Schweizerische Eidgenossenschaft
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Department of the Environment,
Transport, Energy and Communications ETEC

Federal Office of Communications OFCOM
Telecom Services

Bienne, July 2010

The Swiss telecommunications market – an international comparison

Extract from the 15th European Union implementation report extended to include Switzerland (annex 2)

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

ANNEX 2
MARKET OVERVIEW

Methodological note

The main sources for the data presented in this Annex are National Regulatory Authorities (NRAs), exceptions are noted. A validation meeting with representatives from NRAs took place in November 2009. Furthermore, draft versions of the charts in this annex (excluding data on tariffs) were distributed to the NRAs before this report was finalised for their comments.

The source for the population figures is Eurostat.

The source for the exchange rates is the European Central Bank. Prices are in Euros. Purchase power parity methodology is not used for the specific objective of this Report.

In each Report figures from previous years are revised, therefore the figure for a certain date may diverge from previous Reports.

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Chapter 1

Financial indicators

1.1 Revenues and Investment of the Telecom Sector

Both retail and wholesale revenues are considered.

Table 1 *Revenues*

2008, €, in milions			
	Telecom sector	Fixed market	Mobile market
BE	9658	5626	4033
BG	1813	370	1139
CZ	5684	1890	3427
DK	5518	1950	2374
DE	62300	36800	25500
EE	723	305	418
EL	8167	3669	4498
ES	44186	13022	18756
FR	49112	25196	23916
IE	4319	2262	2057
IT	42989	20808	22181
CY	579	131	286
LV	747	132	285
LT	871	166	573
LU	506	251	255
HU	3982	2039	1943
MT	261	83	132
NL	13024	6365	6659
AT	5541	2103	3438
PL	15602	2615	6437
PT	7706	2761	3653
RO	4560	1788	2773
SI	1232	484	653
SK	2237	617	1431
FI	4262	1609	2027
SE	5971	1721	2132
UK	49719	2659	23129
TOTAL	351271	161353	164104
CH	10683	5211	4121

2007, €, in milions			
	Telecom sector	Fixed market	Mobile market
BE	9655	5467	4188
BG	1715	370	1047
CZ	5720	1851	3319
DK	5962	2002	2346
DE	63900	38100	25800
EE	741	294	446
EL	8440	3846	4594
ES	44214	12684	18909
FR	47732	24523	23209
IE	4353	2302	2051
IT	43931	21206	22725
CY	520	132	263
LV	726	132	295
LT	834	168	561
LU	493	242	251
HU	3828	1774	1984
MT	247	83	126
NL	12092	5894	6199
AT	5915	2253	3662
PL	14182	3024	6383
PT	7257	2846	3566
RO	3835	1612	2223
SI	1101	389	579
SK	1852	506	1195
FI	4476	1379	2247
SE	6154	2029	1751
UK	48727	25996	22731
TOTAL	348601	161103	162649
CH	10656	5346	4118

Growth			
Growth	Telecom sector	Fixed market	Mobile market
BE	0.03%	2.90%	-3.71%
BG	5.69%	0.09%	8.84%
CZ	-0.63%	2.11%	3.23%
DK	-7.44%	-2.64%	1.19%
DE	-2.50%	-3.41%	-1.16%
EE	-2.36%	3.59%	-6.30%
EL	-3.23%	-4.59%	-2.09%
ES	-0.06%	2.67%	-0.81%
FR	2.89%	2.74%	3.05%
IE	-0.78%	-1.75%	0.32%
IT	-2.14%	-1.88%	-2.39%
CY	11.35%	-0.76%	8.75%
LV	2.87%	0.63%	-3.49%
LT	4.51%	-0.81%	2.20%
LU	2.64%	3.72%	1.59%
HU	4.04%	14.97%	-2.04%
MT	5.53%	-0.93%	5.37%
NL	7.71%	7.99%	7.42%
AT	-6.32%	-6.66%	-6.12%
PL	10.01%	-13.53%	0.85%
PT	6.19%	-2.99%	2.44%
RO	18.90%	10.92%	24.73%
SI	11.90%	24.42%	12.78%
SK	20.79%	22.04%	19.76%
FI	-4.78%	16.68%	-9.79%
SE	-2.96%	-15.20%	21.72%
UK	2.04%	2.29%	1.75%
TOTAL	0.77%	0.15%	0.89%
CH	0.26%	-2.54%	0.06%

