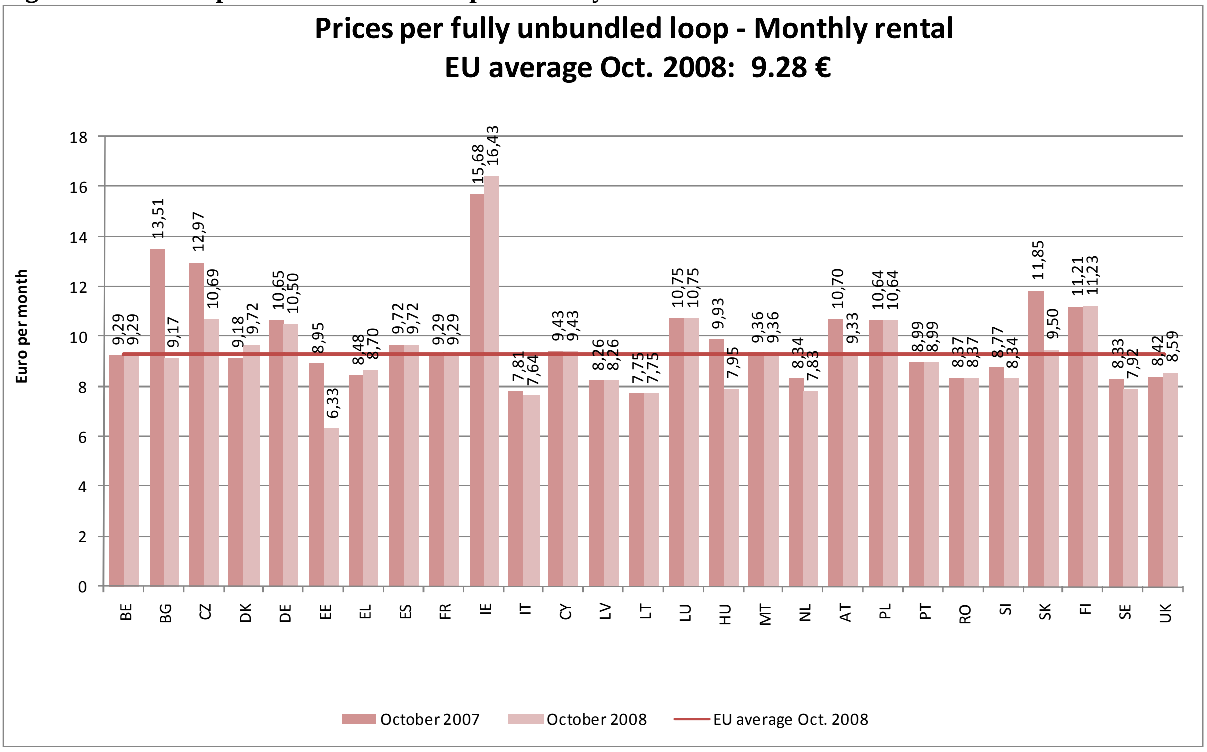
3.4.2. Connection and monthly rental for full unbundled local loop

Figure 115: Prices per full unbundled loop - connection



<u>Spain:</u> The cost of the test and disconnection fees is included in connection
<u>Finland</u>: weighted average of 31 SMP operators providing ULL.

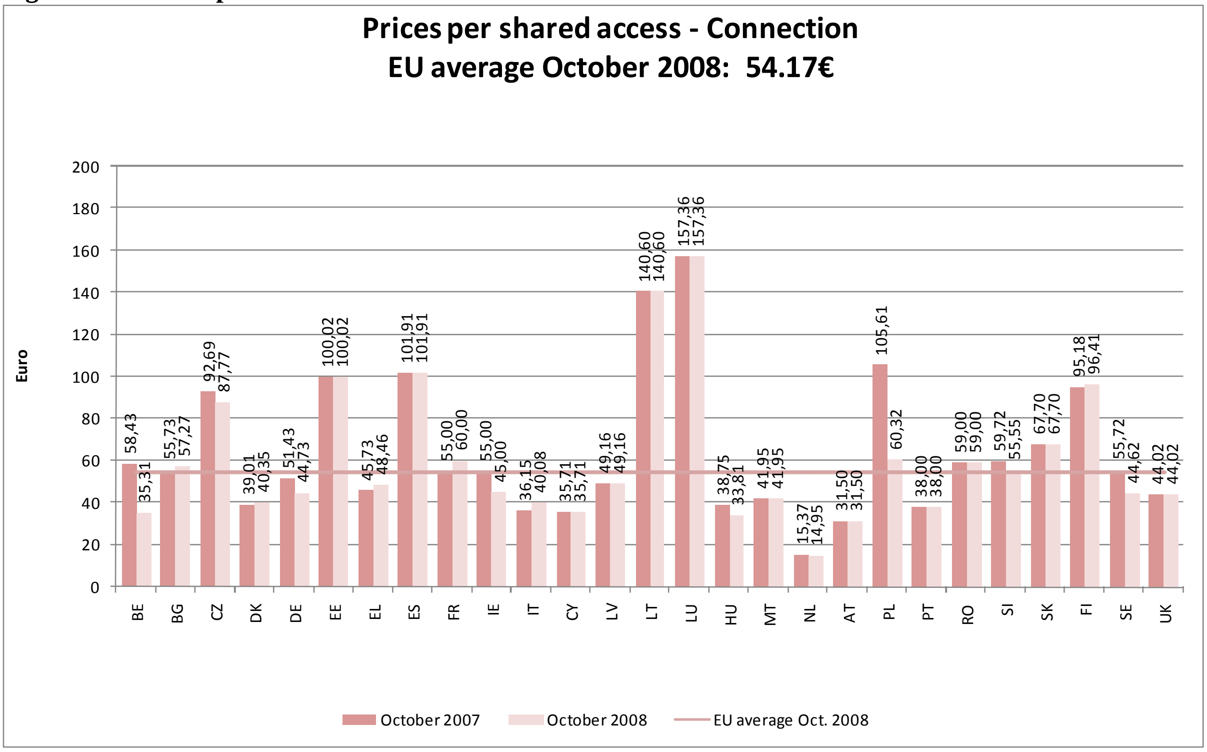
Figure 116: Prices per full unbundled loop – monthly rental



Finland: weighted average of 31 SMP operators providing ULL.

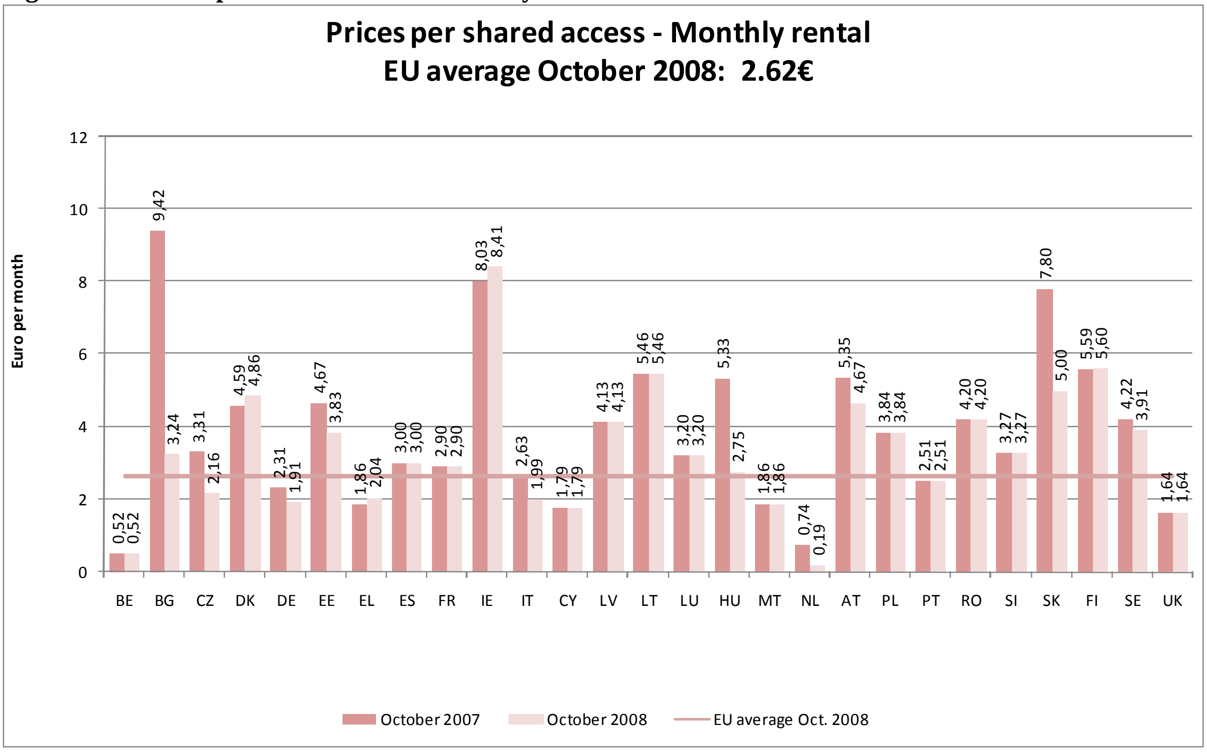
3.4.3. Connection fees and monthly rental for shared access

