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The Swiss telecommunications market - an international comparison

Extract from the 13th European Union implementation report extended to include Switzerland

In accordance with the method used by the European Commission, all prices have been converted using a nominal exchange rate

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Foreword

For some years now, the Commission of the European Communities has been publishing an annual communication addressed to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions; its aim is to assess the implementation of the European Union's regulations on electronic communications. The latest version of this report, also entitled the 13th European Union Implementation Report, was published in March 2008[1].

Apart from a detailed examination of the regulatory situation in the European Union and in the various member countries which constitute it, this report provides, in its Annex 2, a huge amount of information on the situation of the electronic communications market in 2007 and on the evolution observed between 2006 and 2007. In addition to describing the telecommunications market in an extremely comprehensive manner, the statistical data provided in this annex have the merit of being based on unified, transparent methodologies and therefore make it possible to make pertinent comparisons between the various countries considered.

Since Switzerland is positioned geographically, economically and culturally, at Europe's crossroads, it would be regrettable not to have made the same effort of comparison and analysis for our own country. This is why Switzerland has been incorporated, symbolically and materially, wherever possible, into Annex 2 of the 13th Implementation Report.

The purpose of this report is to compare Switzerland with the European Union member countries and, where applicable, Japan and the United States, on the basis of Annex 2 of the 13th European Union Implementation Report, and to provide an overview, with as many figures as possible, of the situation which prevailed in the Swiss telecommunications market in 2007. In this regard, the various methods elaborated by the European Commission have been rigorously applied. Please also note that the text which is not in blue is taken directly from Annex 2 of the 13th report. Chapters 4, 5 and 6 have not been repeated due to a lack of data for Switzerland.

This report is available in English only. However, the executive summary is available in French, Italian, German and English.

[1] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, European Electronic Communications Regulation and Markets 2006, - COM (2007) 155 final, Brussels, 29/03/2007.

Executive Summary

Mobile telephony market (chapter 1)

Penetration of mobile telephony services

In October 2007, the mobile telephony penetration rate was 104%, almost eight points below the weighted average for the European Union countries. With a rate of growth lower than that observed in the Union, Switzerland has lost ground since 2004, a time at which it still enjoyed a slight advantage, with a penetration rate of 86.7% compared to 84.6% for its neighbours. At present, Switzerland is in the bottom third of the league table. Only seven countries out of the 27 which make up the European Union have a penetration rate lower than 100%; the lowest rate is that of France, at 82.9%. Luxembourg has the highest penetration rate at 170.6%. Out of a total of 7.91 million mobile telephone users in Switzerland, 42.9% have opted for a pre-payment card and 57.1% have taken out a contract. We note that in the European Union, the split between these two forms of payment is in almost the inverse ratio (61% pre-payment cards and 39% contracts). This seems to indicate that Swiss users attach greater importance to being able to use their mobile telephone without any barriers, even if this is not always the most attractive option in financial terms. This may also explain the irrational inclination of some consumers who do not want to go back on a choice they made in the past[2].

Players in the mobile telephony market

In July 2007, five operators were operating a second-generation mobile network – Swisscom Mobile, Sunrise, Orange, Tele2 and In&Phone[3] – and three of them were operating a third-generation network. On the basis that this number for the member countries of the European Union varies between two (Cyprus and Malta) and six (Sweden), Switzerland is therefore in the upper part of the league table. However, it is worth pointing out that attaining a high number is not an end in itself. Indeed, the presence of a significant number of players in the market is not always sufficient to guarantee effective competition.

Market shares of the mobile telephony operators

Despite a number of players on the mobile services market which is quite satisfactory compared with Switzerland's neighbouring countries, the competitive situation which prevails in Switzerland does exhibit certain particular traits.

Thus we note that Switzerland, just behind Cyprus and Slovenia, is the country in which the historic operator has the highest market share, measured as a percentage of the number of users. Swisscom Mobile, in fact, can boast a 61.9% market share. This figure is much higher than the European average of 39.4%. This unfailing attachment of Swiss users to their historic operator is all the more surprising as the prices it charges are a long way from the most attractive on the market. We should also mention that the distribution of market shares between the historic operator and its competitors has remained steady for several years, both in Switzerland and in the European Union countries. It therefore seems

[2] This is termed the endowment effect in behaviourist economics.

[3] It has to be noted that In&Phone is commercialising its products to business customers only. For this reason, the network is highly fragmented and does attempt to provide national coverage.

that the market has reached a certain degree of consolidation, where there is a sort of plateau which new entrants cannot overcome.

Mobile telephone number portability

As far as the mobile networks are concerned, 151,432 ported numbers were recorded as of 31 December 2006[4], representing an increase of 52.9% on the previous year (99,072). As for the price charged by the Swiss historic operator, i.e. 17.6 Euros, this is relatively high in comparison with other countries. Indeed, only four Union member countries charge higher prices, namely Slovakia, Germany, the Czech Republic and Ireland.

Price of mobile services

In another context, using a mobile telephone in Switzerland is systematically more expensive than in the European Union. Indeed, for the three baskets under consideration – baskets for low, medium and high users – the cost of consumption is still clearly above the average European values. The difference in costs between Switzerland and the Union vary from 7.54 Euros per month (low usage basket) to 23.24 Euros (high usage basket), including VAT.

Call termination on mobile networks

The second part of the analysis deals with the wholesale market and, more particularly, with charges for termination of calls on mobile networks. For each country, a national average was established on the basis of the wholesale prices charged in October 2007, these prices having been weighted as a function of the number of respective customers of each operator considered. If one examines the averages established for all the countries taken into account, i.e. 28 in this particular case (including Switzerland), it has to be admitted that the mobile telephone operators active on the Swiss market were charging prices in 2007 which were among the highest in Europe. Indeed, only Estonia and Bulgaria charge higher prices.

With a weighted termination charge of 12.76 euro cents per minute, Switzerland is 32.0% above the weighted European average. Despite successive falls observed between 2005 and 2006 (-5.1%) and between 2006 and 2007 (-11.0%), the undeniable evidence is that the difference between Switzerland and her neighbours remains substantial and is even greater in 2006, respectively in 2007, than in 2005. From this, one can therefore conclude that competition has not yet managed to bring prices down to their lowest level in Switzerland. The potential for a reduction is even higher given that the interconnection charge for call termination on mobile networks is approximately 11 times higher than the termination charge on the fixed network at the national level. In the European countries, this ratio is nine, on average.

Starting out from the fact that the level of termination charges was high in comparison with that in the European Union countries, in October 2002 the Competition Commission (CoCom) launched an inquiry directed at the three Swiss mobile telephony operators (Swisscom Mobile, Orange and Sunrise). In February 2007, the CoCom delivered an initial decision for the period from 1 November 2002 to 31 May 2005. It decreed that Swisscom Mobile had abused its dominant position by imposing excessively high prices on its end customers and imposed a penalty of CHF 333 million, a penalty against which Swisscom lodged an appeal. A decision is awaited for the period starting on 1 June 2005 and this could affect all the operators which were the subject of the investigation.

[4] The international comparison relates to the month of October 2007. Since the data are not available for this month in Switzerland, the values applicable to 31 December 2006 have been quoted for the year 2007.

Fixed telephony market (chapter 2)

Players in the market

At the end of 2006, there were 239 operators (208 in 2005) registered with the Swiss regulatory authority (OFCOM) for providing voice telephony services on fixed networks, representing an increase of 15%.

Although apparently positive, this high number of operators able to provide public telephony services does not give an indication of the degree of competition actually characterising the market. In fact, it is only a matter of operators who are potentially able to provide services. In reality, only 72 operators out of 239 are actually active in the market – 30% of the total. This phenomenon shows that although there is no administrative barrier to entering the telecommunications market, the will to penetrate that market and develop services on a sustainable basis represents a much more difficult challenge. On the positive side, however, there are 12 more operators than in the previous year who are active in the fixed telephony market.

We should also mention that the number of operators active in the IP telephony market in Switzerland was 30 at the end of 2006 (25 in 2005). About 60% of companies offer this service on the standard network (PSTN/ISDN), whilst the remaining 40% offer it on cable or optical fibre networks. This figure places Switzerland among the leading European countries (7th out of 28).

An analysis of the competitive situation which prevails in the voice telephony market can usefully be complemented by calculating the combined market share, expressing the number of competitors who share 90% or more of a given market. In terms of this indicator, Switzerland gets a value of four, which places it at the average European level. Of the 27 states in question, 10 get a value of five or more – the maximum value (16) goes to Germany – and seven achieve a value of one, which means that a de facto monopoly continues to exist. The remainder have values between two and four.

Market shares of the fixed telephony operators

The market shares retained by the historic operators over time also provide essential indications of the competitive situation and how vigorously it has developed. The higher these shares, the less alternative operators have managed to put their arguments across in the market in question. We should note in this regard that the Swiss historic operator's share of the total fixed-network telephony market – expressed as a percentage of sales – is clearly below the weighted average calculated for the European Union countries. Indeed, more than five points separate the two values: 58.5% for Switzerland and 64.1% for the European Union, at the end of 2006. If we take a detailed look at the situation in each country, it is apparent that Switzerland is well positioned, as only the historic operators of Sweden (56.0%), Austria (52.6%), Germany (50.9%) and the United Kingdom (49.3%) have lower market shares. One particularly striking fact: within the Union, there continue to be major differences between the various member nations, as in certain countries the historic operator's market shares are higher than 90%. There is therefore definite potential for increasing competition in the Union; in future years, this should result in a fall in the historic operators' average share of the market.

In Switzerland, Swisscom became a little less important between 2004 and 2006 (-1.1 percentage points), but no clear trend is apparent. It could be said that the status quo continues to apply.

If one considers the different segments which make up the fixed-network public telephony market, the values which apply to Switzerland are below the averages for the European Union. The smallest difference concerns the segment for international calls and the greatest concerns the national calls segment.

The table below shows the relative shares of the historic operator in Switzerland and in the Union for the fixed-network voice telephony market as a whole and for the different segments which make up this market.

	Shares of the Swiss historic operator as % of sales	Shares of EU historic operators as % of sales weighted average
Total	**58.5%**	**64.1%**
Segments		
National calls (local + long-distance)	60.5%	65.4%
International calls	52.5%	53.8%
Calls to mobile networks	57.1%	61.2%

Consumer choice in the fixed-network communications market

Since the liberalisation of the telecommunications market which took place in the late 'nineties, both Swiss and European consumers have had the possibility of choosing between several operators to make telephone calls.

Thanks to the rapid introduction of carrier selection, either by pre-selection or on a call-by-call basis, Swiss consumers have not hesitated to avail themselves of the new opportunities offered by the market. For several years now, proportionally more of them have been taking advantage of alternative operators' services than their European counterparts. In 2007, Switzerland strengthened its position. In fact, 39.8% of users opted for an alternative operator to carry their international calls, as against 29.8% on average in the Union countries. In terms of national calls, the gap was just as pronounced, as 37.7% of Swiss users opted for the services of alternative operators to carry their national calls (against 27.9% in the Union).

With regard to subscriber connections, Switzerland is positioned at the average European level. In Europe, 13.5% of subscribers are connected directly via an alternative operator. In Switzerland, 13.9% have taken this step, mainly with cable operators, who are essentially the only operators to offer a real alternative to Swisscom for residential connections. Furthermore, though access via optical fibre is tending to develop, the fact that its commercialisation is not available on the entire Swiss territory (only within specific geographical areas for the public at large) implies that for the time being it represents only a tiny proportion of alternative connections.

The increase in the proportion of connections (from 5.4% to 13.9%) is not expected to stop there, as after several years of discussions unbundling became a reality in Swiss law on 1 April 2007. In July 2007, no operator was yet offering services on unbundled connections. Only later in the second half of 2007 did the first offerings appear and today they represent only a tiny component of the connections market.

Portability of fixed telephone numbers

In 2006, 76,673 fixed-network numbers had been ported, a decrease of 3.1% on the previous year (79,127). It is worth noting that most of the customers requesting number portability are those who have concluded a contract with cable operators.

In Switzerland, the price charged by the historic operator to its competitors for number portability has fallen markedly in recent years. This drop in price is the result of the Communications Commission (ComCom) decision, confirmed by the Federal Court, following an appeal lodged by Cablecom, the country's main cable operator. At a VAT-exclusive amount of 10.52 Euros in 2007, this price is now comparable to the European average (9.69 Euros).

Fixed telephony prices

As far as the basic telephone connection (i.e. analogue connection) is concerned, a separate analysis has been carried out for the monthly price paid by an individual (including VAT) and that which a business has to pay (excluding VAT). In fact, many countries impose a differentiated tariff, unlike the situation in Switzerland. We note that Switzerland was for many years one of the most expensive countries in Europe in terms of connection prices. After the reordering of tariffs by most of the Union countries, this

gap has since almost disappeared[5]. Indeed, the price of a connection paid by a private Swiss individual today is almost equivalent to the weighted average for the European Union (15.3 Euros and 14.9 Euros respectively) and, to Switzerland's advantage, only one euro separates the price paid by businesses (14.2 Euros in Switzerland and 15.2 in the Union[6]). In 2000, the gap between Switzerland and the Union was still 3.1 Euros in the first case and 4.4 Euros in the second.

From the viewpoint of local call charges, Switzerland is clearly at a disadvantage compared with other countries. For example, for a 3-minute call, only Belgium and Slovakia have higher prices. For a 10-minute call, Switzerland is in 23rd place, just in front of Austria, Ireland, the Czech Republic, Belgium and Slovakia. We should point out that this situation is clearly attributable to the introduction in spring 2002 of a single distance-independent national charge.

On the other hand, in the national call segment of the market, the situation is distinctly more positive, since the cost for a Swiss user making a national 3-minute or 10-minute call is well below the weighted European average (18.2 euro cents for a 3-minute call in Switzerland as against 25.8 in the Union).

Finally, with regard to the cost of international calls, Switzerland is in an exceptional position. Indeed, if one considers the costs of the baskets for international calls (one basket for private individuals and one for businesses), only the Cypriot historic operator charges lower prices. Furthermore, the prices charged in Switzerland are considerably below the European average.

Despite the substantial drop in prices in Switzerland since liberalisation, it has to be admitted that competition has not yet had the effect of levelling the cost of calls. Thus if one compares the historic operator with its main competitor, it is clear that the cost of a national call using Sunrise is 20% lower for a 3-minute call and 10% lower for a 10-minute call. Even with regard to international calls, where prices are already extremely low in Switzerland, it is possible to make savings of 24 to 16% depending on the call destinations. Although Sunrise is Swisscom's main competitor, this does not, however, mean that it is the cheapest. Swiss users can therefore make even greater savings, if they wish, depending on the duration and destination of their calls.

In 2007, therefore, Switzerland was in a quite satisfactory situation with regard to fixed telephony prices. With the exception of the price of local calls, all the market segments examined exhibit values equivalent to (e.g. in the case of connection) or distinctly lower than the European average. It should also be pointed out that the identical billing of a national call, whatever the distance, heavily penalises Switzerland when the cost of different consumer basket is calculated. Thus for the five 2007 baskets considered by the OECD[7], Switzerland is always between 14th and 22nd place among the countries of the European continent (EU27 + CH). This poor showing is explained in part by the major role played by local calls in the make-up of the baskets[8].

Interconnection

Acknowledging the crucial role which interconnection could play in facilitating the transition from a monopoly situation to a genuine market economy, the telecommunications regulatory authorities of all countries have devoted much time and effort to fixing interconnection charges which meet the criteria of transparency, non-discrimination and cost-based pricing, whether within the framework of procedures implemented in advance (ex ante regulation) or after the event as a response to conflicts (ex post regulation). Almost ten years after the launch of the liberalisation process in Europe, although the procedures for set-

[5] Since January 1995, the monthly charge for an analogue connection, net of VAT, has not changed in Switzerland.

[6] In the report, the price of the basic telephone connection includes VAT for the residential consumers and excludes it for the business consumers. Since the VAT is in average higher in the European Union than in Switzerland, its exclusion tends to advantage the price for Switzerland in international comparison.

[7] Baskets for low residential users, average residential users, high residential users, the self-employed working at home, and small and medium-sized businesses.

[8] Depending on the baskets, between 68% and 77% of national calls are made within a radius of less than 10 km.

ting interconnection charges have attained cruising speed, it has to be admitted that the subject remains highly topical and has lost none of its relevance. Indeed, in a market characterised by the need to devote substantial investment in order to be able to enter the race and the fact that the situation is regularly shaken up by technological changes (e.g. the emergence of new-generation networks), it is essential for the regulatory authorities to maintain their efforts and continue to ensure that the new entrants can access the market under fair conditions. Without these efforts, the risk of ”reconcentration” of the market is indeed higher.

This report analyses the situation which prevails in the different countries with regard to call termination on the fixed networks occupying a dominant position, i.e. essentially the historic operators. Three types of service are examined: interconnection at national level (termed ”double transit” in the jargon), interconnection at regional level (”single transit”) and interconnection at local level. Unlike other countries in Europe, Switzerland does not have a local interconnection service.

Reflecting developments in the European countries between 2005 and 2007, the call termination charge at national level fell in Switzerland. This, at 1.15 euro cents per minute in October 2007, is 2.7% higher than the weighted European average (1.12 euro cents). However, the results for each country are hardly homogeneous within the European Union, as the amount of the charges varies from 0.18 (Sweden) to 3.50 euro cents (Lithuania). In terms of a league table of countries, we note that Switzerland is in 11th place out of a total of 24 countries considered (including Switzerland); this means that 13 countries have higher charges.

Despite a fall in the charge for terminating calls at the regional level between 2006 and 2007, Switzerland, at 0.84 euro cents, is aligned with the weighted European average. In this case also, the disparity between countries is high. Once again, Sweden is top of the league, at 0.12 euro cents, and Finland is bottom (1.92). As for Switzerland, it is at the tail-end of the top third of the table, in 9th position out of a total of 27 (EU26 + CH).

There is still potential for a reduction in wholesale prices in Switzerland. Thus the ComCom issued a decision on 17 December 2007 obliging Swisscom to lower its fixed-network interconnection prices for the years 2004, 2005 and 2006, following requests submitted by several operators. At present, the regulatory authorities are looking at the prices charged by Swisscom for the years 2007 and 2008.

Broadband access and prices (chapter 3)

Access to the wholesale market

Since the entry into force of the revised Telecommunications Act on 1 April 2007, which enshrines the obligation to unbundle the local loop at cost-based prices for the operator occupying a dominant position, Switzerland is no longer the exception on the European continent. Note, however, that there are a few differences between Switzerland and the European Union in terms of the prescribed forms of access. In fact, Switzerland’s legislation does not lay down an obligation to provide shared access to the local loop and prescribes the provision of bitstream access only for a transitional period of four years. By putting a time limit on the obligation to provide bitstream access, legislators wished to encourage investment in fixed access networks. There are further differences between Swiss legislation and European legislation in terms of access prescription but they are not relevant from the viewpoint of the analysis which is being provided here.

As it was the case in the European Union member countries when the unbundling obligation was prescribed, on 18 December 2000, some time will be needed for everything to be put in place and for the wholesale access market to find its rhythm of growth. Nevertheless, the first steps towards unbundling of the local loop in Switzerland are encouraging, though still modest. Thus the historic operator, Swisscom, has done everything it can to have a basic offer available as soon as the revised Act entered into force. The first exchange was unbundled on 31 July 2007 in Sion by the VTX company. By January 2008, Swisscom had signed nine contracts with alternative operators, an entirely satisfactory figure in

comparison with other countries, as it puts Switzerland on the same footing as countries such as Belgium and the Netherlands. At the same time, approximately 700 lines had actually been unbundled. Although this figure is modest compared with the 41,445 and 336,000 lines unbundled in Belgium and the Netherlands respectively, it should, however, soon grow as local exchanges are equipped to allow co-location of equipment and as the alternative operators agree to make the investment required to avail themselves of unbundling.

On the bitstream access front, however, the situation is distinctly less encouraging. Swisscom considered that overall it did not occupy a dominant position in the wholesale bitstream access market and therefore refused to come up with a basic offer for this type of access, thereby obliging the ComCom to take matters in hand. Initially, ComCom asked CoCom to pronounce on whether Swisscom might be dominant in the market in question. Since the expert report concluded that Swisscom was dominant[9], in November 2007 ComCom then obliged the historic operator to offer bitstream access to alternative telecommunications service providers at cost-based prices[10]. Swisscom, disputing that it occupied a dominant position, then lodged an appeal against ComCom's decision with the Federal Administrative Court. The matter is currently in hand and it may be some time before a final decision is taken.

Deprived of the option of making use of all forms of access laid down by law, alternative operators wishing to offer broadband services in the Swiss retail market have adopted the solution which involves reselling a service purchased from the historic operator – in large numbers. This service is freely provided by Swisscom on the wholesale market, at prices and conditions which the company itself has defined. In December 2007, there were 438,000 units under this heading, i.e. 6000 more than in the previous year. Internationally, reselling plays a major role in Switzerland, as only four countries – Spain, the United Kingdom, France and Italy – record higher figures.

Access to the retail market

Given its diminutive size, Switzerland is a small market within the European Union. With 2,312,000 broadband connections, it represents 2.3% of the European volume.

In the European Union member countries, the number of high-speed connections increased by 23.8% on average between January 2007 and January 2008. In the same period, the Swiss broadband market exhibited a more modest growth rate (14.0%). The fall in the rate of growth observed over time in Switzerland is explained essentially by the fact that the distribution of the service has reached a certain threshold and the market has become more mature. In January 2008, Switzerland boasted a broadband connection penetration rate of 30.5% (measured per inhabitant), putting it in the leading group, just behind Denmark (35.6%), Finland (34.6%), the Netherlands (34.2) and Sweden (31.2%). Note that these rates are much higher than the European average, which is 20%. In these circumstances, it is therefore not surprising that the countries which are catching up have higher growth rates.

Of the 2,312,000 broadband connections in Switzerland, 69.3% are DSL connections and 30.7% are cable modem connections. As for the other access technologies[11], these have not been considered in Switzerland, given the marginal role they play at present.

Despite a spread of access technologies which is rather more balanced than the European average – 79.9% DSL access and 20.1% using other access technologies in the Union – it has to be said that cable is constantly losing ground in Switzerland. Whilst the two technologies were on an equal footing in July 2003, since then DSL has continued to strengthen its position. Thus between January 2007 and January 2008, the number of DSL connections increased by 17.1%, as against 7.6% for cable modem connections. This development is probably explained by the fact the DSL technology has essentially been rolled out from the historic operator's network, whilst the development of alternative technologies

[9] The report, which exists in German only, can be consulted on the ComCo site: www.weko.admin.ch.

[10] See ComCom press release dated 22 November 2007: www.weko.admin.ch.

[11] For example: satellite, optical fibre, PLC, leased lines, 3G, etc.

is the result of a multitude of operators who generally have smaller networks at their disposal. Thus in Switzerland DSL technology is mainly controlled by Swisscom, whereas high-speed internet provision via a cable modem is supplied by some fifty operators, the largest of which is Cablecom. The historic operator has a national network at its disposal and a large customer base via the provision of telephone connections; this gives it an undeniable advantage in terms of both coverage of the service and the return on marketing costs. Moreover, the operators who are reselling Swisscom's wholesale product have adopted a relatively aggressive approach.

If one examines the current split of the retail market between the historic operator (or its subsidiary) and the new entrants in the market, one sees that the situation which prevails in Switzerland is more or less similar to that in the European Union countries. Thus in January 2008 50.3% of broadband connections were provided directly by the historic operator's Bluewin subsidiary to end users, whilst on average 46.3% of high-speed connections were provided by the historic operator in the Union countries. This ratio, which seems balanced, does, however, conceal a more complex reality. If fact, it is useful to consider that over the years the historic operator has continued to win market share (up from 46.2% in January 2007 or 28.0% in 2003) and that the majority of operators offering high-speed internet services via DSL technology restrict themselves to reselling a service bought from the historic operator, which considerably limits their possibilities of intervening in the value-added chain. Thus if we take the number of high-speed connections provided directly by Bluewin to end users and add the number of DSL connections marketed on the wholesale market, it is clear that the weight of the historic operator in the total high-speed market is not 50.3% but 69.3%. If one applies the same approach to the European Union countries, in only three, namely Germany, Luxembourg and the United Kingdom, does the historic operator's market share jump by more than 10 points. Furthermore, the situation for the alternative providers has deteriorated, as their combined market shares for DSL connections fell from 31.6% in January 2007 to 27.3% in January 2008. It is therefore to be hoped that the implementation of unbundling will enable this trend to be reversed.

Unbundling prices

In October 2007, the average monthly cost of an unbundled line was 20.40 Euros, placing Switzerland well above the European average (11.28 Euros). However, in comparison with what has happened in the European Union countries, the cost of unbundling is subject to strong pressures. Indeed, during the second half of 2007, several operators requested ComCom to take a decision on prices charged for unbundling, among other things. At present, the regulatory authorities are looking into these matters and are verifying in particular whether the prices charged by Swisscom are in fact cost-based. Finally, in March 2008, Swisscom spontaneously granted a reduction in the price applied to unbundling a subscriber line, with retroactive effect from 1 January 2008[12].

It should be noted that the above-mentioned average monthly cost consists of a one-off charge for taking over the line[13], written down over three years, and the monthly price for leasing the line. As far as this one-off charge is concerned, the price charged in Switzerland is below the European average (58.1 Euros in October 2007 compared with 63.0 Euros in the European Union). It is an interesting fact that these prices varies among Switzerland's neighbours between 14.0 Euros (the Netherlands) and 143.3 Euros (the United Kingdom). On the other hand, the monthly price for leasing an unbundled line in Switzerland, at 18.79 Euros, is almost double the European average (9.52 Euros). In the same period, i.e. in October 2007, in the European Union countries this price was between 6.33 Euros (Estonia) and 15.68 Euros (Ireland). The reduction agreed in March 2008 by Swisscom, however, did partially close the gap separating Switzerland from the European Union.

[12] See Swisscom press release dated 17 March 2008: www.swisscom.ch.

[13] i.e. a line which is already active.

Convergence of services – bundled offers (chapter 4)

For the first time in its implementation report, the European Union analysed the importance of bundled offers in the telecommunications services market. However, it must be pointed out that no data are provided for a large number of countries.

The data which can be collected are largely dependent on the definition one gives to the concept of a bundled offer or to a basket of services. In the present report, a bundled offer is considered to be an offer which includes two or more services and which is marketed by a single operator at a price which is billed in a single document.

In Switzerland, bundled offers as defined above play a marginal role in the market. Most of the time, they are the province of operators who are locally based. As far as the major operators active throughout the national territory are concerned, they tend rather to give discounts or conduct temporary campaigns aimed at customers who combine two or more of the services they market separately. In view of the marginal nature of the phenomenon, we have for the time being not collected any data. However, it is possible to assume that, by analogy with what is happening in the Union countries, bundled offers of services will become more common. The gaps with regard to data collection will therefore be overcome in due course.

Given the lack of data for Switzerland, this chapter is not included in the document produced for Switzerland. Readers interested in the data for the European Union are invited to consult the 13th Implementation Report (March 2008).

Broadcasting (chapter 5)

Only the indicator for the number of TV connections per 100 inhabitants is available for Switzerland. Moreover, this figure must be treated with caution, as the calculated value for Switzerland is the result of a combination of estimates from very diverse sources which use different survey methods.

From this viewpoint, Switzerland has approximately 46 TV connections per 100 inhabitants, placing it in the leading group of the 22 European countries surveyed, i.e. in 5th position after Denmark, Slovakia, Italy and Hungary and at about the same level as France.

Cable connections are the most popular and connect 38.3 inhabitants out of 100. In second place, far behind cable, are satellite connections (4.0 inhabitants per 100), then analogue or digital aerials (3.1 inhabitants per 100). In last place are IPTV connections, at 0.7 inhabitants per 100.

Once again, this chapter is not included in the document produced for Switzerland because of the lack of data available for Switzerland. Readers interested in the data for the European Union are invited to consult the 13th Implementation Report (March 2008).

Retail leased line charges (chapter 6)

With regard to the leased line offering on the retail market, Switzerland is characterised by almost complete opacity. In addition to Swisscom, which is in all probability the only operator benefiting from national coverage, only a handful of players are active in the market. Most of the time, the price charged by the operator to the end user is the result of negotiation and may therefore vary from one case to the next. Thus the scant information which can be gleaned is not particularly representative. Due to the lack of data, this chapter is not featured in this report.

MARKET OVERVIEW

ANNEX 2

Sources of data presented in this annex

Figures about the market in sections 1 (mobile interconnection, mobile operators, mobile number portability, 2 (fixed market, fixed number portability), 3 (prices for LLU), 4 (bundled offers), and 5 (broadcasting) were provided by the National Regulatory Authorities (NRAs) in response to a questionnaire on regulatory market data sent by the Commission in July 2007.

Data on mobile subscribers (section 1) refer to October 2007 and come from the NRAs unless otherwise specified.

Data in section 3 on broadband access are provided by the NRAs and the national ministries through the Electronic Communications Committee (COCOM). Data have been collected from July 2002 to July 2007 three times a year, in January, June and October, whereas from July 2007 onwards they will be collected in January and July only. The latest figures in this report refer to 1 January 2008 unless otherwise specified.

Price information in sections 1 (mobile tariffs), 2 (PSTN tariffs) and 6 (retail leased lines prices) and partly in section 3 is taken from a study carried out for the Commission by Teligen, Harris Interactive UK Ltd. These data are collected from primary sources (i.e. directly from the incumbent operators and new entrants) and checked by the NRAs. All NRAs, with the exception of Italy and Hungary provided comments and approved these data.

A validation meeting with representatives from NRAs took place in November 2007. Furthermore, a draft version of the charts in this annex (excluding data on tariffs) was distributed to the NRAs before this report was finalised.

Contents

List of Figures

Chapter 1

Mobile market

This section provides information on the number of mobile subscribers and the penetration rate for mobile telephony services. It also shows the number of both mobile network operators and mobile service providers as well as the market share of the main players in each Member State and in Switzerland.

1.1 Mobile penetration

This section provides information on the number of mobile subscribers and the penetration rate for mobile telephony services in each Member State. The growth in the penetration rate since 2004 is also shown.

Where available, data have been provided by the National Regulatory Authorities (NRAs).

The EU average is a weighted average.

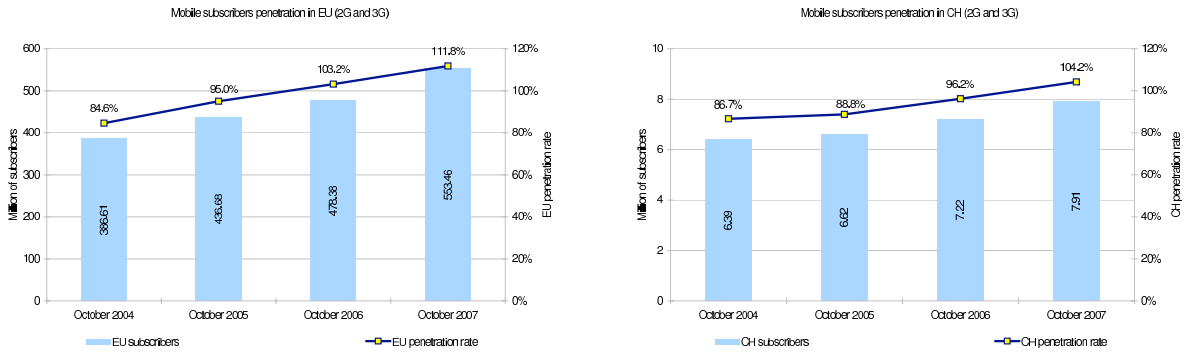
It should be noted that operators and regulators use different methods to count the number of subscribers. Some regulators distinguish between the overall number of mobile subscribers and the number of active subscribers. The table indicates where this information is available. Some operators consider the total number of users that have made or received a call or sent an SMS in the last 9 or 6 months, whereas others only consider the active users of the last 3 months. This has an impact on the penetration rate, especially in small countries.

The chart below displays the number of mobile subscribers in the EU between 2004 and 2007. In October 2007 there were around 553.46 million mobile subscribers, with an increase of more than 80 million since October 2006 (+15.69%, but this year 2 new Member States, Bulgaria and Romania accounting for more than 30 million subscribers are taken into account). Penetration rate is almost 112% of EU population (+8.6 percentage points since last year).

Figure 3b shows the evolution in the mobile telephony market in Switzerland. In the period between October 2006 and October 2007 we note an increase of about 690,000 in the number of mobile subscriptions (9.56%). The growth of the penetration rate in the same period was about 8.32%.

The mobile telephony penetration rate in Switzerland, at 104.2%, is 7.6 percentage points lower than the average for the European Union countries (111.8%). We note that between 2006 and 2007, Switzerland broke through the 100% barrier.

Figure 3

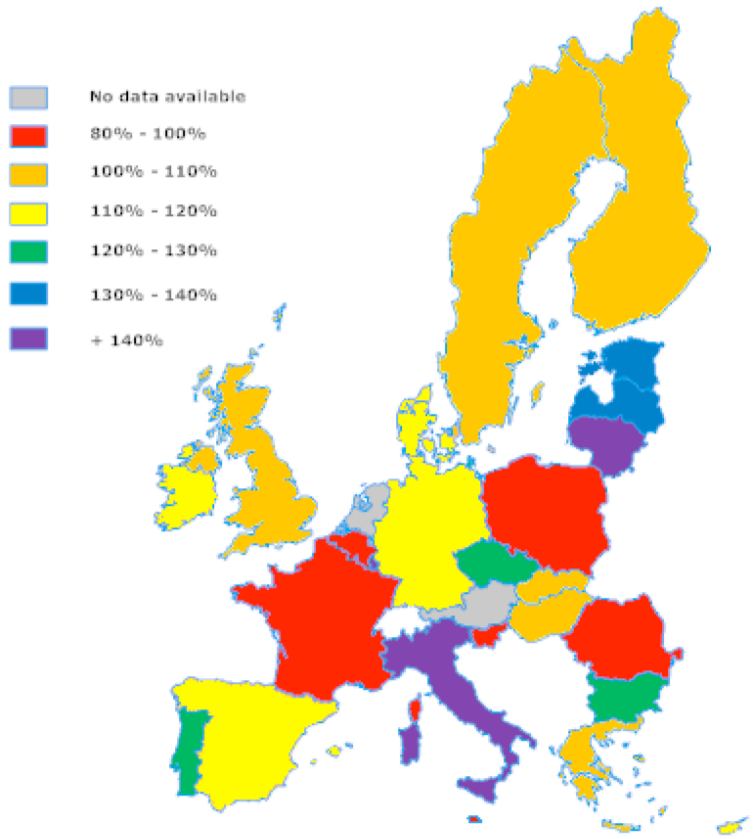


Where available, data include 2G and 3G mobile network operators' subscribers as well as mobile service providers' subscribers. Data are not comparable with previous reports (updated figures for previous years have been provided by some NRAs)
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

The following map shows the mobile penetration rate in the EU countries and the next chart shows the absolute number of mobile subscribers in each Member States (columns) and the penetration rate (dots), measured as the number of subscribers per 100 inhabitants. Where available figures include 2G and 3G subscribers for both mobile network operators and mobile service providers.

Penetration rate is above 100% in 21 Member States; Italy (148%), Lithuania (144%) and Latvia (140%) have the highest values (apart from Luxembourg where the value (152%) is significantly lower if trans-national commuters are added to the national population).

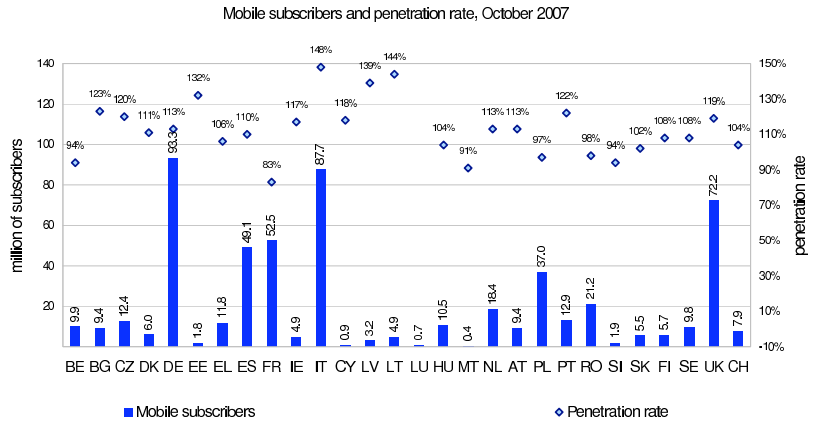
Figure 4



Germany: Estimation. Subscribers of service provider are included in data of network operators
Spain: UMTS subscribers and GSM1800-DCS 1800 subscribers: data as of July 2007
Italy: AGCOM evaluation on August 2007
Cyprus: Active subscribers refers to end of August 2007 company results
Finland: Data for July 2007 used
Switzerland: not applicable

Measured in terms of consumers, the largest markets are in Germany, Italy and the United Kingdom. Switzerland, with its 7.9 million users, belongs to the group of countries characterized by a low volume of users in absolute terms (Figure 5).