Source for Switzerland: OFCOM Switzerland

Table 2 *Investment*

2008, €, in milions

	Telecom networks	By incumbent in fixed telephony networks	By alternative operators	By By mobile operators
BE	1280	422	455	403
BG	405	confidential	11	238
CZ	594	109	138	191
DK	1293	259	660	302
DE	7200		5000	2200
EE	96	27	14	54
EL	1370	566	321	483
ES	5172	1461	1818	1892
FR	6529	na	na	2443
IE	516	confidential	29	240
IT	6595	2312	1237	3046
CY	110	53	35	27
LV	163	46	2	100
LT	109	37	23	49
LU	121	89	7	25
HU	646	166	242	238
MT	41	19	9	14
NL	na	na	na	na
AT	711	170	confidential	457
PL	2483	519	713	1137
PT	940	5	181	431
RO	966	96	210	660
SI	277	106	57	114
SK	405	56	42	181
FI	378	na	na	660
SE	1008	354	165	347
UK	8100	4207	1507	2261
EU	47507	16390	7961	18192
CH	1649	676	973	303

2007, €, in milions

	Telecom networks	By incumbent in fixed telephony networks	By alternative operators	By By mobile operators
BE	1225	396	426	403
BG	538	confidential	22	313
CZ	612	126	113	200
DK	1226	na	na	na
DE	7100		5100	2000
EE	95	35	14	46
EL	1294	295	514	486
ES	5755	1578	1942	2235
FR	6140	na	na	2295
IE	458	confidential	32	253
IT	7163	2604	1291	3268
CY	108	10	15	15
LV	108	47	3	70
LT	136	40	17	79
LU	96	70	5	21
HU	432	221	100	111
MT	41	11	9	20
NL	na	na	na	na
AT	879	219	confidential	559
PL	2849	812	908	1129
PT	1193	8	224	736
RO	785	143	105	537
SI	245	116	50	79
SK	388	45	54	178
FI	376	na	na	na
SE	1113	318	129	336
UK	8037	4081	1507	2323
EU	48392	16556	7582	17692
CH	1805	862	944	327