Figure 117: Prices per shared access – Connection



Spain: The cost of the test and disconnection fees is included in connection

Figure 118: Prices per shared access – monthly rental



4. CONVERGED SERVICES - BUNDLED OFFERS

In this section, for the first time some indicators are presented for bundled offers.
More and more of the fixed voice telephony offers come bundled with other services (for example, broadband Internet or television). Although bundling is hard to measure (sometimes services in one offer are invoiced separately, sometimes not), it is becoming a key element of the fixed electronic communications markets: according to the questionnaires sent by NRAs 13% of the European population is already subscribed to a bundled offer with a single bill. Actually, in this case, 'Bundled offer' means a commercial offer of a single operator which includes two or more services such as fixed and mobile public telephony services, access to TV programmes and broadband internet access, offered for a single price and as part of one bill.
Although not every Member State is collecting data to measure the extent of this market development, the situation is likely to improve in the following Reports.
As this is the first year, data in this section is purely indicative and the data can be completed with the Eurostat E-Communications Household survey. The differences with this Implementation Report results can be attributed to a different definition (due to the billing of the services) and the lack of data for some countries.
According to this survey only 66% of the Europeans do not have a bundled package. 12% of Europeans include television on their bundle package (24% in the case of Denmark), 23% include voice telephony, 6% include mobile telephony (24% in the case of Luxembourg) and 24% include an Internet access 37% in the case of Netherlands).
The charts presented in this section are the number of bundled offer subscribers as a percentage of the population and the number of operators providing these offerings.

Figure 119: Bundled offer subscribers as a % of population 2008

Data not available for Hungary, Austria, Romania, Finland and Sweden.

Ireland: Please note that these subscribers are not representative of 100% of bundled subscribers in the market.

Austria: data not available

Latvia: This is an estimate –at least 95631 uszers for budled offers

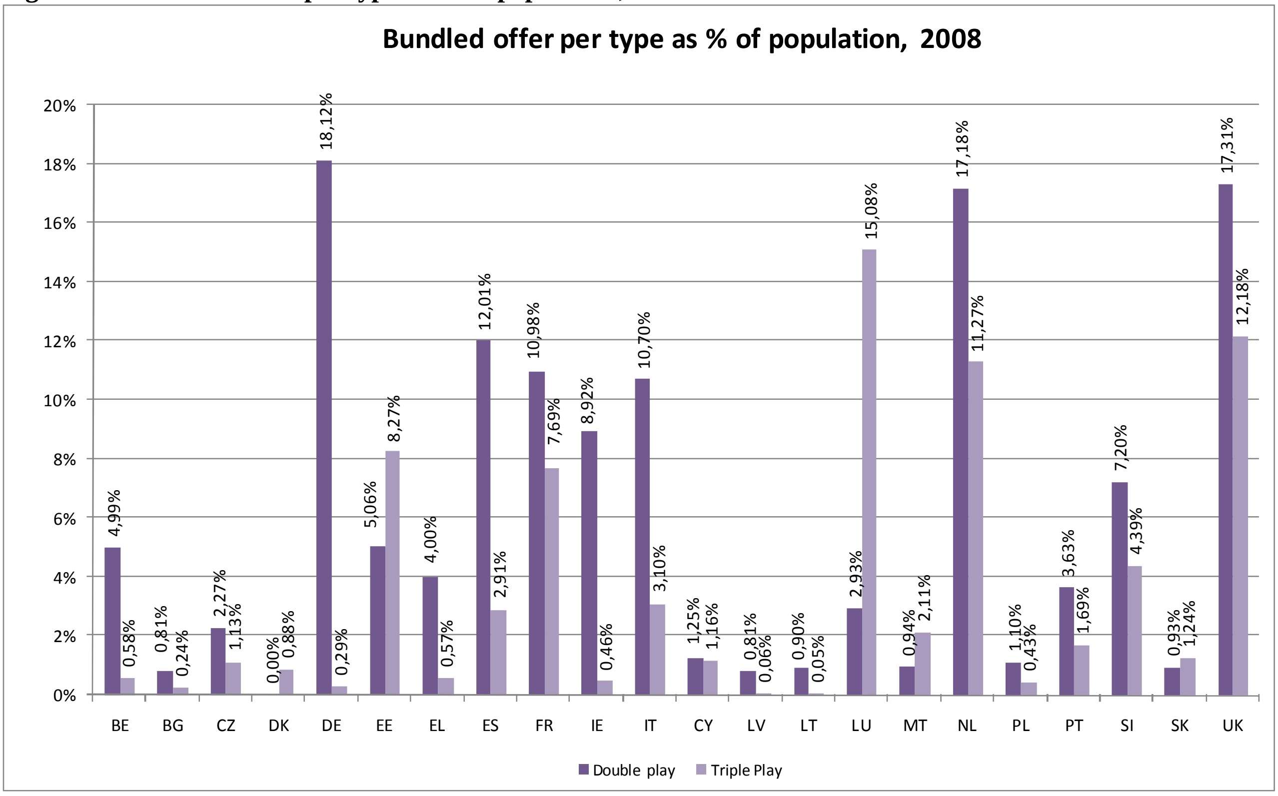
Portugal: Data as of 31/12/ 2007

Romania: Data not available

Slovenia: Bundled services include two or more services provided under single subscription.

Sweden: Data not available

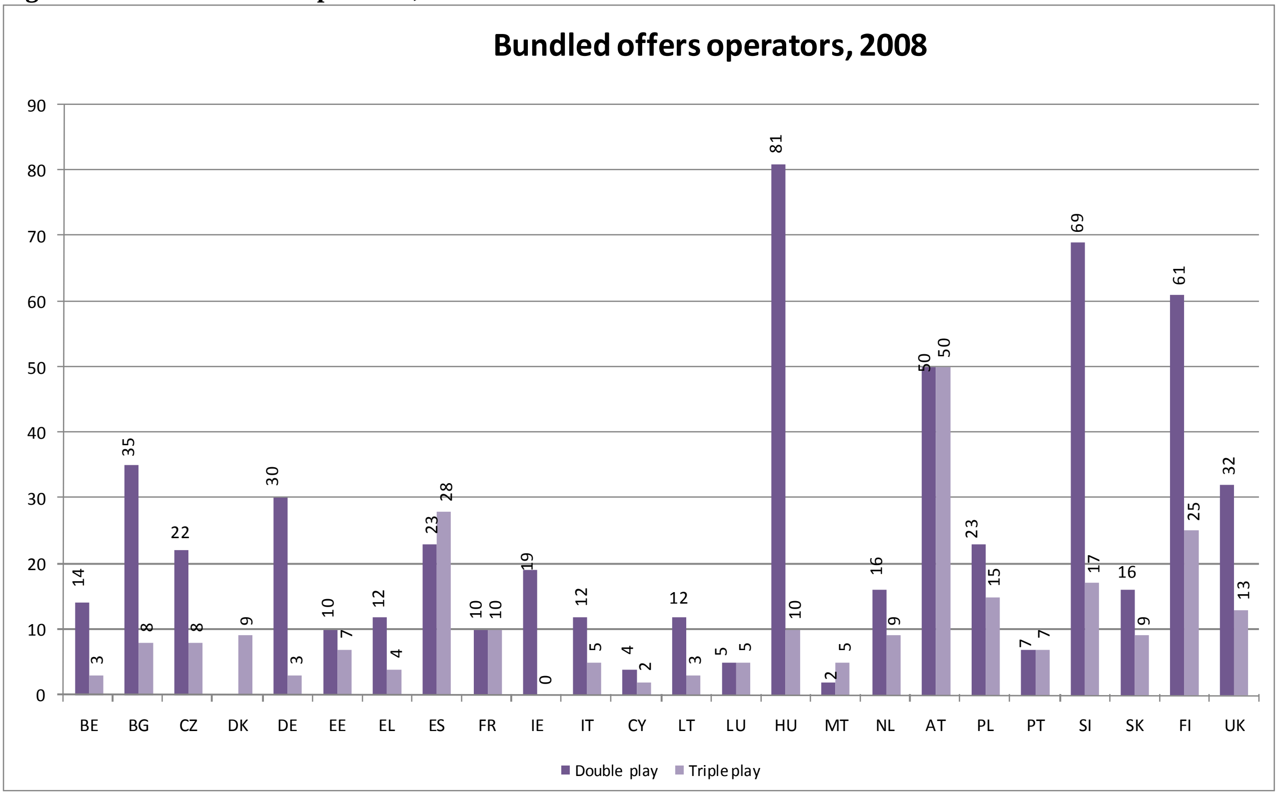
Figure 120: Bundled offer per type as % of population, 2008



Data not available for Hungary, Austria, Romania, Finland and Sweden.