Figure 5

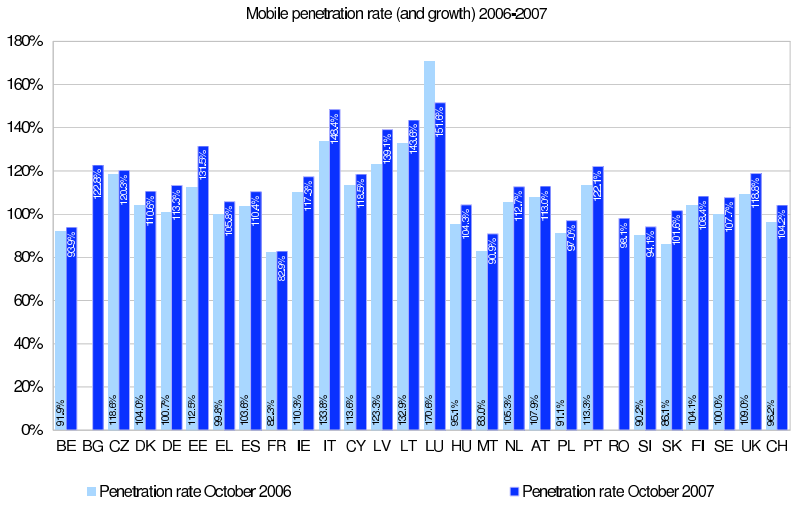


Germany: Estimation. Subscribers of service provider are included in data of network operators
Spain: UMTS subscribers and GSM1800-DCS 1800 subscribers: data as of July 2007
Italy: AGCOM evaluation on August 2007
Cyprus: Active subscribers refers to end of August 2007 company results
Finland: Data for July 2007 used
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

The following chart displays for each Member State the growth of the mobile penetration rate between October 2006 and October 2007, unless otherwise indicated. Penetration rate has grown significantly in Slovakia (+15 percentage points (p.p.)), Germany (+13 percentage points (p.p.)), and Estonia (around +10 p.p.).

Between October 2006 and October 2007, the mobile telephony penetration rate in Switzerland grew from 96.2% to 104.2%, an 8 percentage point increase. Growth is therefore being maintained, as was the case between 2005 and 2006.

Figure 6

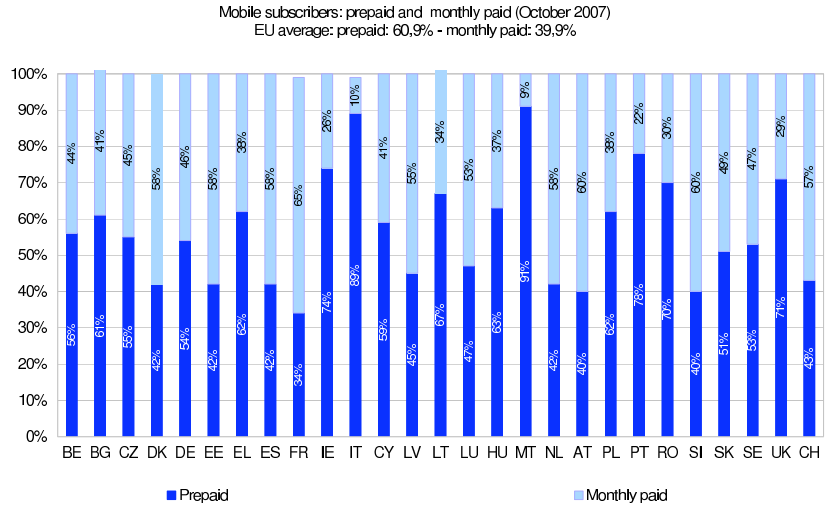


Germany: Estimation. Subscribers of service provider are included in data of network operators
Spain: UMTS subscribers and GSM1800-DCS 1800 subscribers: data as of 1.7.2007
Italy: AGCOM evaluation on August 2007
Cyprus: Active subscribers refers to end of August 2007 company results
Luxembourg: For 2006 a different methodology was applied compared to 2007
Finland: Data for July 2007 used
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

The following chart shows, for each Member State split between post-paid and pre-paid subscribers. At

EU level, more than 60% of subscribers use a pre-paid system. In five countries pre-paid subscribers are more than 70% and in Italy and Malta they are around 90%.In Switzerland, 43% of subscribers had chosen the pre-paid system at the data collection date as against 60% on average in the European Union countries. The difference is therefore considerable.

Figure 7



Germany: Estimation. Subscribers of service provider are included in data of network operators
Spain: UMTS subscribers and GSM1800-DCS 1800 subscribers: data as of 1.7.2007
Italy: AGCOM evaluation on August 2007
Cyprus: Active subscribers refers to end of August 2007 company results
Finland: Data for July 2007 used
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

1.2 Players in the mobile market

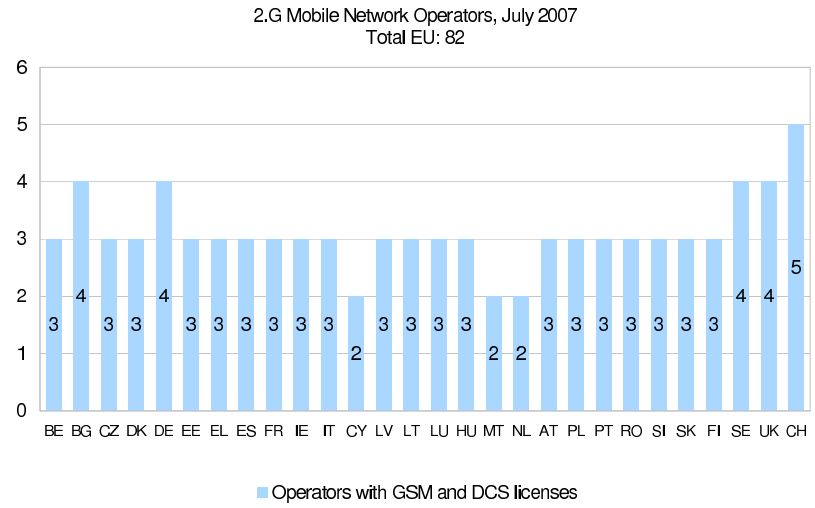
This section shows the number of mobile licenses granted in each Member State and in Switzerland for the provision of mobile services (2G/3G mobile network operators and mobile service providers). License for analogue mobile service are not phased out in Poland (phasing out: 17-12-2016).

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

The following chart shows the number of mobile network operators licensed to provide digital mobile services (second-generation). The number of operators indicates the real magnitude of the choice of operators for customers of digital mobile services, since very often operators have licences for both GSM 900 and DCS 1800. Mobile network operators have been identified as having only GSM 900 or only DCS 1800 frequencies, or both (in which case they have usually been granted a GSM 900 licence which has subsequently been extended to the DCS 1800 band).

In Switzerland, five providers were operating a second-generation mobile network in July 2007 - Swisscom Mobile, Sunrise, Orange, In&Phone and Tele2.

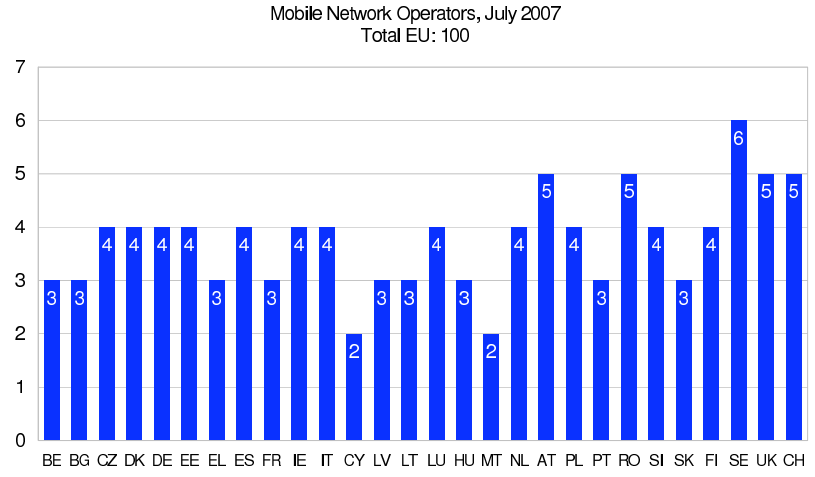
Figure 8



France: Mobile national operators for mainland France only. Overseas departments are excluded
Source for Switzerland: OFCOM Switzerland

In all, five operators were operating a mobile network in Switzerland in July 2007. These are the same operators mentioned in the comments on Figure 8; some of them also possessed a UMTS licence as well. If we consider Figure 9, we can see that in all the countries considered, the number of operators with frequencies available and operating a network varies between two (Cyprus and Malta) and six (Sweden). In an international comparison, Switzerland has a high number of operators with a mobile network.

Figure 9



Source for Switzerland: OFCOM Switzerland

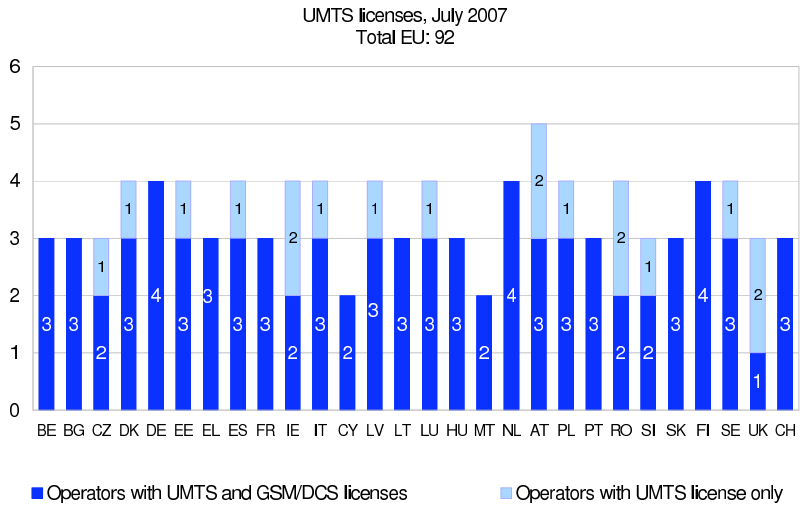
The following two figures indicate the number of UMTS licenses granted in each Member State and the status of the launch of 3G services: trial (tests with a closed group of selected users) or commercial (fully commercial services open to any users at standard tariffs).

In December 2000, the Communications Commission awarded four UMTS licenses to Swisscom Mobile, Orange, TDC Switzerland (cf. Sunrise) and 3G Mobile (Telefonica), which was considered to be a new entrant. On the data collection date (July 2007), three of them were offering fully commercial UMTS

services to Swiss consumers. These are Swisscom Mobile, TDC Switzerland (cf. Sunrise), and Orange.

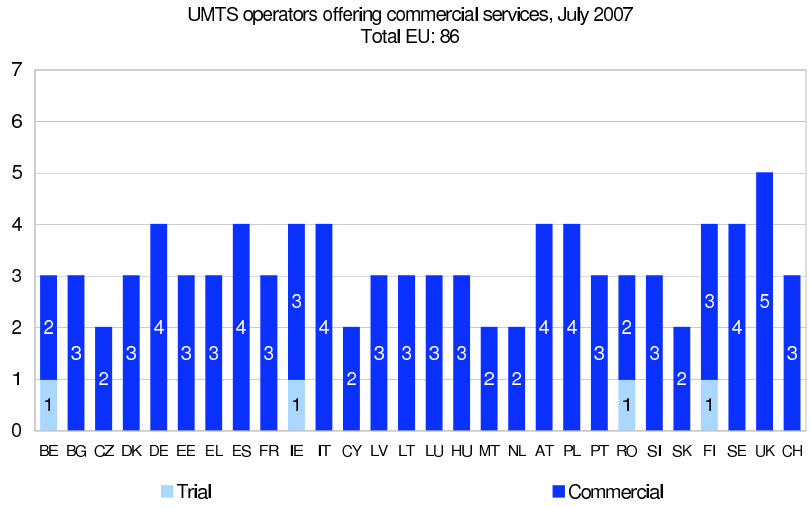
Swiss UMTS operators were obliged by their license conditions to achieve a 3G network population coverage of 50% in the country before the end of 2004. 3G Mobile (Telefonica) did not meet this condition. In March 2006, the Federal Communications Commission revoked Telefonica's UMTS license. This measure was forced on the Commission as 3G Mobile was not utilizing its licence and was not fulfilling the coverage conditions.

Figure 10



Denmark: 3 operators commercially active. One operator is not active
Estonia: 4th licensed 3G operator. One operator not active
France: The coverage of one specific 3G operator on the market is 20%. 3G service includes data cards
Cyprus: One operator has the obligation to build a 3G network until 2013
Poland: Service definition includes data cards
Netherlands: 2 3G operators commercially active
Austria: One mobile operator has a license but is not active, frequencies traded to another operator
Romania: There are 3 licensed 3G operators on UMTS and a 4th licensed 3G operator on CDMA 2000
Source for Switzerland: OFCOM Switzerland

Figure 11



Denmark: 3 operators commercially active. One operator is not active
Estonia: 4th licensed 3G operator. One operator not active
France: The coverage of one specific 3G operator on the market is 20%. 3G service includes data cards
Cyprus: One operator has the obligation to build a 3G network until 2013
Poland: Service definition includes data cards
Netherlands: 2 3G operators commercially active
Austria: One mobile operator has a license but is not active, frequencies traded to another operator
Source for Switzerland: OFCOM Switzerland

1.3 Mobile operators' market share

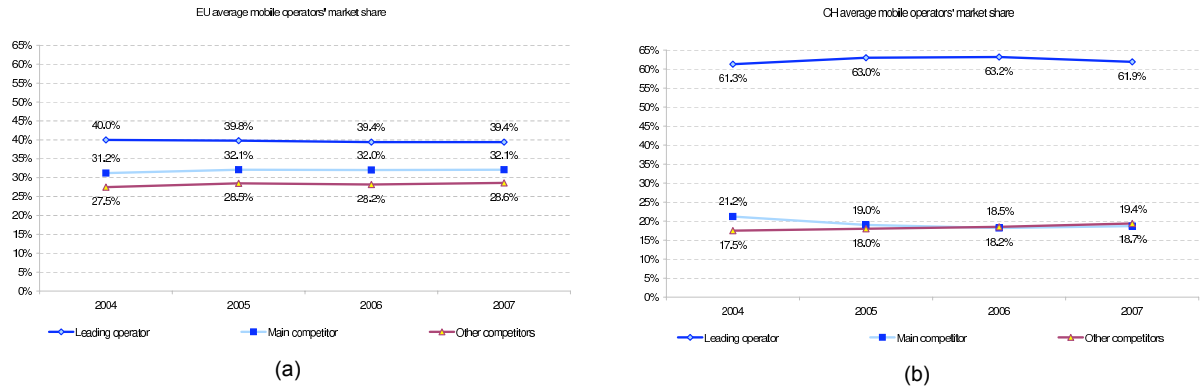
The following charts present the market shares, based on subscribers, of the leading operator, the main competitor and the other competitors in the mobile market. Operators' market shares have been calculated for the overall mobile market (including DCS 1800/GSM 900 and UMTS subscribers).

Data concerning market shares are based on the data supplied by the NRAs except for Czech Republic, Estonia, Greece, Luxembourg, Hungary, Austria, Portugal and Romania where they are confidential. Data for these countries are estimates from European Mobile Communications and refer to 3Q 2007. Data for market shares in Greece is taken the incumbent website. Data for Estonia, coming from an alternative source was not available at the time of publication of the Report.

In Cyprus one operator largely dominates the market with more than 85%. In Slovenia the leading operator retains more than 65% of the market. In 15 Member States the leading operators have between 40% and 50%. The lowest market share of the leading operator is in the United Kingdom, with 24%. EU average has been weighted using mobile subscribers for each country. At EU level, the market share of the leading operator and its competitors are the same as last year in average.

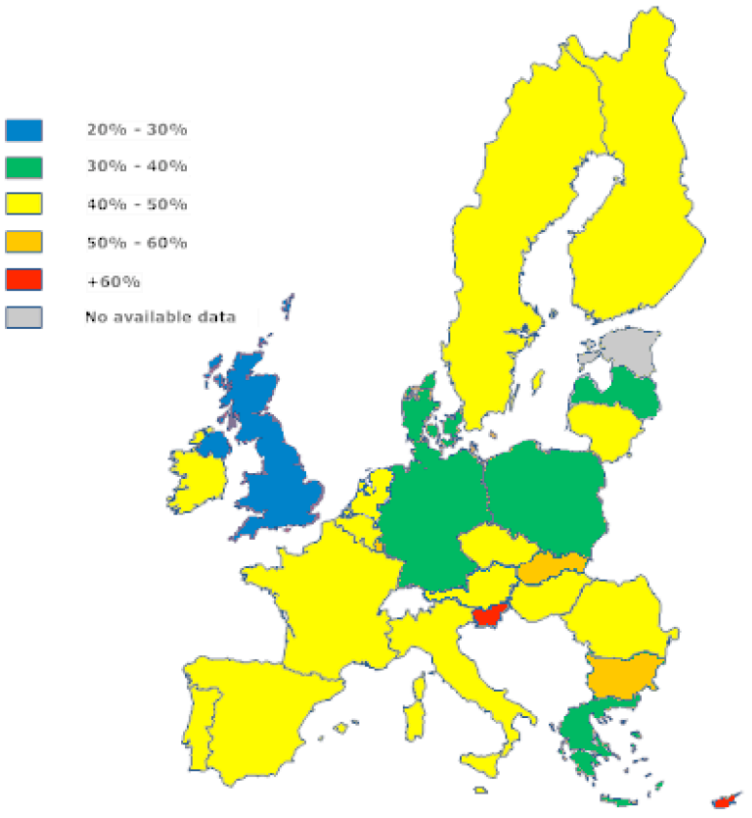
After Cyprus and Slovenia, Switzerland ranks third for the country in which the subsidiary of the historic operator has the largest market share. This rate, 61.9%, is well above the European average (39.4%). Even though the subsidiary of the historic operator lost some ground between 2006 and 2007, it must be stated that the situation is not radically different from that prevailing in 2004. As a result, only a relatively small share is distributed between the historic operator's main rival (18.7% percent market share) and the other competitors (19.4%).

Figure 12



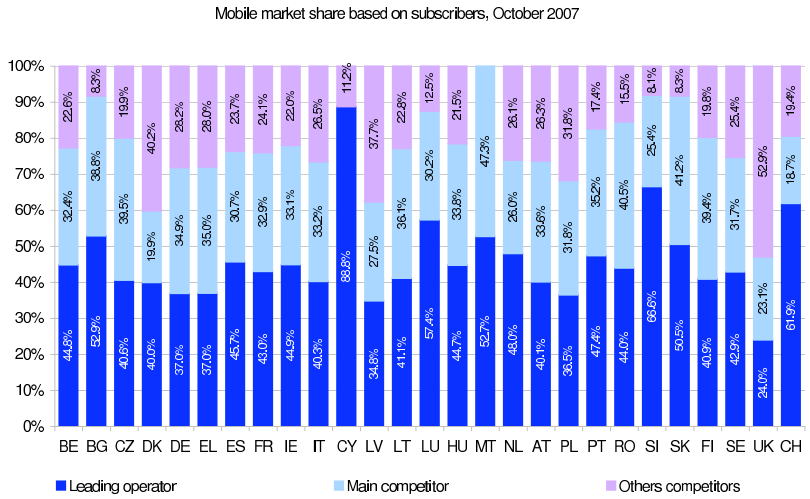
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

Figure 13



Data for Czech Republic, Estonia, Greece, Luxembourg, Hungary, Austria, Portugal and Romania are confidential. Data for these countries are estimates from European Mobile Communication 2007 except and Greece (Source: Incumbent web-site). Data for Estonia not available.
Switzerland: not applicable

Figure 14



Data for Czech Republic, Estonia, Greece, Luxembourg, Hungary, Austria, Portugal and Romania are confidential. Data for these countries are estimates from European Mobile Communication 2007 except for Greece (Source: Incumbent web-site). Data for Estonia not available.
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

1.4 Mobile number portability

Mobile number portability enables mobile subscribers to retain their number when they move from one operator to another.

Figures refer to the number of transactions calculated up to 1st October each year, unless stated otherwise under each table.

According to the data at our disposal for 23 countries, the mobile ported numbers have increased during the past period (+7.13 million) and as of October 2007 almost 47 million subscribers have ported their number since the introduction of this possibility (data is not available for Poland and United Kingdom).

Only one country (Slovakia) has started to implement mobile number portability this year, while number portability is not yet available in Bulgaria and Romania. Apart from Slovakia the countries that have introduced number portability in 2007, there has been significant growth in the amount of mobile numbers ported in Greece and Malta.

The percentage of ported numbers in the EU over the total mobile subscribers since the introduction of mobile number portability is now 9.3%.

Spain and Italy continues to lead in terms of the number of subscribers that have ported their numbers. (around 14 million).

France has also seen considerable growth compared to the previous year but still the number of ported numbers is very low compared to Italy and Spain.

Finland has the highest percentage of ported numbers over the total of mobile subscribers (68%) followed by Denmark (42.06%) and then Spain (28.87%).

In Estonia, Spain, Lithuania and Malta there is no inter-operator charge for the porting of mobile numbers.

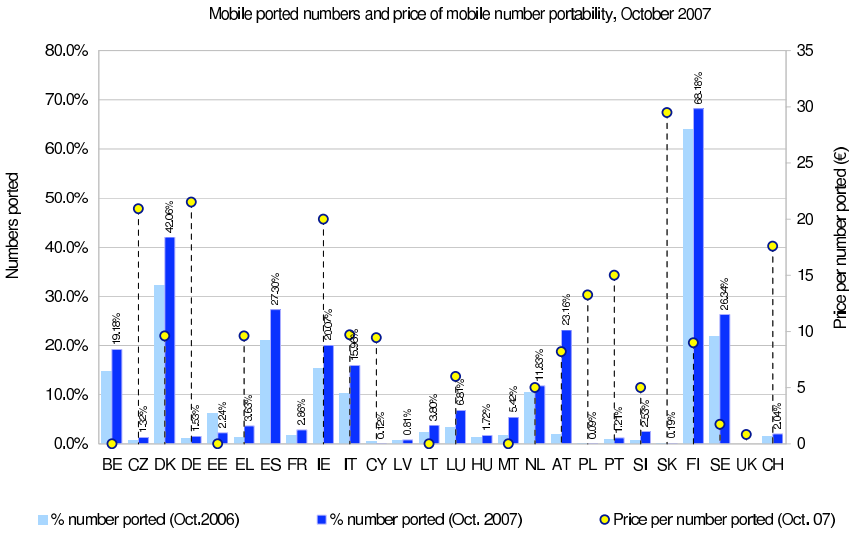
Mobile telephone number porting was introduced in Switzerland in 2000. During 2002 some 118,113 numbers were ported. This represents a maximum annual value since the introduction of the service.

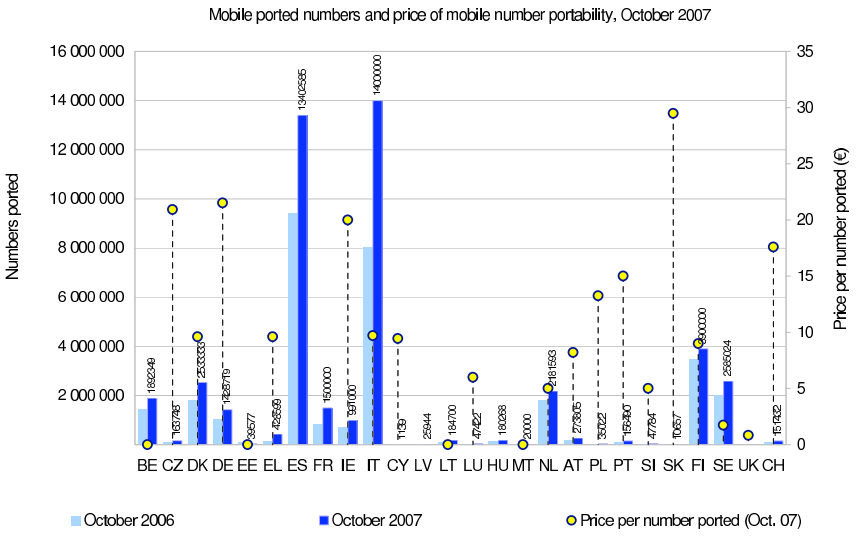
During the period 2002-2004, a decrease of 44% in porting demand was recorded. This case is unique in Europe. In 2005 an increased interest in the use of this service was recorded, with 99,072 mobile users retaining their number when switching operator. This trend continued in 2006, when 151,432 numbers were ported. The proportion of ported numbers represents 2.04% of the total number of mobile telephony subscriptions in 2006. Despite its growth, this rate is well below the European average (9.3%); this is partially explained by the fact that Swiss users change their operator relatively infrequently.

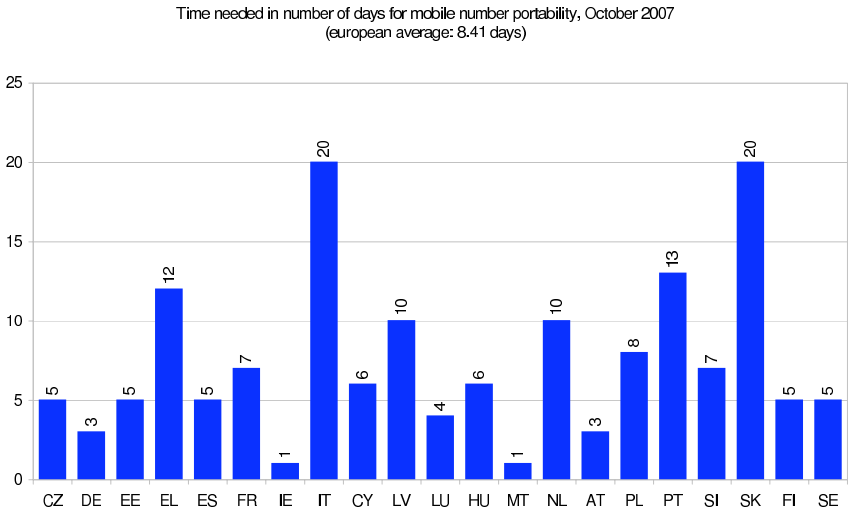
The Swiss incumbent operator charges 17.60 Euros per mobile number ported, putting Switzerland in the group of countries with the highest prices. Only operators in Slovakia, the Czech Republic, Germany and Ireland charge higher amounts.

It should be noted that data on the average number of days required to transfer numbers between operators operating mobile networks is not available.

Figure 15



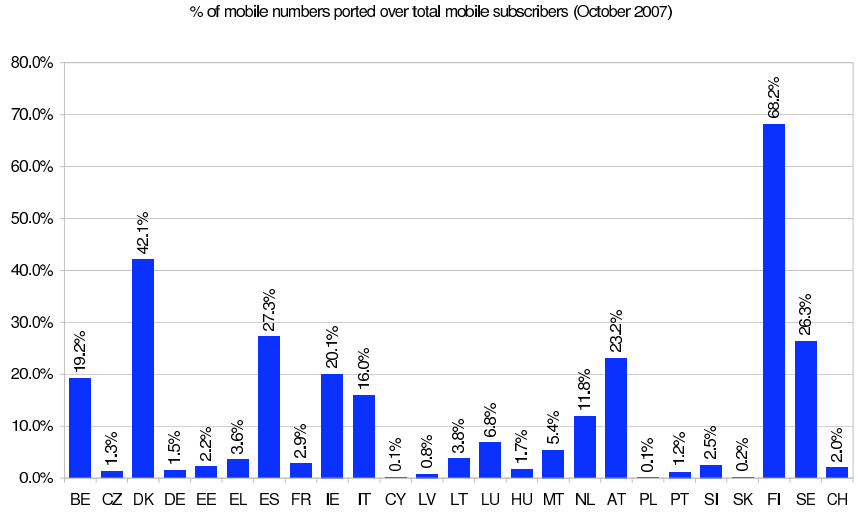




Data on mobile numbers ported is not available for UK and Poland while number portability in Bulgaria and Romania is not yet implemented.

Lithuania: Numbers are ported free of charge
Luxembourg: The data is from August 2006
Malta: Not including port backs
Netherlands: Price is a rough estimate by NRA
Portugal: Value reports to July 2007 excluding VAT
Finland: Average fee, current fee varies from 5 to 12
Sources for Switzerland: OFCOM Switzerland, telecom operators. The October 2006 data refer to December 2005 and the October 2007 data refer to December 2006

Figure 16



Data on mobile numbers ported is not available for UK and Poland while number portability in Bulgaria and Romania is not yet implemented
Lithuania: Numbers are ported free of charge
Luxembourg: The data as from August 2006
Malta: Not including port backs
Source for Switzerland: OFCOM Switzerland. The October 2007 data refer to December 2006

1.5 Mobile tariffs

1. The analysis of national (as opposed to roaming) mobile services is based on the OECD baskets for digital mobile services. OECD baskets have undergone a revision that resulted in a new set of baskets at the beginning of 2006, as opossed to old 2002 OECD baskets. Mobile baskets have been updated with current traffic weights and volumes. The changes are significant enough to prohibit the use of the new baskets with old data.

   The baskets contain an SMS element, they include calls to several mobile networks, and they do not cover international calls. In addition, MMS element is included in the basket, while both MMS and SMS are separated for peak and off-peak times, and on-net and off-net destinations. Also, voicemail is included in the baskets, whereas off-net calls can be directed to several networks. There are 3 different baskets, based on low, medium and high usage levels. All packages analysed in this study are Post-Paid packages. Some of the main properties of the ”2006 OECD” baskets are:

   - Low usage basket with:
     30 outgoing calls per month + 33 SMS messages
     22% of calls are to fixed line phones, 70% to mobile phones, 8% to voicemail
   - Medium usage basket with:
     65 outgoing calls per month + 50 SMS messages
     21% of calls are to fixed line phones, 72% to mobile phones, 7% to voicemail
   - High usage basket with:
     140 outgoing calls per month + 55 SMS messages
     20% of calls are to fixed line phones, 73% to mobile phones, 7% to voicemail

   Each basket also has a unique definition of time of day distribution and call duration, and includes the monthly rental, and any registration charges distributed over 3 years.

   The two most prominent operators in each country are covered, based on available subscriber numbers (except for Switzerland - the 3 most prominent = Swisscom, Sunrise and Orange). All

relevant packages from each operator are considered, but the final results presented here only show the cheapest package for each basket.

The asterisk (*) behind the package name means that the package name and its structure have changed between 2006 and 2007. The package chosen at any time is the cheapest package from that provider for the usage profile in question. This may give rise to significant price changes over time.

The balance of fixed and usage in the mobile baskets varies considerably between countries, as the preferred packages in some countries contain a lot of calling time included in the fixed charge.

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

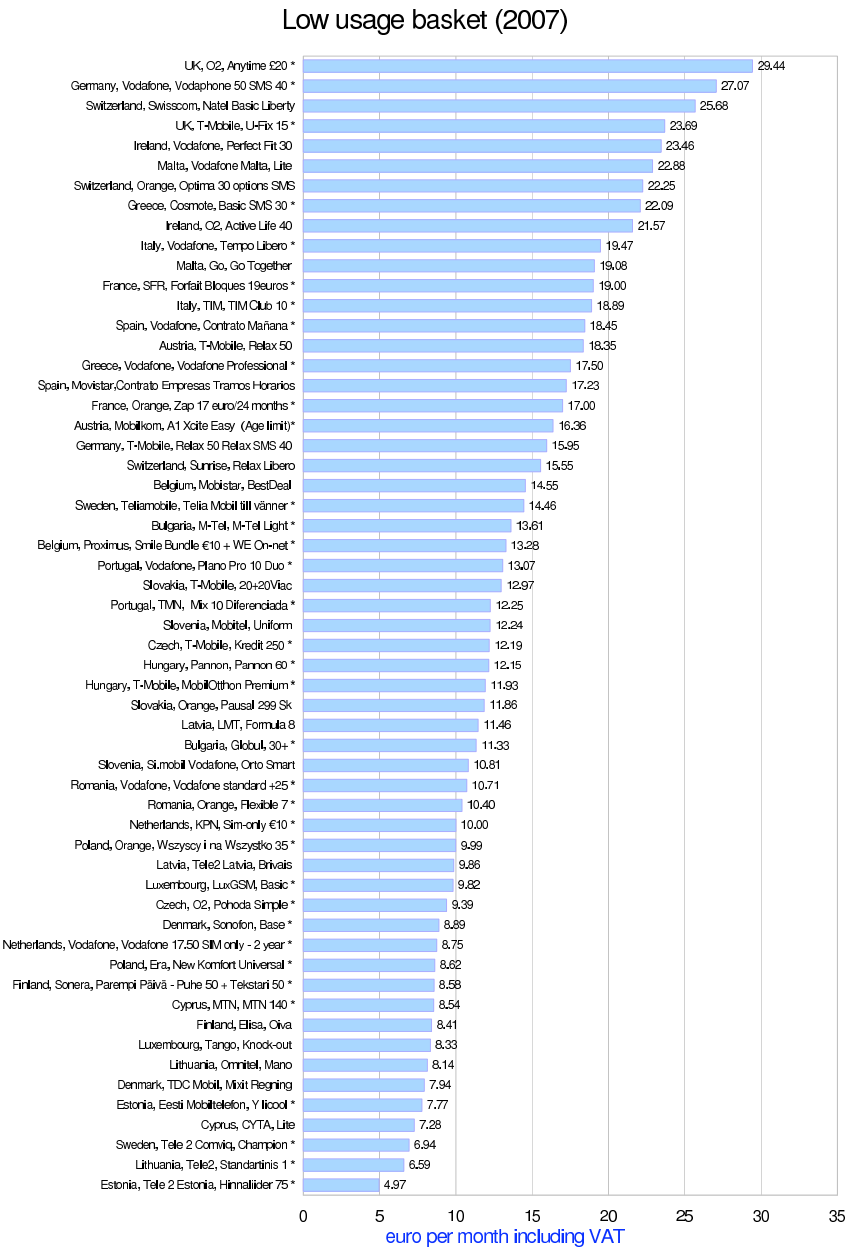
The names of the tariff packages used in the basket analysis are found in the table below.

2. In order to show a price trend, the ”2006 OECD” baskets have been used. Mobile services from 2006 till 2007 are used. The graphs will show the average price developments for the EU countries, using a simple average across all member countries per year. The averages cover the cheapest package from the same mobile operators.

   From 2007, Bulgaria and Romania are also included.