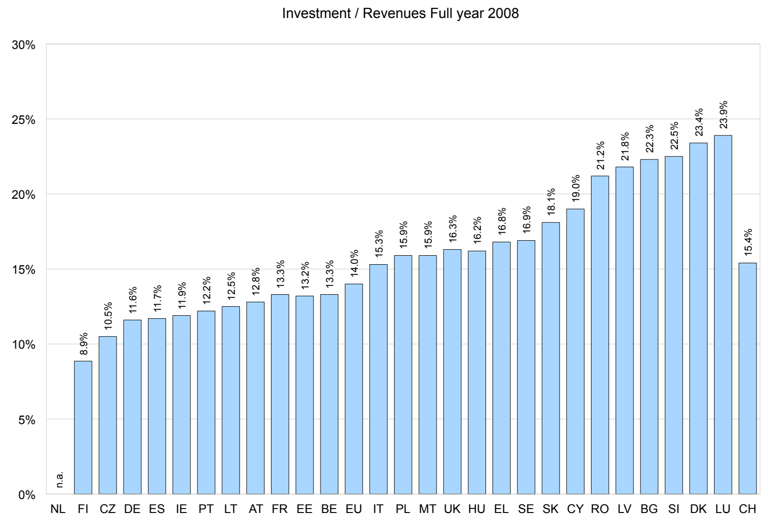
Growth

	Telecom networks	By incumbent in fixed telephony networks	By alternative operators	By mobile operators
BE	4.53%	6.69%	6.73%	0.08%
BG	-24.79%	-38.65%	-48.84%	-24.07%
CZ	-2.90%	-13.26%	22.47%	-4.68%
DK	5.45%	n.a.	n.a.	n.a.
DE	1.41%	-1.96%		10.00%
EE	0.88%	-22.53%	-1.35%	19.35%
EL	5.86%	91.86%	-37.49%	-0.54%
ES	-10.14%	-7.40%	-6.41%	-15.33%
FR	6.34%	0.00%	0.00%	6.45%
IE	12.63%	41.94%	-9.28%	-5.20%
IT	-7.93%	-11.21%	-4.16%	-6.81%
CY	2.11%	416.57%	127.42%	75.44%
LV	50.62%	-2.90%	-19.19%	43.26%
LT	-20.06%	-7.19%	34.98%	-38.26%
LU	26.04%	27.14%	40.00%	19.05%
HU	49.54%	-25.23%	142.91%	115.04%
MT	1.69%	70.41%	-6.62%	-31.27%
NL	n.a.	n.a.	n.a.	n.a.
AT	-19.11%	-22.37%	-16.83%	-18.25%
PL	-12.85%	-36.08%	-21.50%	0.71%
PT	-21.15%	-37.50%	-19.20%	-41.40%
RO	23.06%	-32.83%	100.26%	22.74%
SI	13.06%	-8.62%	14.00%	44.30%
SK	4.45%	23.78%	-22.74%	1.72%
FI	0.40%	n.a.	n.a.	n.a.
SE	-9.43%	11.23%	28.00%	3.38%
UK	0.78%	3.08%	0.00%	-2.70%
EU	-1.83%	-1.00%	5.01%	2.83%
CH	-8.65%	-21.55%	3.12%	-7.58%

Source for Switzerland: OFCOM Switzerland

Figure 1 shows the ratio investments/revenues in 2008. With 15.4% of the revenues invested, Switzerland is placed in the middle of the benchmark between Italy and Poland.

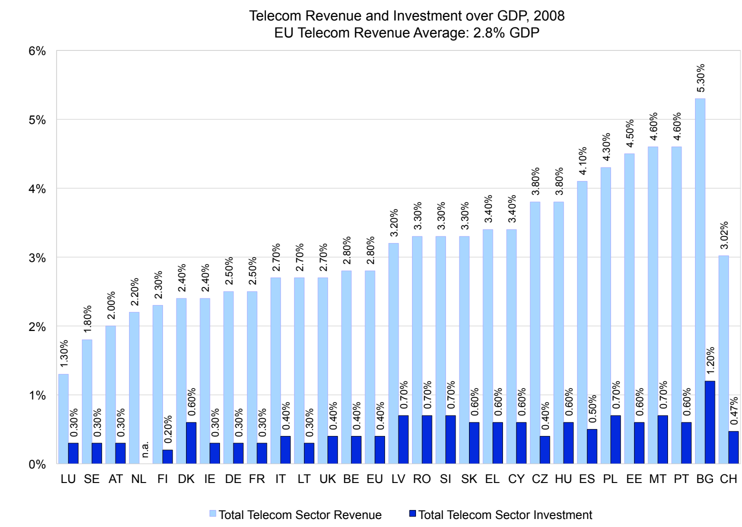
Figure 1 *Investment / Revenues*



Source for Switzerland: OFCOM Switzerland

Looking at the revenues and investments over GDP, one can see that Switzerland is situated one more time in the middle of the European countries with 3.02% of the revenues (2.8 for the weighted European average) and 0.47% of the investments dedicated to the telecom sector.