Belgium: Data as of 31/12/2007, resellers included
Bulgaria: Data of subscribers of Television and BB as of December, 31, 2007. Data of subscribers of Fixed voice telephony, BB and TV as of December, 31, 2007.
Denmark: Triple play comprises Internet, Telephony (either mobile or fixed) and TV so only the subtotal is reported. Total number of bundled offers (not specified and incl. Triple play)) = 357778
France: Data from the first quarter 2008. TV included in the bundled offer is TV over ADSL
Fixed voice telephony means VoIP telephony
Ireland: Please note that these subscribers are not representative of 100% of bundled subscribers in the market.
Luxembourg: Triple Play is mainly fixed services, broadband and mobile services.
Netherlands: OPTA measures 'customers with several services from one provider' for practical administrative reasons, a much broader definition.
Austria: data not available
Portugal: Data as of 31/12/ 2007
Romania: Data not available
Slovenia: Bundled services include two or more services provided under single subscription.

Figure 121: Bundled offer operators, 2008



Data not available for Latvia, Romania and Sweden.

Belgium: Situation as of 31/12/2007
Bulgaria: Data of subscribers of Television and BB as of December, 31, 2007. Data of subscribers of Fixed voice telephony, BB and TV as of December, 31, 2007. Mobile/Broadband bundle offer and Mobile and fixed bundled offer data are confidential
Denmark: Triple play comprises Internet, Telephony (either mobile or fixed) and TV so only the subtotal is reported.
Austria: data not available
Portugal: Data as of 31/12/ 2007
Romania: Data not available
Slovenia: Bundled services include two or more services provided under single subscription.

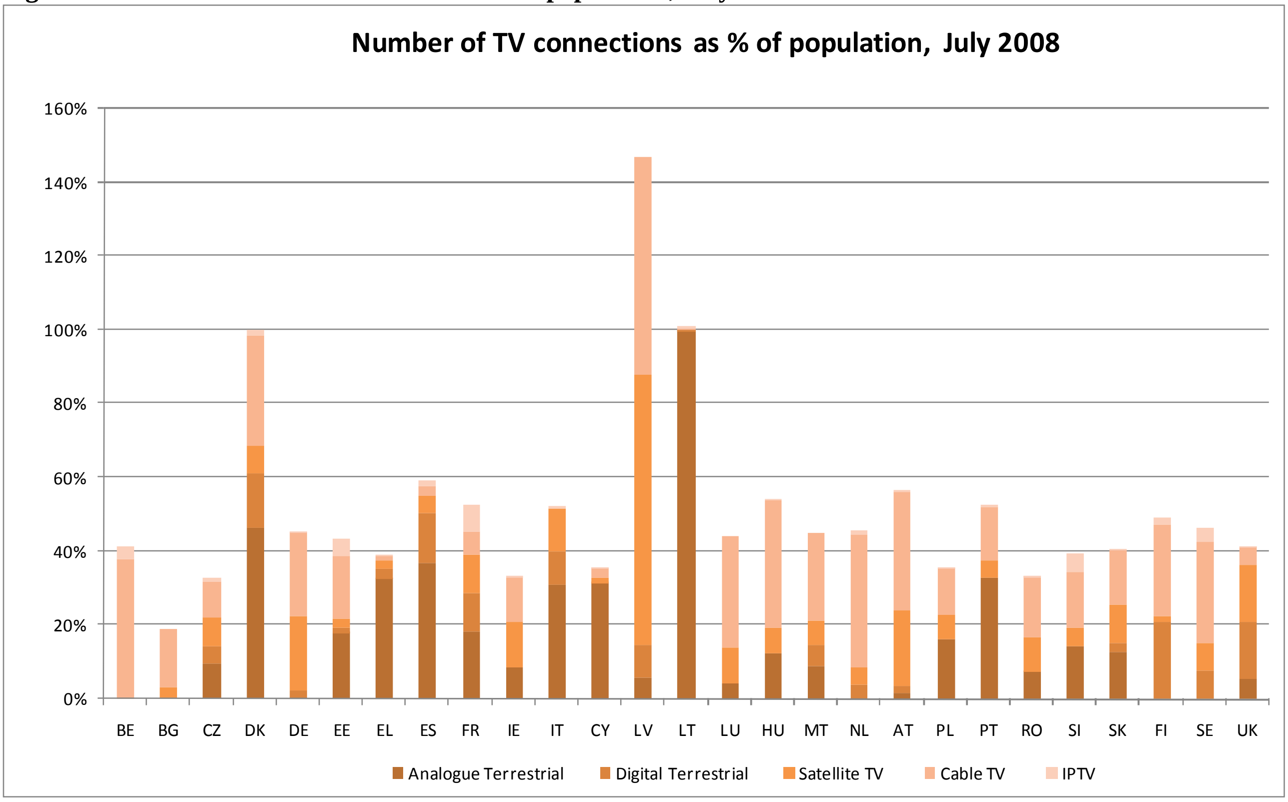
5. BROADCASTING

In this section, for the first time some indicators are presented for broadcasting. This market is becoming more and more important from an electronic communications point of view due to the convergence phenomenon, by which the frontiers between these two traditional markets are diffusing.

This section is purely indicative as not all the NRAs could submit data on all of the segments of the market but it provides a good perspective of the technological diversity present in the Member States.

In the first chart the number of TV connections as % of the population is presented while in the second chart only the number of IPTv connections as % of the population appears.

Figure 122: Number of TV connections as % of population, July 2008



Belgium: Data for Terrestrial TV is not available because it is free of charge. Data for satellite TV includes only Pay-TV (TV Vlaanderen) and refers to June 2008 (Source : l'Echo : 05.06.2008). Cable TV : number of clients at 30.09.2007 (Source : cable Belgium). IPTV : 391.000 clients (1st of July 2008)

Bulgaria: Data as of December, 31, 2007

Czech Republic: The numbers of households receiving national TV programs via terrestrial both analogue and digital are estimates. The terrestrial data refers to the number of households receiving national TV programs primarily via terrestrial broadcasting, analogue and/or digital. Satellite TV households refers to the number of households receiving national TV programs primarily via satellite, digital satellite TV only included. Cable TV households refer to the number of households receiving national TV programs primarily via Cable TV. IPTV households refers to the number of households receiving national TV programs primarily via IPTV

Germany: Data as of 01/01/2008, Source SES ASTRA

Denmark: The numbers of IPTV are valid given the assumption that one subscriptions corresponds to exactly one TV household

Greece: Data for analogue terrestrial TV is not available. It can be however considered that all households with terrestrial TV also have analogue TV. Total number of households 3,6897 (millions).

Spain: Satellite TV, Cable TV and IPTV: clients;. Terrestrial TV: households.

France: ARCEP does not collect such data. Source: Etude Mediamétrie Q1 2008 "référence des équipements multimédia"

Ireland: IPTV estimate.