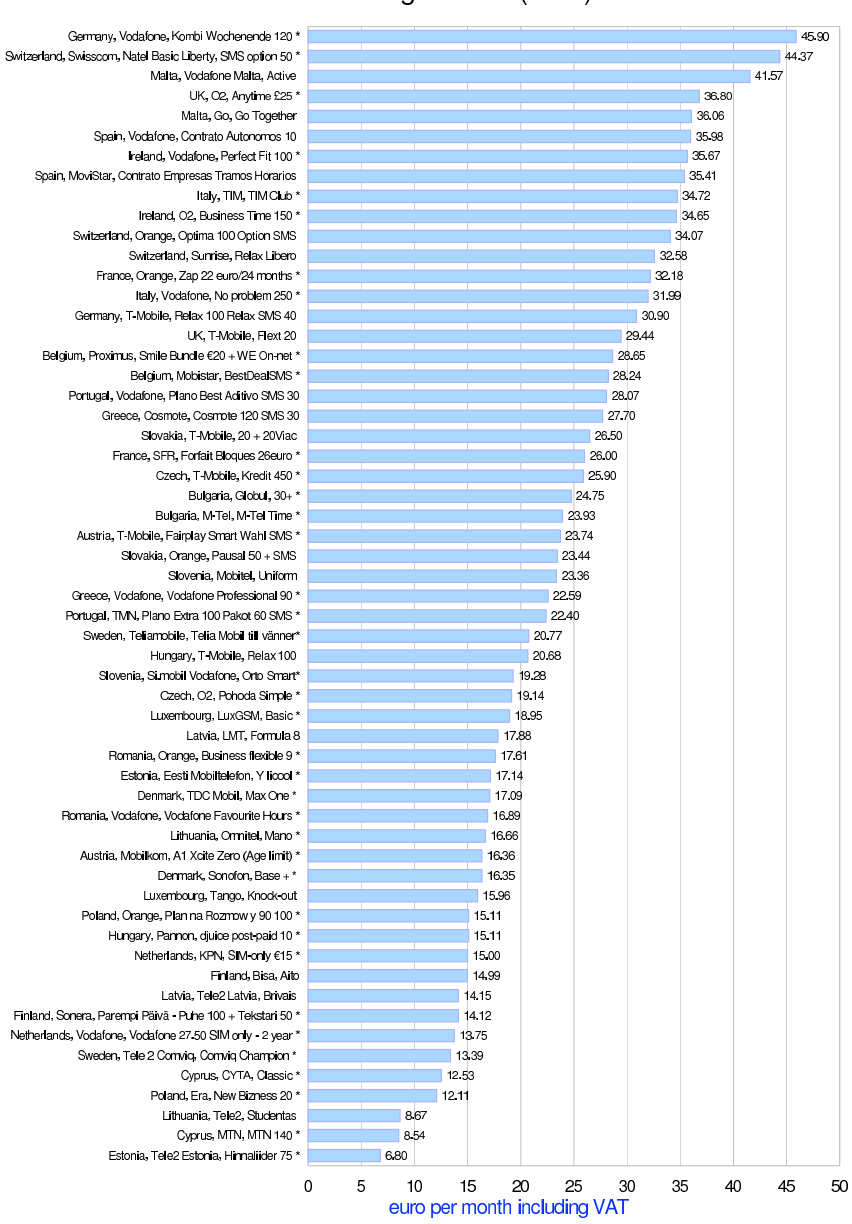
1.5.1 2006 OECD baskets

Figure 17



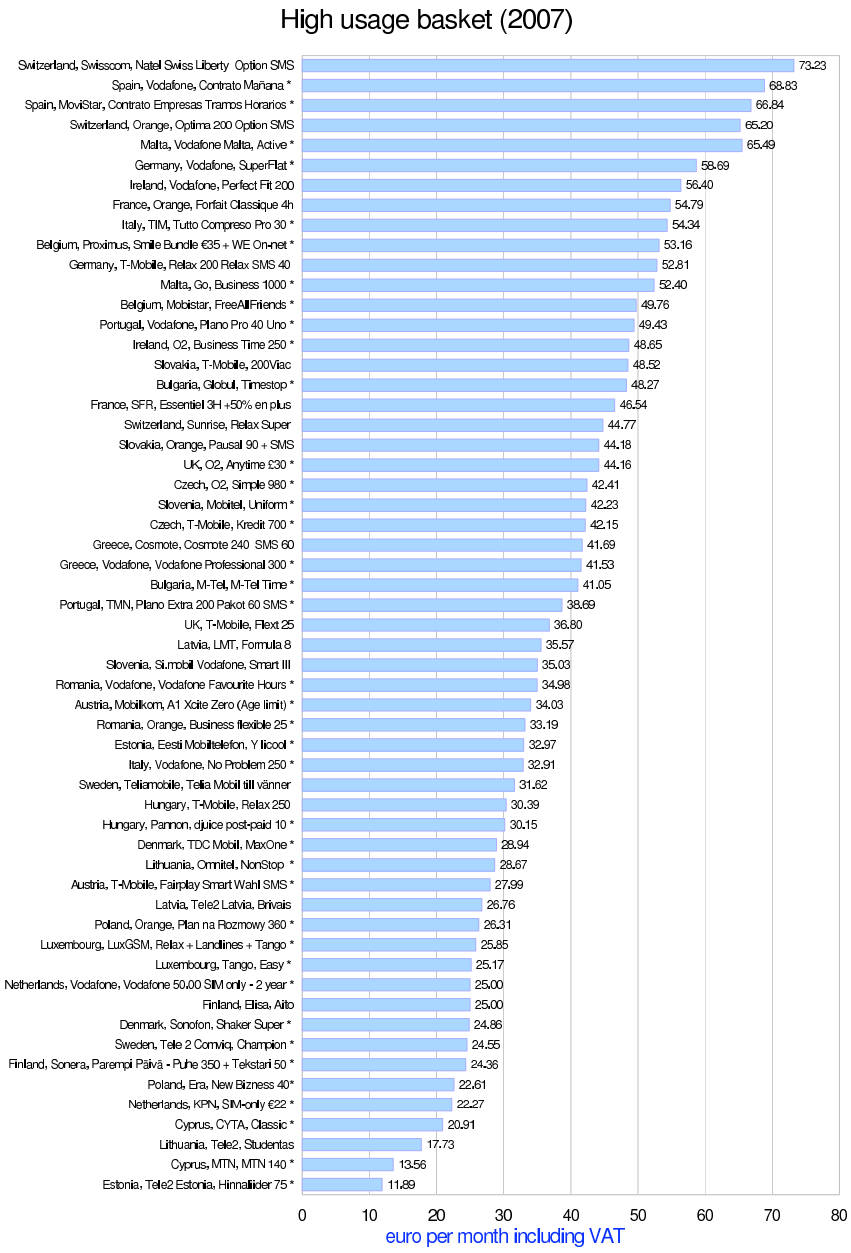
Entries with an asterisk (*) after the name have changed the package name and structure since last year
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 18



Entries with an asterisk (*) after the name have changed the package name and structure since last year
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 19

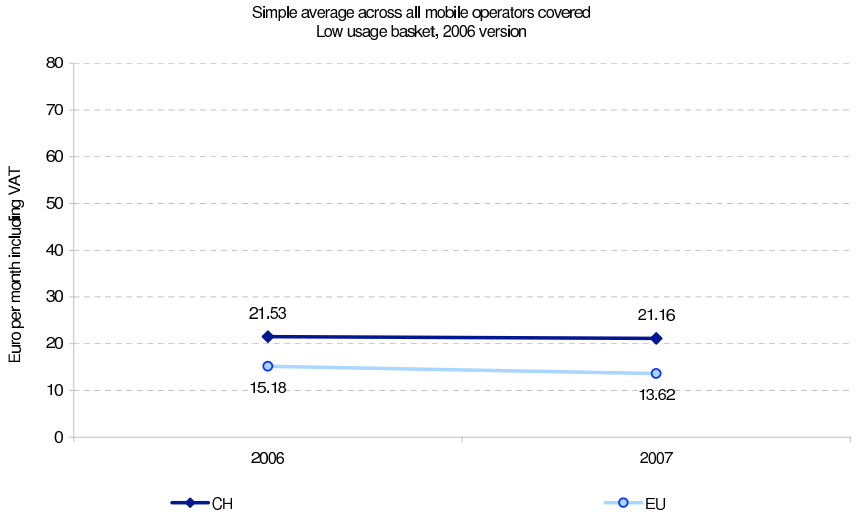


Entries with an asterisk (*) after the name have changed the package name and structure since last year
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

1.5.2 Simple average across all mobile operators

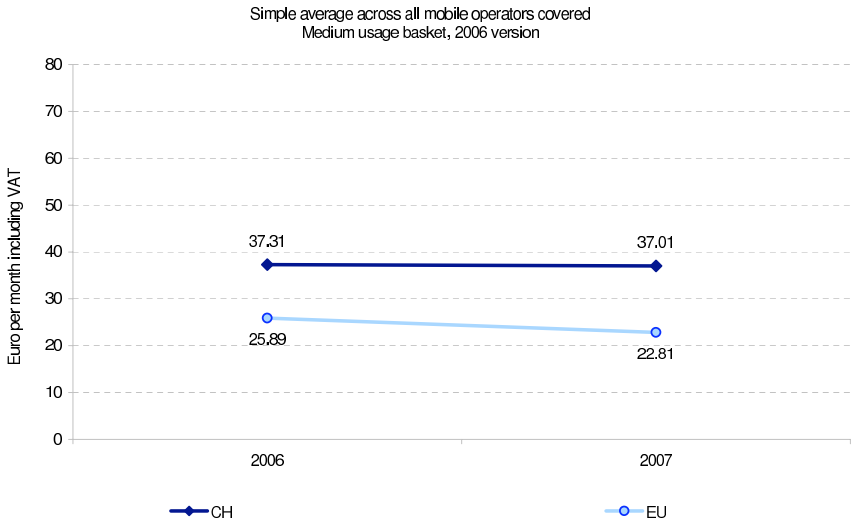
The simple national average for Switzerland is calculated on the basis of the data for three leading mobile operators (Swisscom, Sunrise and Orange). These values are considerably higher than the European average regardless of the usage level and the year considered. In 2007, the best result for the Swiss basket (low usage basket) was 55% more expensive. For the other baskets, the difference was over 61%.

Figure 20



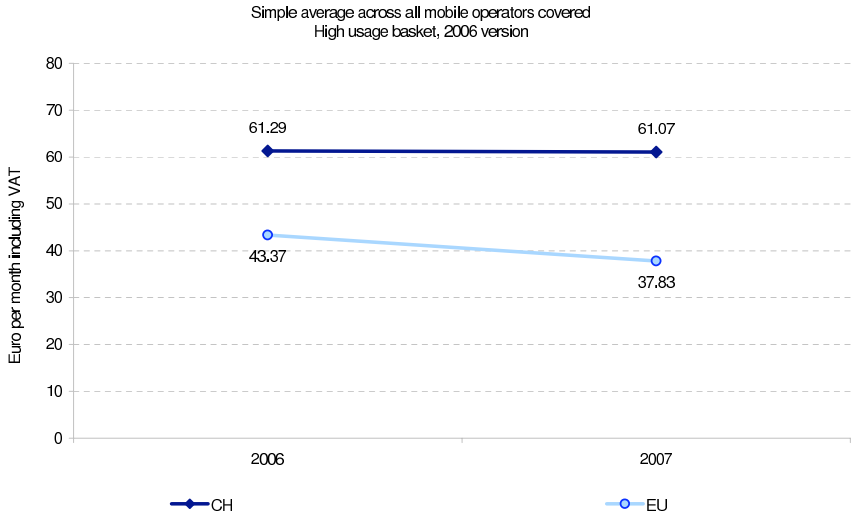
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 21



Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 22



Sources for Switzerland: Teligen, OFCOM Switzerland calculations

1.6 Call termination on mobile networks

This section presents the per-minute interconnection charges for fixed call termination on the networks of mobile operators based on the first three minutes of a call at peak rate. Where available charges for call termination on the networks of 3G operators and service providers (MVNO and resellers) have been included. Charges are for calls originated in the same countries.

In the following charts information is shown for 92 mobile operators in the EU (representing almost 100% of the EU mobile market) and for 3 mobile operators in Switzerland. Where available, information on mobile-to-mobile termination rate has been indicated in the notes.

1.6.1 EU and national average

The following chart shows the trend at EU level in the (weighted) average fixed-to-mobile termination charges for all mobile operators in the EU and in Switzerland since October 2005. The EU trend should be considered as indicative, since Bulgaria and Romania have been included only in 2007.

The national averages for all mobile operators in each Member States are weighted average charges based on the number of subscribers and the termination rate of each operator at 1 October 2007.

Where available, national averages based on interconnection traffic data have been shown. This gives a better indication of EU national average.

Where available, data for 3G operators and service providers have been taken into account. The 2007 exchange rates have been applied to the non euro-zone countries for previous years.

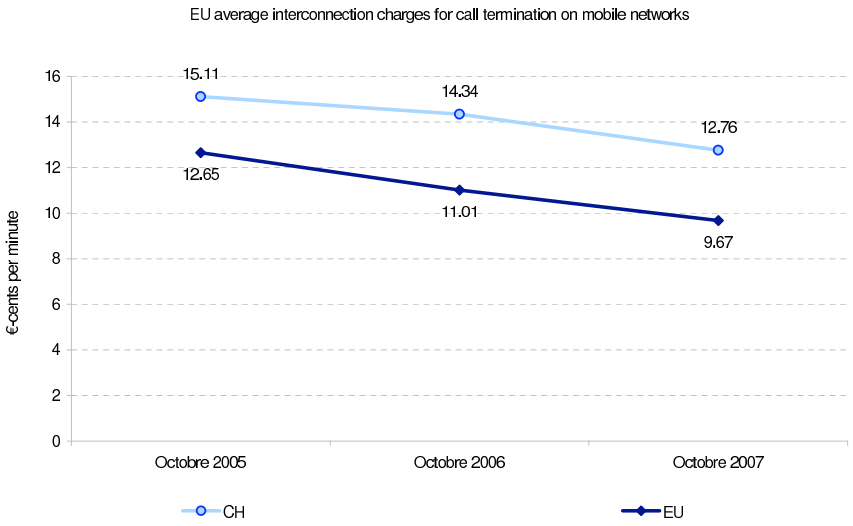
Despite the continuing decline, termination charges remain on average more than 9 times higher than the fixed interconnection charges (double transit).

The trend shows that termination charges have continued to decrease and at October 2007 the EU average termination charge was 12% lower than one year before (-24% respect October 2005). The most

significant reductions[1] have occurred in Slovenia (-53%), Belgium (-36%) and Austria (-26%). Reductions around 20% have taken place in France and Germany. However, mobile termination rate remain very high in Bulgaria and Estonia (more than 40% above the EU average) and in Ireland (almost 25% above the EU average).

Despite a constant fall (5.1% between 2005 and 2006 and 9.6% between 2006 and 2007) the average price charged by Swiss operators in 2007 for call termination on mobile networks was still 34.02% higher than the European average. The Union member countries overall also exhibited a downward trend, so the gap separating Switzerland from its neighbours is not narrowing.

Figure 23

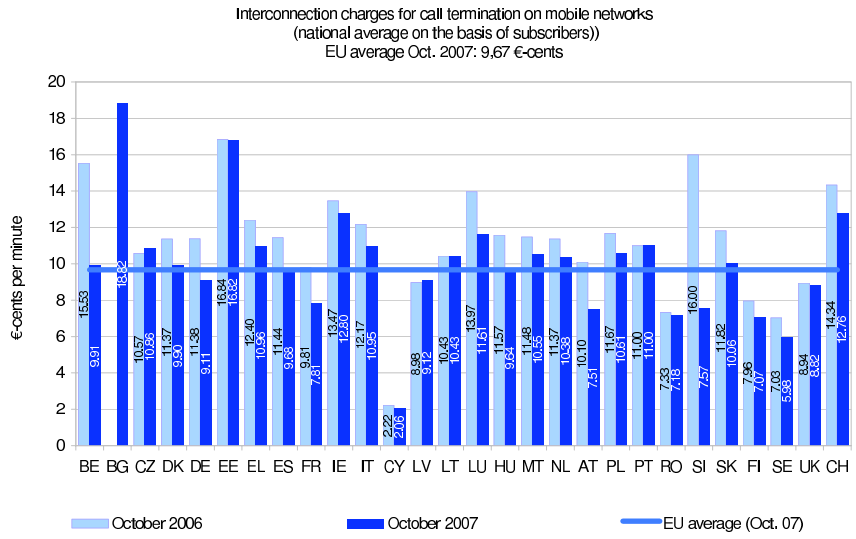


Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

When one examines Figure 24, which gives a more comparable image, it must be stated that the mobile telephony operators active in the Swiss market demand prices which are among the highest in Europe. In the European comparison, there are only two countries in which charges were higher in 2007 (Estonia and Bulgaria). 11 out of 25 countries are below the European average; the cheapest price is charged in Cyprus (2.06 euro-cents).

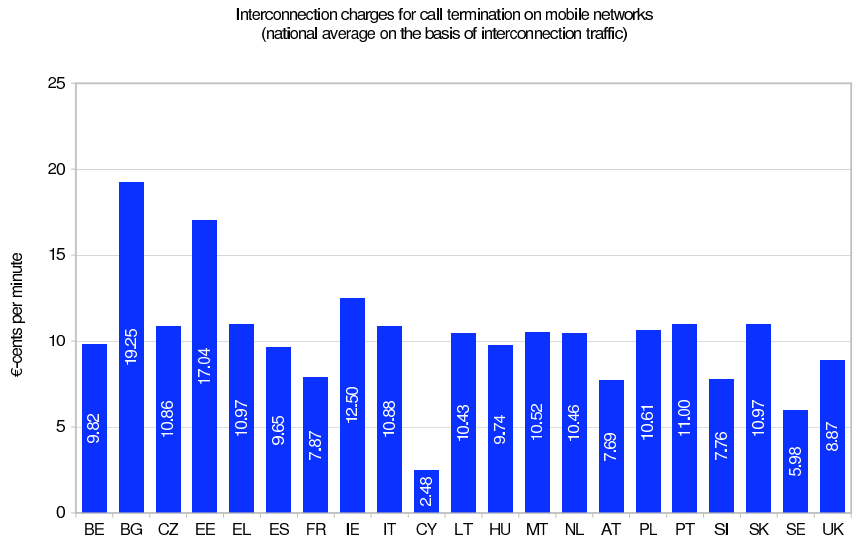
[1] National average calculated on the basis of subscribers

Figure 24



Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

Figure 25

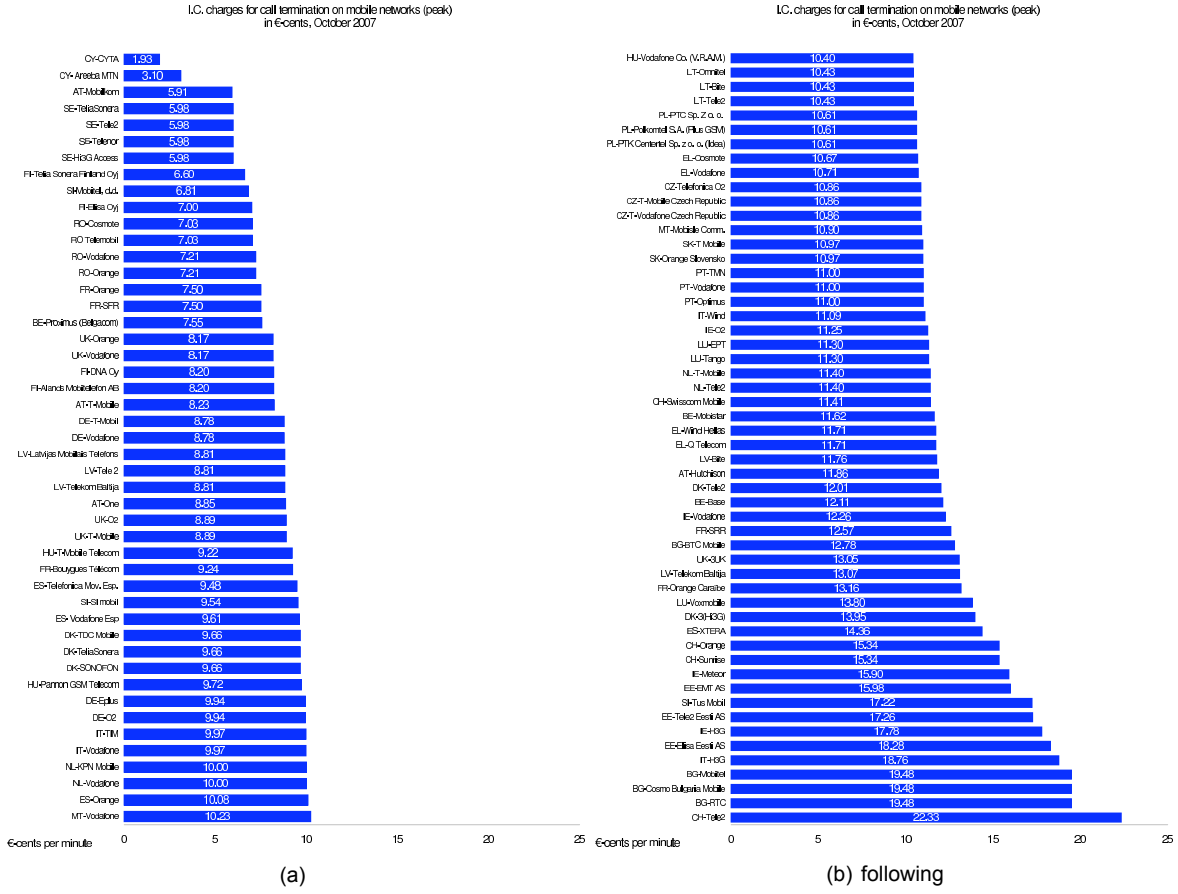


Data on interconnection traffic was not available so that it was not possible to calculate this value for Switzerland.

The following charts show the individual fixed-to-mobile interconnection charges for 92 mobile operators in the EU (95 with Switzerland). Cyprus shows the lowest charge (1.93 euro-cents) whereas the highest charge is found in Estonia with 22.37 euro-cents.

Information for mobile operators in Bulgaria is confidential. Data published in the XII Implementation Report concerning Luxembourg were not correct. Mobile termination rates for Austria are set according to a draft NRA's measure.

Figure 26



Sources for Switzerland: Telecom operators

Chapter 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 2007. 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 2007, while data on the incumbents' market shares in the fixed voice telephony market refer to the end of 2006.

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.

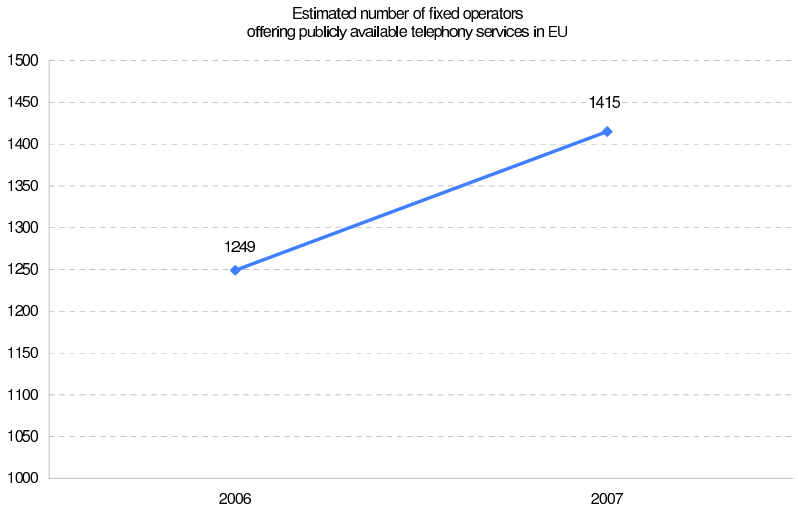
While it is difficult to measure the exact difference since 2006, data shows that there has been an increase in the number of operators authorised to provided fixed services, even if to a lower extent than in previous years.

As of December 2006 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 98. 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 2007. Data on the market shares refer to December 2006.

Figure 27



Only countries that have provided data for the two years are taken into account
Switzerland: not applicable

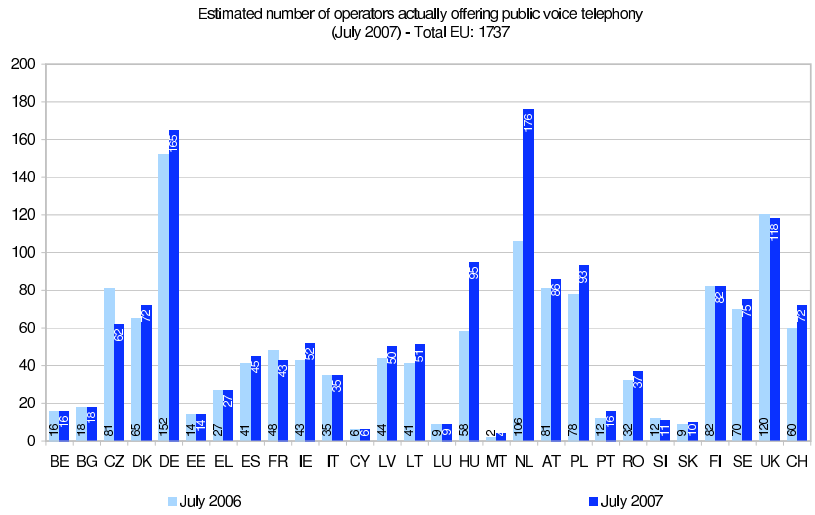
2.1.1 Public fixed voice telephony operators

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 28 shows that with 72 active providers, Switzerland belongs to the leading countries. In comparison with 2006, 12 new players have appeared on the market, an increase of 20%.

Figure 28

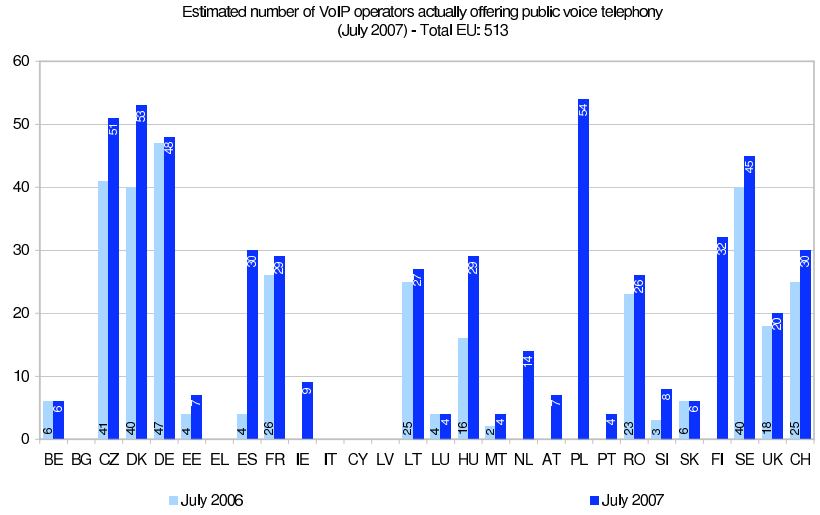


Bulgaria: VoIP operators are excluded
Germany: Simple resale providers are not included
Greece: The number of operators who have presented revenues from voice telephony services during 2005 and 2006 respectively are only taken into account
Spain: The number of operators as of July 2006 refers to what was defined as "Telefonía vocal pública (prestador de servicios" for the 12th Implementation Report
Netherlands: Data as of 14-9-2007. OPTA changed its systems and policies regarding registration of active operators in electronic communications in 2005/2006
Austria: Estimations based on numbers of 2006
Poland: Estimation
Finland: Estimation: weighted average of each operating area weighted by total number of subscriptions in each area
United Kingdom: Exact figures not available.
Source for Switzerland: OFCOM Switzerland. Data refer to December 2005 and 2006

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.

In Switzerland, 30 operators share the IP telephony market. Of these players, the majority (about 60%) sell this service on PSTN/ISDN connections and the minority on CATV or optical fibre connections. The main providers in this sector are Cablecom, Sunrise and Econophone. Switzerland is therefore among the leaders (7th out of 28) among the European countries which have the largest number of operators offering this service.

Figure 29



Bulgaria: The exact number of VoIP operators is not available due to the free of licensing and any notification regime for ISPs in Bulgaria before the adoption of the new Electronic Communications Law in May 2007. The number of licensed data transfer networks who have stated provision of VoIP of end 2006 is 16
Denmark: Data derived from MDA
Cyprus: Data not available
Hungary: Data at the end of 2006
Netherlands: VoIP data as of March 2007
Austria: Estimations based on numbers of 2006
Poland: Estimation at the end of 2006
Portugal: Nomadic VOIP only
Finland: Estimation
United Kingdom: Exact figures not available
Source for Switzerland: OFCOM Switzerland. Data refer to December 2005 and 2006

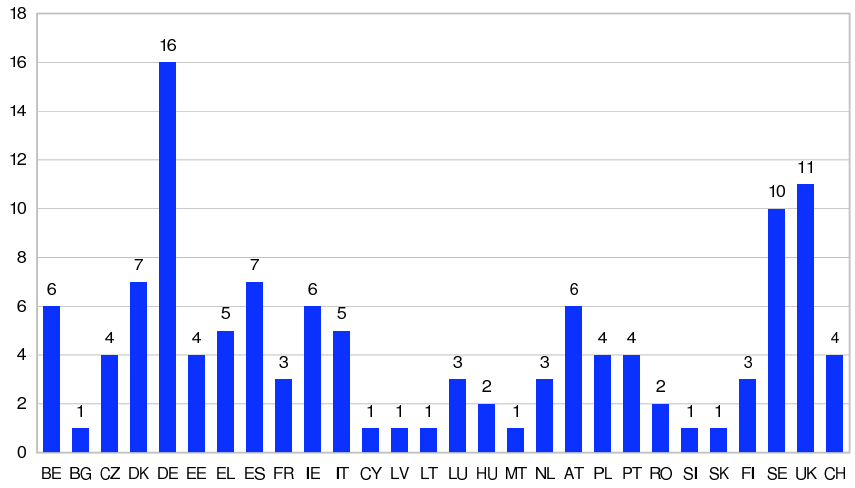
Many new entrants concentrate their business on specific segments of the market or limit their activity to local areas, thus having a limited impact on the national market as a whole. To get an idea of the number of main players that are effectively competing with the incumbent at national level, the following chart shows, for each country, the number of operators that had a combined market share, based on revenues, of 90% on the total voice telephony market (all types of calls[1]). In December 2007 three new countries (Denmark, Greece and Italy) had five or more major competing operators (including the incumbent) with such a combined market share. This is an improvement from last year figures where only seven countries had such a combined market share. These figures give an idea of the number of major players operating in each national market, although in many cases competition is largely asymmetric, with incumbents continuing to hold a strong position. This situation can be observed in the new Member States, where the fixed incumbent still dominates the fixed voice market.

In the Swiss fixed network voice telephony market, four providers share at least 90% of the market. This means that Switzerland is positioned alongside the average of the European countries, at the same level as the Czech Republic, Estonia, Poland or Portugal.

[1] Local calls to internet, local phone calls, long-distance and international calls as well as calls to mobile

Figure 30

Number of players in the
fixed telephony market in terms of retail revenues (including the incumbent, Dec. 2007)



Operators that along with the incumbent operator have a combined market share of 90% of the voice telephony
Source for Switzerland: OFCOM Switzerland. Data refer to December 2005 and 2006

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.

It has to be noted that in Switzerland local and long-distance calls data have no longer been collected since 2003 due to the introduction of the closed numbering plan in March 2002. Since that date, the historic operator has applied a new charging system which offers only one tariff, regardless of distance. We therefore decided to display for 2003 and the following years an aggregated indicator which combines local and long-distance calls.

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 2006 (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

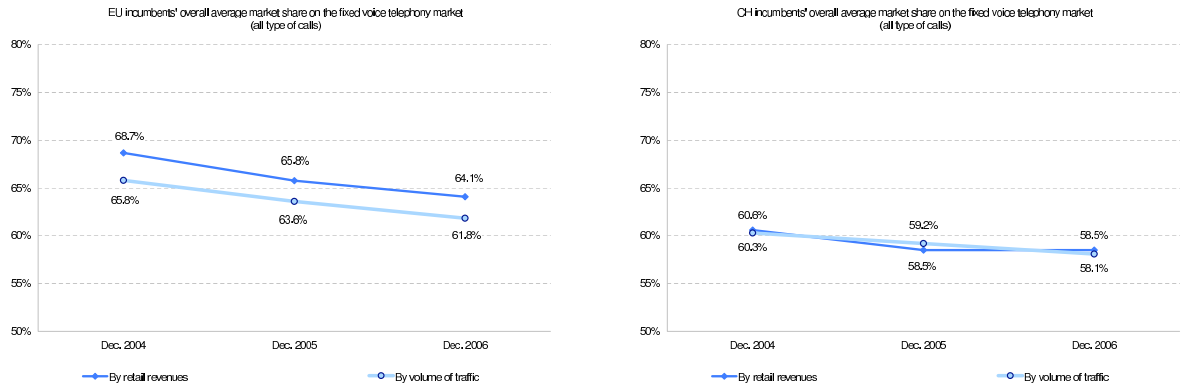
The following charts show the trend for the EU weighted average of the incumbents' market share in the major segments of the voice telephony market since 2004.

Given that data were not available for all countries and for all types of calls, the EU average should be considered as indicative. In particular, the overall fixed telephony market share in term of revenues in 2004 is an average of countries that represent 95.5%, and 97.7% for 2005 and 2006 of the EU population respectively.

Market share data based on volume of traffic for 2005 and 2006 represent 100% of EU population, while the data for 2004 are based only on a number of countries representing 96,6% of the EU population.

The market share of the Swiss incumbent based on retail revenues and on the volume of traffic is to some extent smaller than the weighted average of the EU incumbents' market share. At the end of 2006 the difference was some 6 points in terms of revenue and 4 points in terms of traffic.

Figure 31

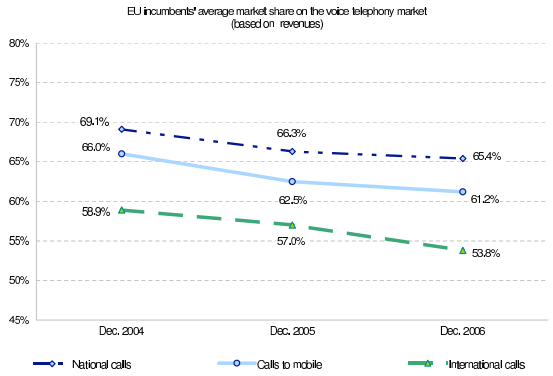


(a) (b)

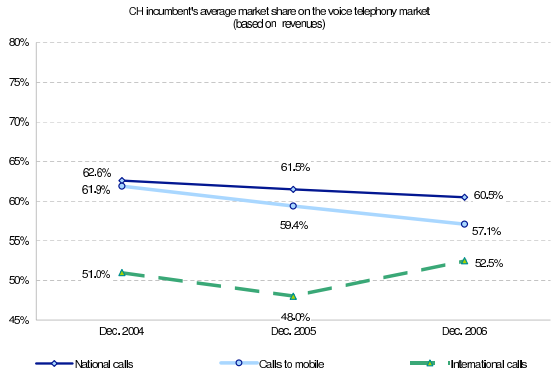
Sources for Switzerland: OFCOM Switzerland calculations

Considering the incumbents' average market share based on revenue, one can notice that Switzerland is below the European average for all segments indicated (EU - Figure 32(a) and CH – Figure 32(b)). In 2006, the Swiss new entrants had up to a 5-point market share lead in the national call segment, a 4-point lead in the fixed to mobile segment and a 1-point lead in the international market segment.

Figure 32



(a)



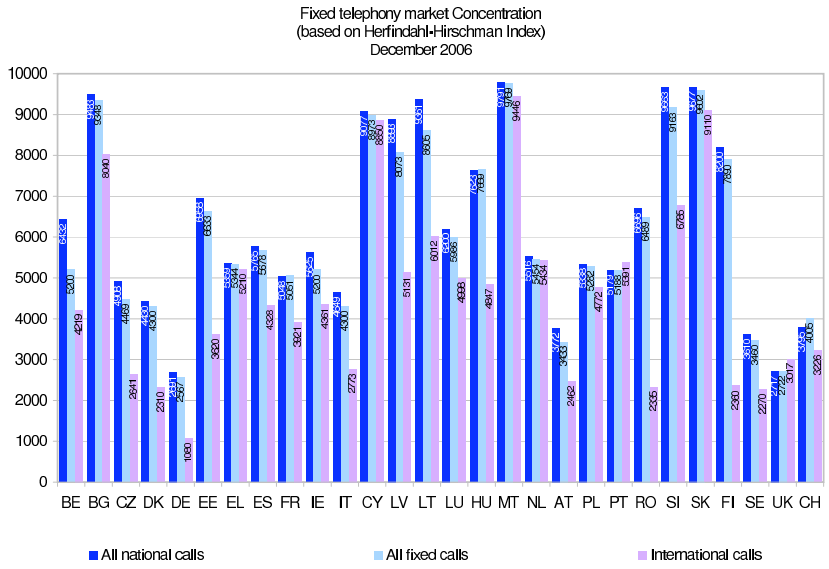
(b)

The figure for international calls and calls to mobiles are averages of countries that represent between 97.2% and 97.4% of the EU population for the concerned period. The figure for national calls market is an average of countries that represent 95.5% of the EU population for 2004 and 97.7% for 2005 and 2006. National calls include phone local calls, local calls to internet, long-distance calls and calls to mobile
Source for Switzerland: OFCOM Switzerland calculations

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. The indexes are calculated on the basis of retail revenues, except for Germany, Estonia, Luxembourg, Netherlands, and Finland where they are calculated on the basis of traffic volume. Comparisons between the other MSs should be considered as indicatives, since the reference markets are not completely homogeneous.

In terms of concentration in the different market segments, it is clear that Switzerland is favourably positioned in comparison with other European countries. It is at the same level as Sweden, Austria or Denmark, i.e. among the countries where the market is shared relatively equitably between the players. The country in which market concentration is least prevalent is Germany.