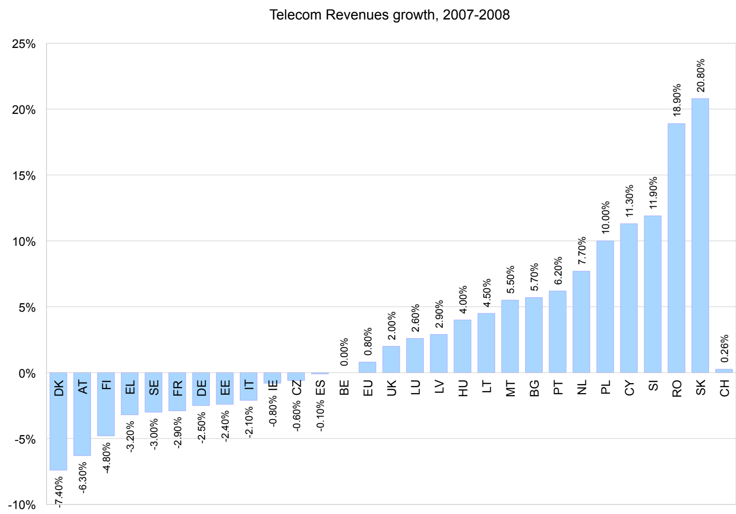
Figure 2 *Total Revenue and Investment over GDP*



Source for Switzerland: OFCOM Switzerland

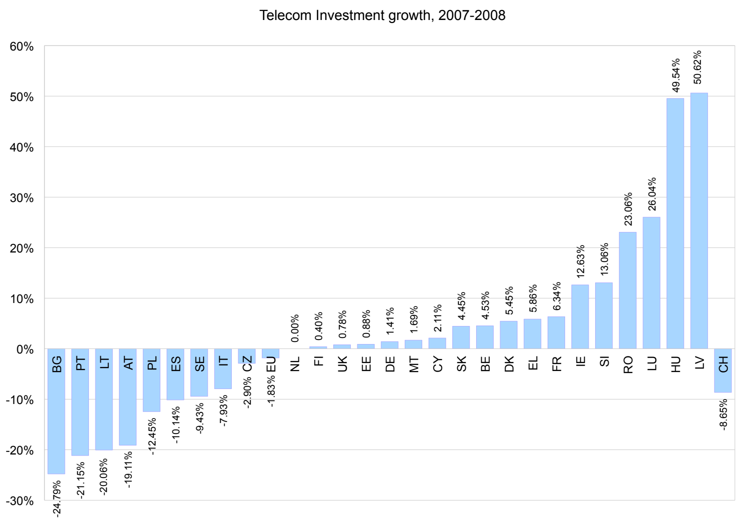
Figure 3 and 4 shows the growth between 2007 and 2008 of the investments and revenues in the telecom sector. The revenues increased (0.3%) while the investments decreased (8.7%).