Malta: Analogue Terrestrial TV and Satellite TV data taken from a survey as at 2006

Austria: Figures as of June 2008

Portugal: Analogue terrestrial is an estimate. The satellite TV figure includes DTH only

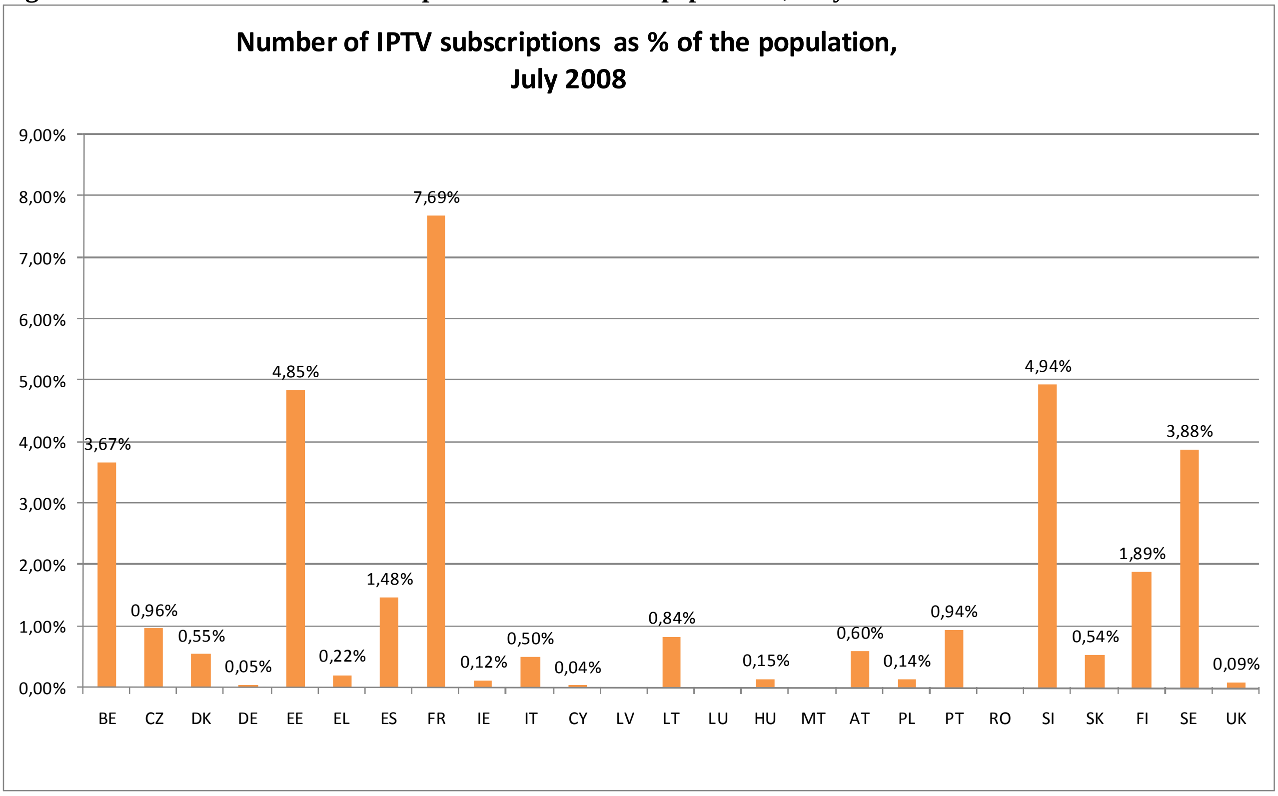
Romania: Estimated figure for Analogue Terrestrial TV; Digital Terrestrial TV not available yet; number of IPTV subscriptions is very low

Finland: Based on research by Ministry of Traffic and Communications 5/2008

Slovenia: Households with several types of TV platforms are counted accordingly. Data for analogue terrestrial TV is approximated.

Sweden: All data refers to the end of 2007

Figure 123: Number of IPTV subscriptions as % with the population, July 2008



Germany: Data as of 01/01/2008, Source SES ASTRA
Ireland: IPTV estimate.
Romania: 0.001%
Finland: Based on research by Ministry of Traffic and Communications 5/2008

6. LEASED LINES RETAIL TARIFFS

This section contains an overview of prices charged by incumbent operators to end users in each Member State for national line services as at 15 September 2008. Figures do not cover wholesale prices. Price developments are also analysed over the period August 1998 - September 2008.
The figures and the information are taken from a study carried out by Teligen, Strategy Analytics Ltd. for the Commission. Data on standard retail prices charged by incumbent operators have been collected in each country.

6.1. INCUMBENTS' NATIONAL LEASED LINES

National leased line data is provided for 2007 and 2008. Two distances are covered: 2 km (local circuits), and 200 km. Tariffs are taken from the incumbent operator in each country. Other operators may offer other prices. In order to properly reflect the tariff structures used in some countries, the circuits may be considered in one of two different ways, depending on tariff structure. The one to apply will differ from carrier to carrier. The principles used in this report for calculating the price of a full circuit are:

	1: When tariff specifies local tail prices separately, in addition to main circuit.		2: When tariff specifies a single price for the circuit, end to end, including local tails.	
	Local tail length	Main circuit length	Local tail length	Main circuit length
2 km circuit	1 km	0	0	2 km
200 km circuit	2 km	196 km	0	200 km

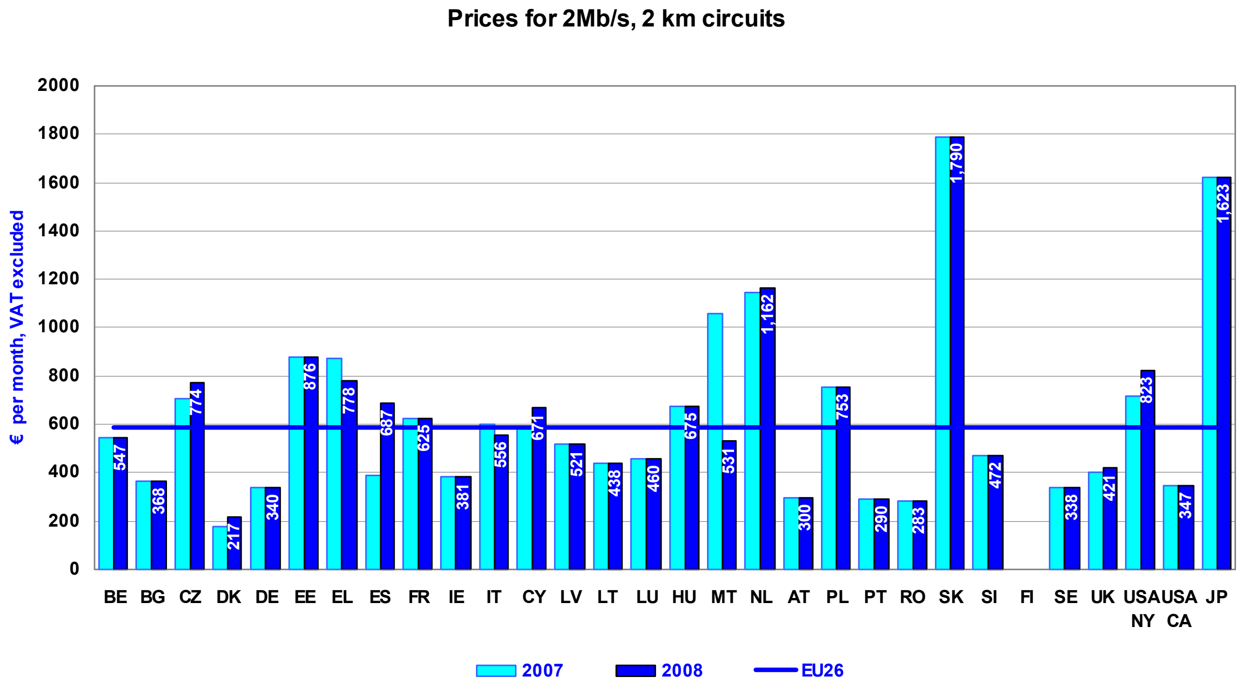
Note: The local tail length is per tail, i.e. there will be 2 such tails with each circuit.
Where several tariff options exist depending on type of location, the criteria for choice is as follows:
2 km circuits are always within a major city (usually the capital city)
200 km circuits are between a major city and a "minor" city
As the definitions vary between countries, the type of tariff option chosen will also vary (see details below). The countries where the price may vary with location or other non-distance related definitions are: Belgium, France, Austria, Finland, Sweden and the United Kingdom.
Some operators apply termination charges per local end, without necessarily covering the local tail circuit within that charge.
Two types of circuits are covered: 2 Mbps and 34 Mbps. As not all carriers publish tariffs for all these bitrates and all years, there may be some gaps in the information, especially for higher bitrates.
Some carriers offer 2 Mbps circuits as both structured and unstructured. In this analysis only unstructured circuits are included.
Also, some carriers offer different types of leased lines, often in the form of "basic circuits" and circuits in a managed network. Only "basic circuits" are included in this analysis, as the managed network services are not comparable between carriers.
Lately a few carriers have decided not to publish their prices for some or all types of leased lines. This makes it increasingly difficult to present a full overview of the prices in all 27 EU countries.
The bitrates of leased lines offered in some countries may be different from the ones found in most EU Member States. Some operators may offer 1.5 Mbps instead of 2 Mbps, and 45 Mbps or 50 Mbps instead of 34 Mbps. Prices shown in the tables and graphs in this section of the report have been adjusted according to the difference in capacity.

All prices are presented in EURO per month, excluding VAT. National leased lines prices as at 15 September 2008.