Figure 33

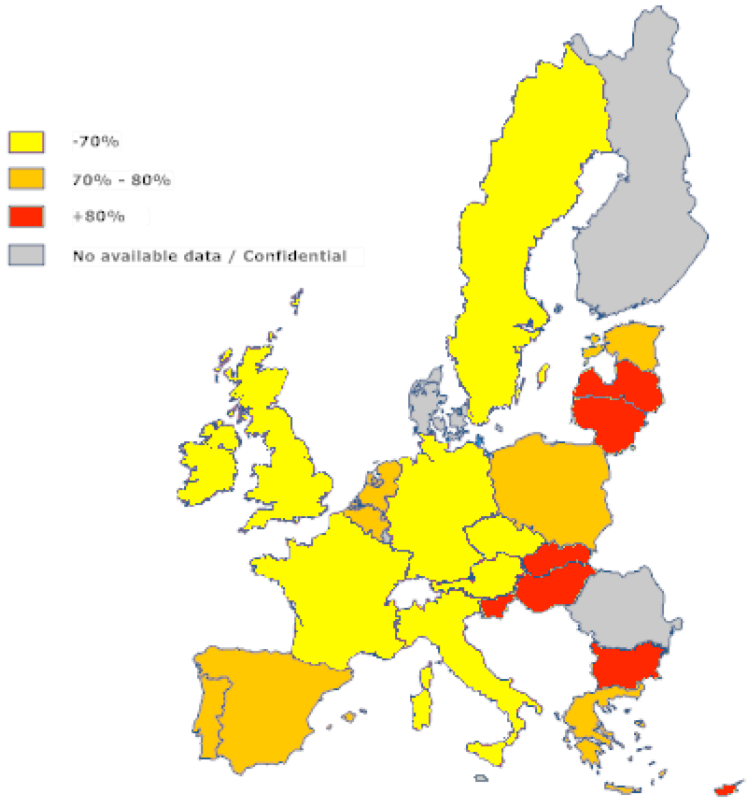


Data for Germany, Netherlands and Luxembourg using call volumes
Ireland: National calls figure is the sum of the square of operators that account for 93% of voice telephony market. International calls figure is the sum of the square of that account for 91% of voice telephony market. All fixed calls figure is the sum of the square operators that account for 92% of voice telephony market. Figures exclude VoIP
Netherlands: Based on 90-95% of market volume, data for 2006
Finland: National calls figure is the estimated average in each operating area. International calls figure is based on SMP analysis conducted in 2005. Fixed Calls is the estimated average in each operating area
United Kingdom: Overstated figure due to use of wholesale data to calculate revenues from operators not providing data
Source for Switzerland: OFCOM Switzerland calculations

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.

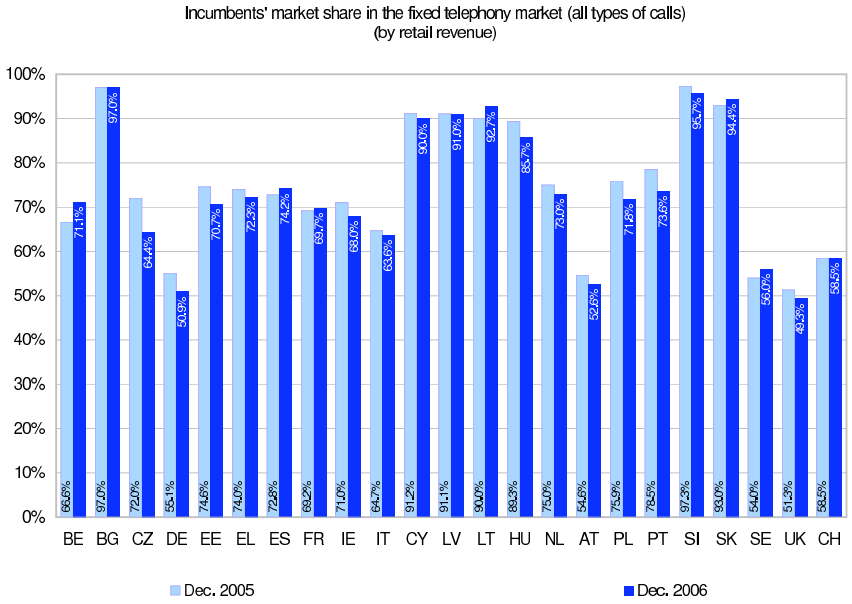
Figure 34



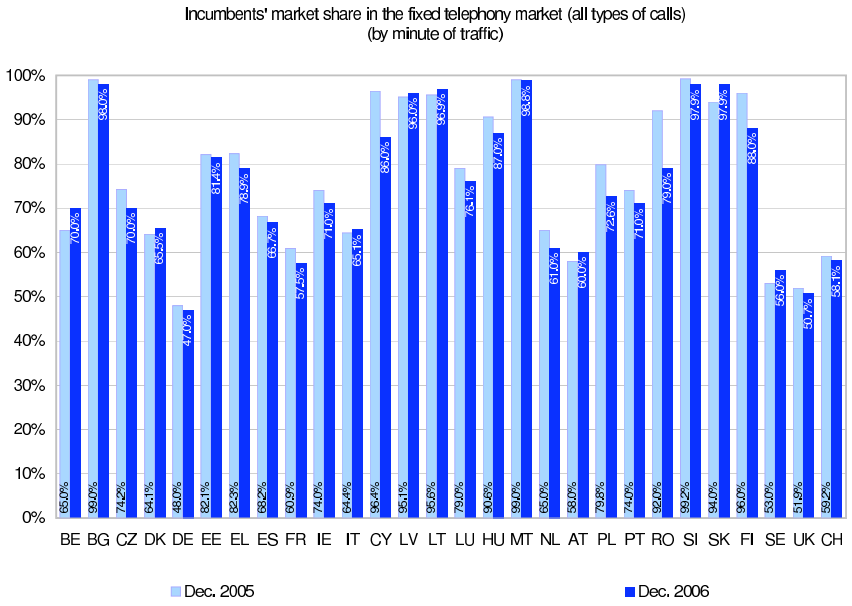
Switzerland: not applicable

In relation to market share, Swisscom was positioned fourth in terms of revenue (58.5%) and fifth in terms of minutes (58.1%) in the European ranking.

Figure 35



(a)



(b)

Source for Switzerland: OFCOM Switzerland calculations. Internet local calls are not included

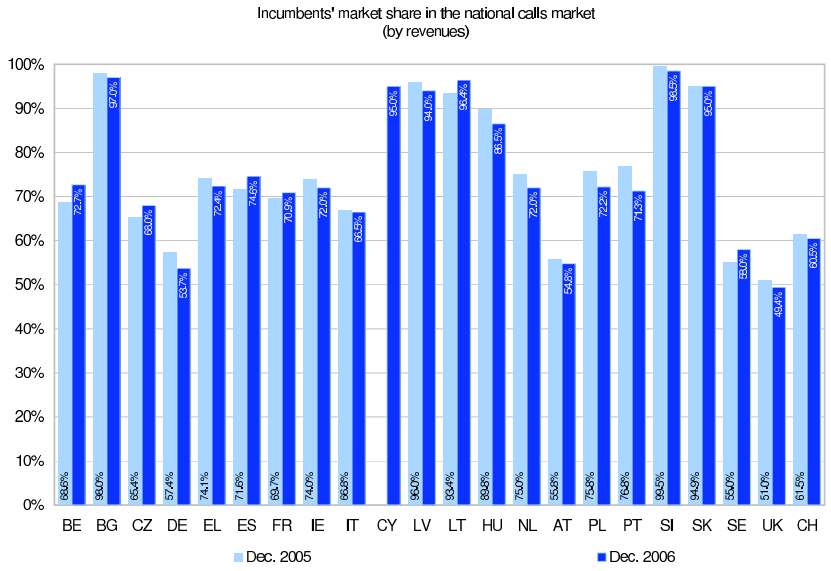
2.2.3 Incumbent's market share in the different segments of the market

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.

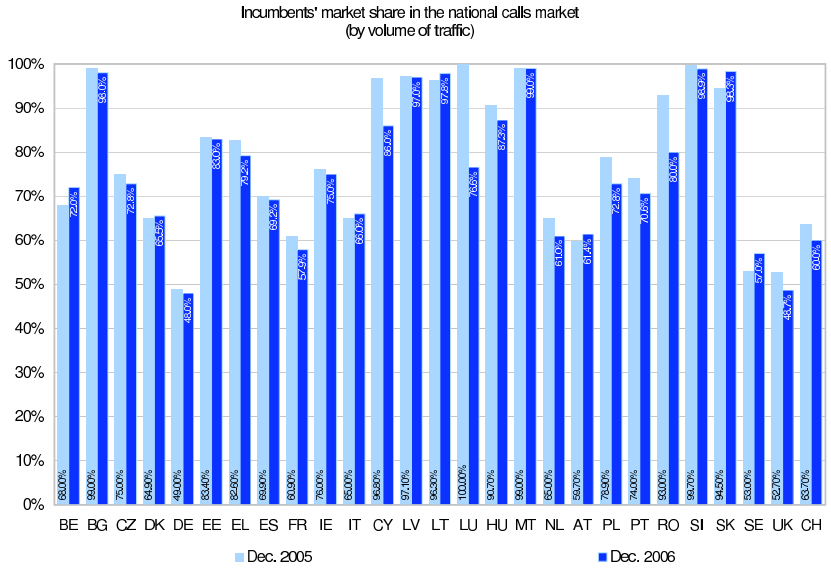
In relation to the incumbent's market share in the national call segment in terms of revenue and traffic, we can see that the situation in Switzerland is relatively competitive with the country ranking fifth in both comparisons. However, countries such as Germany and the United Kingdom have demonstrated that

the market shares of new entrants can be significantly increased.

Figure 36



(a)

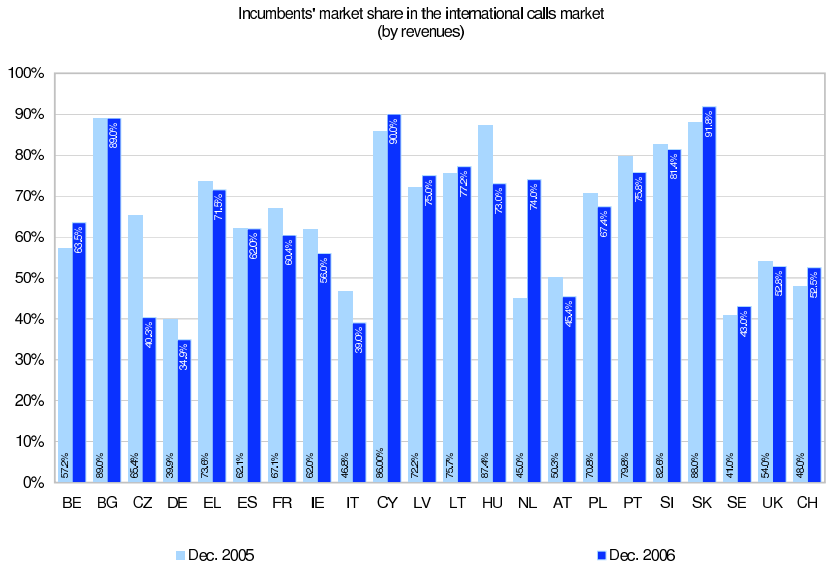


(b)

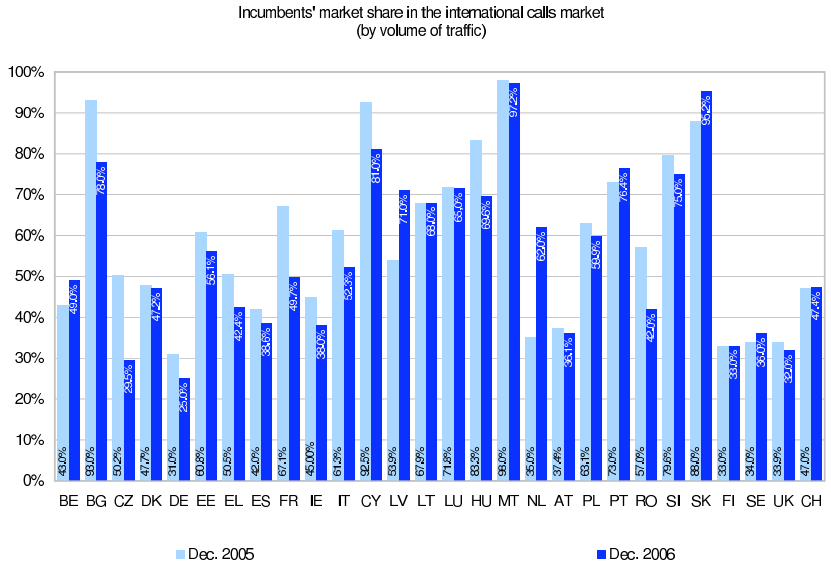
Source for Switzerland: OFCOM Switzerland calculations. Internet local calls are not included

In comparison with the other European incumbents, at the end of 2006, in terms of revenue (Figure 37(a)), Swisscom's international call market share was lower than that for most European countries. The sole exceptions are the market shares for international calls in the Czech Republic, Germany, Italy, Austria and Sweden. The situation is different in the case of market share based on minutes (Figure 37(b)): in this case 11 countries have a lower market share in the international calls segments.

Figure 37



(a)

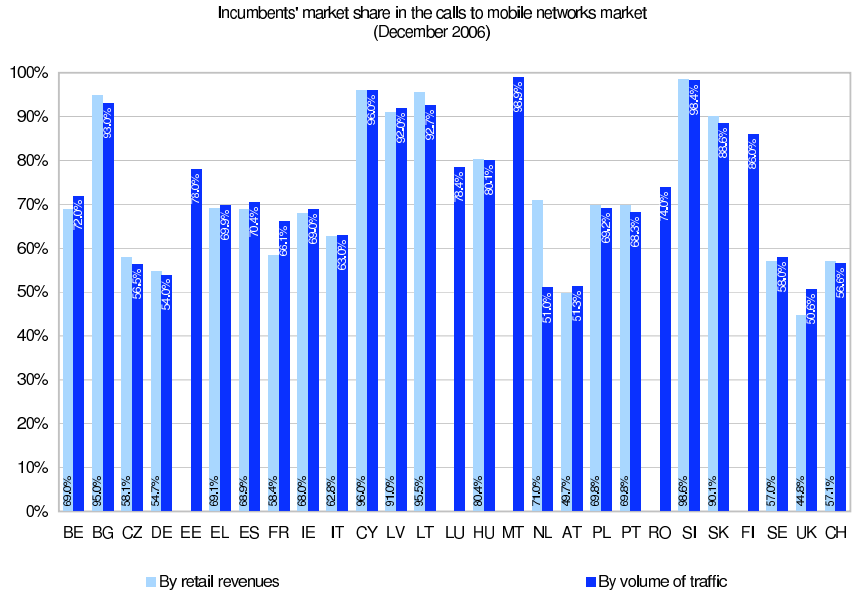


(b)

Source for Switzerland: OFCOM Switzerland calculations

Figure 38 shows the market shares in terms of minutes and revenue for calls from the incumbent's fixed network to a mobile network. With 56.6% of market share expressed in minutes, Swisscom was in the 25% of historic operators with the lowest market shares. Swisscom's market share in terms of minutes is slightly lower than that for revenue (57.1%).

Figure 38



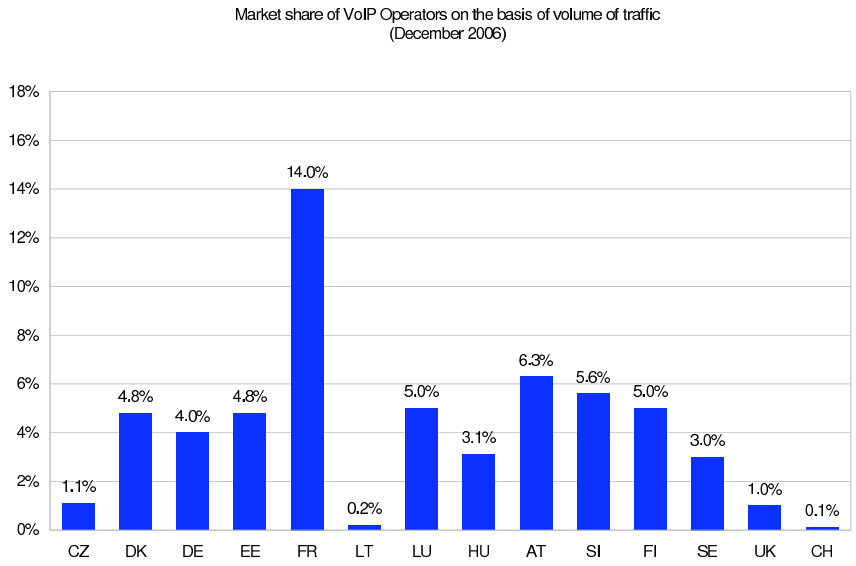
Source for Switzerland: OFCOM Switzerland calculations

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 2006. 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. Furthermore, for most of the countries the figures are NRAs estimates. Managed VoIP services are not provided in Cyprus and Malta. Data are not available for missing countries. Data for Romania includes providers of PATS using IP technology to connect end users, irrespective of the fact that they are connected or not to internet.

Figure 39 illustrates the market shares in terms of traffic in the Voice over IP segment (VoIP). At the end of 2006, with a market share of 0.1%, Switzerland was poorly positioned compared to the 13 countries with a simple average of 3.8%, and far behind France with 14%.

Figure 39



Source for Switzerland: OFCOM Switzerland calculations

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 possibilisty 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 charts shows the percentage of EU subscribers (residential and business) uing an alternative provider for local, long distance and international calls and for direct access.

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:

1. LOCAL CALLS: x:y
   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).
Y = 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 .

2. LONG DISTANCE & INTERNATIONAL CALLS: x:y
   X = sum of all alternative operators' subscribers (residential + business) with CPS contract + 50% of the sum of all alternative operators' subscribers (residential + business) with CS contract + sum of all alternative operators' subscribers (residential + business) with direct access for voice telephony (ULL and proprietary infrastructure).
   Y = total number of residential and 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 (in the latter case, please consider the number of unbundled active lines, and not the total number of unbundled lines).

3. DIRECT ACCESS
   Total number of subscribers with direct access, fully ULL connection or with a cable access owned by an alternative operator

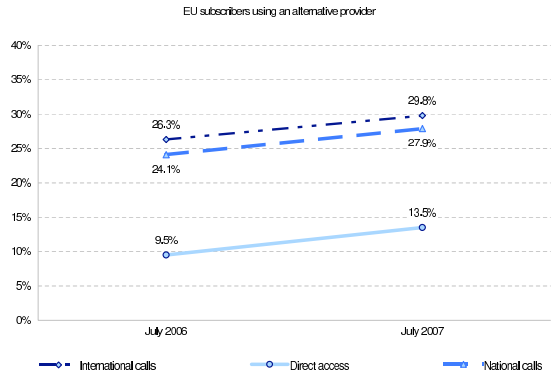
.
The following charts illustrate the percentage of subscribers using an alternative provider for voice telephony services through carrier selection and/or carrier pre-selection and/or direct access. Where available, separate figures for national and international calls are given.

Figures for some countries are not comparable with 12th Implementation Report due to a change in the national data collection or to different data provided by NRAs.

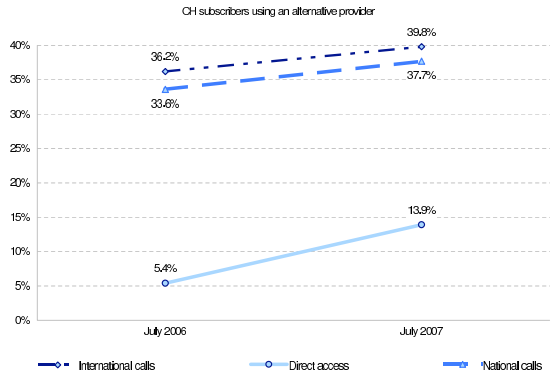
As of July 2007, almost 30% of EU subscribers used an alternative provider to route international calls, almost 28% for national calls. At the same time, direct access from alternative providers was used by 13.5% of EU subscribers. Since last year, the percentage of subscribers using an alternative provider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

One in three consumers is making use of the services of alternative providers for making national or international calls in Switzerland. The absolute values for Switzerland regarding international calls are higher than the European average (39.8% vs. 29.8%). In regard to national calls, Switzerland is also 10 points higher than the weighted European average. The picture is different for direct connections: 86.1% of connections are offered by the incumbent, at the same level as in Europe (the average stands at 86.5%). We note that during the period in question, Switzerland nearly closed the gap separating it from these neighbours.

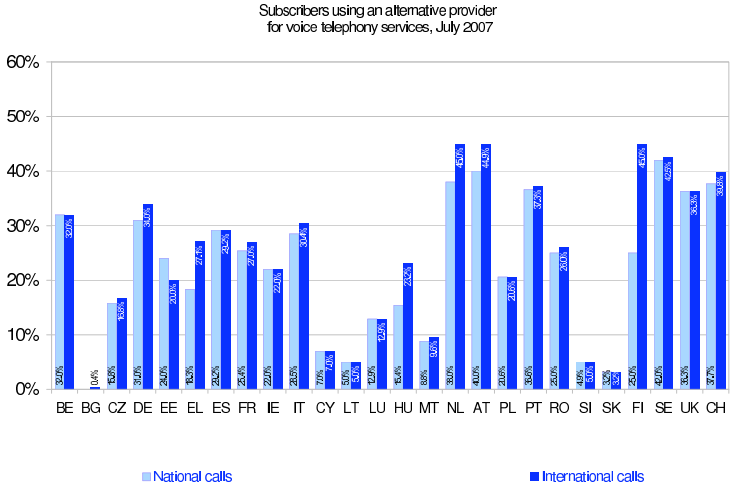
Figure 40



(a)



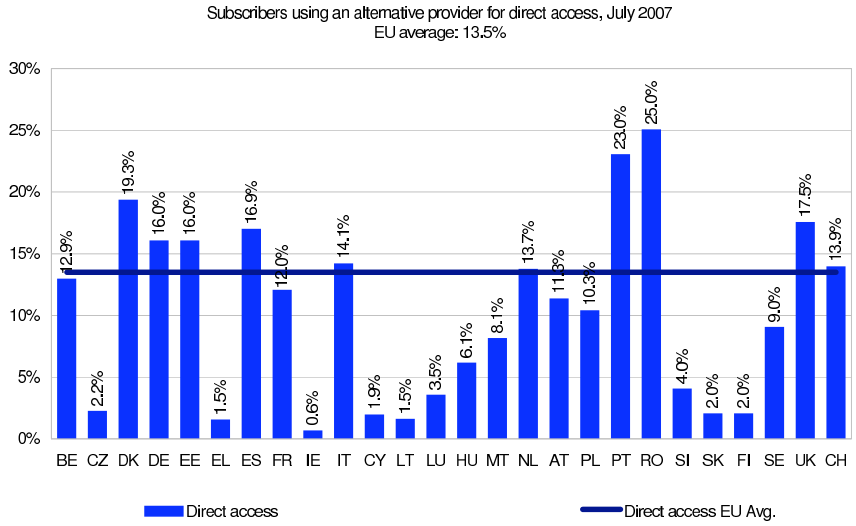
(b)



(c)

Belgium: Data as of end 2006
Denmark: The data is not available in Danish statistics
Germany: Estimation for international calls
Greece: Data as of end 2006
Spain: Distinction of subscribers among different type of calls cannot be given, the number provided in each case if for the sum of national and international calls
France: Only full unbundled lines are accounted in the alternative operators' direct access. VLB subscribers (8.6 millions Estimate) are not taken into account neither in the numerator or in the denominator but in the case of full unbundling 83 millions of direct access lines including cable, full unbundling and naked ADSL)
Ireland: Subscriber data is not available. This figure is based on the number of indirect access paths as a percentage of total direct and indirect access paths in the market. No distinction between call types
Italy: Figures are not homogeneous with previous year. Direct access including Full ULL, shared access, VULL, FTTH
Cyprus: Estimated figure to be 5% to 7% (for both national and international calls)
Lithuania: Until the year 2007 subscribers of fixed telephony were counted according to the number of contracts (one subscriber could have several lines), now subscribers of fixed telephony according to the number of access lines (own or rented)
Malta: Maltese NRA is still missing part of this data from the incumbent
Netherlands: Data as of end march 2007, approximation, based on 90-95% of market volume
Austria: Data is for Q1/2007
United Kingdom: 2007 data not yet available - end 2006 figures are shown. Direct access Cable plus OLO (including full LLU); excludes WLR
Source for Switzerland: OFCOM Switzerland calculations. Data refer to December 2005 and 2006

Figure 41



Direct access is the total number of subscribers with direct access, fully LLU connection or with a cable access owned by an alternative operator

Belgium: Data as of end 2006
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
France: Full unbundled lines are not taken into account in the direct access figures of alternative operators. VoB (almost 8.6 millions) are not taken into account either in the numerator (they are no requested) and in the denominator except in the case of full unbundling. Total (3 millions lines) cable + full unbundling and naked ADSL
Italy: Data non in homogeneous terms with previous year. Direct access including Full ULL, shared access, VULL, FTTH
Cyprus: Approximation 1.9%, based on 90-95% of market volume
Malta: We are still missing part of this data from the incumbent. It is expected that data for 2007 will be available soon and will be sent as soon as received
Netherlands: Data as of 31-3-2007, approximation, based on 90-95% of market volume
Austria: 2007: data for Q1/2007
Finland: National are local calls, long distance calls and call from fixed to mobile (estimated)
United Kingdom: 2007 data not yet available - end 2006 figures are shown. Direct access Cable plus OLO (inc full LLU); excludes WLR
Source for Switzerland: OFCOM Switzerland calculations. Data refer to December 2005 and 2006

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 propietary infraestructure 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.

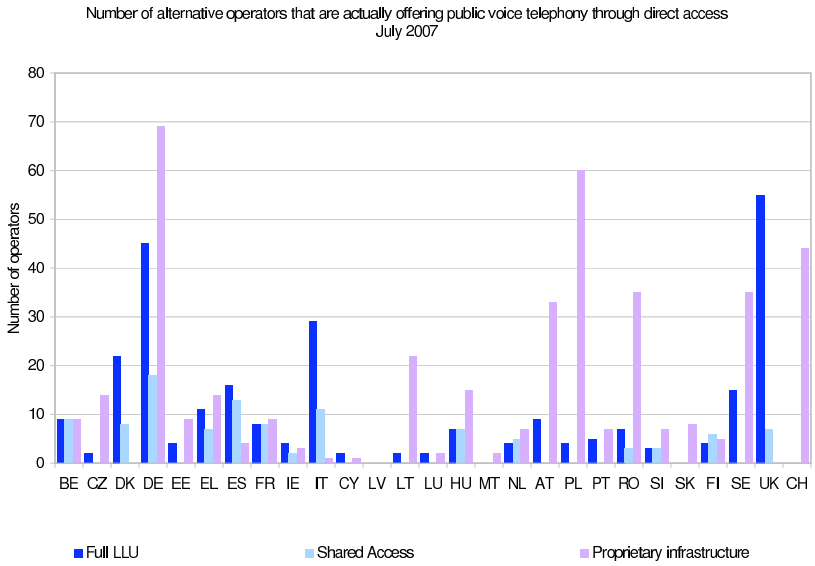
As of 1 July 2007, 21.15% of EU alternative operators offered the voice telephone service through full unbundled local loop, 8.41% through shared access and 29.40% through propietary infraestructure.

In April 2007, unbundling of the local loop became a reality in Swiss law, whereas this instrument was already in effect in the Union countries at the beginning of 2001. It is from this perspective that the differences between Switzerland and the European Union countries should be interpreted. We should also mention that shared access to the subscriber connection is not regulated in Switzerland.

In July 2007, no operator was yet offering services on unbundled connections. It was only in the second half of 2007 that the first offerings appeared. We estimate that about ten operators have unbundled connections as of the beginning of 2008.

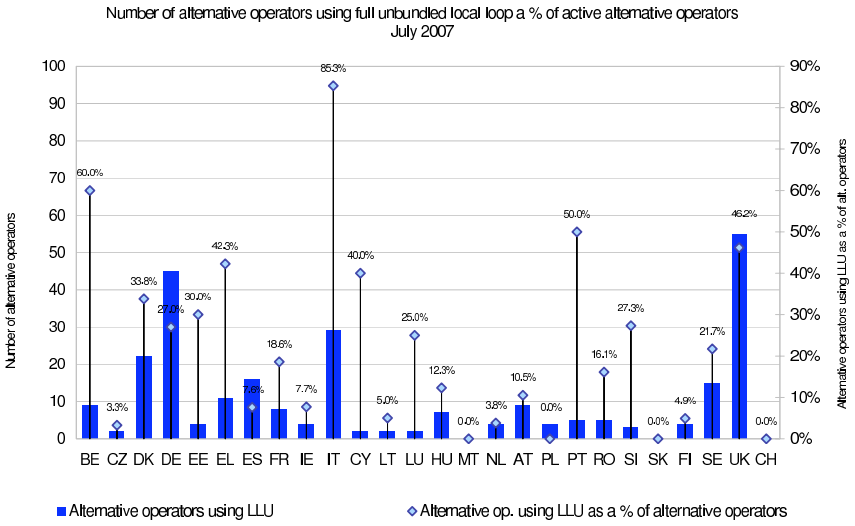
As far as the operators with their own access infrastructure are concerned (Figures 42 and 45), we observe that Switzerland has 44, corresponding to 61.1% of the alternative providers offering public telephony services on the fixed network. In terms of absolute numbers, Switzerland is very well positioned, since it is in third place. However, this level of excellence is tempered by the fact that the majority of operators actually have a very low proportion of direct connections; the latter are mainly targeted at business customers. Today, only the cable operators offer a genuine alternative access to individuals. Although access via optical fibre is growing, the fact that marketing of this option is not very common on Swiss territory (only in specific geographical areas for the public at large) implies that for the time being it represents a tiny proportion of alternative connections.

Figure 42



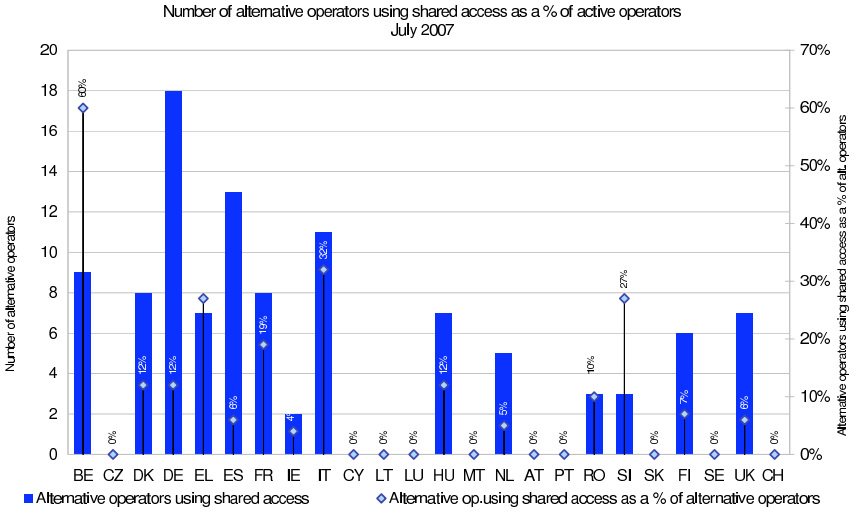
Belgium: LLU figure refers to the number of agreements
Bulgaria: Not available
Denmark: Number of agreements between the incumbent and alternative operators. Information about whether these operators are actually offering public voice telephony through the LLU's and shared access lines, is not available
France: In case of public service delegations, only the operators chosen by local administration have been accounted
Italy: Number of agreements signed with the incumbents.- Source: Incumbent's data
Netherlands: Data for full LLU and shared access as of end March 2007. Proprietary access includes Regional cable operators, many using VoB. Dozens of very small local FTTH initiatives offer telephony services, but specific data on this is not available
Austria: Estimation
Poland: November 2007: Number of LLU agreements with incumbent: 9 (two operators are actually offering public voice telephony through LLU)
Finland: Includes major incumbent operators offering services outside their own SMP area
United Kingdom: for LLU Number of agreements with the incumbent - actual number will be smaller; mid 2007 data not yet available. For shared access: 2007 data not yet available - end 2006 figures are shown. For proprietary infrastructure, data is not available
Source for Switzerland: OFCOM Switzerland

Figure 43



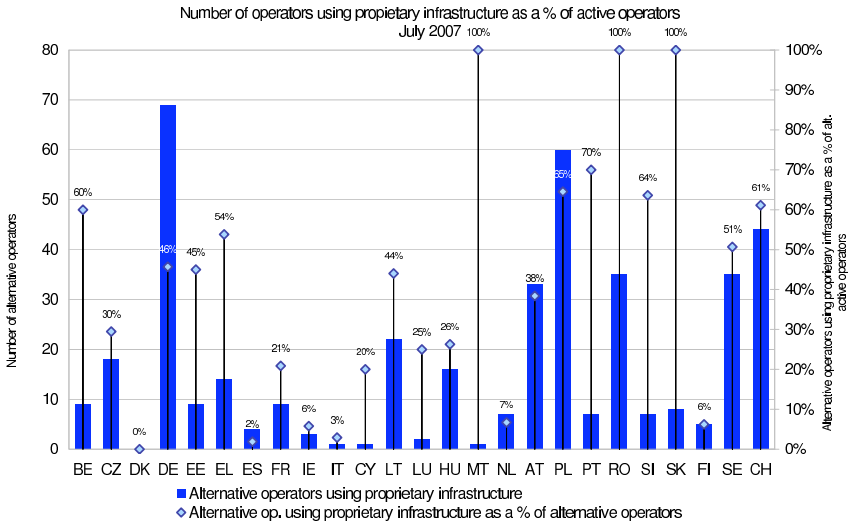
Belgium: LLU refers to the number of agreements
Bulgaria: Not available
Denmark: Number of agreements between the incumbent and alternative operators. Information about whether these operators are active or non-active is not available
France: In case of public service delegations, only the operators chosen by local administration have been accounted
Italy: Number of agreements signed with the Incumbent- Source: Incumbent
Lithuania: Number of agreements between the incumbent and alternative operators, there is no information whether they are used for fixed telephony or not
Netherlands: Data for full LLU as of end March 2007
Poland: November 2007: Number of LLU agreements with TP S.A.: 9 (two operators are actually offering public voice telephony through LLU)
United Kingdom: For LLU Number of agreements with BT - actual number will be smaller; mid 2007 data not yet available
Source for Switzerland: OFCOM Switzerland calculations

Figure 44



Belgium: LLU refers to the number of agreements
Bulgaria: Not available
Denmark: Number of agreements between the incumbent and alternative operators. Information about whether these operators are active or non-active is not available
Estonia: No shared access users
France: In case of public service delegations, only the operators chosen by local administration have been accounted
Italy: Number of agreements signed with the Incumbent- Source: Incumbent
Netherlands: Data for full LLU and shared access as of 31-3-2007. Proprietary access includes Regional cable operators, many using VoB. Dozens of very small local FTTH initiatives offer telephony
United Kingdom: For shared access: 2007 data not yet available - end 2006 figures are shown
Source for Switzerland: OFCOM Switzerland. No shared access

Figure 45



Belgium: LLU refers to the number of agreements
Bulgaria: Not available
Denmark: Number of agreements between the incumbent and alternative operators
France: In case of public service delegations, only the operators chosen by local administration have been accounted
Italy: Number of agreements signed with Telecom Italia - Source: Telecom Italia
Lithuania: Proprietary infrastructure includes cable TV operators that provide fixed telephony
Netherlands: Data for full LLU and shared access as of 31-3-2007. Proprietary access includes Regional cable operators, many using VoB. Dozens of very small local FTTH initiatives offer telephony
United Kingdom: Data not available
Source for Switzerland: OFCOM Switzerland calculations

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.

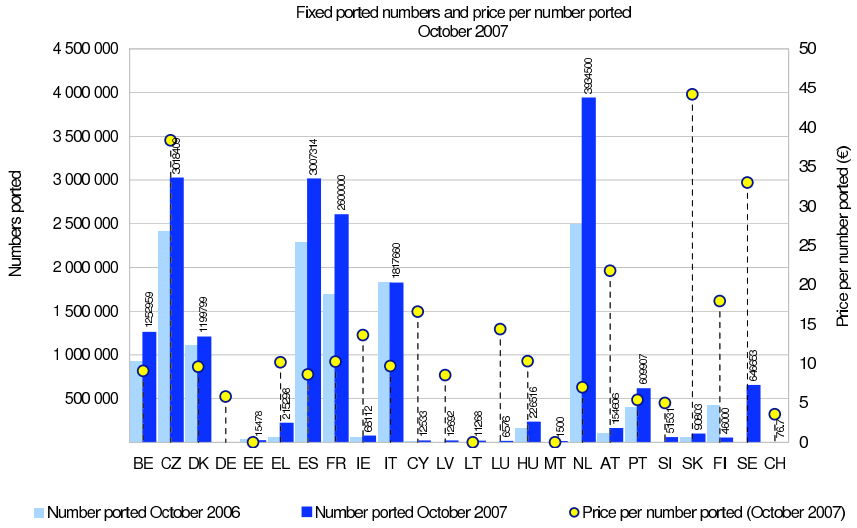
In Estonia, Lithunia and Malta, there is no charge for the porting of fixed numbers.

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 Euro 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 Euro 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.

The price in Switzerland (10.52 Euros) is nearly the same as the European average (9.69 Euros). Incumbent operators charge more for number portability in seven European countries. In three countries – Malta, Lithuania and Estonia – the operator does not make a charge.