Figure 3 *Telecom Revenues growth 2007-2008*



Source for Switzerland: OFCOM Switzerland

Figure 4 *Telecom Investment growth 2007-2008*



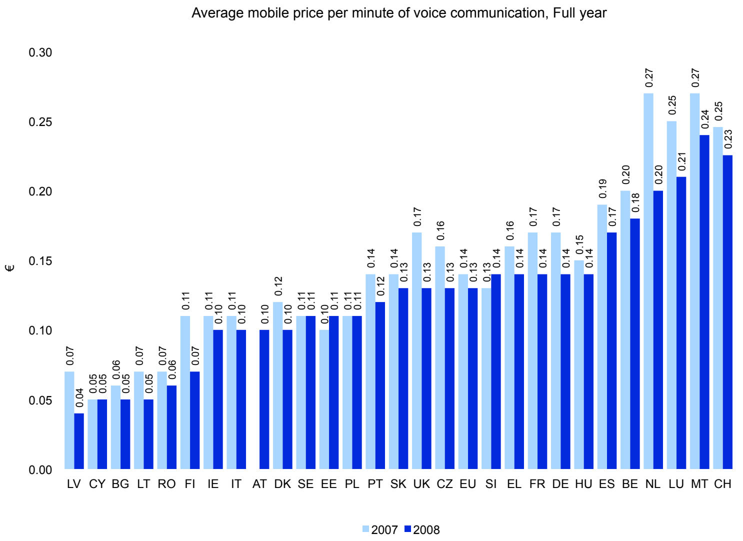
Belgium: Estimates based on the enterprises with a notification of an electronic communication network and/or of a fixed telephony service.
Bulgaria: 2008 fixed revenues include voice and DSL revenues. Revenues from 2007 include only voice. Investment by incumbent in fixed telephony networks is confidential. (e) and (f) include investments in payphones as well. In Fixed market variation indicator, if real value (without round off) was used, the variation rate would be 0.05%.
Denmark: The revenues for 2008 are not directly comparable with revenue from the previous year. This is due to a change in definitions. It is however estimated that if adjusted for the changes in definitions, the level in revenue for 2008 is roughly the same as it was for 2007 (d) Incumbent includes its subsidiaries.
Germany: The 5 000 m Euro investment applies both to the incumbent and the alternative operators. No differentiation between investment by incumbent in fixed telephony networks and alternative operators.
Italy : Consolidated turnover excluding revenues from "Terminals and devices".
Ireland: Investment is an estimate and does not represent total communications investment in 2008.
Latvia: Investment figures are not directly comparable as some companies do not break total investments down to specific categories.
Malta: Data source is National Statistics Office News Release 102/2009 published on 9 June 2009. Data is provisional and subject to change.
The Netherlands: Data is not available.
Portugal: The turnover of the telecommunication sector is an estimate. (f) and (g) are also estimates.
Austria: (a) does not include revenue from international data roaming. (b) includes revenues from leased lines and interconnection services. (c) includes revenues from interconnection services and international roaming (voice), excludes international data roaming. Investments in acquiring property (land and building) are not included.
Spain: In b), when clicking on the cell, the first term refers to voice retail revenues, the second term refers to the internet retail revenues, the third term to fixed telephony wholesale revenues and the fourth term to internet wholesale revenues. In c) when clicking on the cell, the first term refers to retail mobile revenues and the second term to the wholesale mobile market.
Finland: Revenues are based on statistics of Statistics Finland.
United Kingdom: Revenues from services for which Ofcom collects data - includes retail and wholesale revenues accounting for £39.7bn; the Office for National Statistics estimates telecoms revenue at £62.2bn. As for investments, figures have either been sourced from publicly available annual reports or have been estimated. Figures shown are for the 12 months to 31 December 2008 or to 31 March 2009. Figures are rounded to the nearest '000.
Source for Switzerland: OFCOM Switzerland

1.2 Average Price per Minute (APPM) in mobile communications

The Average Price per Minute is defined as the revenues from mobile voice communications divided by the total outgoing minutes of voice communication excluding VAT, but including access charges.

The average price per minute for mobile communications is very high in Switzerland compared with the one of the European countries. With 0.23 Euros per minutes Switzerland is placed second just after Malta with 0.24 Euros. This indicator shows one more time that Switzerland is one of the most expensive country among Europe when one look at the retail mobile prices.