EN

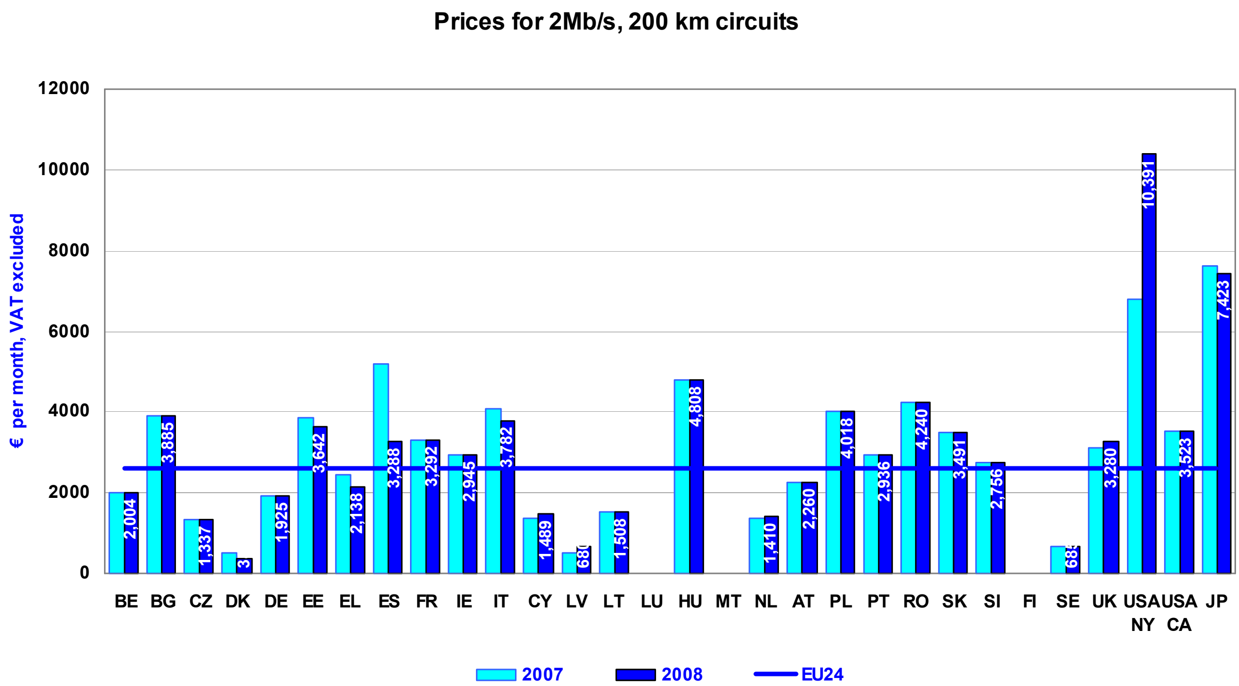
6.1.2. 2 Mbps

Figure 124: Prices for 2Mb/s, 2 km circuits



Blue line represents EU average= € 587
Finland – no data

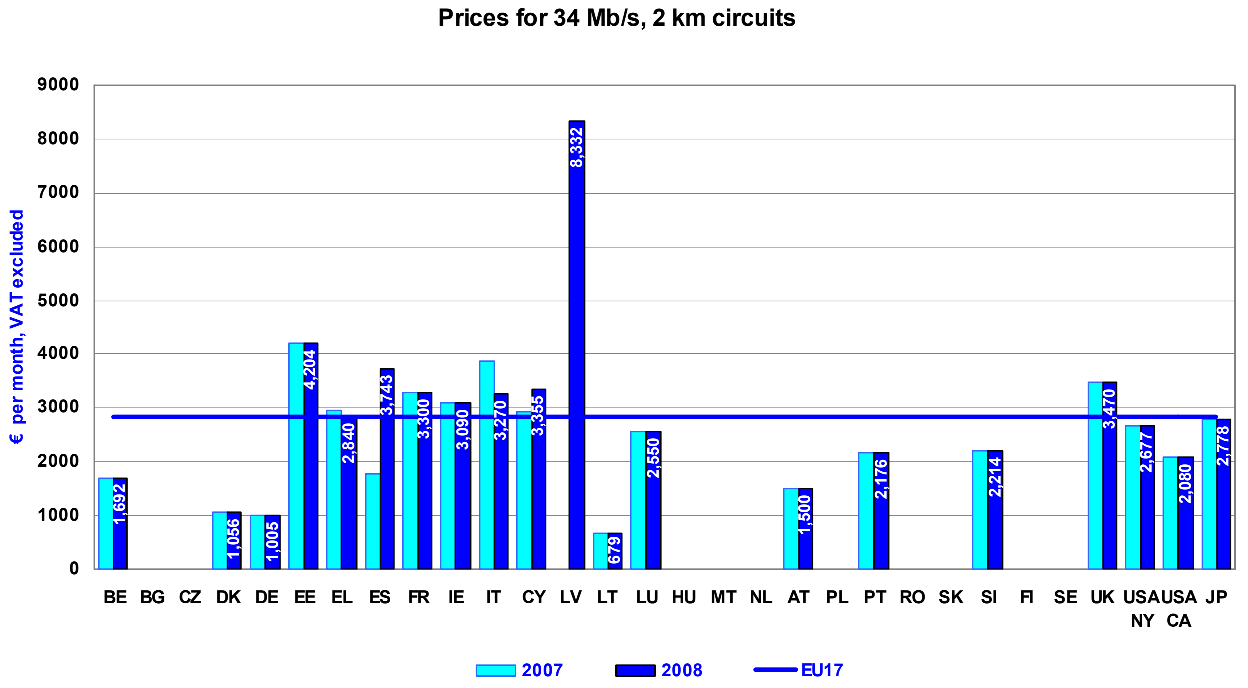
Figure 125: Prices for 2Mb/s, 200 km circuits



Blue line represents EU average= € 2 591
Luxembourg, Malta, Finland – no data

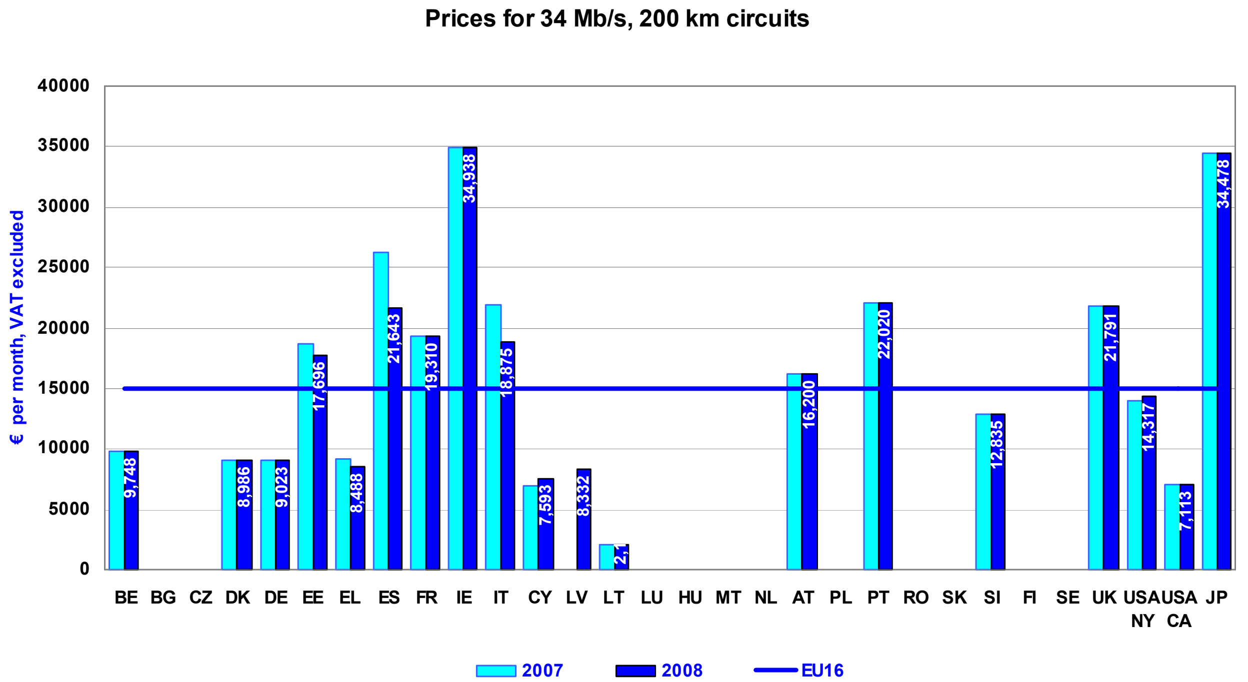
6.1.3. 34 Mbps

Figure 126: Prices for 34 Mb/s, 2 km circuits



Blue line represents EU average= € 2 852
Bulgaria, Czech Republic, Hungary, Malta, Netherlands, Poland, Romania, Slovakia, Finland, Sweden – no data