Figure 46



Data is not available for UK, Poland and Italy (2007)
Number portability is not yet available in Bulgaria and Romania
Estonia, Malta, Lithuania: Numbers are ported free of charge
France: Data for 2006 fixed ported numbers has changed due to new methodology
Luxembourg: The data as from August 2006
Malta: Started first quarter 2007
Netherlands: Since December 2006 OPTA has exact numbers, differing from estimates in previous years
Slovakia: From January to October 2007. Price only charged for Complex order (ISDN, DDI) - Price for DDI only
Source for Switzerland: OFCOM Switzerland. Data refer to December 2005 and 2006

2.5 Public voice telephony tariffs

This section examines the charging system, the line rental charges and the main tariffs for public fixed voice telephony charged by the incumbent operators in each Member State in September 2007. The price trend over the past 10 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 for Lithuania, P&T Luxembourg for Luxembourg, Magyar Telekom for Hungary, Maltacom for Malta, KPN for the Netherlands, Austria Telekom 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. In Switzerland, the incumbent telecommunications operator is Swisscom.

The incumbent operators still retain a large market share, but new entrants 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, Harris Interactive UK Ltd. The data are collected from primary sources (i.e. directly from the incumbent operators).

NRAs were given the possibility to check these data before finalizing this report. All NRAs, with the exception of Italy and Hungary, provided comments and approved these data.

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

- the minimum costs for different types of calls (local, national, international calls and calls towards mobile networks), depending on the charging system adopted;
- the monthly rental charged by incumbent operators;
- the charges for a composite basket of calls (local, 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 price of a single call 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. For the USA, the prices for national calls are those charged by Verizon (in New York City) and the prices for international calls are those charged by AT&T. For Japan, the national call prices are those charged by NTT and the international call prices are those charged by KDD.

The EU average tariffs shown in the charts are weighted average (by population of the Member States).

2.5.1 Charging system

The billing system for public voice telephony services usually comprises two components: an initial charge applied at the beginning of a call and a charge for the remainder of the call (that may not depend on the type of initial charge used).

Initial charges

There are different types of charges applied at the beginning of a call, either alone or in combination. The charging method used for the remainder of the call may not depend on the type of initial charge used. The types of charges are:

- Call set-up charge rose at the start of the call (when the call is answered). This charge does not offer any call time. Per second or per unit charges apply from the beginning of the call;
- Initial charge that is used in the same way as call set-up, but in addition includes a certain number of seconds call time before normal time-based charging starts;

- Unit charge in effect works the same way as the initial charge: A full unit is charged at the beginning of the call, providing a certain number of seconds call time until the next unit is charged. Depending on the principle used by the operator (synchronous / asynchronous) the numbers of seconds call time in the first unit may be less than the specified unit duration;
- Minimum charging is normally used with per second billing, to ensure the operator obtains minimum revenue per call. If the call duration is short, the actual call charge may be less than the minimum charge. In such cases the minimum charge will be applied.

In the calculation of the minimum charge for calls using per second billing it is assumed that the call is terminated as soon as it starts, making the minimum charge for the call equal to any call set-up or defined minimum call charge. If no such additional charges exist, the minimum charge will be zero.

Charging system during the call

There are, in principle, 3 ways of charging calls. The fact that most operators tend to publish the duration charges on a per minute basis does not itself indicate which system is used. The 3 principles are:

- Real time charging (also known as ”per second billing”) allows the cost of the call to be calculated to the exact duration of the call (normally nearest second). A call set-up charge, initial charge or minimum charge may be applied to this structure, in addition to the duration charge;
- Unit based charging uses a fixed price unit. The duration of this unit will vary with the destination of the call and time of day. Call duration will always be raised to a multiple of whole units, so the user will nearly always pay for more time than is used. A call set-up charge may be applied to this structure, but is relatively rare;
- Fixed period charging uses a variable price, but fixed duration unit. The call is normally charged on a per minute basis, or per 6 seconds. The price for the period will vary with destination and time of day. The charged duration of the call will be raised to a multiple of whole periods. A call set-up charge or initial charge is often implemented in the form of a higher charge for the first minute or period. This initial charge may vary with destination and time of day.

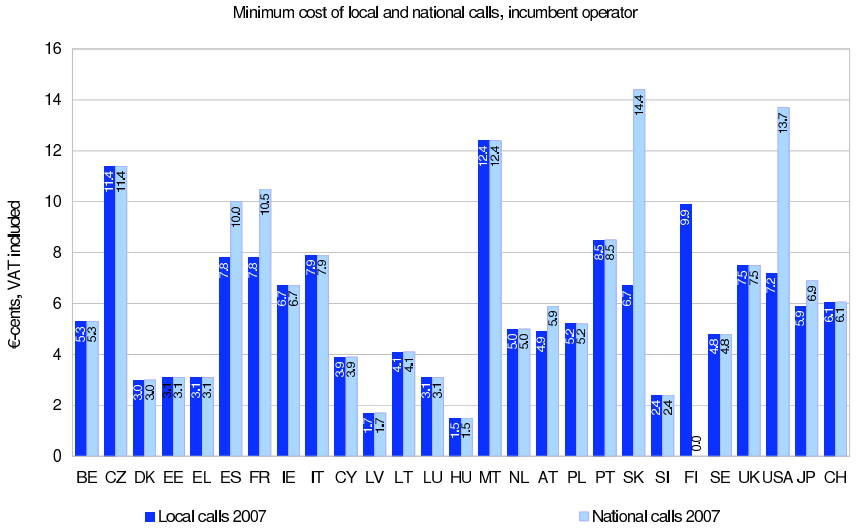
The real time charging method can be perceived to be the one fairest to the customer, as he/she will only pay for what is actually used. This does however not guarantee that this method will always give the lowest overall prices. What has happened in some countries is that when going from a unit-based system to real time charging the average per minute price have been kept the same. The cost per call has then often been seen to go up because an additional (and new) call set up charge has been added. Especially medium duration calls may suffer, depending on the price structure before and after the change.

But it is no doubt that the real time charging method is more convenient to the user, as it is easier to understand and relate to.

The added cost of call set up charges is by some operators offset by a duration allowance per call, making the first part of the call ”free” once the call set up charge is levied. This provides a similar mechanism to the minimum charge used by some other operators.

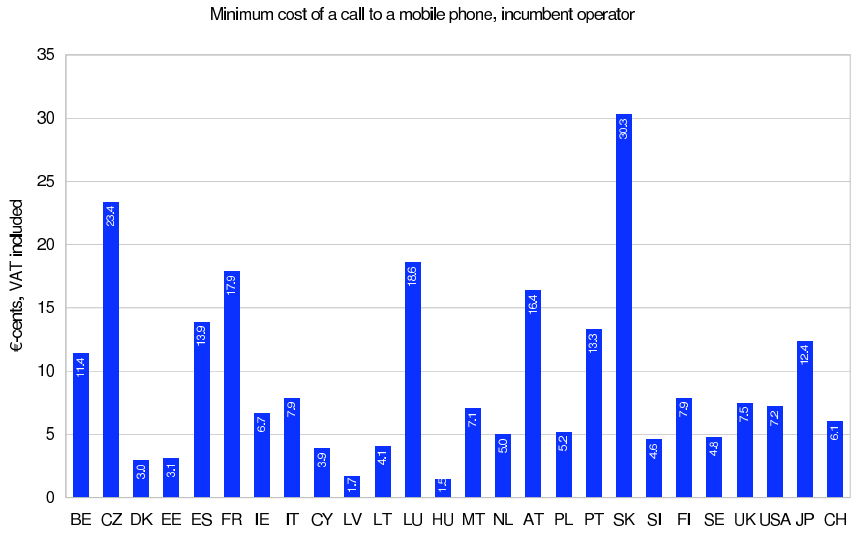
In Switzerland the historic operator applies a unit-based charging system (CHF 0.10 for x seconds) for all types of calls.

Figure 47



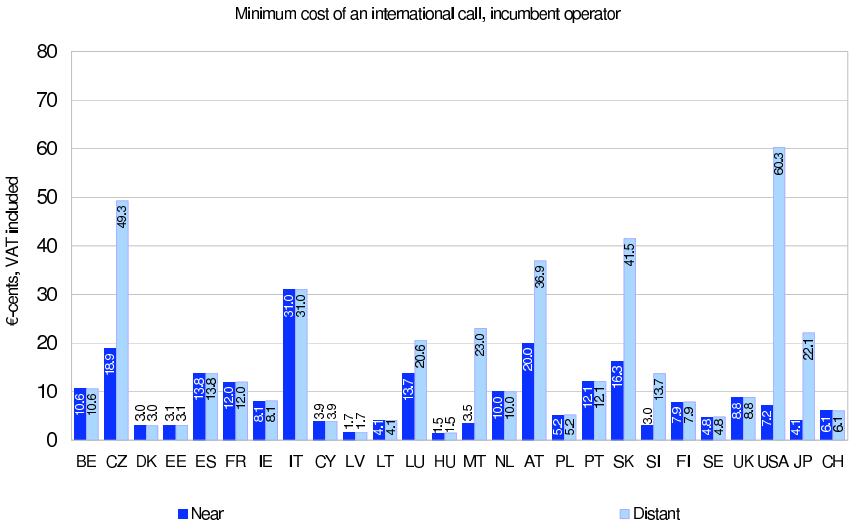
Sources for Switzerland: Telecom operators

Figure 48



Initial charges for international calls will normally follow similar rules as for national calls. Where unit based charging is used the initial period duration covered by the first unit may change with the destination. In most countries prices are the same for business and residential customers.
Sources for Switzerland: Telecom operators

Figure 49



Sources for Switzerland: Telecom operators

2.5.2 Monthly rental charged by the incumbent operator

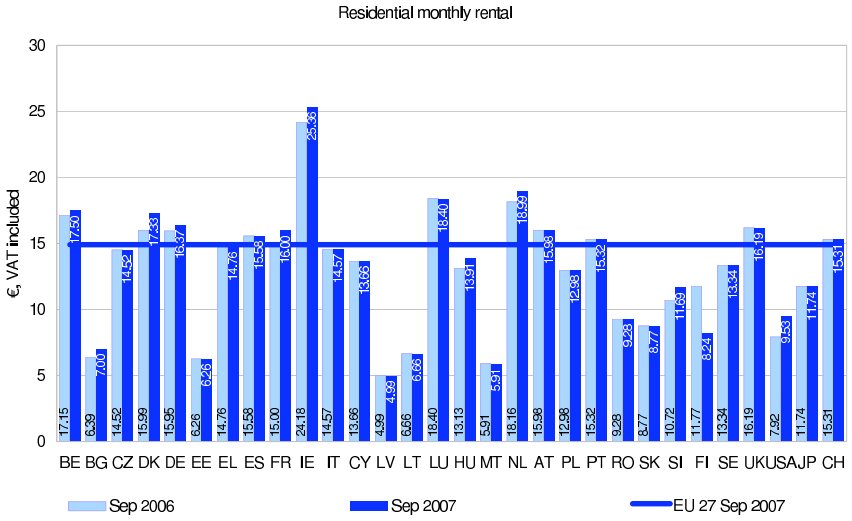
The following charts show the incumbent's monthly line rental charges for residential and business users in September 2007 and September 2006. In order to reflect the real charges actually paid by users, values are expressed in Euro, including VAT for residential users and excluding VAT for business 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.

In Switzerland, the monthly charge for an analogue connection (Economy Line) is CHF 25.25, including 7.6% VAT, which corresponds to 15.31 Euros. In 2007, the price charged in Switzerland exceeded the weighted European average by about 0.41 Euros. The monthly charge is higher than in Switzerland for 11 European countries.

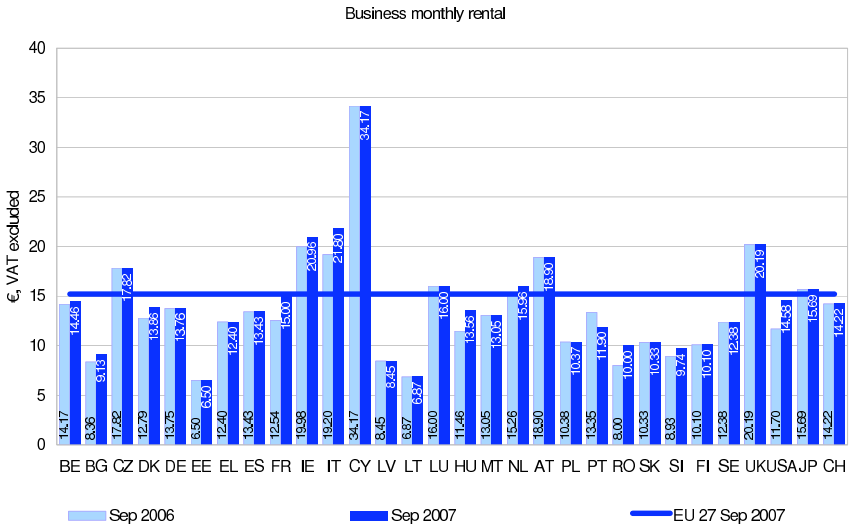
Figure 50



Sources for Switzerland: Telecom operators

With regard to the price of an analogue business line excluding VAT, Switzerland is well placed in the international comparison, with the price charged slightly below the weighted average of the 27 Union countries (14.22 Euros vs. 15.2 Euros).

Figure 51



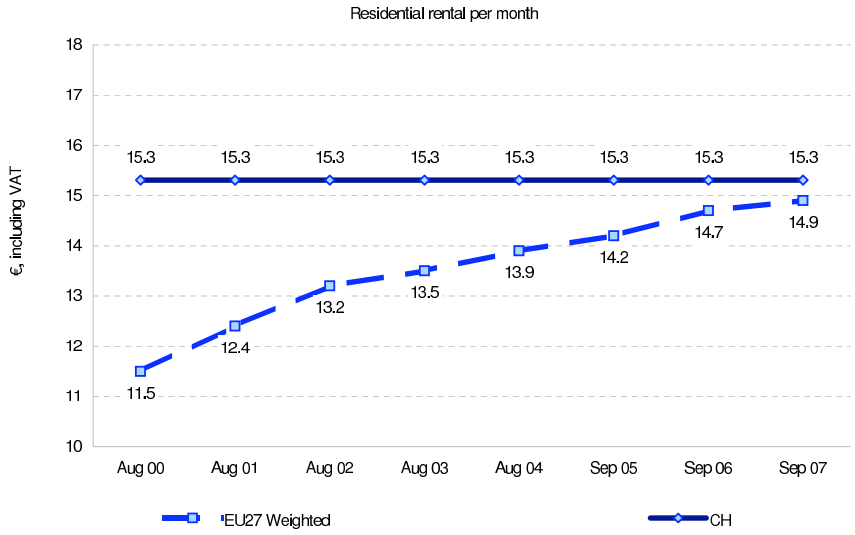
Sources for Switzerland: Telecom operators

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

The same charts have been produced for Switzerland. Since the liberalisation of the telecommunications market, which generally took place in 1998, line prices have gradually increased in the European Union countries. This phenomenon is known as tariff readjustment. Its origin lies in the fact that lines were generally subsidized by revenue from calls. However, what was possible or even desirable in a monopoly is no longer the case in a market which is supposed to be competitive and it became imperative to adapt prices to reflect actual costs. In Switzerland, this kind of readjustment has not been observed;

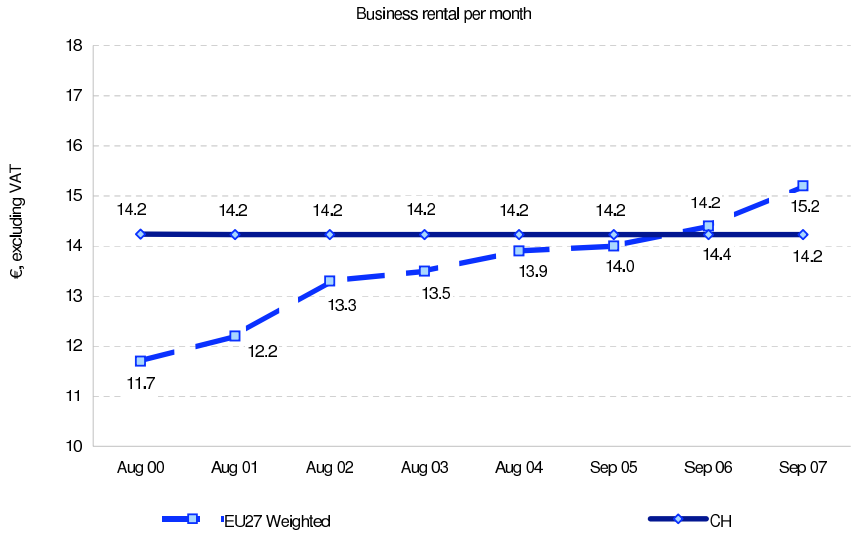
the only recorded changes were due to increases in VAT (increasing from 6.5% to 7.5% on 1 January 1999 and from 7.5% to 7.6% on 1 January 2001). VAT in Switzerland has remained at 7.6%. We note that the absence of increases in Switzerland has had the positive effect of closing the gap which separates Switzerland from her neighbours.

Figure 52



Sources for Switzerland: Telecom operators

Figure 53



Sources for Switzerland: Telecom operators

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 2007, expressed in Euro, 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 5 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 2 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 (4 calls during the week and 2 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 2 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 (4 calls during the week and 2 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:

- 5 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 4 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.

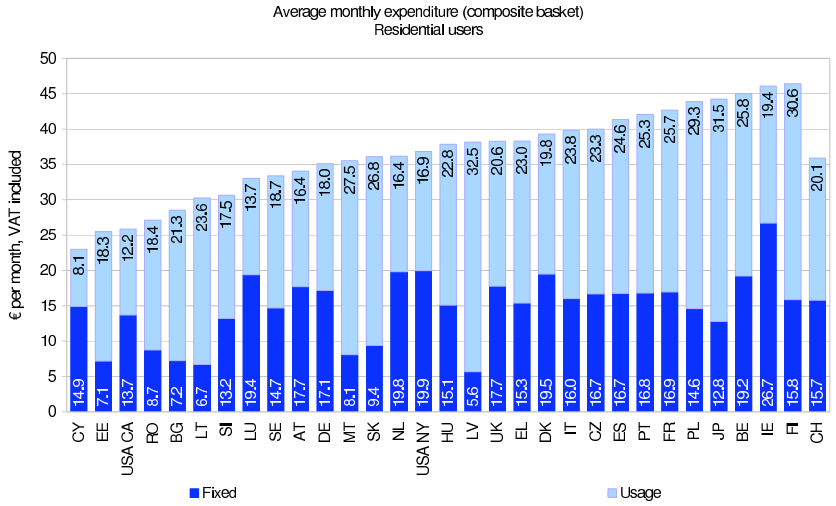
The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (4 calls during the week and 2 during the weekend). The call duration varies from 1.9 to 3.1 minutes, depending on time and distance.

The different 2006 OECD baskets may select different tariff packages as the cheapest. The 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.

2000 composite OECD basket

On the basis of the basket established by Teligen, Swiss residential users pay Euro 35.9 per month for a standard range of services. Figure 54 shows that Switzerland is positioned near the European average. In 16 European countries (out of 27) the cost of the basket is higher. We also note that Japan, a non-European country considered, is among the least attractive countries.

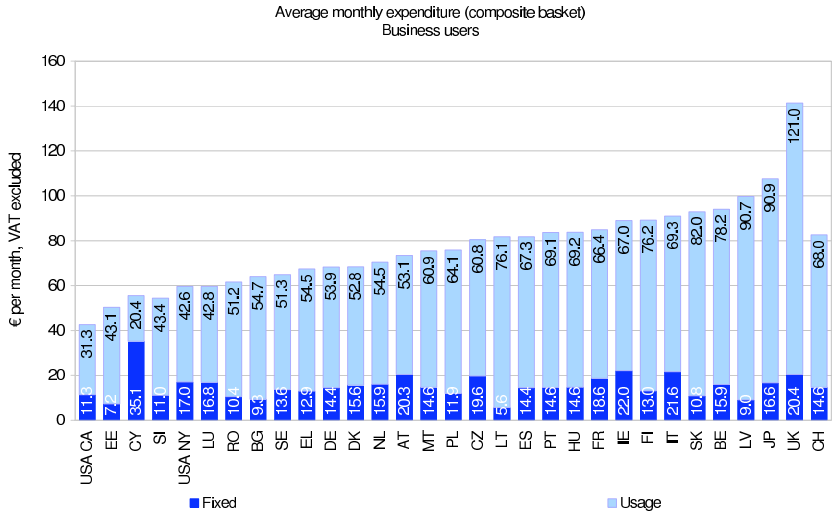
Figure 54



Source for Switzerland: Teligen T-Basket

The same exercise was carried out for businesses and the results are displayed in Figure 55. The cost of a standard basket of services in Switzerland is 82.6 Euros. The United Kingdom and Japan are at the bottom of the table. One very interesting fact is that the results for businesses have a greater spread than those for residential users. This would appear to indicate very diverse practices in the different countries in terms of product segmentation.

Figure 55



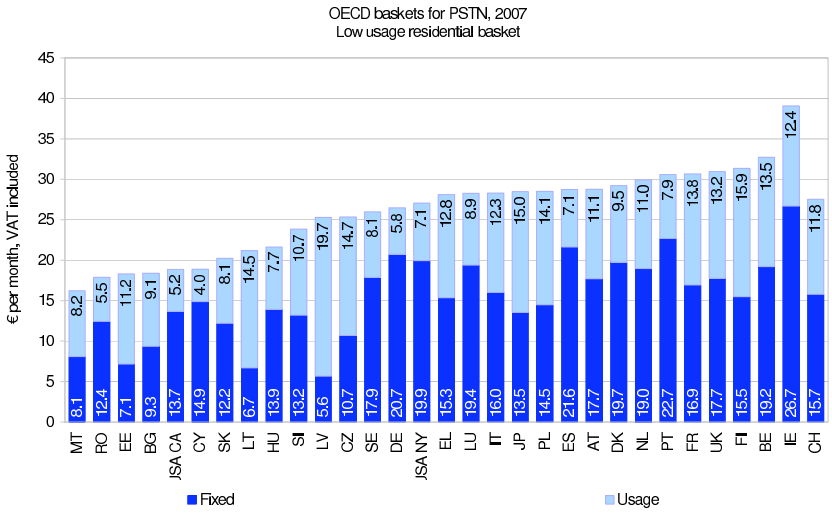
Source for Switzerland: Teligen T-Basket

2006 OECD baskets

In Switzerland, residential users pay 27.5 Euros for a low usage basket (Figure 56), while consumers in 14 other European countries pay a higher price. The cost of the medium usage residential basket (Figure 57) in Switzerland is among the highest in Europe (39.7 Euros). Moreover, the high charge of 69.2 Euros for the high usage basket (Figure 58) puts Switzerland in 10th place (out of 28) for the highest price. With a monthly charge of 43.2 Euros, excluding VAT, Switzerland is ranked 9th in terms of the most expensive

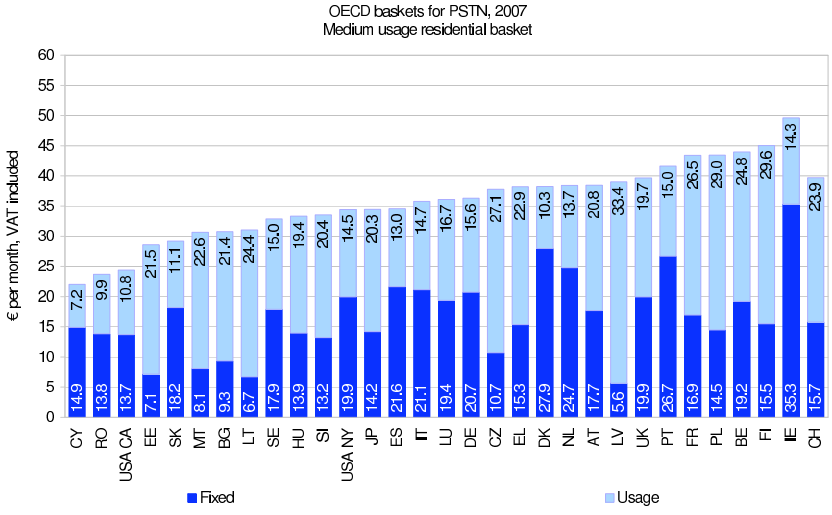
European SOHO business baskets (Figure 59). Swiss business users pay 1642.7 Euros, excluding VAT, for the SME basket (Figure 60) which ranks Switzerland 10th in Europe.

Figure 56



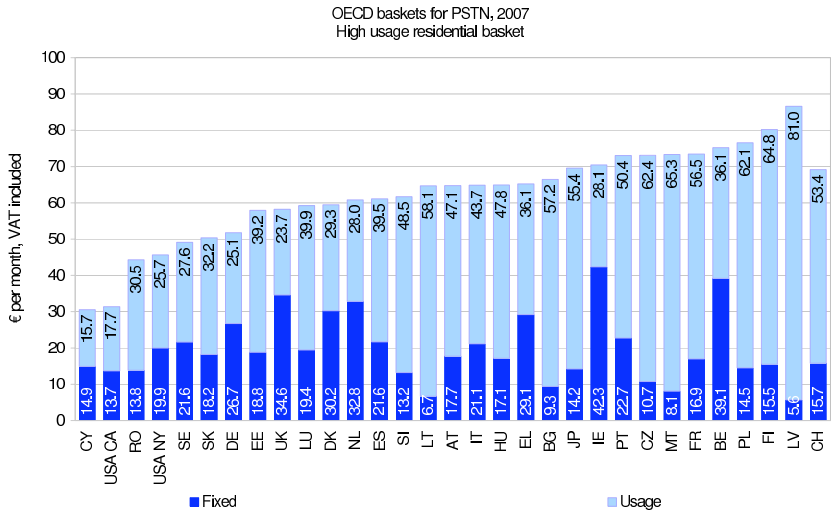
Source for Switzerland: Teligen T-Basket

Figure 57



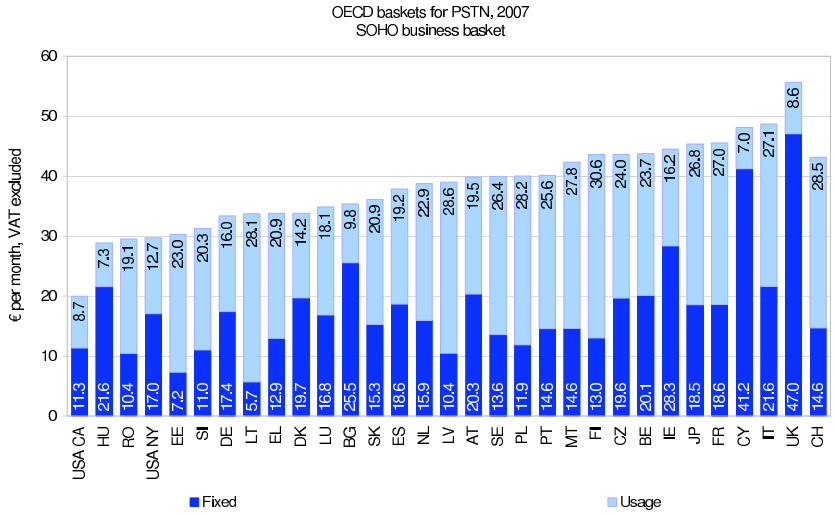
Source for Switzerland: Teligen T-Basket

Figure 58



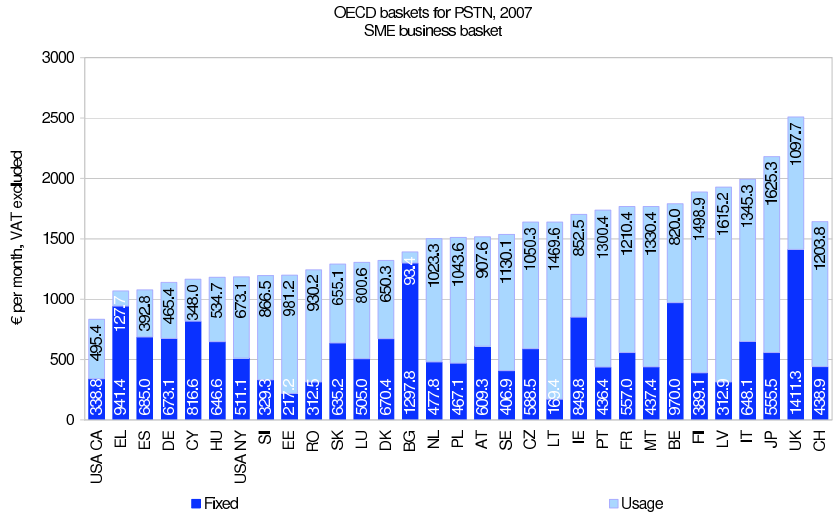
Source for Switzerland: Teligen T-Basket

Figure 59



Source for Switzerland: Teligen T-Basket

Figure 60



Source for Switzerland: Teligen T-Basket

Comparison of the ”standard” package with the ”cheapest package”

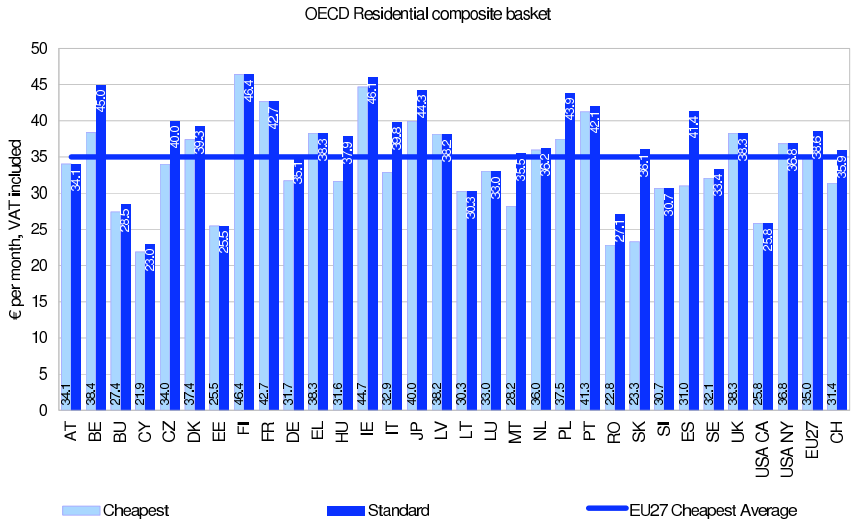
Total cost for ”standard” package is compared with the equivalent cost for the ”cheapest” package.

As some operators do not clearly publish a range of discount package options, only standard package is included in such cases.

In Switzerland there is only a moderate difference between the cheapest and the standard baskets, for both residential and business users. For residential users the “cheapest” basket costs 31.39 Euros while the “standard” basket costs 4.59 Euros more. For business users the cost is 70.85 Euros for the “cheapest” basket and the “standard” costs an additional 11.79 Euros. The biggest differences between “cheapest” and “standard” baskets were recorded in Slovakia, over 12 Euros for residential users, and in Belgium, over 39 Euros for business users.

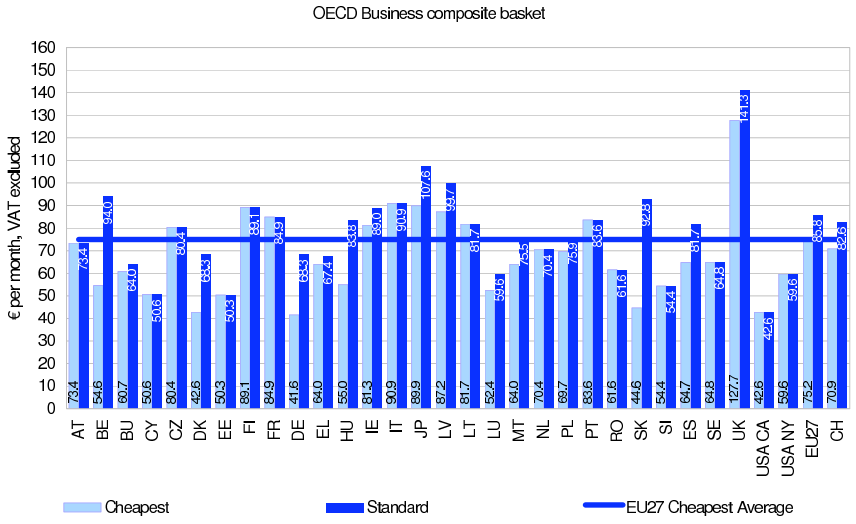
The “cheapest” residential basket in Switzerland is below the EU27 average (34.95 Euros). This is also true for the cheapest business package. The highest residential tariff packages were recorded in Finland, while Cyprus had the lowest. For the business composite basket, the UK and Japan are the most expensive, with Denmark and Germany the cheapest.

Figure 61



Source for Switzerland: Teligen T-Basket

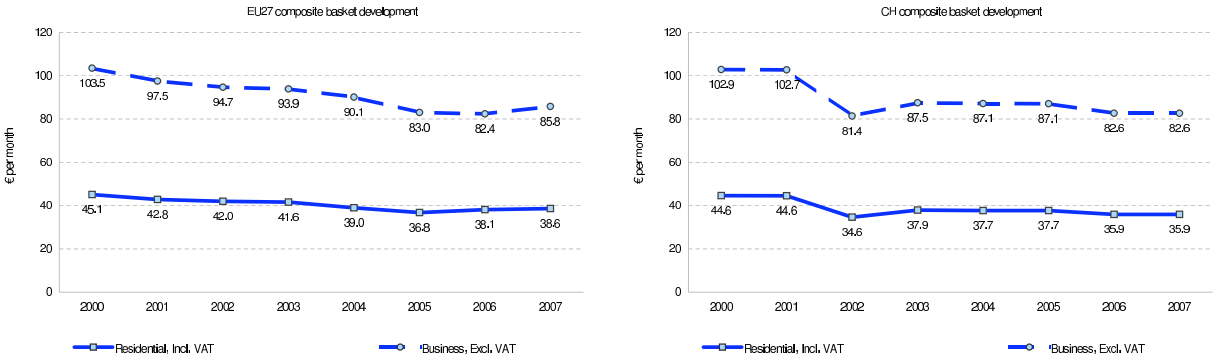
Figure 62



Source for Switzerland: Teligen T-Basket

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

Figure 63



Source for Switzerland: Teligen T-Basket

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).

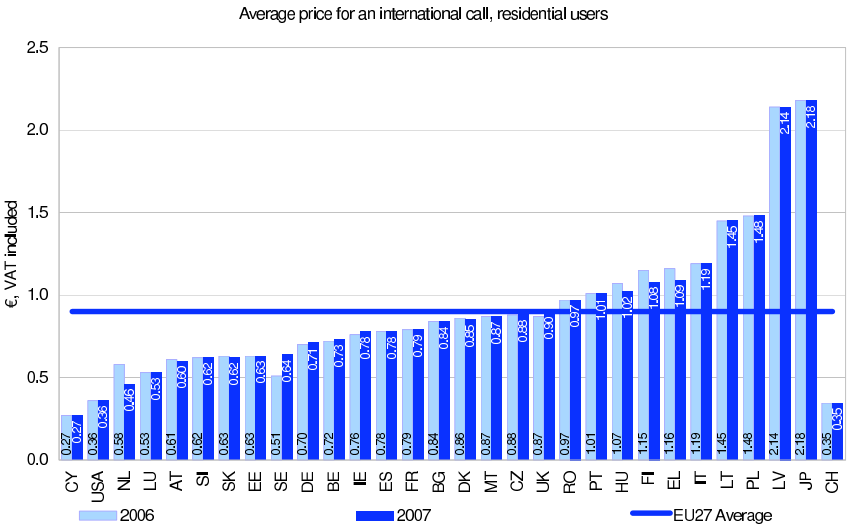
All tariffs are standard prices from incumbent operators, and both these operators and new entrants may offer lower prices.

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.

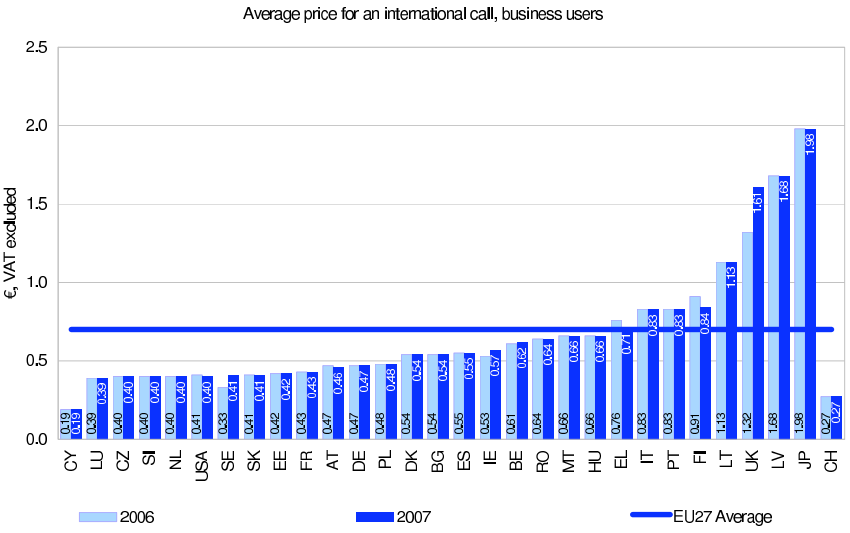
In terms of the cost of international calls, Switzerland is in an exceptional position as only one country (Cyprus) has more attractive prices, either for residential users (Figure 64) or for businesses (Figure 65). Moreover, the prices charged are well below the weighted European average. For a country such as Switzerland, which is traditionally orientated towards exporting, this situation is encouraging. Japan, with prices which literally go through the roof, is at the other end of the league table.