Figure 5 *Mobile Price per minute*

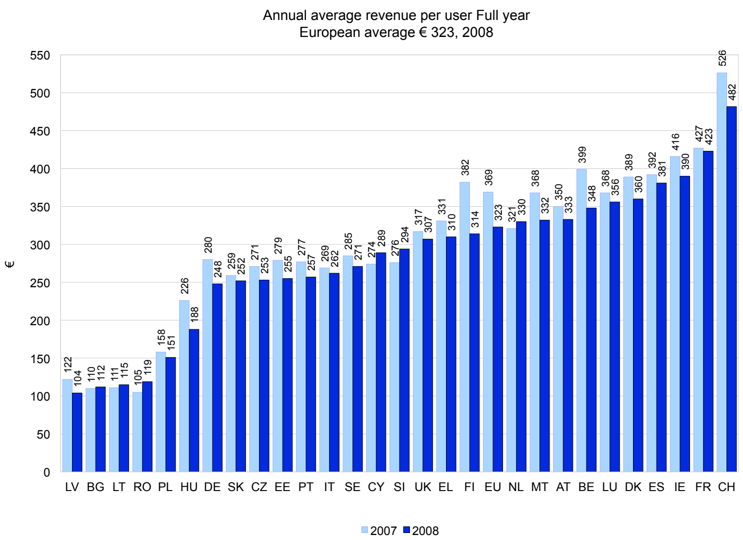


Germany: Revenues are estimated and include service provider's revenues and revenues from basic charges. Value added services are not included (both minutes and revenues). Revenues include partially other services.
Luxembourg: Revenue includes all types of outgoing traffic (including international and in particular outgoing roaming) and revenues from basic/subscription charges.
The Netherlands: Revenues include other retail revenues like revenues for subscriptions, sim cards and registration.
Austria: The values without the inclusion of the flat rates revenues are: 2007: Euro 0.07, 2008: Euro 0.06, Q2/2009: Euro 0.06
Slovenia: Revenues include access charges (i.e. monthly subscription fees not including connections fees). Monthly subscriptions for bundled services may in addition to free voice minutes include also free SMS, MMS, data services, etc. Retail roaming is also included.
United Kingdom: Revenues are estimated and include revenue from contract line rental fees and inclusive calls, texts and mobile data services.
Source for Switzerland: OFCOM Switzerland

1.3 Average Revenue per User (ARPU) in mobile communications

The revenues per users for mobile communications is also very high in Switzerland since the Swiss spend the most per user in international comparison with 482 Euros in 2008. Second is France with 423 Euros. European average is 323 Euros.

Figure 6 *Average Revenue per user*



Handset subsidies are not included in France, Spain, Italy, Lithuania, Portugal, Slovakia and Sweden.
Denmark: Revenue for 2008 is not directly comparable with revenue from the previous year. This is due to a change in definitions. It is, however, estimated that if adjusted for the changes in definitions the level in revenue for 2008 is roughly the same as it was for 2008.
Germany: Revenues are estimated and include service provider's revenues and revenues from basic charges. Value added services are not included (both minutes and revenues). Revenues include partially other services. 2007: Revenues are estimated and include service provider's revenues.
Finland: Calculation is based on Statistics Finland's revenue information and FICORA's subscriptions information.
Source for Switzerland: OFCOM Switzerland