Figure 127: Prices for 34 Mb/, 200 km circuits



Blue line represents EU average= € 14 977
Bulgaria, Czech Republic, Luxembourg, Hungary, Malta, Netherlands, Poland, Romania, Slovakia, Finland, Sweden – no data

6.2. NATIONAL LEASED LINES PRICE TRENDS (1 AUGUST 1998 - 15 SEMPTEMBER 2008)

Figure 128: EU average price variation since 1998, 2Mb/s

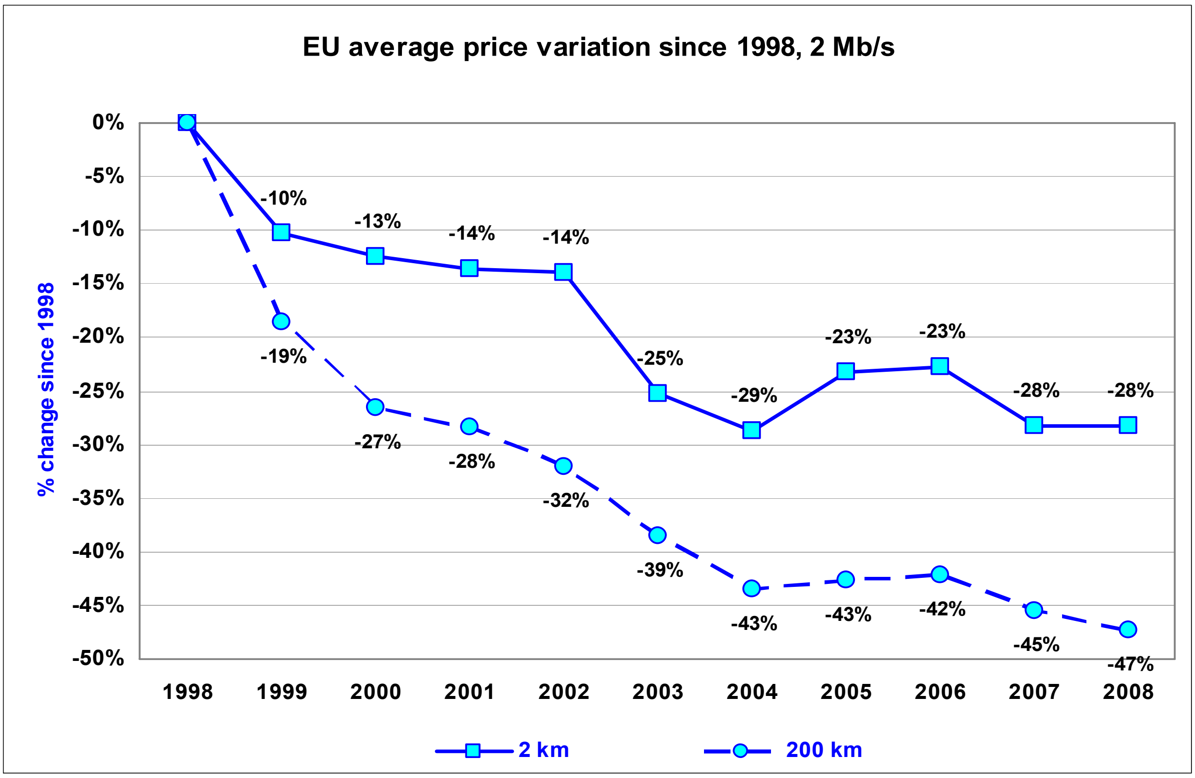
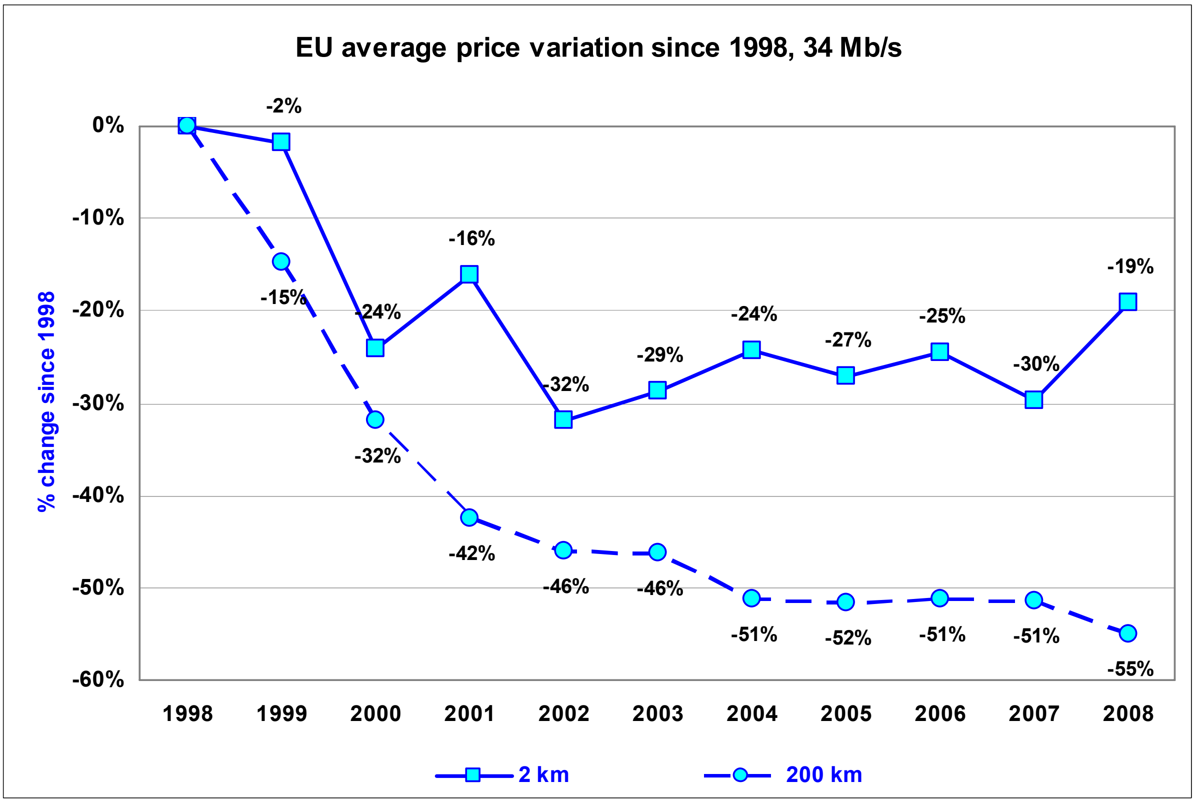


Figure 129: EU average price variation since 1998, 34 Mb/s



7. EXCHANGE RATES AND POPULATION

7.1. EXCHANGE RATE USED

FOR 2007 DATA

Belgium	1,00
Bulgaria	1,96
Czech Republic	27,77
Denmark	7,45
Germany	1,00
Estonia	15,65
Greece	1,00
Spain	1,00
France	1,00
Ireland	1,00
Italy	1,00
Cyprus	0,58
Latvia	0,70
Lithuania	3,45
Luxembourg	1,00
Hungary	251,35
Malta	0,43
Netherlands	1,00
Austria	1,00
Poland	3,78
Portugal	1,00
Romania	3,34
Slovenia	1,00
Slovakia	33,78
Finland	1,00
Sweden	9,25
UK	0,68
Source	*Average Exchange Rate 2007 (www.ecb.eu)*

FOR DATA AS OF 1st October 2008

Belgium	1,00
Bulgaria	1,96
Czech Republic	24,51
Denmark	7,46
Germany	1,00
Estonia	15,65
Greece	1,00
Spain	1,00
France	1,00
Ireland	1,00
Italy	1,00

Cyprus	0,58
Latvia	0,71
Lithuania	3,45
Luxembourg	1,00
Hungary	241,65
Malta	0,43
Netherlands	1,00
Austria	1,00
Poland	3,38
Portugal	1,00
Romania	**3,81**
Slovenia	1,00
Slovakia	30,30
Finland	1,00
Sweden	9,73
UK	0,79
Source	*Exchange Rate 1st October 2008 (www.ecb.eu)*

7.2. EXCHANGE RATE USED FOR RETAIL TARIFFS

(on the mobile tariff, public voice telephony tariffs and leased line tariffs).