Figure 64



Source for Switzerland: Teligen T-Basket

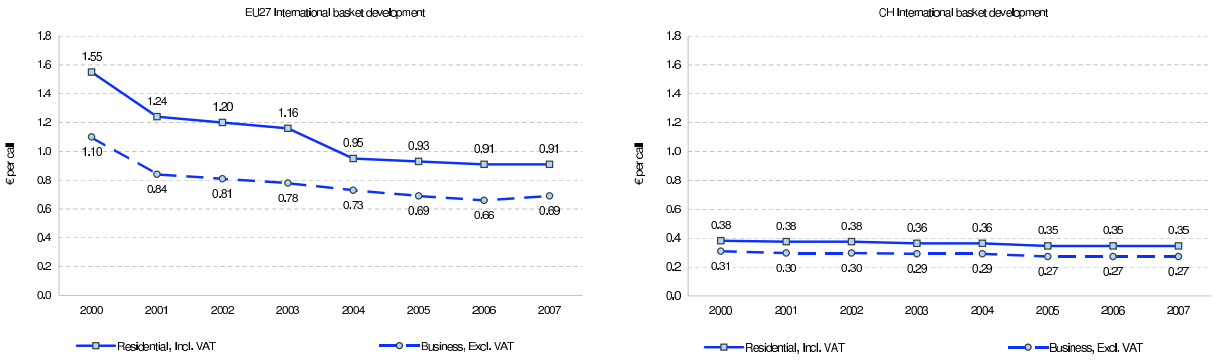
Figure 65



Source for Switzerland: Teligen T-Basket

Figure 66 shows the price of an international call in the European Union countries and Switzerland between 2000 and 2007. In Switzerland, competitive pressure exerted by the new entrants had some very rapid and marked effects between 1998 and 2000; prices fell by almost 80%, regardless of the type of user (business or residential). Since then, the recorded fall has been negligible.

Figure 66



(a) (b)

Source for Switzerland: Teligen T-Basket

2.5.6 Price of fixed national calls by the incumbent operator

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 euro-cents including VAT. Except where otherwise specified, the figures refer to September 2007. 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.

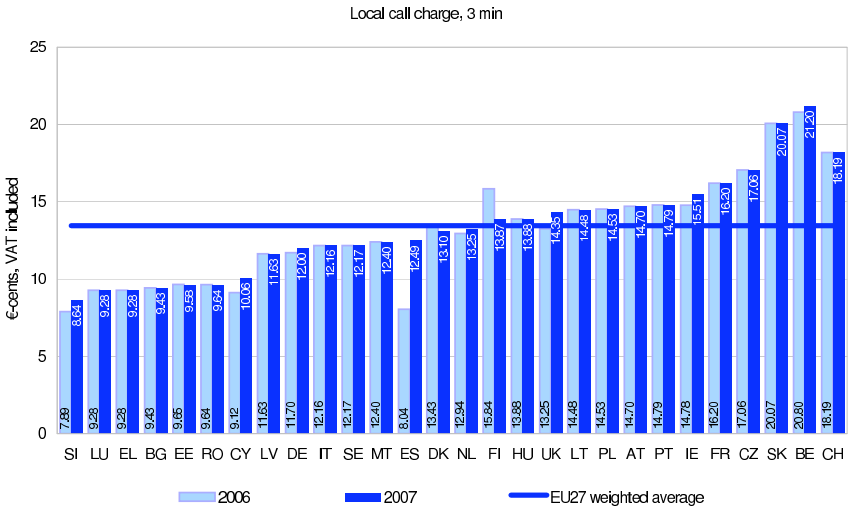
The price of a three-minute call is more affected by the magnitude of the call set-up charge than the price of a ten-minute call.

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.

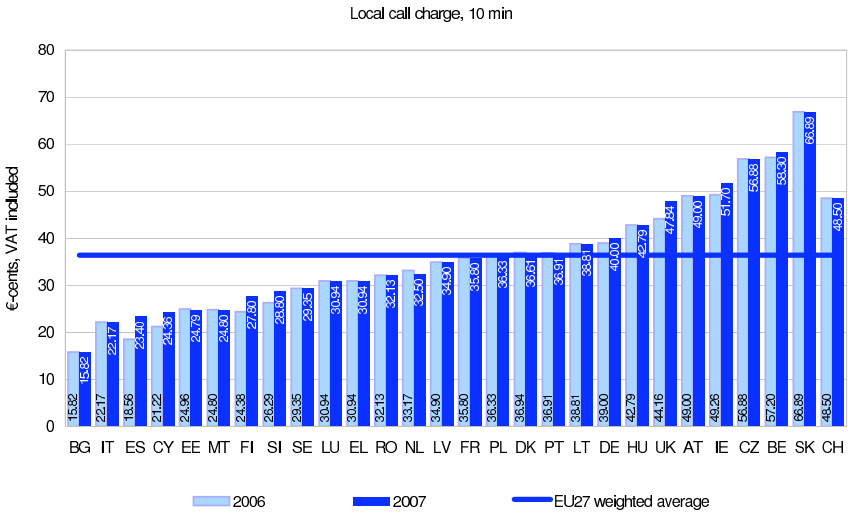
Regardless of call duration (3 or 10 minutes), the prices charged for local calls in Switzerland are clearly above the EU27 weighted average. For a 3-minute local call (Figure 67), prices are higher only Belgium and Slovakia. The situation is slightly different for a 10-minute call (Figure 68), with five countries applying higher tariffs. We note that Switzerland's poor showing is largely attributable to the introduction, in spring 2002, of a single national distance-independent rate. Following the introduction of this new method of charging, the price of local calls increased whilst that of national calls decreased. It should also be noted that, in the majority of the countries considered, prices remained stable between 2006 and 2007.

Figure 67



Source for Switzerland: Teligen T-Basket

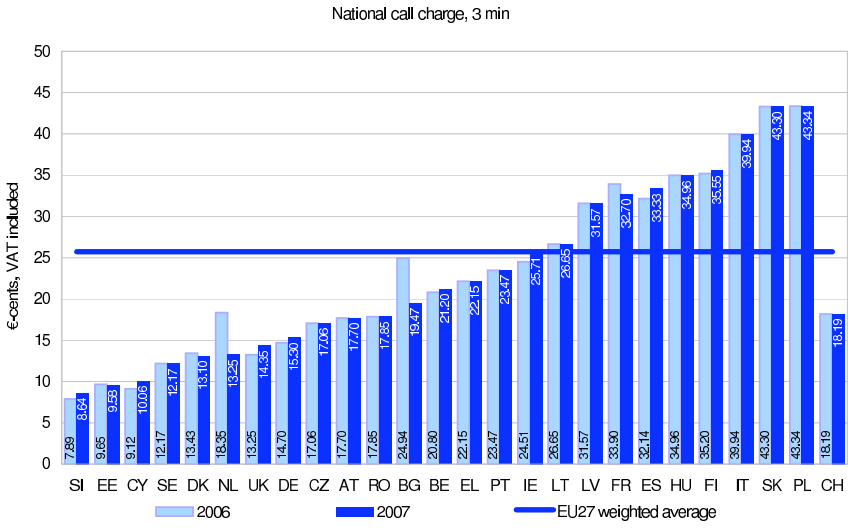
Figure 68



Source for Switzerland: Teligen T-Basket

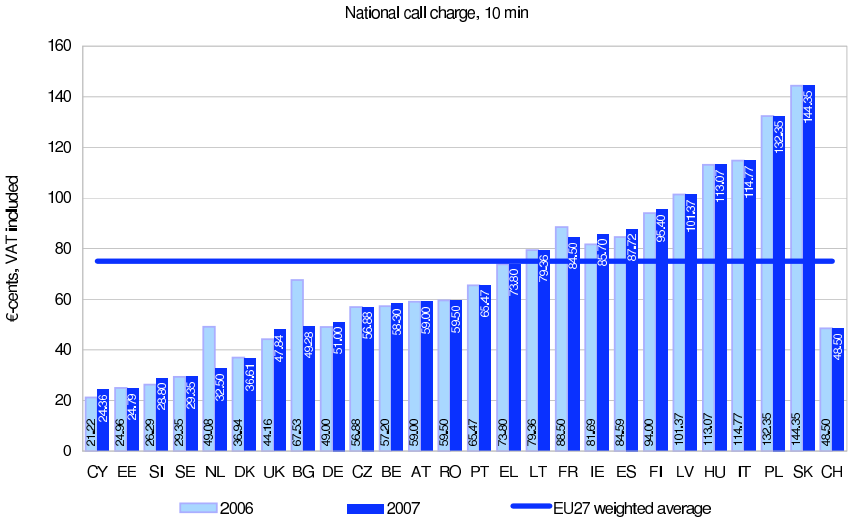
With regard to prices charged for national calls (Figures 69 and 70), Switzerland is well placed in the international comparison. Indeed, regardless of call duration, Swiss prices are clearly below the EU27 weighted average. In 2007, the lowest prices were in Slovenia, 8.64 euro-cents for a 3-minute call (18.19 euro-cents in Switzerland), and in Cyprus, 24.36 euro-cents for a 10-minute call (48.50 euro-cents in Switzerland). Poland had the highest charges for a 3-minute call (43.34 euro-cents), whereas Slovakia was the most expensive for a 10-minute call (144.35 euro-cents).

Figure 69



Source for Switzerland: Teligen T-Basket

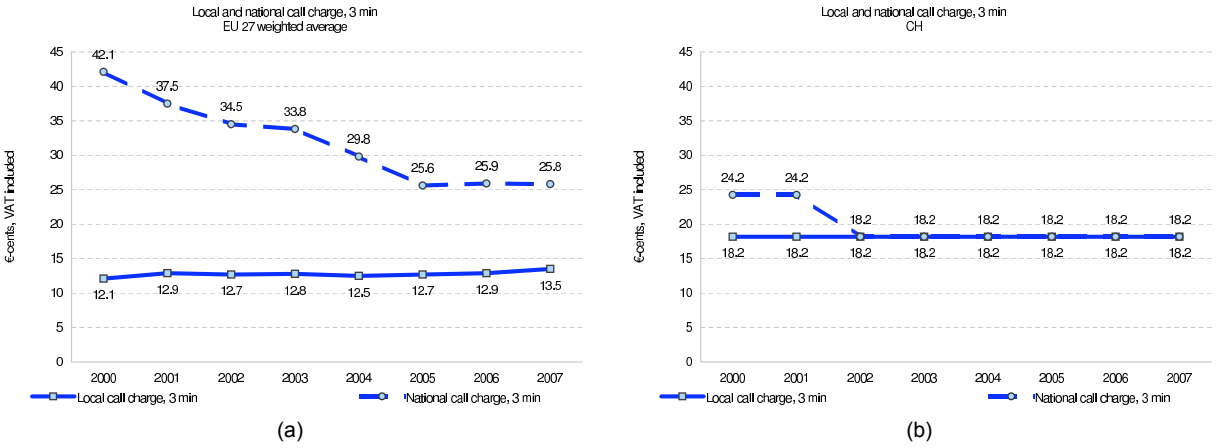
Figure 70



Source for Switzerland: Teligen T-Basket

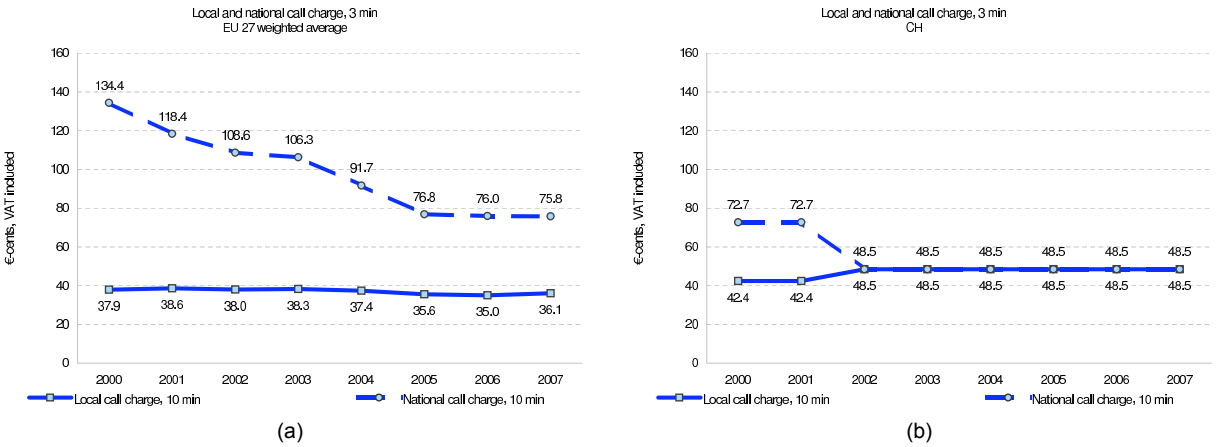
Figure 71 shows the evolution, from 2000 to 2007, of local and national prices for a 3-minute call in the European Union countries and in Switzerland. With regard to local call prices, it should be noted that they remained fairly stable for both 3-minute and 10-minute calls throughout the period in question. The prices of a national 3-minute call, on the other hand, fell in the geographical areas considered. Between 2005 and 2007, the changes were insignificant in Europe and non-existent in Switzerland, the market seeming to have stabilised itself. However, the evolution recorded for the Union is smoother because it takes several countries into account. This is also due to the fact that since 2002, Switzerland has had a single distance-independent price, and this explains why the two curves meet. One can draw similar conclusions from the analysis of the trend in prices for 10-minute calls shown in Figure 72.

Figure 71



Source for Switzerland: Teligen T-Basket

Figure 72



Source for Switzerland: Teligen T-Basket

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 Switzerland, the comparison was made with Swisscom's main competitor, Sunrise, though this does not automatically mean that it represents the cheapest alternatives available to consumers. The prices are those of October 2007 and correspond to the peak rates. If one compares the price of a 3-minute local or national call (Figures 73 and 75), Sunrise charged 20% less. The same comparison made for a 10-minute call (Figures 74 and 76) show Sunrise's prices 10% lower than Swisscom's. It should be noted that this narrowing of the difference is largely explained by the fact that the two operators do not apply the same charging systems. Swisscom applies a unit-based charging system (CHF 0.10 per x seconds) and Sunrise charges by the second; the results are therefore dependent on the choice of the exact number of minutes on which the comparison is based. In fact, if the number of minutes considered corresponds to

the precise moment at which the switch to the next additional unit occurs, Swisscom's prices are comparatively less attractive. We further note that since Switzerland now has only distance-independent prices, it is not necessary, unlike in other countries, to carry out an analysis which is differentiated according to the distance of the call (local or national).

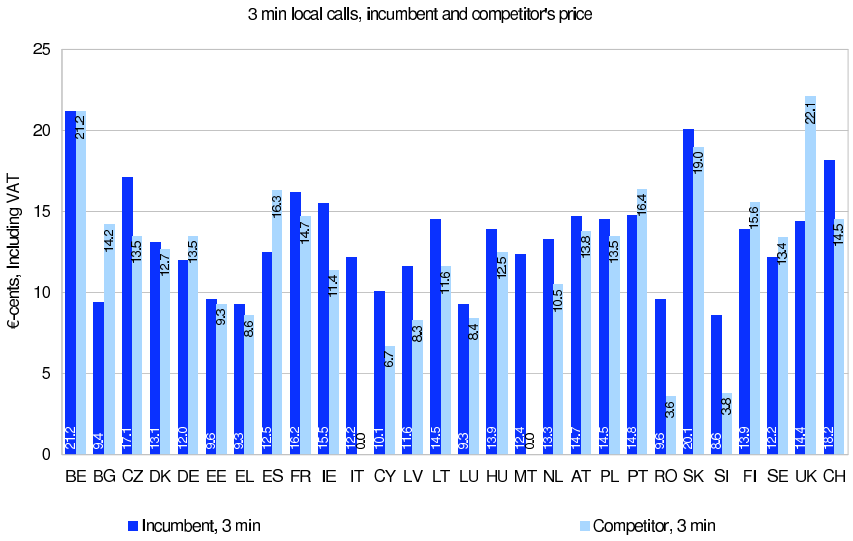
In this report the following second largest operators have been covered for the year 2007. In some cases there has been a change of "second operator" from last year, and these are marked with an *.

Table 1

	Second largest	Competing service type
Belgium	Telenet	PSTN / IP
Bulgaria	Orbitel	IP
Czech Rep.	Radiokomunikace	PSTN / IP
Denmark	Tele2	PSTN
Germany	Arcor	PSTN
Estonia	Starman *	IP
Greece	Tellas *	PSTN
Spain	Ono	Cable
France	NeufCegetel	PSTN
Ireland	BT Ireland	PSTN
Italy	Wind	PSTN
Cyprus	CallSat	?
Latvia	Telecom Baltija *	PSTN / IP
Lithuania	Lietuvos Gelezinkeliai	PSTN
Luxembourg	Tele2	PSTN
Hungary	Tele2	PSTN
Malta	–	–
Netherlands	Pretium *	PSTN
Austria	Tele2UTA	PSTN
Poland	Tele2 *	PSTN
Portugal	Novis *	PSTN
Romania	RCS&RDS	PSTN
Slovakia	GTS Nextra	PSTN / IP
Slovenia	T-2 *	IP
Finland	Elisa	PSTN
Sweden	Tele2	PSTN
UK	Virgin Media *	PSTN / IP
CH	Sunrise	PSTN

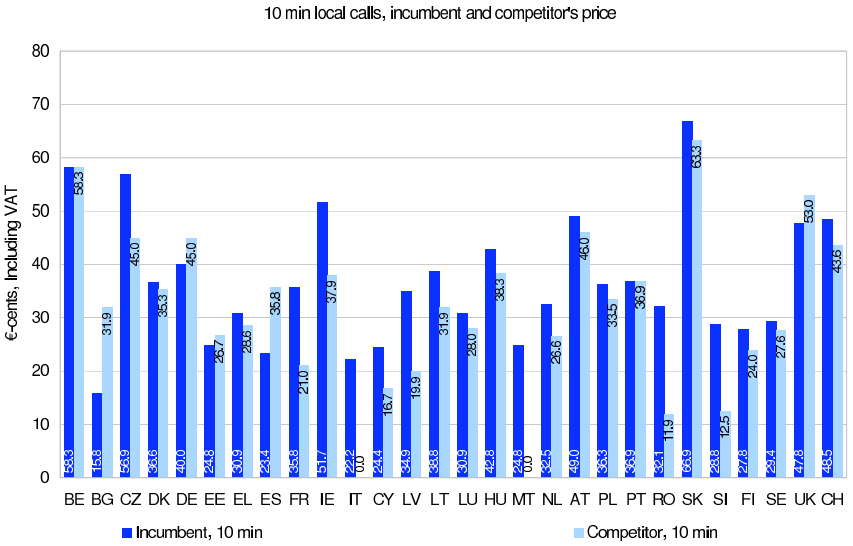
Looking at Figures 73 to 76, there are two more interesting general trends to be observed. The first is that there are still substantial differences in price between the historic operator and its main competitor, which means that competition has not yet resulted in completely homogenised prices. The second lies in the fact that in certain countries, the alternative operator charges a higher price than the historic operator. The reality is therefore always more complicated than one might first imagine.

Figure 73



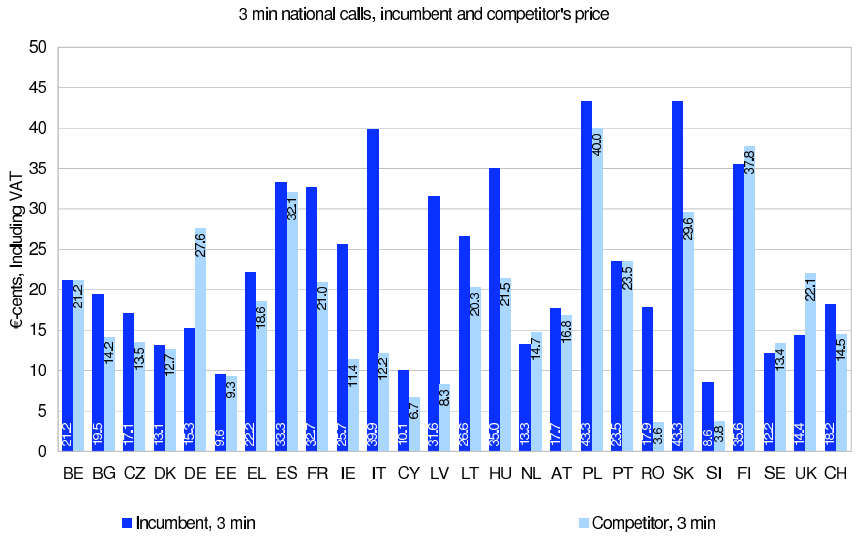
Sources for Switzerland: Telecom operators

Figure 74



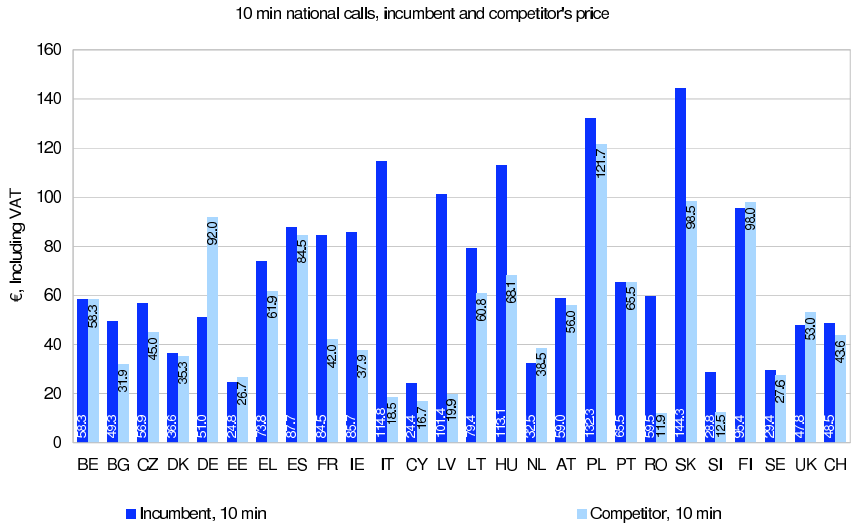
Sources for Switzerland: Telecom operators

Figure 75



Sources for Switzerland: Telecom operators

Figure 76



Sources for Switzerland: Telecom operators

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

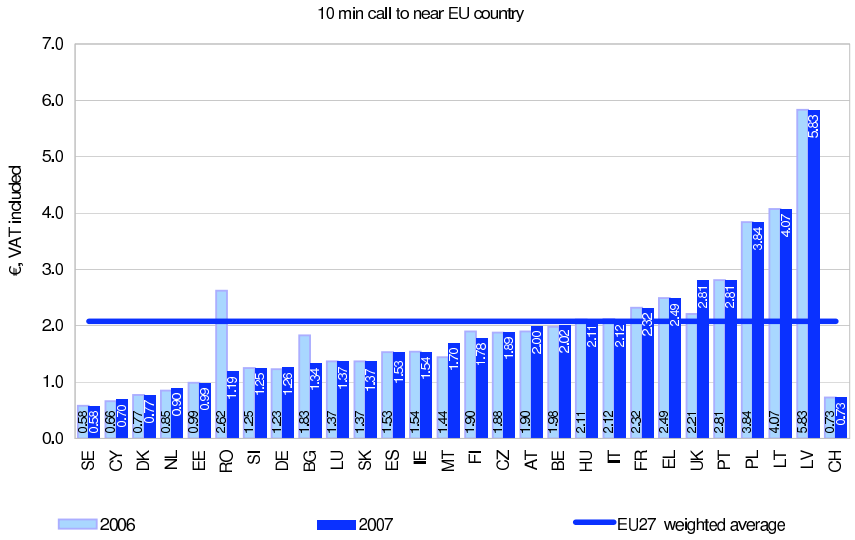
The following charts show the prices of a 10-minute international call (including VAT) during peak hours (weekday 11:00 am) to four different destinations: Near EU country, Distant EU country, USA and Japan. Figures are expressed in Euro, including VAT, and they refer to the European incumbent operators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

Table 2

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
CH	DE	EL

As far as calls to Switzerland's immediate neighbours (Figure 77) are concerned, it was assumed that Germany was the closest country to Switzerland. It is apparent that in the international comparison a Swiss user pays relatively little to make a 10-minute call to Germany. Only users in Sweden and Cyprus enjoy more attractive conditions. Furthermore, the cost in Switzerland is well below the weighted European average. A 10-minute call to Germany made through the incumbent operator costs 0.73 Euros (CHF 0.12/min).

Figure 77

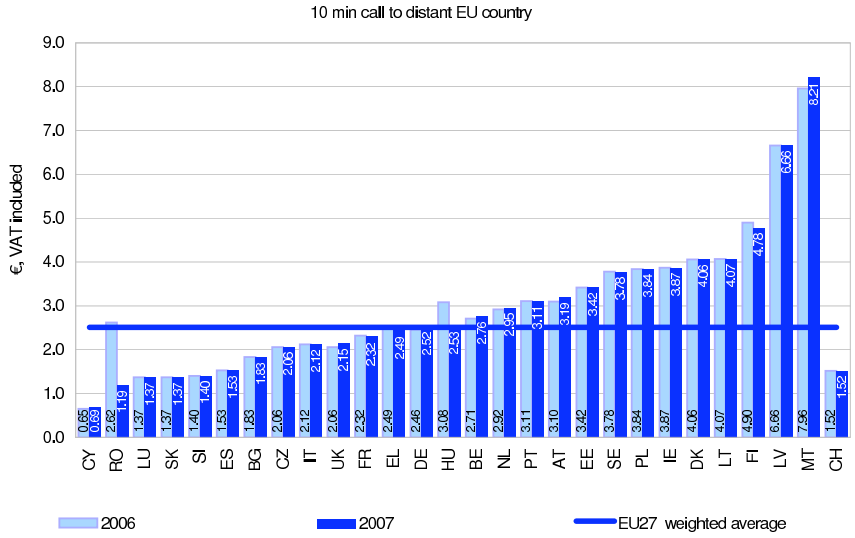


Sources for Switzerland: Telecom operators

Figure 78 shows the price of a 10-minute call made between each country examined and its most distant neighbour. For Switzerland, this was deemed to be Greece. Once again, the situation turns out to be favourable in Switzerland, since it is ranked sixth in the list of cheapest countries, just behind Cyprus,

Romania, Luxembourg, Slovakia and Slovenia. A 10-minute call to Greece costs 1.52 Euros or CHF 0.25/min.

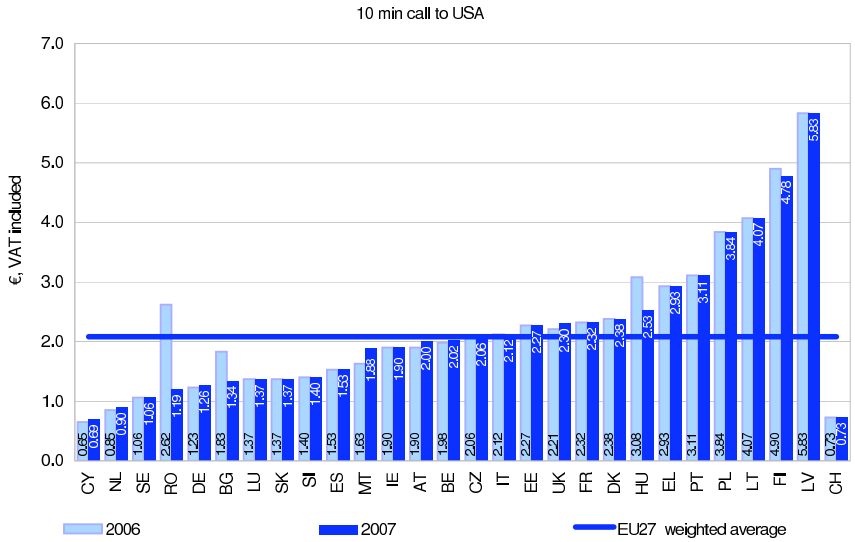
Figure 78



Sources for Switzerland: Telecom operators

Figure 79 shows the cost of a 10-minute call to the USA. Switzerland has the second cheapest prices, behind only Cyprus.

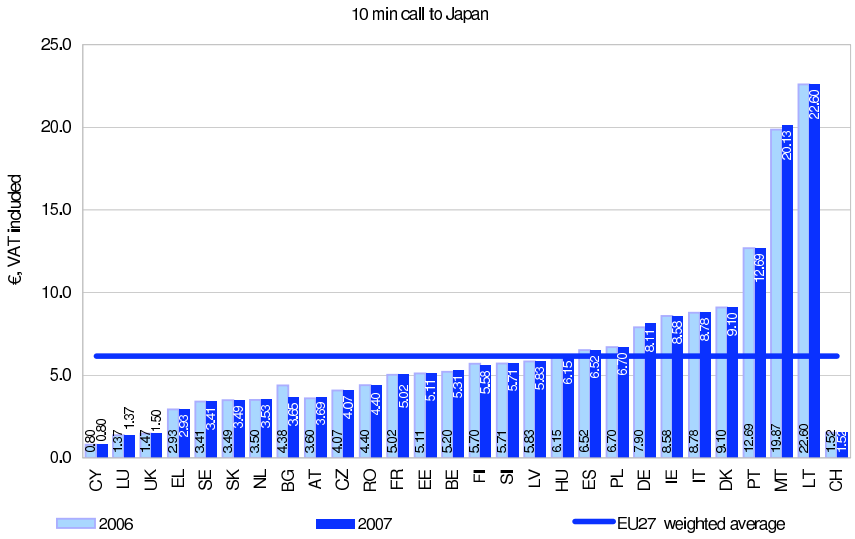
Figure 79



Sources for Switzerland: Telecom operators

For a 10-minute call to Japan (Figure 80), the prevailing conditions in Switzerland are also attractive, as Switzerland is placed in the group of the cheapest countries.

Figure 80



Sources for Switzerland: Telecom operators

2.5.9 Alternative operators' price for fixed international calls

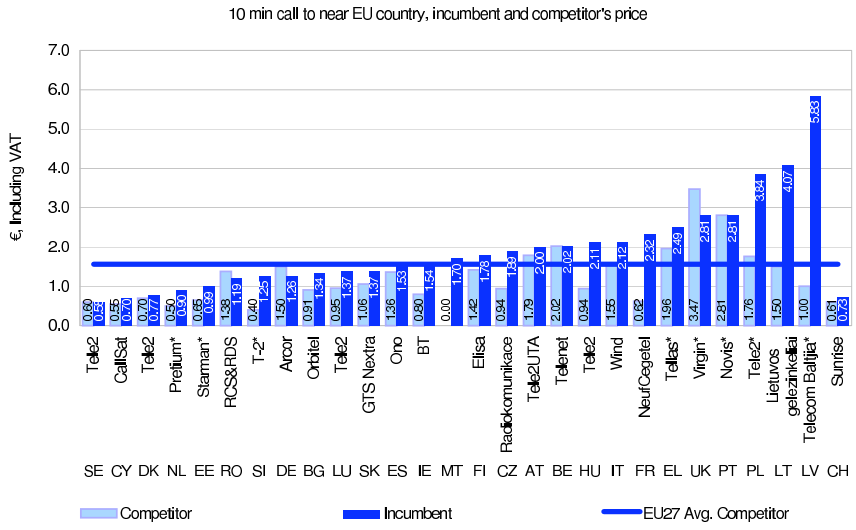
The equivalent prices for competitor providers in the EU countries are shown in the charts below. One competitor per country has been analyzed. The prices are shown for a 10 minute call, at peak time weekdays. Prices include VAT and are applicable for September 2007.

For Switzerland, the comparison was made with the prices charged by Sunrise, Swisscom's main competitor, which does not necessarily mean that they are the cheapest solutions available on the market.

As was shown in the preceding section, the prices charged in Switzerland are well below the European average and it is extremely rare to find more advantageous conditions. In spite of the very low prices billed by the dominant operator, it is still possible for a Swiss user to benefit from the substantial advantages available from the competition. Thus the difference for a 10-minute call with the main alternative operator is:

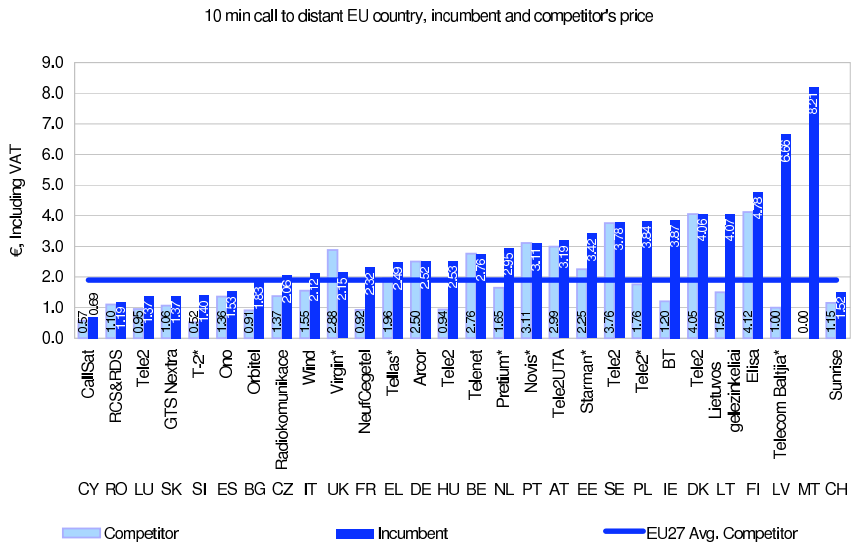
- -16.7% for a call to the nearest neighbour country or to the USA (Figures 81 and 83);
- -24.0% to the most distant EU member country and to Japan (Figure 82 and 84).

Figure 81



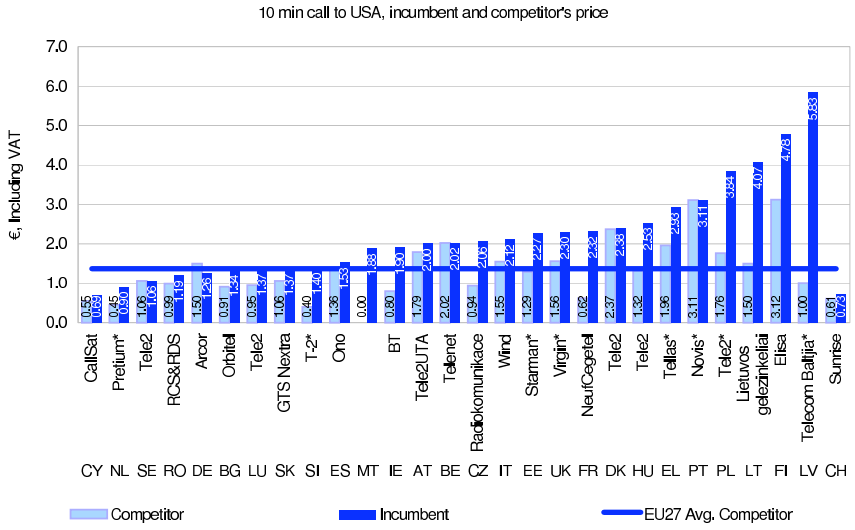
Sources for Switzerland: Telecom operators

Figure 82



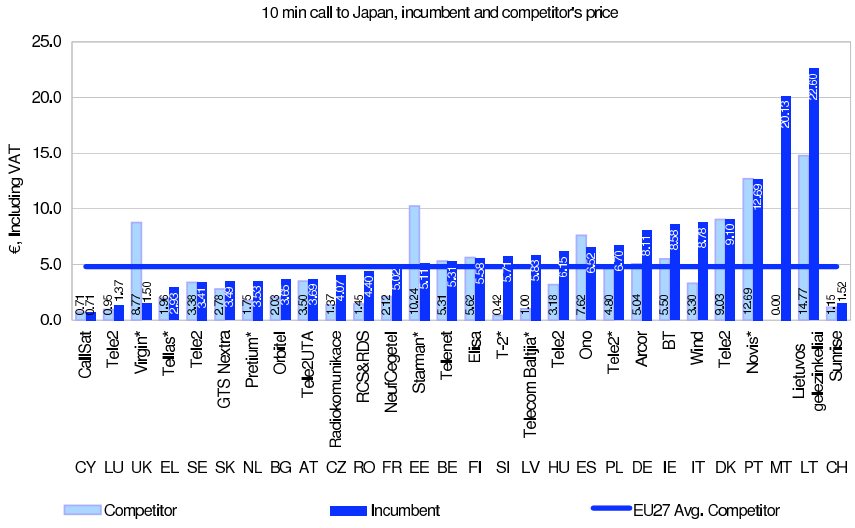
Sources for Switzerland: Telecom operators

Figure 83



Sources for Switzerland: Telecom operators

Figure 84



Sources for Switzerland: Telecom operators

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

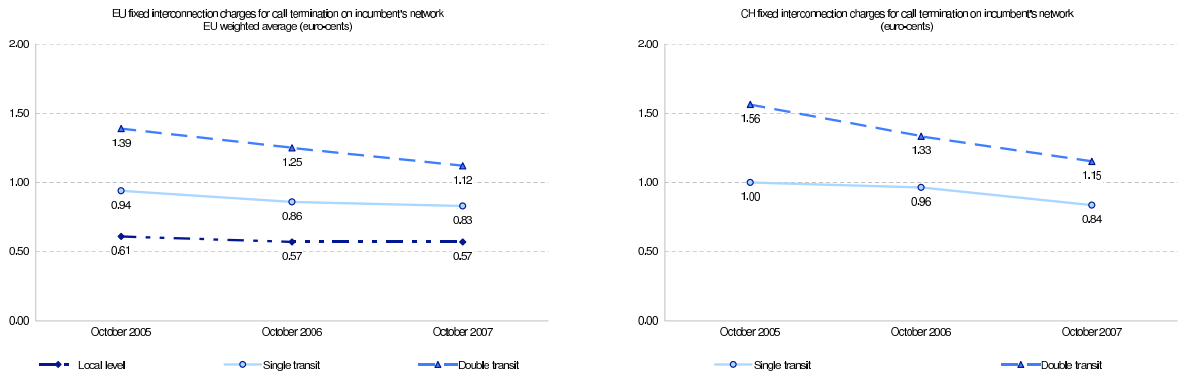
for the non euro-zone countries. Compared to October 2006, the EU weighted average charge for call termination on the incumbent fixed networks, is still decreasing (for single transit and for double transit (-0.13 euro-cent)) however it has remained stable for local level. When comparing the categories 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 euro-cent), and Cyprus (0.31 euro-cent). Finland has the second highest interconnection fee for local and the highest fee for single transit at 1.92 euro-cents. Lithuania has the highest fee for local and double transit, respectively at 2.61 and 3.5 euro-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 euro-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 85 shows the evolution (2005-2007) for the EU 85(a) and for Switzerland 85(b). During the period in question, interconnection charges for double transit fell by 26.4%, i.e. slightly more than the Union average (19.4%). As far as single transit charges are concerned, the differences are less pronounced in Switzerland, with a reduction of 16.4% compared to 11.7% for the Union.