Chapter 2

Mobile market

2.1 Mobile penetration and market share

Table 3 *Mobile Subscribers*

	Sub 2009	Sub 2008	Penetration 2009	Penetration 2008		prepaid	pay-monthly		Market share Leading operator	Main competitor	Other competitors
BE	11064960	10863264	103%	102%	**BE**	58.6%	41.4%	**BE**	44.3%	31.1%	24.6%
BG	10567831	10499323	139%	137%	**BG**	44.5%	55.5%	**BG**	49.4%	37.5%	13.1%
CZ	14030802	13556165	134%	131%	**CZ**	50.9%	49.1%	**CZ**	38.9%	38.4%	22.7%
DK	6944899	6585789	126%	120%	**DK**	14.5%	85.5%	**DK**	39.8%	29.3%	30.9%
DE	108215000	105996000	132%	129%	**DE**	56.0%	44.0%	**DE**	36.6%	32.1%	31.3%
EE	1556834	1799297	116%	134%	**EE**	32.9%	67.1%	**EE**	46.9%	28.9%	24.2%
EL	14090504	13708972	125%	122%	**EL**	64.0%	36.0%	**EL**	47.7%	26.1%	26.2%
ES	53914549	51747342	118%	114%	**ES**	39.0%	61.0%	**ES**	44.4%	30.9%	24.8%
FR	58045197	55071300	90%	86%	**FR**	35.9%	64.1%	**FR**	41.0%	33.4%	25.6%
IE	5328813	5270801	119%	119%	**IE**	68.8%	31.2%	**IE**	39.6%	32.2%	28.2%
IT	87660560	90261460	146%	151%	**IT**	86.0%	14.0%	**IT**	36.4%	33.3%	30.3%
CY	1077060	1001595	136%	126%	**CY**	60.0%	40.0%	**CY**	81.9%	18.1%	0.0%
LV	2316257	2170928	102%	96%	**LV**	56.9%	43.1%	**LV**	46.3%	39.2%	14.6%
LT	4933397	5012702	147%	149%	**LT**	62.1%	37.9%	**LT**	40.1%	38.4%	21.5%
LU	701087	687571	142%	142%	**LU**	39.3%	60.7%	**LU**	53.2%	35.5%	11.3%
HU	10654339	10489696	106%	104%	**HU**	58.1%	41.9%	**HU**	44.6%	33.6%	21.9%
MT	417699	388179	101%	95%	**MT**	82.0%	18.0%	**MT**	49.7%	43.9%	6.4%
NL	21182000	20150000	128%	123%	**NL**	46.4%	53.6%	**NL**	49.6%	28.0%	22.5%
AT	11150597	10422132	133%	125%	**AT**	31.2%	68.8%	**AT**	40.5%	31.5%	28.0%
PL	41201470	37469551	108%	98%	**PL**	49.0%	51.0%	**PL**	32.6%	31.2%	36.2%
PT	15535758	14530442	146%	137%	**PT**	72.6%	27.4%	**PT**	46.7%	34.9%	18.4%
RO	24784087	22213384	115%	103%	**RO**	59.0%	41.0%	**RO**	43.0%	30.3%	26.7%
SI	2076751	2019983	102%	100%	**SI**	32.2%	67.8%	**SI**	57.2%	27.9%	14.9%
SK	5411510	5272300	100%	98%	**SK**	36.4%	63.6%	**SK**	53.0%	38.4%	8.6%
FI	7280000	6830000	137%	129%	**FI**	10.0%	90.0%	**FI**	38.0%	36.0%	26.0%
SE	11190300	10526000	121%	115%	**SE**	40.1%	59.9%	**SE**	42.2%	31.4%	26.4%
UK	77797554	74152468	126%	121%	**UK**	59.4%	40.6%	**UK**	20.6%	20.4%	59.1%
TOTAL	609129815	588696644	122%	118%	**TOTAL**	55.3%	44.7%	**TOTAL**	37.8%	30.8%	31.4%
CH	8746418	8539985	112%	111%	**CH**	43.0%	57.0%	**CH**	62.3%	20.1%	17.6%

Data on market shares for Estonia, Greece, Luxembourg, Hungary, Austria, the Netherlands, Poland, and Portugal come from Informa Telecoms and Media. For the Netherlands Q1 2009, for Hungary, Austria Poland and Portugal Q2 2009 and for Estonia, Greece and Luxembourg Q3 2009 data are used
Czech Republic: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.
Sources for Switzerland: Telecom operators

Table 4 *Main mobile groups by Mobile Subscribers*

	Telefonica/O2	Vodafone	T-Mobile	Orange
BE				X
BG		X	X	
CZ	X	X	X	
DK				
DE	X	X	X	
EE		X		
EL	X	X	X	
ES	X	X		X
FR		X		X
IE	X	X		
IT	X	X		
CY		X		
LV				
LT		X		
LU				X
HU		X	X	
MT		X		
NL		X	X	
AT			X	X
PL		X	X	X
PT	X	X		X
RO		X	X	X
SI		X		
SK	X		X	X
FI				
SE				
UK	X	X	X	X
CH				X