Belgium	*1*
Bulgaria	*0.51114*
Czech Republic	*0.04136*
Denmark	*0.13429*
Germany	*1*
Estonia	*0.06382*
Greece	*1*
Spain	*1*
France	*1*
Ireland	*1*
Italy	*1*
Cyprus	*1*
Latvia	*1.38870*
Lithuania	*0.28598*
Luxembourg	*1*
Hungary	*0.00385*
Malta	*1*
Netherlands	*1*
Austria	*1*
Poland	*0.27906*
Portugal	*1*
Romania	*1**
Slovenia	*1*
Slovakia	*0.03278*
Finland	*1*
Sweden	*0.10115*
UK	*1.26936*
Japan	*0.00801*
USA	*0.78481*

**Romania provided all the figures in Euro.*

7.3. POPULATION

	2007	2008
BE	10 511 382	10.666.866
BG	7 679 290	7.640.238
CZ	10 287 189	10.381.130
DK	5 447 084	5.475.791
DE	82 310 995	82.221.808
EE	1 342 409	1.340.935
EL	11 170 957	11.214.992
ES	44 474 631	45.283.259
FR	63 392 140	63.753.140
IE	4 209 019	4.419.859
IT	59 131 287	59.618.114
CY	778 537	794.580
LV	2 281 305	2.270.894
LT	3 384 879	3.366.357
LU	459 500	483.799
HU	10 064 000	10.045.000
MT	406 020	410.584
NL	16 357 992	16.404.282
AT	8 298 923	8.331.930
PL	38 125 479	38.115.641
PT	10 599 095	10.617.575
RO	21 565 119	21.528.627
SI	2 010 377	2.025.866
SK	5 393 637	5.400.998
FI	5 276 955	5.300.484
SE	9 113 257	9.182.927
UK	60 798 438	61.185.981
EU	494 869 896	497.481.657

Source: Eurostat web site

7.4. POPULATION BROADBAND DATA (SECTION 3)

	2007 Broadband data (including 1 Jan 2008)	2008 Broadband data (including 1 Jan 2009)
Belgium	10 584 534	10 666 866
Bulgaria	7 679 290	7 640 238
Czech Republic	10 287 189	10 381 130
Denmark	5 447 084	5 475 791
Germany	82 314 906	82 217 837
Estonia	1 342 409	1 340 935
Ireland	4 312 526	4 401 335
Greece	11 171 740	11 213 785
Spain	44 474 631	45 283 259
France	63 392 140	63 753 140
Italy	59 131 287	59 619 290
Cyprus	778 684	789 258
Latvia	2 281 305	2 270 894
Lithuania	3 384 879	3 366 357
Luxembourg	476 187	483 799
Hungary	10 066 158	10 045 401
Malta	407 810	410 290
Netherlands	16 357 992	16 405 399
Austria	8 298 923	8 331 930
Poland	38 125 479	38 115 641
Portugal	10 599 095	10 617 575
Romania	21 565 119	21 528 627

Slovenia	2 010 377	2 025 866
Slovakia	5 393 637	5 400 998
Finland	5 276 955	5 300 484
Sweden	9 113 257	9 182 927
United Kingdom	60 816 701	61 185 981
EU	495 090 294	497 455 033

8. OECD TELECOMMUNICATIONS BASKET DEFINITIONS

8.1. COMPOSITE NATIONAL – INTERNATIONAL BASKET

This basket is based on a combination of the national and international baskets. The international basket is scaled using a fixed number of international calls.
Business basket results exclude VAT. Residential basket results include VAT.
The number of calls to fixed line phones (i.e. excluding calls to mobile phones) is defined as:

Number of national fixed line calls	Calls per year
Business basket	3600
Residential basket	1200

The international portion of the basket shall have a number of calls equal to 6% of the national fixed line calls, in addition to the calls defined in the national portion of the basket.

	International calls per year
Business basket	216
Residential basket	72

Calls to mobile phones are added to the basket. The number of calls shall be 10% of the number of national fixed line calls, in addition to the fixed line calls.

Calls to mobile phones	**Calls per year**	**Call duration**
Business basket	360	2
Residential basket	120	2

Call duration in minutes per call.

A weighted distribution over six time and day points is used. Call charges relevant at each of these time and day points shall be used.

Day/Time	We 11:00	We 15:00	We 20:00	We 03:00	Sa 11:00	Su 15:00
Bus	45.4	40.6	7	0.8	5.7	0.5
Res	14.3	22.1	31.6	3	13	16

Bus = Business basket, Res = Residential basket. All weights in percent of total number of fixed line calls.
We = Weekdays, Sa = Saturdays, Su = Sundays.
Call duration will vary with distance and time of day. The charge for each call shall reflect the actual charge for the duration in question, as defined by the tariff. Call setup and minimum charges shall be included.

Day/Time	**Weekday daytime**			**Weekday evenings, nights and weekends**		
Distance	3-12 Km	17-40 Km	40-490 km	3-12 km	17-40 Km	40-490 Km
Bus	3.5	3.5	3.5	3.5	3.5	3.5
Res	2.5	3.5	3.5	3.5	6	7

Bus = Business basket, Res = Residential basket. Duration in minutes per call.

8.2. NEW OECD BASKETS FOR PSTN 2006

Number of calls per year

Number of calls per year	National calls	Calls to mobile	International calls	Total calls
OECD Residential basket, Low Usage	456	114	30	600
OECD Residential basket, Medium Usage	900	276	24	1200
OECD Residential basket, High Usage	1560	744	96	2400
OECD Business basket, SOHO	1206	522	72	1800
OECD Business basket, SME	2016	560	224	2800

The SME basket shall also reflect 30 lines and users.

Distribution over time

Fixed call distribution over time	We 11.00	We 15.00	We 20.00	We 03.00	Sa 11.00	Su 15.00
OECD Residential basket, Low Usage	30.2%	28.1%	23.6%	0.9%	8.2%	9.0%
OECD Residential basket, Medium Usage	27.5%	28.0%	23.0%	2.0%	8.0%	11.5%
OECD Residential basket, High Usage	30.0%	30.4%	20.0%	0.6%	8.5%	10.5%
OECD Business basket, SOHO	39.5%	39.3%	7.5%	3.6%	5.5%	4.6%
OECD Business basket, SME	40.2%	40.5%	6.5%	3.4%	4.7%	4.7%
Mobile call distribution over time	We 11.00	We 15.00	We 20.00	We 03.00	Sa 11.00	Su 15.00
OECD Residential basket, Low Usage	28.6%	28.6%	20.5%	0.6%	10.1%	11.6%
OECD Residential basket, Medium Usage	29.1%	30.5%	20.5%	0.7%	8.5%	10.7%
OECD Residential basket, High Usage	30.0%	30.4%	20.0%	0.6%	8.5%	10.5%
OECD Business basket, SOHO	39.5%	39.5%	4.5%	0.3%	9.0%	7.2%
OECD Business basket, SME	44.0%	42.0%	1.2%	0.1%	6.3%	6.4%

Distribution over distance

Fixed call distribution over distance	3 km	7 km	12 km	17 km	22 km	27 km	40 km
OECD Residential basket, Low Usage	62.0%	14.5%	5.2%	3.1%	1.6%	2.1%	2.1%
OECD Residential basket, Medium Usage	56.7%	13.3%	4.7%	2.8%	1.4%	3.2%	3.2%
OECD Residential basket, High Usage	63.0%	14.7%	5.2%	3.1%	1.6%	1.9%	1.9%
OECD Business basket, SOHO	55.5%	13.0%	4.6%	2.9%	1.5%	3.3%	3.3%
OECD Business basket, SME	57.2%	13.4%	4.9%	3.0%	1.5%	3.0%	3.0%
Fixed call distribution over distance	75 km	110 km	135 km	175 km	250 km	350 km	490 km
OECD Residential basket, Low Usage	2.1%	1.2%	1.0%	0.8%	0.8%	0.6%	2.9%
OECD Residential basket, Medium Usage	3.2%	1.9%	1.6%	1.3%	1.3%	1.0%	4.4%
OECD Residential basket, High Usage	1.9%	1.1%	0.9%	0.7%	0.7%	0.6%	2.7%
OECD Business basket, SOHO	3.3%	2.0%	1.7%	1.4%	1.4%	1.1%	5.0%
OECD Business basket, SME	3.0%	1.8%	1.5%	1.2%	1.2%	0.9%	4.4%