Compared to the European average, double transit costs are 2.7% higher in Switzerland and single transit charges are at the same level. It should be mentioned once again that in Switzerland there are no local termination charges. This means that an operator wishing to terminate a call in a third-party network must pay a minimum of regional interconnection charge.

Figure 85

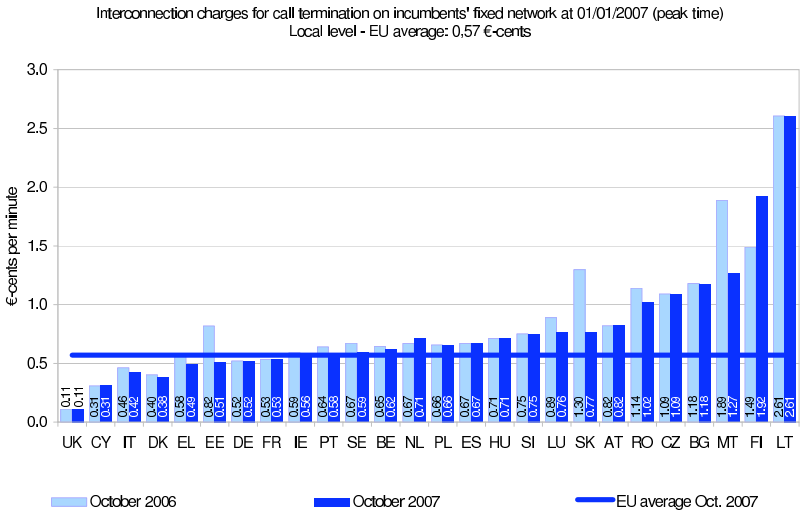


(a) (b)

Source for Switzerland: Swisscom Price Manual up to and including Version 6.60. Note: In Switzerland, single transit relates to regional call termination and double transit refers to national call termination. Local transit is not offered in Switzerland and is therefore not considered

The following three charts show the interconnection charges for the local level, single and double transit as of October 2006 and 2007. It should be noted that there are no local interconnection charges in Switzerland.

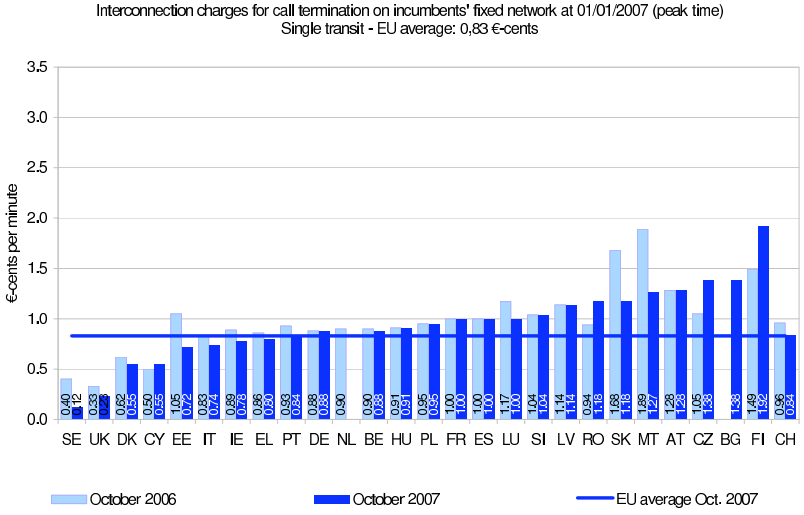
Figure 86



Bulgaria: No local level is applied for fixed-to-fixed interconnection of the incumbent operator and the alternative operators. The fixed-to-fixed rates of the incumbent for "metro segment" are stated here according to the interconnection agreements in force. "Metro Segment", as defined in the BTC Reference Interconnect Offer, is "used for calls through one regional point of interconnection to subscriber, served by a local exchange, connected to the same regional point of interconnection in the same city". The prices indicated here are in compliance with the last RIO
Czech Republic: 0.30 CZK Peak/ 0.15 CZK Off peak
Denmark: The data reported is from 30th of June 2007
Germany: 0.0052 Euro Peak /0.0036 Euro Off Peak
Luxembourg: Based on the small distances in Luxembourg
Netherlands: These charges are one operator rates for local calls
Romania: the same charges are applied to all mobile operators
Slovakia: Prices set according to TO's decision, valid from 27th October 2007
Finland: Based on the average of 38 SMP-operators call termination charges. Termination charges varies from 1.5 euro-cent/min to 2.44 euro-cent/min Average is 1.92 euro-cent/min and median charge is 1.98 euro-cent/min. Price comparison of fixed call termination can be found at FICORA's WebPages at: http://www.ficora.fi/en/index/tutkimukset/tutkimukset/tukkuhintavertailut.html
Sources for Switzerland: Telecom operators

Figure 87 shows the interconnection charges for single transit and illustrates the change which occurred between 2006 and 2007. In contrast to the previous year when it was exactly at the EU average level, in 2007 Switzerland was ranked 9th (15th in 2006).

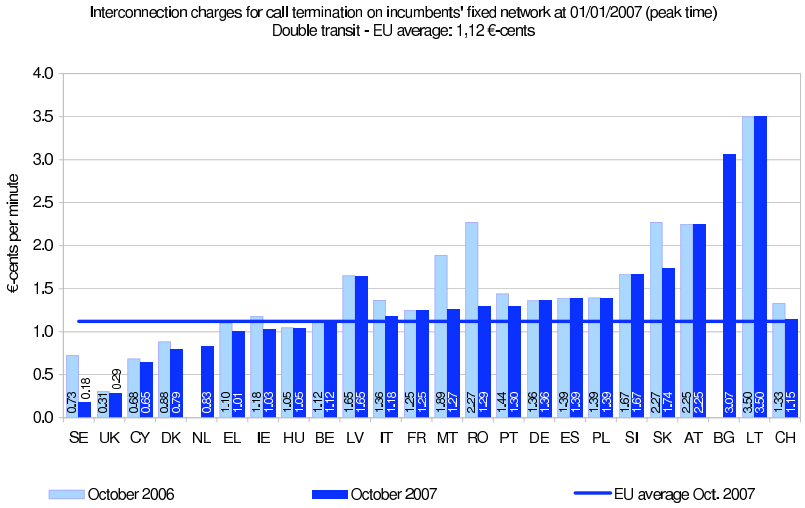
Figure 87



Lithuania: Only local and national level IC. National IC includes single and double transit
Netherlands: Not regulated
Finland: Based on the average of 38 SMP-operators call termination charges. Termination charges varies from 1.5 euro-cent/min to 2.44 euro-cent/min Average is 1.92 euro-cent/min and median charge is 1.98 euro-cent/min. Price comparison of fixed call termination can be found at FICORA's WebPages at: http://www.ficora.fi/en/index/tutkimukset/tutkimukset/tukkuhintavertailut.html
Sources for Switzerland: Telecom operators

Figure 88 shows that the double transit charge in Switzerland (1.15 Euros-cents), as in previous years, was above the weighted EU average in 2007 (+2.7%), but the gap is becoming smaller.

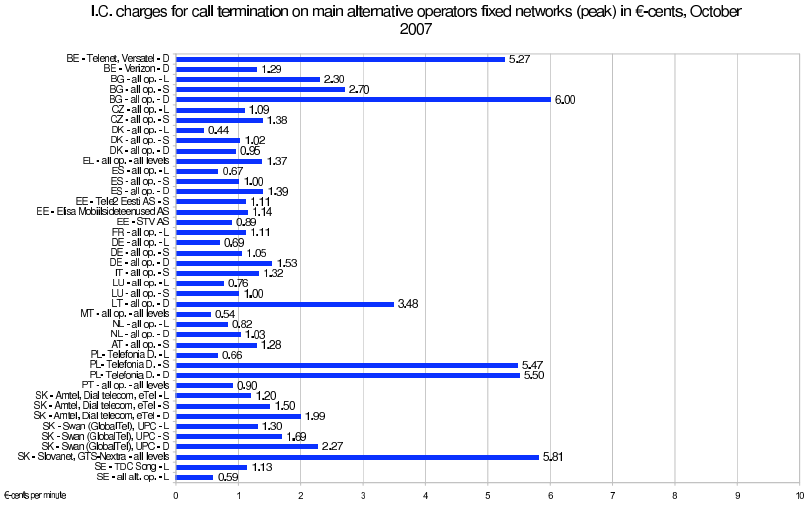
Figure 88



Bulgaria: Mobile-to-fixed local termination rate: According to the interconnect conditions provided in the RIO of the Bulgarian incumbent operator, mobile-to-fixed interconnection is realized only at double transit level the rates are different from those for fixed-to-fixed interconnection (5.11 euro-cents per minute)
Czech Republic: Double transit not used
Estonia: Data is not available
Luxembourg: a 'double transit' isn't foreseen in Luxembourg
Lithuania: Only local and national level IC. National IC includes single and double transit
Netherlands: These charges are one operator rates for national calls
Sources for Switzerland: Telecom operators

2.7 Call termination on alternative operators fixed network

Figure 89



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
Switzerland: data not available

Chapter 3

Broadband access and pricing

3.1 Broadband access definitions

This section provides data on the number and type of fixed broadband lines supplied by both incumbent operators and new entrants in the EU and in Switzerland. It also contains information on access lines provided by means of alternative technologies such as wireless access (WLL), fibre and cable modems.

Information has been provided by the national regulatory authorities through the ONP COM02-18 and COCOM07-35 REV1 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 2008.

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.
- The figures relating to Switzerland include ADSL and cable modem connections only. The other means of accessing the internet have not been considered, due to the lack of information in our possession. However, the quantitative importance of these other types of access represents a negligible proportion of the overall broadband market.
- 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).
- 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.

As can be seen from the table at the end of this section, data are not always available, especially as regards wholesale lines. Occasionally, older data than January 2008 is used. The table below shows the number of agreements between operators for LLU, shared access, bitstream and resale as at 1 January 2006, 2007 and 2008.

Table 3 *Number of agreements for full ULL, shared access, bitstream access and resale, 2005-2007*

	N. of agreements on fully unbundled lines			N. of agreements on shared lines			N. of agreements on bitstream access			N. agreements on resale lines		
	JAN 06	JAN 07	JAN 08	JAN 06	JAN 07	JAN 08	JAN 06	JAN 07	JAN 08	JAN 06	JAN 07	JAN 08
BE	8	9	9	8	9	9	11	13	13	18	18	18
BG			3		3	3			1		3	2
CZ	4	6	6	4	6	6		22	21	19		
DK	21	21	25	7	8	8	11	14	18	11	11	14
DE	100	103	109	18	18	20	3				27	31
EE		7	7									
EL	12	14	19	2	7	7	10	15	16			
ES	13	17	21	10	13	13	30	25	23		2	2
FR	21			21			5			20		
IE	3	5	7	4	5	7	9	11	14			
IT	25	27	31	6	9	13	239	248	162			
CY		2	3		2	3						
LV	2	2	2	2	2	2	11	11	10			
LT		1	2				12	9	10			
LU	4	4	5	4	4	5			7	6	7	7
HU	6	7	9	4	7	9	20	20	25			
MT									11	19	11	
NL	10	10	9	10	10	9	5	5	5			
AT	29	36	37	29	3	3			46			
PL			8			8		6	19			
PT	3	5	5	2	1	1	8	7	8			
RO		17	17		17	17						
SI	3	3	3		3	3	12	12	6		4	3
SK											12	16
FI												
SE	131			131			26					
UK	53	55	57	29	31	33	24	30	38	619	582	541
EU	448	351	394	291	158	179	436	448	453	712	677	634
CH	0	0	9[a]	0	0	0	0	0	0	30	32[b]	35[c]

[a] As of February 2008
[b] As of May 2007
[c] As of March 2008
Source for Switzerland: www.providerliste.ch

This table shows the distribution of wholesale access lines supplied by the incumbent operators to new entrants. A solid increase has been registered during 2007 in the number of wholesale unbundled local loops (fully unbundled lines and shared access lines). The growth of wholesale LLU lines, representing 12.8% of the activated PSTN lines in the EU, was 47.7%, from 15.9 million in January 2007 to nearly 23.5 million in January 2008. This increase comprises nearly 5.9 million newly added fully unbundled lines and 1.7 million newly added shared access lines. The number of shared access lines increased from 5 million to 6.7 million lines, while fully unbundled lines went up from 10.9 million to a remarkable 16.8 million. Bitstream had more moderate growth. Nearly 0.6 million new lines have been added during 2007.

In addition to the incumbents' wholesale products, a number of alternative operators are also providing their own wholesale DSL lines to other competitors. However, these data remain largely unavailable and have not been presented below.

Following the revision of the Telecommunications Act which entered into force on 1 April 2007, the dominant operator is now obliged to provide several types of access service, including fully unbundled access to the local loop for an undefined period and high-speed bitstream access for a period limited to four years. On the other hand, shared access to the local loop is not provided for in the Act.

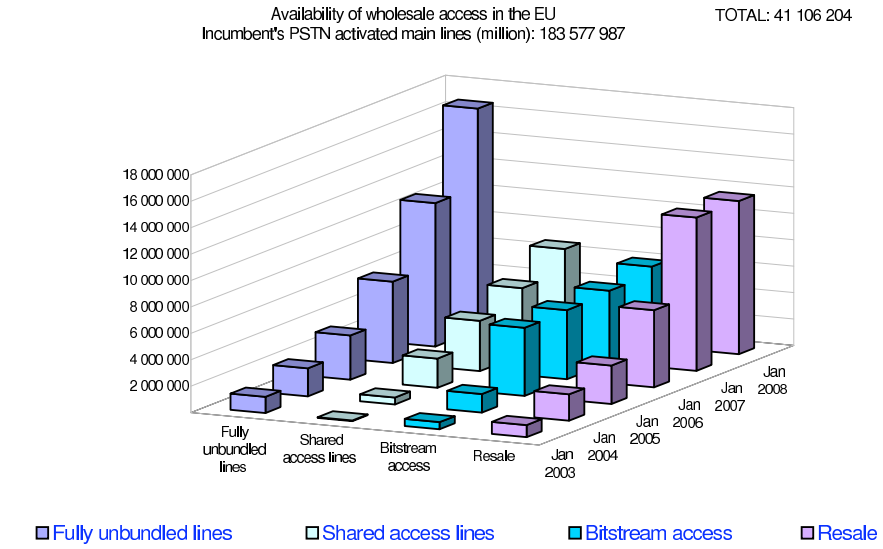
Though the first steps towards unbundling of the local loop in Switzerland have been modest, they are quite encouraging. In fact, in January 2008, Swisscom had already signed nine contracts with alternative operators, an entirely satisfactory figure in comparison with other countries, as it puts Switzerland on the same footing as Belgium, the Netherlands and Hungary. However, at that time the number of lines actually unbundled, i.e. approximately 700, can be considered as negligible. Nevertheless, it is expected to grow at a steady pace as local exchanges are equipped to allow co-location of equipment and as the alternative operators agree to make the necessary investment.

However, the situation is different with regard to high-speed access. In fact, since Swisscom considered that it did not occupy a dominant position in the wholesale high-speed market, it refused to provide a

basic offer for this type of access. Following a study by the Competition Commission which concluded that Swisscom was dominant in the market in question, on 22 November 2007 the Communications Commission (ComCom) obliged the historic operator to offer high-speed access to other telecommunications service providers at cost-based prices. Swisscom lodged an appeal against this decision with the Federal Administrative Court and the matter is currently in hand.

The “resale” category includes a high-speed connection service freely marketed by Swisscom for several years in the wholesale market at prices which the company itself defines. In December 2007, there were 438,000 units under this heading, i.e. 6000 more than in the previous year. In comparison with other countries, reselling plays an important role in Switzerland. This situation is explained by the fact that since the alternative operators do not want to construct an access network, they were forced to use this sole solution in order to be able to market high-speed services.

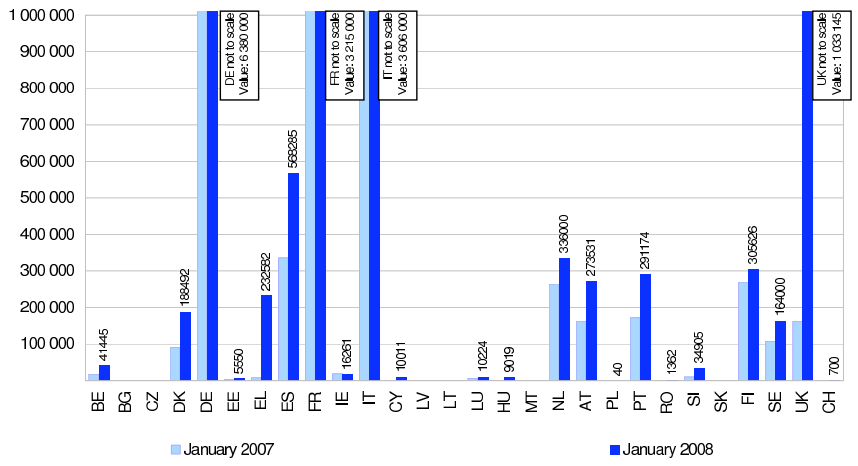
Figure 91



Sources for Switzerland: Telecom operators

Figure 92

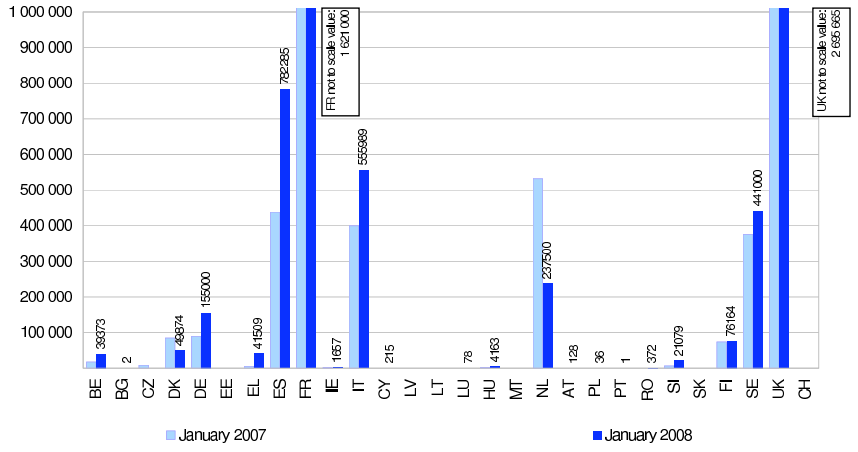
EU and CH wholesale fully unbundled lines lines by Member State



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007. Data for the Czech Republic are confidential
Sources for Switzerland: Telecom operators

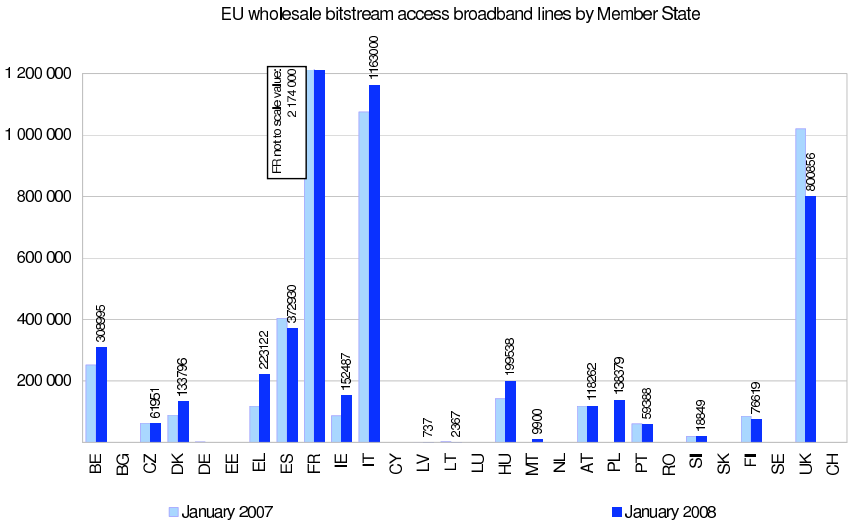
Figure 93

EU and CH wholesale shared access broadband lines by Member State



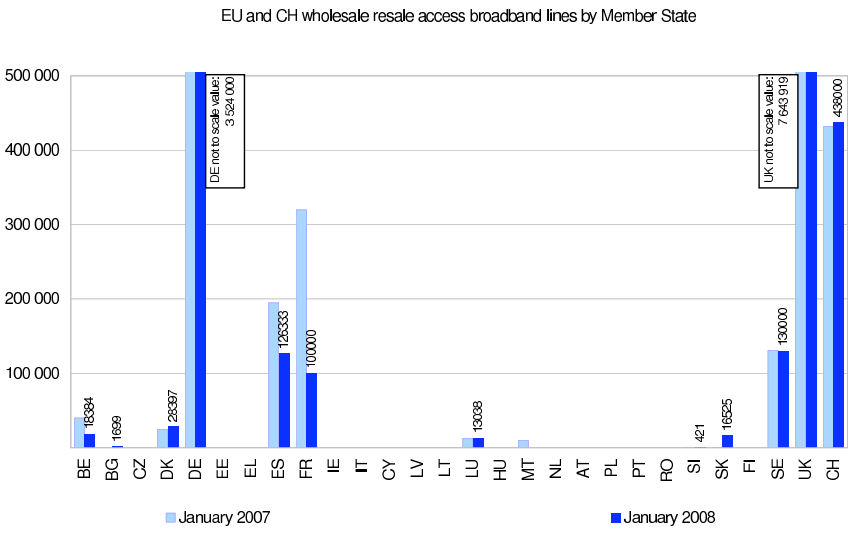
Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007. Data for the Czech Republic are confidential

Figure 94



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

Figure 95



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators. Only DSL and cable modem services are taken into account

3.3 Retail 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.

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

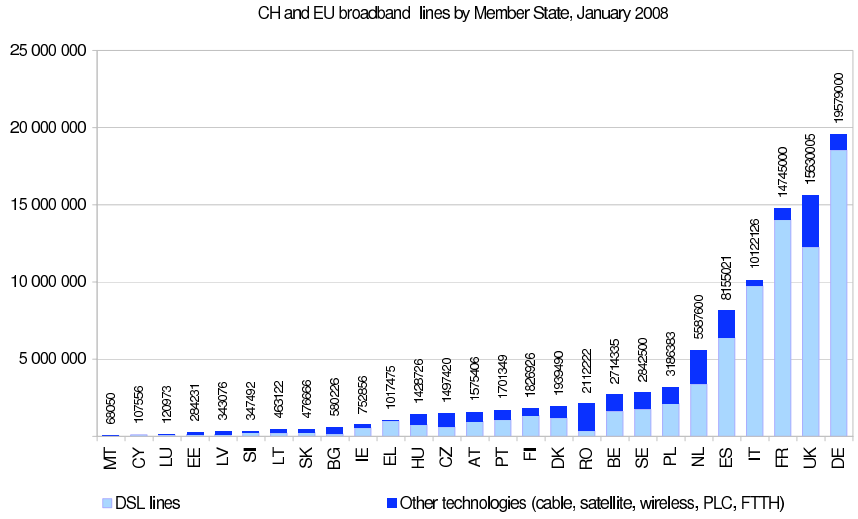
New entrants' DSL lines can be provided to end users by means of fully unbundled or shared access lines, bitstream access or resale. In some Member States, new entrants have started rolling out parallel DSL networks.

In all the charts below on fixed broadband retail lines the data refer to 1 January 2007 and 1 January 2008. In some cases only estimates are available or data is from October 2007. The charts below only include fixed broadband lines.

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

In January 2007, Switzerland had 2,312,000 broadband lines (active customers). Note that 1,602,000 customers were connected using DSL technology and 710,000 by cable modem. In absolute terms, the Swiss market is relatively small in size, especially compared to countries such as Italy, France, the United Kingdom or Germany with over 10 million high-speed lines each.

Figure 96

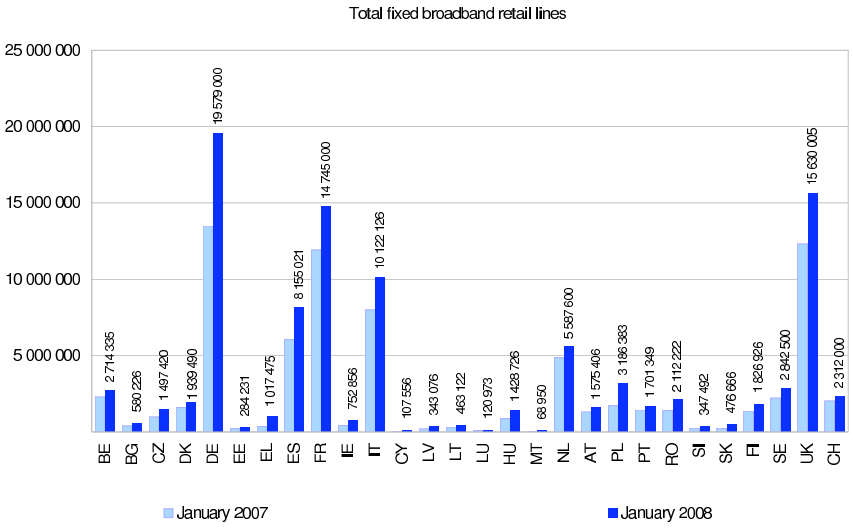


Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

The following chart presents the number of broadband lines per Member State and for Switzerland in January 2007 and January 2008.

Figure 97 clearly shows that the number of high-speed lines increased from 2,028,000 in January 2007 to 2,312,000 in January 2008, representing a 14.01% increase. All the European Union member countries exhibit a positive trend, though to very different extents.

Figure 97



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

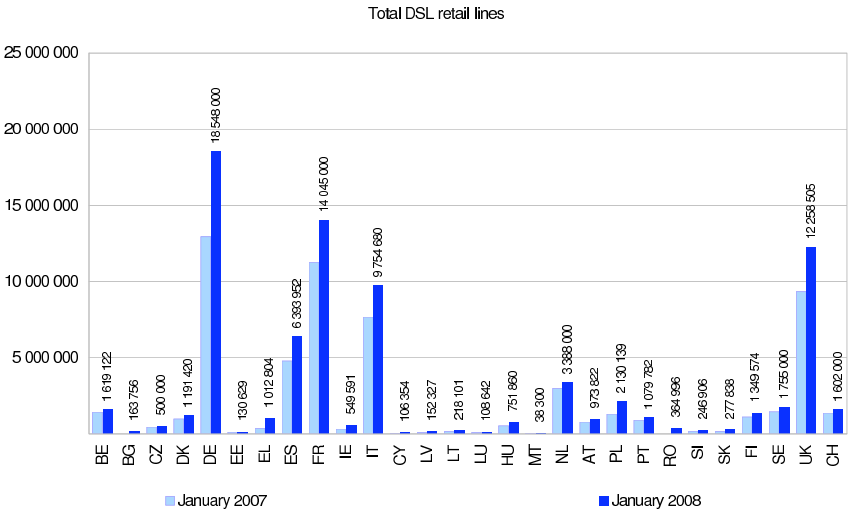
The following two charts show the breakdown of broadband lines according to the two main types of technologies. Figure 98 shows the number of DSL lines. Amongst the technologies other than DSL (Figure 99), cable modem is the most common technology. Other technologies are still marginal, though some (fibre to the home and WLL) are quickly developing.

Figures 98 and 99 show that growth in broadband connections in Switzerland was as follows:

- + 17.11% for DSL broadband connections (Figure 98);
- + 7.58% for cable modem broadband connections (Figure 99).

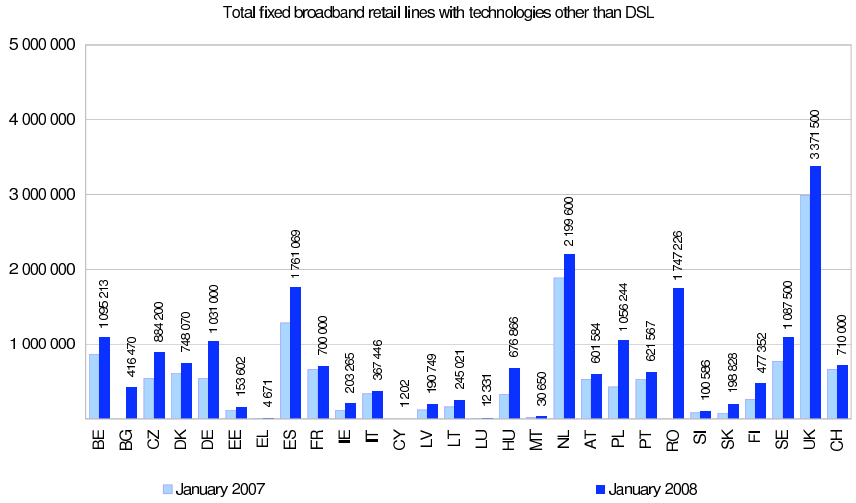
For several years now, DSL connections have been enjoying greater success than cable modem connections. Consequently, DSL technology continues to gain ground.

Figure 98



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators

Figure 99

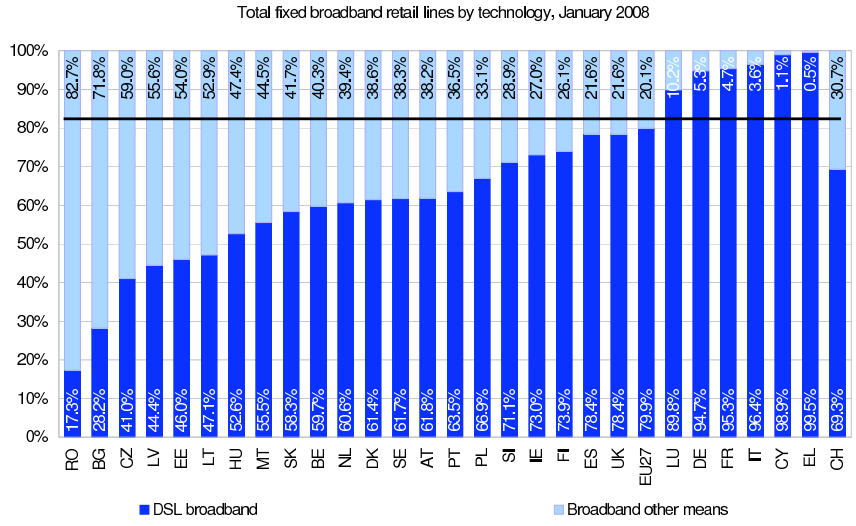


Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only cable modem services are taken into account

The following charts provide information on the national broadband markets according to the technology used and the type of operator. Figure 100 shows that DSL is the predominant technology in the EU. On average, 79.9% of the EU broadband lines use DSL technologies, while in six countries DSL lines represent less than 50% of the overall market.

With a market share of 69.3%, the dominant broadband access technology in Switzerland is DSL. From a relatively equal split between cable modem and DSL in July 2003, growth in the broadband market has seen a constant change in the market share, with growth rates and customer base lower for cable modem. Broader coverage and advertising campaigns launched by the many resellers of the Swisscom wholesale product largely explain this trend.

Figure 100

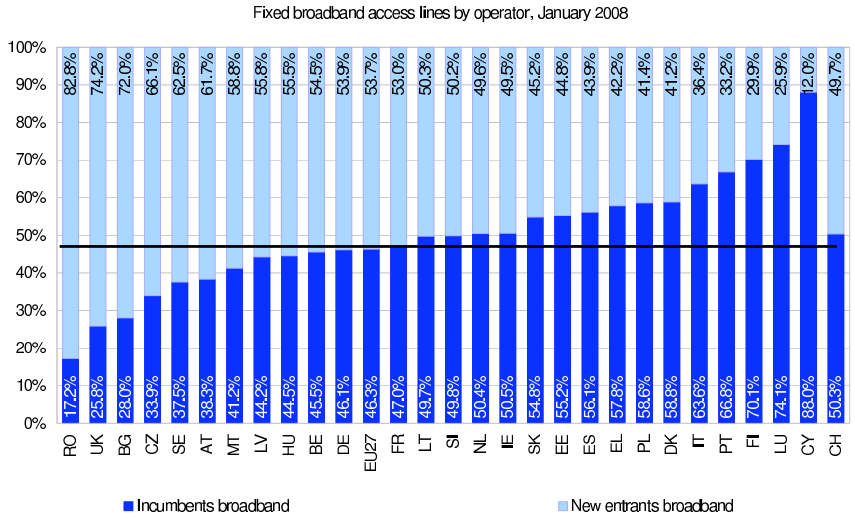


Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

With regard to the market share of fixed incumbent operators and new entrants, the following chart indicates that, on average, incumbent operators control 46.3% of broadband lines, which is a half percentage point less than in January 2007.

The historic operator's subsidiary has 50.3% of the market for high-speed lines on fixed networks, putting Switzerland 4 points above the European average (46.3%). Contrary to what has been observed in the Union countries, the historic operator's subsidiary has managed to win back some ground since October 2006, when this rate was 45%.

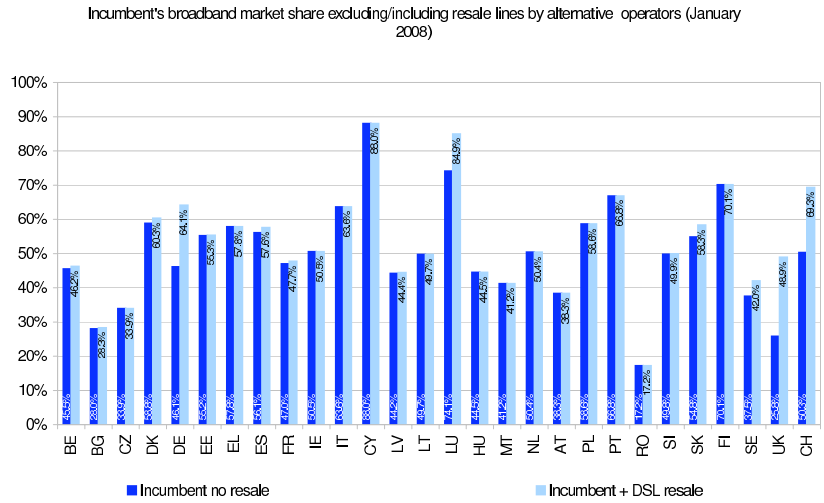
Figure 101



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

However, differences in the incumbents' market share depending on whether DSL resale lines are included or not are considerable. In Germany, Luxemburg, United Kingdom and Switzerland these differences are more than 10%, and up to 23%.

Figure 102

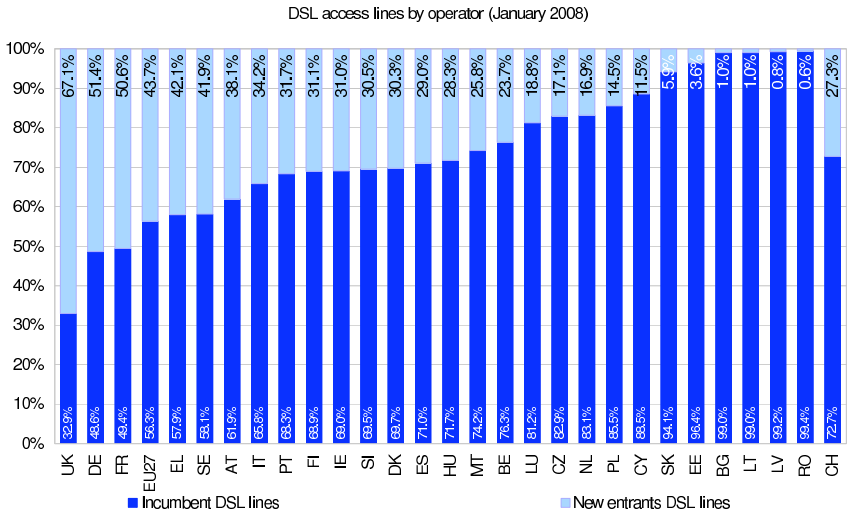


Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations

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 11 Member States the incumbent operators sell more than 80% of all DSL retail lines.

In January 2008, the retail subsidiary of the historic operator in Switzerland had a market share of 72.7%, the other 27.3% of the connections were held by competing operators. In the international comparison, as a result of the constant growth of the incumbent's market share (59% in July 2004, 64% in October 2005 and 68% in October 2006), Switzerland has lost its balanced position in terms of market share.

Figure 103



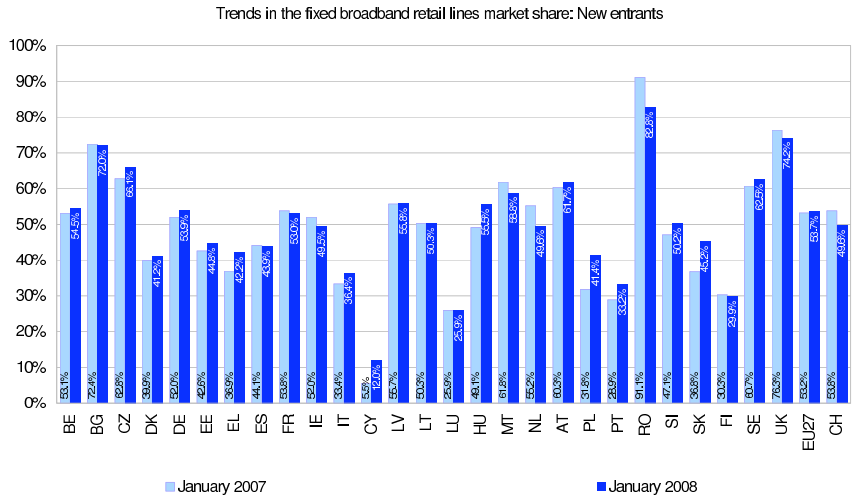
Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations

The next series of charts provide further information on the trends observed in Europe in the three segments analysed previously. As can be seen in Figure 104, new entrants are steadily increasing their presence in the overall fixed broadband market, with an average 53.7% market share against 53.2%

a year ago. However, this trend is not uniform and in nine countries, Bulgaria, Spain, France, Ireland, Malta, the Netherlands, Romania, Finland, the United Kingdom and in Switzerland the fixed incumbent operator has increased its market share.

In Switzerland, this situation is explained by the substantial growth in absolute terms of the number of broadband DSL connections (greater than the growth in cable modems). More than half of the connections are held by the subsidiary of the historic operator.

Figure 104

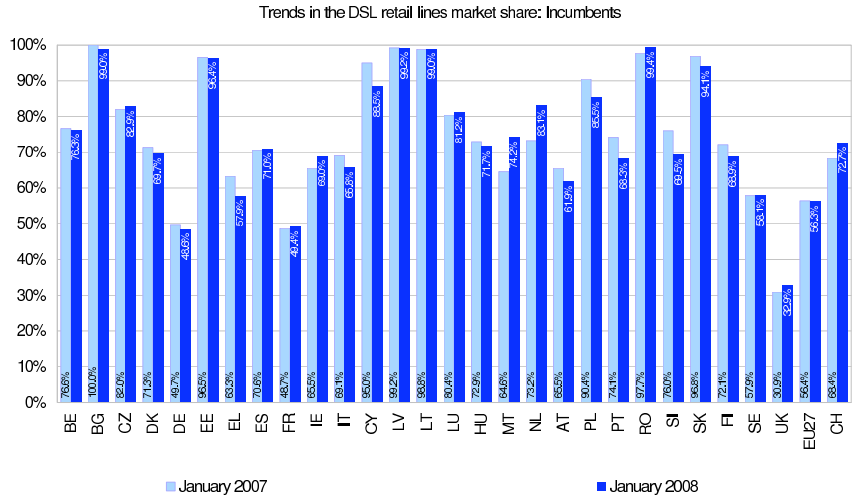


Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

With regard to the trend in the number of DSL lines sold by incumbent operators in the same period, there has been, on EU average, almost no change in the period January 2007–January 2008.

Between the two observed periods, the subsidiary of the Swiss historic operator gained 4.3 points of market share in the DSL access segment. This upward trend puts it in the minority of the European Union countries in which the historic operator or its subsidiary has managed to reverse the trend and consolidate its situation.

Figure 105

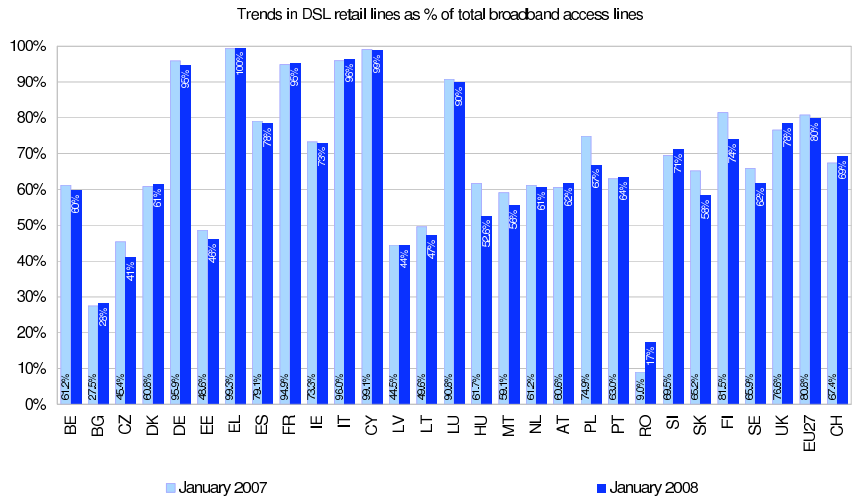


Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations

The number of DSL lines has decreased in the overall fixed broadband retail market, representing 79.9% of all broadband lines against 80.8% in January 2007. However, in a number of countries, Bulgaria, Denmark, Greece, France, Italy, Austria, Portugal, Romania, Slovenia and the United Kingdom, the share of DSL has increased.

In Switzerland too, one can observe a slight increase in the proportion of the number of DSL connections compared with the total number of activated broadband connections. This is not surprising since in Switzerland the growth enjoyed by DSL in absolute terms is higher than that of cable modems. In the observed period the DSL market share increased from 67.4% to 69.3%, though Switzerland is still 10.6 points below the European average.

Figure 106



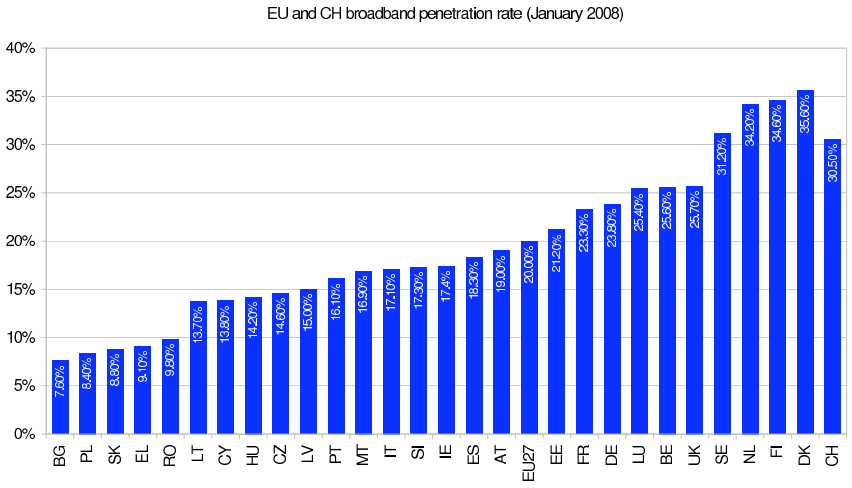
Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

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 7.6% in Bulgaria to 35.6% in Denmark.

In January 2008, the broadband access penetration rate in Switzerland was one of the highest in Europe (30.5%). Only Sweden, the Netherlands, Finland and Denmark had higher rates.

Figure 107



Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line, optical fibre, PLC, satellite, WLL, etc. services are not included. Only DSL and cable modem services are taken into account

Table 4

Availability of wholesale access January 2008											
Country	Incumbent's PSTN activated main lines	Fully unbundled lines supplied by the incumbent to new entrants			Shared access lines supplied by the incumbent to new entrants			Wholesale DSL lines supplied			
		Unbundled lines	Requested lines	N. of agreements	Shared lines	Requested lines	N. of agreements	Bitstream access		Simple resale	
								No. of lines	No. of agreements	Resale No. of lines	No. of agreements
BE	4010973	41445		9	39373		9	308995	13	18384	18
BG	2322050			3	2	10	3		1	1699	2
CZ	2104955	confidential		6	confidential		6	61951	21		
DK	2689264	188492		25	49874		8	133796	18	28397	14
DE	37435000	6380000		109	155000		20			3524000	31
EE	466000	5550	490	7							
EL	5095282	232582	31066	19	41509	4466	7	223122	16		
ES	15852222	568285	31973	21	782285	23054	13	372930	23	126333	2
FR	34229000	3215000			1621000			2174000		100000	
IE	1600000	16261		7	1657		7	152487	14		
IT	19384799	3606000	55841	31	555989	1761	13	1163000	162		
CY	398095	10011		3	215		3				
LV	600000			2			2	737	10		
LT	718091		382	2				2367	10		
LU	223949	10224		5	78		5		7	13038	7
HU	3010000	9019	378	9	4163	65	9	199538	25		
MT	196000							9900	11		
NL	5533000	336000		9	237500		9	confidential	5		
AT	2675520	273531	6516	37	128		3	118262	46		
PL	7983365	40	59	8	36	51	8	138379	19		
PT	2957111	291174	3718	5	1		1	59388	8		
RO	3100000	1362		17	372		17				
SI	789893	34905	1193	3	21079	428	3	18849	6	421	3
SK	1170790									16525	16
FI	2045000	305626			76164			76619			
SE	4815000	164000			441000					130000	
UK	22172628	1033145		57	2695665		33	800856	38	7643919	541
EU27	183577987	16722652+CZ	131616	394	6723090+CZ	29835	179	6015176	453	11602716	634
CH	3696000	700		9						438000	35

Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Source for Switzerland: OFCOM Switzerland

Table 5

Broadband retail lines, January 2008																						
		New entrants' DSL lines on PSTN						Incumbents' access lines by other means								New entrants' access lines by other means							
	Incumbent's DSL lines	Own network	Full ULL	Shared access	Bitstream access	Resale	Total	WLL	Cable modem	Leased lines	FTTH	Sat	PLC	Other	Total	WLL	Cable modem	Leased lines	FTTH	Sat	PLC	Other	Total
BE	1235545		38449	19068	307676	18384	383577								0	14313	1071107	9737	56				1095213
BG	162101					1655	1655			589				2	591	1784	91719	461	2319	3		319593	415879
CZ	508199	500	confidential	confidential	61951		62451						100		100	520000	309000		55000		100		884100
DK	830406		171774	59407	101463	28370	361014	46	295731	6569				7914	310260	22649	242729	3070	71412	7	96	97847	437810
DE	9019000	100000	5750000	155000		3524000	9529000					2500			2500		985000			34000	9500		1028500
EE	125889	1712	2988			40	4740	5131			25558			422	31111	16214	65969		22712			17596	122491
EL	586308		161865	41509	223122		426496			1355		350			1705	1231		1141	594				2966
ES	4540741		568285	785663	372930	126333	1853211				22763	9753			32516	51907	1633489	36189	5294	747		927	1728553
FR	6935000		3215000	1621000	2174000	100000	7110000								0		700000						700000
IE	379189		16261	1657	152484		170402	295				386			681	112718	82333		3967	3566			202584
IT	6420000	626	1751327	417000	1163010	2717	3334680			329	335	13873		219	14756	1980		8455	267249	75003	3		352690
CY	94163	10019	1957	215			12191			273	125	11		39	448		718			36			754
LV	151076		512	14	57	668	1251	161			32			264	457	16798	38090	15672	8742	510		110480	190292
LT	215935				2166		2166	8885		79	442			4727	14133	29877	63241	1595	83123	170		52882	230888
LU	88225	21	7280	78		13038	20417		808	356	224				1388	140	10723	10	70				10943
HU	539140		9019	4163	199538		212720	16218	79923	1215					97356	80899	494784	2827	1000				579510
MT	28400				9900		9900								0	confidential	29700						29700
NL	2815000		336000	237000			573000								0		2134600		65000				2199600
AT	602945		252487	128	118262		370877								0	40193	549982	2000	3411	400	5598		601584
PL	1820443	200224	7		109465		309696		40225					5637	45862	22768	895658	2953	1458			87545	1010382
PT	737162		283231	1	59388		342620		398402	1191					399593	12012	207485	2477					221974
RO	362628	1333	1035				2368			686	134				820	31291	471744		89595	370		1153406	1746406
SI	171652		34905	21079	18849	421	75254				1451				1451	231	87440		10982	7		475	99135
SK	261313					16525	16525								0	73834	50510		48250	4		26230	198828
FI	929262		229220	114473	76619		420312	9356	111609					230000	350965	5888	98016				1185	21298	126387
SE	1020000		164000	441000		130000	735000			5000	40000				45000	6000	550000	11000	475000	500			1042500
UK	4030016	84920	1033145	2695665	800856	3613903	8228489								0	2500	3363000			6000			3371500
EU27	44609738	399355	14028747+CZ	6614120+CZ	5951736	7576054	34570012+CZ	40092	926698	17642	91064	26873	100	249224	1351693	1065227+MT	14227037	97587	1215234	121323	16482	1888279	18631169+MT
CH	1164000		700			438000	4387000								0		710000						710000

Data for Estonia, France, Lithuania, the Netherlands and Austria as of October 2007
Sources for Switzerland: OFCOM Switzerland, Telecom operators

3.4 Price 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.

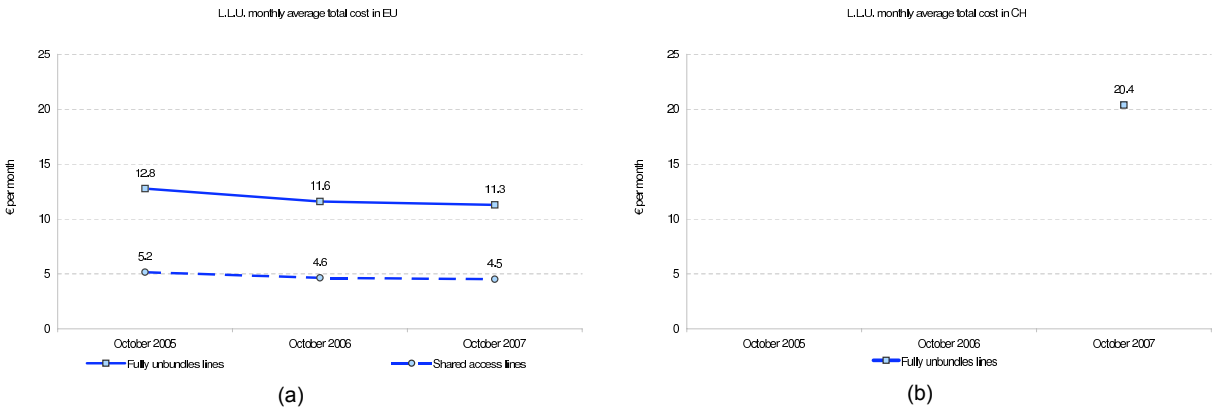
Data is not always comparable with that of the previous reports, due to changes in methodology occured in some countries.

3.4.1 Monthly average total cost

The following charts illustrate the monthly total cost for the full LLU 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.

In October 2007, the average monthly cost of an unbundled line was 20.40 Euros, placing Switzerland well above the European average (11.28 Euros). Since unbundling of the local loop only entered into force on 1 April of the same year, it is impossible to measure developments over the past three years. However, as has happened in the European Union countries, there is strong pressure on the cost of unbundling, which has already resulted in a considerable reduction to which Swisscom agreed of its own accord in March 2008. Moreover, several operators have requested the Communications Commission (ComCom) to take a decision on the prices charged for unbundling. At present, the authorities are looking into the matter and in particular are verifying whether the prices are in fact cost-based.

Figure 108

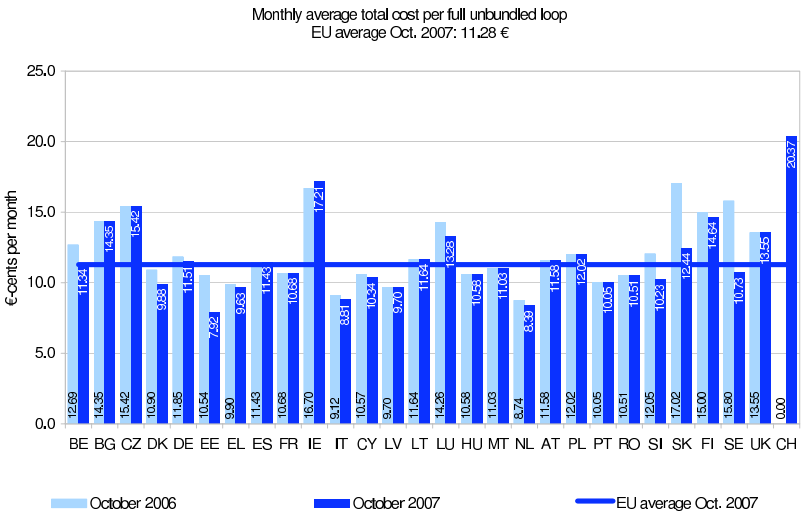


Figures for 2005 do not include Bulgaria and Romania
Sources for Switzerland: Telecom operators

At an average cost of 20.40 Euros per month, Switzerland is clearly the most expensive country in terms of unbundling. In the European Union countries, this cost varies between 7.92 Euros (Estonia) and 17.21

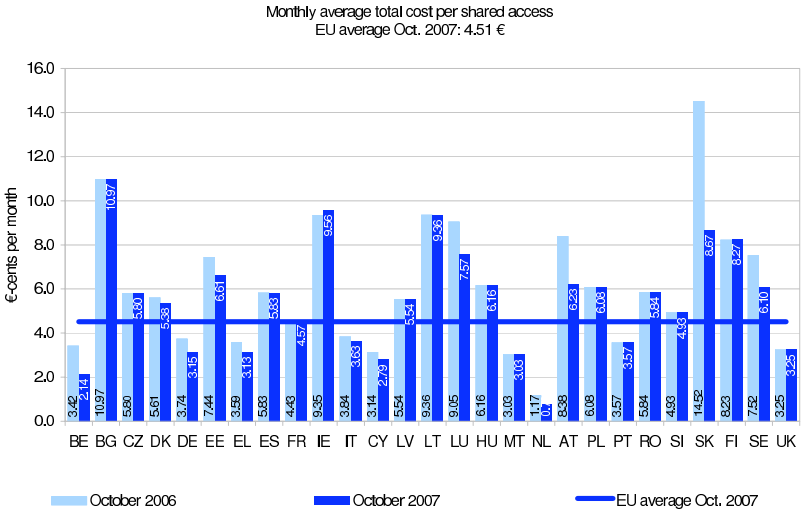
Euros (Ireland).

Figure 109



Sources for Switzerland: Telecom operators

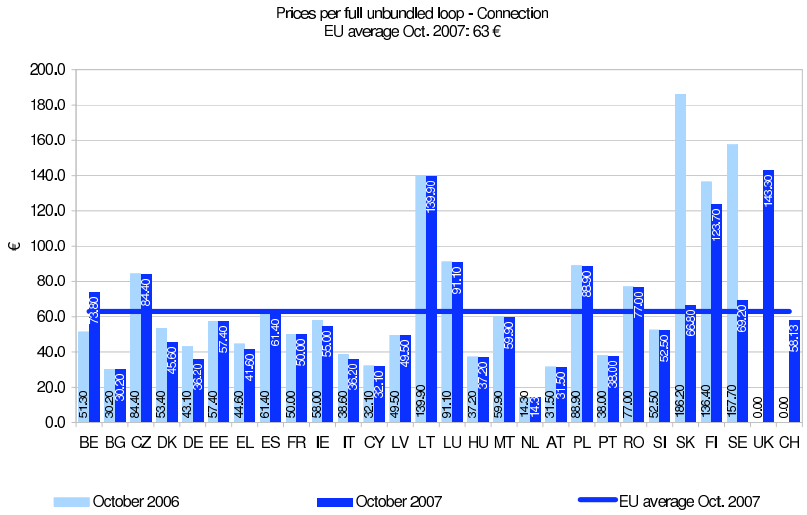
Figure 110



3.4.2 Connection and monthly rental for full unbundled local loop

The one-off price which alternative operators had to pay to Swisscom for transferring the line (an active line) was 58.1 Euros in October 2007. i.e. 4.9 Euros below the average in the European Union. Among Switzerland's neighbours, this price varied between 14.0 Euros (Netherlands) and 143.3 Euros (United Kingdom).

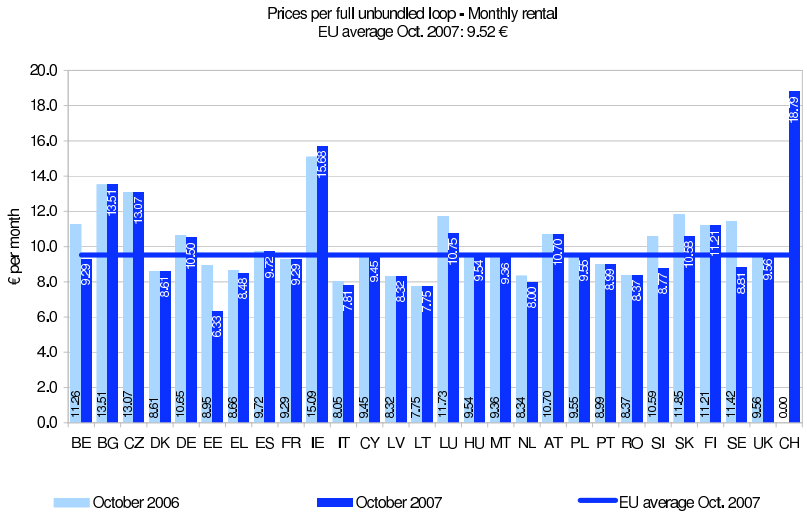
Figure 111



Belgium: The tariff includes the visit at the customer's premises. A tariff without this cost (Euro 25.44) is not available in practice
Bulgaria: The cost of the test to assess the speed is not included. This price is not in compliance with the NRA's decision of July 2006 (Euro 31.70)
Denmark: Price applied from 30 June to 1 October 2007
Germany: Price without installation at the customer's premise, fee for cancellation between 5.21 Euros and 20.93 Euros
Malta: Disconnection cost: Lm 14.40
Portugal: The test for assess the speed is not requested
Sources for Switzerland: Telecom operators

In October 2007 the monthly price for leasing an unbundled line in Switzerland was 18.79 Euros, or nearly double the European average. At that time the price in the European Union countries was between 6.33 Euros (Estonia) and 15.68 Euros (Ireland).

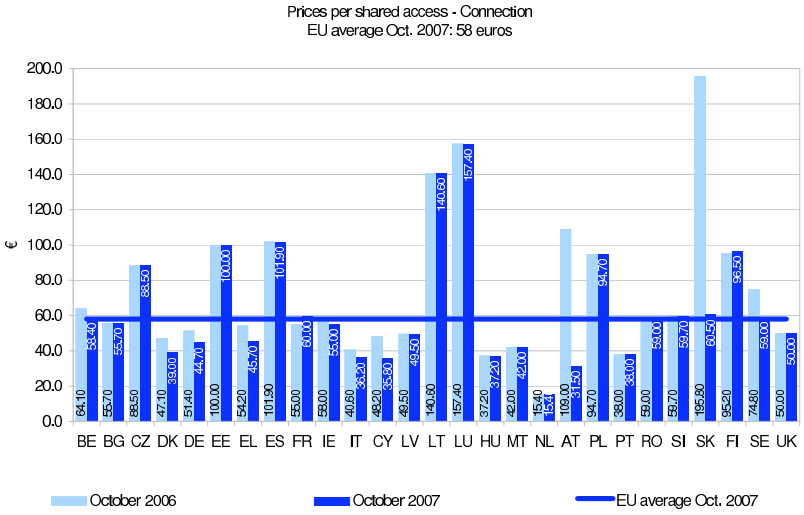
Figure 112



Bulgaria: Prices are according to agreements currently in place. This price is not in compliance with the NRA's decision of July 2006 (Euro 10.19)
Denmark: The data reported as valid from the 1st of October 2007 are from 30th of June 2007
Malta: Co-location costs are excluded
Poland: The cost of disconnection fees is calculated according to the individual cost estimate
Sources for Switzerland: Telecom operators

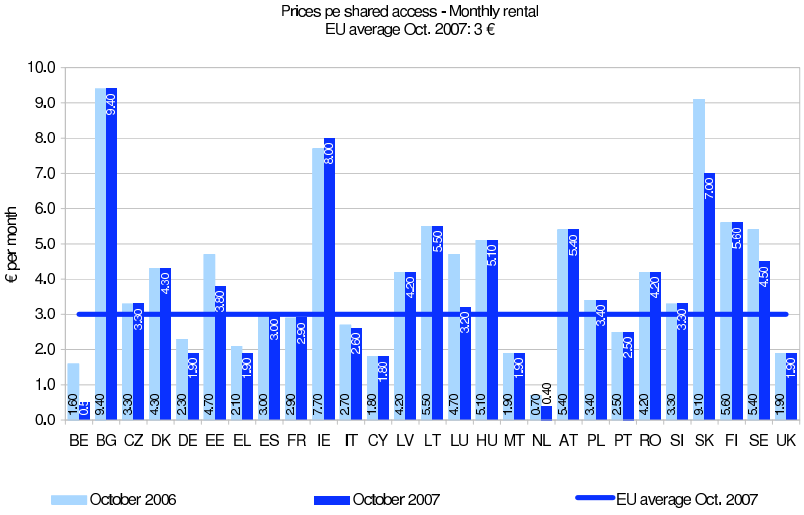
3.4.3 Connection fees and monthly rental for shared access

Figure 113



Belgium: This cost includes a deactivation cost of 23.12 Euros
Bulgaria: The cost of the test to assess the speed is not included
Denmark: The data reported as valid from the 1st of October 2007 are from 30th of June 2007
Hungary: Cost of co-location excluded
Malta: The splitter must be provided by the alternative operator
Portugal: The splitter is not provided by the incumbent. The test for assess the speed is not requested
Poland: The cost for the splitter is calculated according to the individual cost estimate

Figure 114



Bulgaria: Prices applied to the agreements currently in place. This price is not in compliance with the NRA's decision of July 2006 (Euro 4.57)
Denmark: The data reported as valid from the 1st of October 2007 are from 30th of June 2007
Portugal: The splitter is not provided by the incumbent

Chapter 4

Exchange rates and population

4.1 Exchange rates used (except retail tariffs)

	Euro
Belgium	1.0000
Bulgaria	1.9558
Czech Republic	27.5380
Denmark	7.4549
Germany	1.0000
Estonia	15.6466
Greece	1.0000
Spain	1.0000
France	1.0000
Ireland	1.0000
Italy	1.0000
Cyprus	0.5842
Latvia	0.7040
Lithuania	3.4528
Luxembourg	1.0000
Hungary	251.4200
Malta	0.4293
Netherlands	1.0000
Austria	1.0000
Poland	3.7700
Portugal	1.0000
Romania	3.3565
Slovenia	239.6400
Slovakia	33.9230
Finland	1.0000
Sweden	9.1940
UK	0.6974
Switzerland	1.6497

Exchange rate as of 1st October 07 (www.ecb.eu), Slovenia joined the Euro the 1st of January 2007
Source for Switzerland: Teligen of 1.08.2007

4.2 Exchange rates used for retail tariffs

	Euro
Belgium	1.0000
Bulgaria	0.50695
Czech Republic	0.03600
Denmark	0.13434
Germany	1.0000
Estonia	0.06390
Greece	1.0000
Spain	1.0000
France	1.0000
Ireland	1.0000
Italy	1.0000
Cyprus	1.70853
Latvia	1.40825
Lithuania	0.28962
Luxembourg	1.0000
Hungary	0.00387
Malta	2.30097
Netherlands	1.0000
Austria	1.0000
Poland	0.25950
Portugal	1.0000
Romania	0.30358
Slovenia	1.0000
Slovakia	0.02959
Finland	1.0000
Sweden	0.10674
UK	1.47189
Japan	0.00628
USA	0.73099
Switzerland	0.606189

Exchange rate on the mobile tariff - section 4, public voice telephony tariffs - section 9 and leased line tariffs - section 10.
Source for Switzerland: Teligen of 1.08.2007

4.3 Population

	2006	2007
BE	10 511 400	10 511 382
BG		7 679 290
CZ	10 251 100	10 287 189
DK	5 427 500	5 447 084
DE	82 455 800	82 310 995
EE	1 344 700	1 342 409
EL	11 122 900	11 170 957
ES	43 758 300	44 474 631
FR	62 886 200	63 392 140
IE	4 209 000	4 209 019
IT	58 751 700	59 131 287
CY	766 400	778 537
LV	2 294 600	2 281 305
LT	3 403 300	3 384 879
LU	459 500	459 500
HU	10 076 600	10 064 000
MT	404 400	406 020
NL	16 335 500	16 357 992
AT	8 265 900	8 298 923
PL	38 157 100	38 125 479
PT	10 569 600	10 599 095
RO		21 565 119
SI	2 003 400	2 010 377
SK	5 389 200	5 393 637
FI	5 255 600	5 276 955
SE	9 047 800	9 113 257
UK	60 416 200	60 798 438
EU	463 563 700[a]	494 869 896
CH	7 508 700	7 591 400

[a] Population of Bulgaria and Romania is not taken into account for 2006 purposes, as the official date of their adhesion to EU was 1 January 2007).

Source: Eurostat web site as of 1.10.2007
Source for Switzerland: Swiss Federal Statistical Office

4.4 Population broadband data (section 6)

	2006 Broadband data	2007 Broadband data
BE	10 511 400	10 584 534
BG	7 718 750	7 679 290
CZ	10 251 100	10 287 189
DK	5 427 500	5 447 084
DE	82 455 800	82 314 906
EE	1 344 700	1 342 409
EL	11 122 900	11 171 740
ES	43 758 300	44 474 631
FR	62 886 200	63 392 140
IE	4 209 000	4 314 634
IT	58 751 700	59 131 287
CY	766 400	778 684
LV	2 294 600	2 281 305
LT	3 403 300	3 384 879
LU	459 500	476 187
HU	10 076 600	10 066 158
MT	404 400	407 810
NL	16 335 500	16 357 992
AT	8 265 900	8 298 923
PL	38 157 100	38 125 479
PT	10 569 600	10 599 095
RO	21 610 213	21 565 119
SI	2 003 400	2 010 377
SK	5 389 200	5 393 637
FI	5 255 600	5 276 955
SE	9 047 800	9 113 257
UK	60 416 200	60 852 828
EU	492 892 663	495 128 529
CH	7 508 700	7 591 400

Source: Eurostat web site as of 1.10.2007
Source for Switzerland: Swiss Federal Statistical Office

Chapter 5

OECD telecommunications basket definitions

5.1 Composite national – international basket

1. 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.
2. Business basket results exclude VAT. Residential basket results include VAT.
3. 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

4. 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

5. 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

6. 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.

7. 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	75-490 Km	3-12 Km	17-40 Km	75-490 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.

5.2 New OECD baskets for PSTN 2006

1. Number of calls per year

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

The SME basket shall also reflect 30 lines and users.

2. Distribution over time

Fixed calls distribution over time	WD 11.00	WD 15.00	WD 20.00	WD 3.00	SA 11.00	SU 15.00
Residential Low	30.2%	28.1%	23.6%	0.9%	8.2%	9.0%
Residential Medium	27.5%	28.0%	23.0%	2.0%	8.0%	11.5%
Residential High	30.0%	30.4%	20.0%	0.6%	8.5%	10.5%
Business SOHO	39.5%	39.3%	7.5%	3.6%	5.5%	4.6%
Business SME	40.2%	40.5%	6.5%	3.4%	4.7%	4.7%
Mobile calls distribution over time	WD 11.00	WD 15.00	WD 20.00	WD 3.00	SA 11.00	SU 15.00
Residential Low	28.6%	28.6%	20.5%	0.6%	10.1%	11.6%
Residential Medium	29.1%	30.5%	20.5%	0.7%	8.5%	10.7%
Residential High	30.0%	30.4%	20.0%	0.6%	8.5%	10.5%
Business SOHO	39.5%	39.5%	4.5%	0.3%	9.0%	7.2%
Business SME	44.0%	42.0%	1.2%	0.1%	6.3%	6.4%

3. Distribution over distance (km)

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

4. Call durations in minutes

Calls durations 3-22km	WD 11.00	WD 15.00	WD 20.00	WD 3.00	SA 11.00	SU 15.00
Residential Low	3.7	3.7	4.7	4.7	4.5	4.5
Residential Medium	3.7	3.7	4.7	4.7	4.5	4.5
Residential High	3.7	3.7	4.7	4.7	4.5	4.5
Business SOHO	1.9	1.9	2.1	2.1	2.3	2.3
Business SME	1.9	1.9	2.1	2.1	2.3	2.3
Calls durations >22km	WD 11.00	WD 15.00	WD 20.00	WD 3.00	SA 11.00	SU 15.00
Residential Low	4.4	4.4	7.0	7.0	6.6	6.6
Residential Medium	4.4	4.4	7.0	7.0	6.6	6.6
Residential High	4.4	4.4	7.0	7.0	6.6	6.6
Business SOHO	2.2	2.2	3.0	3.0	3.1	3.1
Business SME	2.2	2.2	3.0	3.0	3.1	3.1
Calls durations to mobile	WD 11.00	WD 15.00	WD 20.00	WD 3.00	SA 11.00	SU 15.00
Residential Low	1.8	1.8	2.1	2.1	1.9	1.9
Residential Medium	1.8	1.8	2.1	2.1	1.9	1.9
Residential High	1.8	1.8	2.1	2.1	1.9	1.9
Business SOHO	1.6	1.6	1.7	1.7	1.7	1.7
Business SME	1.6	1.6	1.7	1.7	1.7	1.7

5. International calls

	Distribution		Call duration (minutes)	
	Peak	Off-Peak	Peak	Off-Peak
Residential Low	33.0%	67.0%	5.5	7.2
Residential Medium	33.0%	67.0%	5.5	7.2
Residential High	33.0%	67.0%	5.5	7.2
Business SOHO	80.0%	20.0%	2.9	3.9
Business SME	80.0%	20.0%	2.9	3.9

5.3 International PSTN basket

1. 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.
2. Business basket results exclude VAT. Residential basket results include VAT.
3. 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.
4. Call cost is based on average per minute charge. Call setup charges and/or different charges for first and additional minutes are included.
5. 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.
6. Call charges are weighted between peak and off-peak:

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

7. 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

5.4 New OECD mobile baskets

1. 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.
2. 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 65 outgoing calls per month ;
   - High user basket. The usage level is about twice the Medium user basket.
3. 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.
4. 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

5. 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.

6. 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.

7. 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	15.0%	7.0%	48.0%	22.0%	8.0%
Medium user	14.0%	7.0%	48.0%	24.0%	7.0%
High user	13.0%	7.0%	47.0%	26.0%	7.0%

8. 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.

9. 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.

10. Distributions over time and day for each basket are:

% of total number of calls	ToD Peak	ToD Off-peak	ToD Weekend
Low user	48.0%	25.0%	27.0%
Medium user	50.0%	24.0%	26.0%
High user	60.0%	19.0%	21.0%

11. 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.

12. Call durations for each basket are:

Minutes per call	Duration Fixed National	Dur Mobile On-net	Dur Mobile Off-net	Dur 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

13. 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.

14. 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.

15. 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.

16. 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.

17. 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.

18. Basket results are calculated for a period of one year.