Call durations in minutes

Call durations 3-22 km	We 11.00	We 15.00	We 20.00	We 03.00	Sa 11.00	Su 15.00
OECD Residential basket, Low Usage	3.7	3.7	4.7	4.7	4.5	4.5
OECD Residential basket, Medium Usa	3.7	3.7	4.7	4.7	4.5	4.5
OECD Residential basket, High Usage	3.7	3.7	4.7	4.7	4.5	4.5
OECD Business basket, SOHO	1.9	1.9	2.1	2.1	2.3	2.3
OECD Business basket, SME	1.9	1.9	2.1	2.1	2.3	2.3
Call durations >22 km	We 11.00	We 15.00	We 20.00	We 03.00	Sa 11.00	Su 15.00
OECD Residential basket, Low Usage	4.4	4.4	7	7	6.6	6.6
OECD Residential basket, Medium Usa	4.4	4.4	7	7	6.6	6.6
OECD Residential basket, High Usage	4.4	4.4	7	7	6.6	6.6
OECD Business basket, SOHO	2.2	2.2	3	3	3.1	3.1
OECD Business basket, SME	2.2	2.2	3	3	3.1	3.1
Call durations to mobile	We 11.00	We 15.00	We 20.00	We 03.00	Sa 11.00	Su 15.00
OECD Business basket, SME	1.8	1.8	2.1	2.1	1.9	1.9
OECD Business basket, SME	1.8	1.8	2.1	2.1	1.9	1.9
OECD Business basket, SME	1.8	1.8	2.1	2.1	1.9	1.9
OECD Residential basket, Low Usage	1.6	1.6	1.7	1.7	1.7	1.7
OECD Residential basket, Medium Usa	1.6	1.6	1.7	1.7	1.7	1.7

International calls

International calls	Distribution		Call duration (minutes)	
	Peak	Off-peak	Peak	Off-peak
OECD Residential basket, Low Usage	33%	67%	5.5	7.2
OECD Residential basket, Medium Usa	33%	67%	5.5	7.2
OECD Residential basket, High Usage	33%	67%	5.5	7.2
OECD Business basket, SOHO	80%	20%	2.9	3.9
OECD Business basket, SME	80%	20%	2.9	3.9

8.3. INTERNATIONAL PSTN BASKET

The international PSTN basket, when used separately, shall reflect the cost of a single call, calculated according to the weighting method described below. No fixed charges are included. Business basket results exclude VAT. Residential basket results include VAT.

Call charges for calls to all other OECD Member States shall be used. Peak and off-peak time call charges are used, defined as the highest (most expensive) charge and the lowest (least expensive) charge.

Call cost is based on average per minute charge. Call setup charges and/or different charges for first and additional minutes are included.

The charges to different destinations are weighted according to the ITU call volume statistics. An average over the latest 5 years of available traffic statistics is used. As there may be gaps in the ITU statistics for certain destinations from some countries, calls on such routes are excluded from the calculation.

Call charges are weighted between peak and off-peak:

	Peak time weight	Off-peak time weight
Business basket	75.0 %	25.0 %
Residential Basket	25.0 %	75.0 %

Call duration differ between peak and off-peak time:

	Peak time	Off-peak time
Business basket	3 minutes	5 minutes
Residential Basket	3 minutes	5 minutes

8.4. OECD MOBILE BASKETS

2002 Baskets

All baskets will include:
Registration or installation charges with 1/3 of the charges, *i.e.* distributed over 3 years.
Monthly rental charges, and any option charges that may apply to the package, or package combination.
The three new baskets are:
Low user basket. The usage level of this basket is low, with a call volume less than half of that in the Medium user basket.
Medium user basket. This basket will have 75 outgoing calls per month.
High user basket. The usage level is about twice the Medium user basket.
The usage profiles will also include a number of SMS messages per month.
Call and message volumes for each basket are:

	Outgoing calls /month	SMS per month
Low user	25	30
Medium user	75	35
High user	150	42

The information received showed that there is little difference between the average pre-paid usage and the low user post-paid usage. The low user basket can therefore be used for both pre- and post-paid tariffs, allowing a simple comparison also between the two types.
Only national calls are included in the profiles, with 4 different destinations:
Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National.
National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above.
Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller.
Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller's country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.
Distributions per destination for each basket are:

% of total number of calls	Fixed Local area	Fixed National area	On-net mobile	Off-net mobile
Low user	28.0%	14.0%	40.0%	18.0%
Medium user	24.0%	12.0%	43.0%	21.0%
High user	26.0%	14.0%	42.0%	18.0%

As the information received produced little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local:national, i.e. 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.
Instead of splitting time and day into distinct times and days the following approach will be used:
Peak time calls at weekdays, most expensive time during daytime.
Off-peak time calls at weekdays, cheapest time before midnight.

Weekend time calls, at daytime Sundays.
Distributions over time and day for each basket are:

% of total number of calls	ToD Peak	ToD Off-peak	ToD Weekend
Low user	38.0%	35.0%	27.0%
Medium user	47.0%	30.0%	23.0%
High user	63.0%	22.0%	15.0%

There will be 3 separate call durations:
Local and national fixed line calls
Same network mobile calls (On-net)
Other network mobile calls (Off-net)
Call durations for each basket are:

Minutes per call	Dur Fixed National	Dur Mobile On-net	Dur Mobile Off-net
Low user	1.6	1.4	1.4
Medium user	2.1	1.9	1.9
High user	2.2	2.0	2.1

Any call allowance value included in the monthly rental will be deducted from the usage value once the basket is calculated. The deduction cannot be larger than the actual usage value, i.e. negative usage is not allowed. No transfer of unused value to next month is taken into account.
Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern that is described in the basket, i.e. the same peak/off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.
Any inclusive SMS-messages will be deducted from the basket before starting the calculation of the SMS message cost, up to the number of messages in the basket.
For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.
Multiple operators in each country shall be included, with at least the two operators with highest number of subscribers in each country. The operators included shall have a total market share of at least 50% based on subscriber numbers.
Basket results are calculated for a period of one year.

2006 Baskets

The basket structure remains the same as with the previous (2002) version of the baskets. All baskets will include:
Registration or installation charges with 1/3 of the charges, i.e. distributed over 3 years.
Monthly rental charges, and any option charges that may apply to the package, or package combination.
Usage charges for voice calls and SMS and MMS message, as defined by the usage profile.
The three baskets are:
Low user basket. The usage level of this basket is low, with a call volume less than half of that in the Medium user basket.
Medium user basket. This basket will have 65 outgoing calls per month.
High user basket. The usage level is about twice the Medium user basket.
The usage profiles will also include a number of SMS and MMS messages per month. The number of MMS is low, reflecting a new service with still little use.
Call and message volumes for each basket are:

	Outgoing calls /month	SMS per month	MMS per month
Low user	30	33	0.67
Medium user	65	50	0.67
High user	140	55	1

There is little difference between the average pre-paid usage and the low user post-paid usage. The low user basket can therefore be used for both pre- and post-paid tariffs, allowing a simple comparison also between the two types.
Only national calls are included in the profiles, with 5 different destinations:
Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National.
National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above.
Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller.
Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller’s country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.
Voicemail calls. This reflects calls made to retrieve voicemail messages from the on-net voicemail service.
Distributions per destination for each basket are:

% of total number of calls	Fixed Local	Fixed National	On-net mobile	Off-net mobile	Voicemail
Low user	15%	7%	48%	22%	8%
Medium user	14%	7%	48%	24%	7%
High user	13%	7%	47%	26%	7%

As there is little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local:national, i.e. 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.

Instead of splitting time and day into distinct times and days the following approach will be used:

Peak time calls at weekdays, most expensive time during daytime.

Off-peak time calls at weekdays, cheapest time before midnight.

Weekend time calls, at daytime Sundays.

Distributions over time and day for each basket are:

% of total number of calls	ToD Peak	ToD Off-peak	ToD Weekend
Low user	48%	25%	27%
Medium user	50%	24%	26%
High user	60%	19%	21%

There will be 4 separate call durations:

Local and national fixed line calls

Same network mobile calls (On-net)

Other network mobile calls (Off-net)

Voicemail calls

Call durations for each basket are:

Minutes per call	Duration Fixed National	Duration Mobile On-net	Duration Mobile Off-net	Duration Voicemail
Low user	1.5	1.6	1.4	0.8
Medium user	1.8	1.9	1.7	0.8
High user	1.7	1.9	1.8	0.8

Any call allowance value included in the monthly rental will be deducted from the usage value once the basket is calculated. The deduction cannot be larger than the actual usage value, i.e. negative usage is not allowed. No transfer of unused value to next month is taken into account.

Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern that is described in the basket, i.e. the same peak/off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.

Any inclusive SMS- and MMS-messages will be deducted from the basket before starting the calculation of the SMS and MMS message cost, up to the number of messages in the basket.

For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.

Multiple operators in each country shall be included, with at least the two operators with highest number of subscribers in each country. The operators included shall have a total market share of at least 50% based on subscriber numbers.

Basket results are calculated for a period of one year.