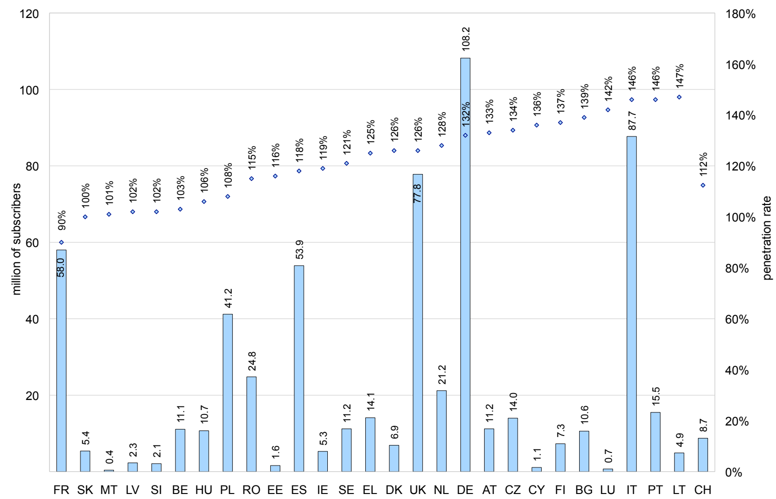
Sources for Switzerland: Telecom operators

The National Regulatory Authorities have validated the list of the operators taken into account for each group. It includes operators owned, partially owned by the group or with whom the group has network and billing agreements.

	Telefonica/O2	Vodafone	T-Mobile	Orange	Others	Total four groups
EU share By mobile Subscribers	19%	28%	17%	14%	22%	78%

Measured in terms of consumers, the largest European mobile markets are still in Germany, Italy and the United Kingdom. Switzerland, with its 8.7 million users, belongs to the group of countries characterized by a low volume of users in absolute terms.

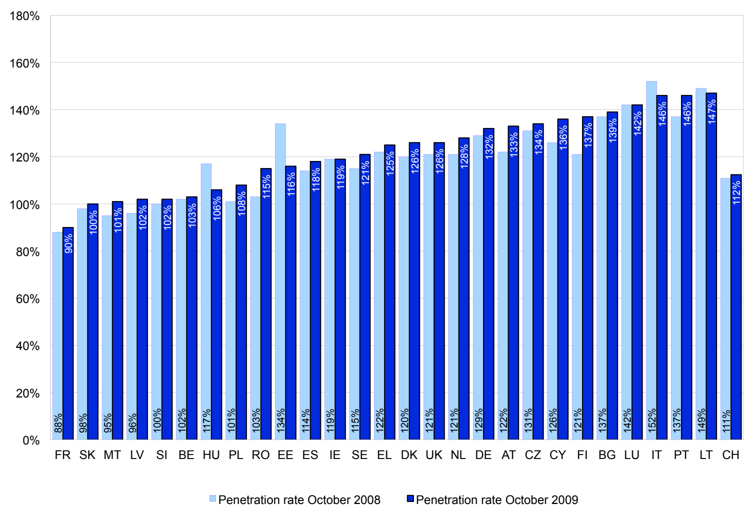
Figure 7 *Mobile penetration rate*



Belgium: Situation as of 1 July 2009.
Czech Republic: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.
Denmark: Situation as of 1 July 2009.
Italy: The reduction of mobile subscriptions compared with October 2008 is due to (1) the expiration of promotional and special offers linked with handset acquisition and (2) some database cleanup of inactive SIMs.
The Netherlands: 2009 data are as of July 2009, 2008 data are as of December 2008.
Finland: Data are as of July 2009.
United Kingdom: Data refers to March 2009. Penetration growth has slowed due to growing proportion of users switching to contract subscriptions (40% of total subscriptions in Q1 2009, compared to 36% at end 2007).
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

Between October 2008 and October 2009, the mobile telephony penetration rate in Switzerland grew from 110.9% to 112.4%, a 1.5 percentage point increase. Growth is therefore being maintained, but slower as it was the case between 2007 and 2008.

Figure 8 *Mobile penetration rate growth*

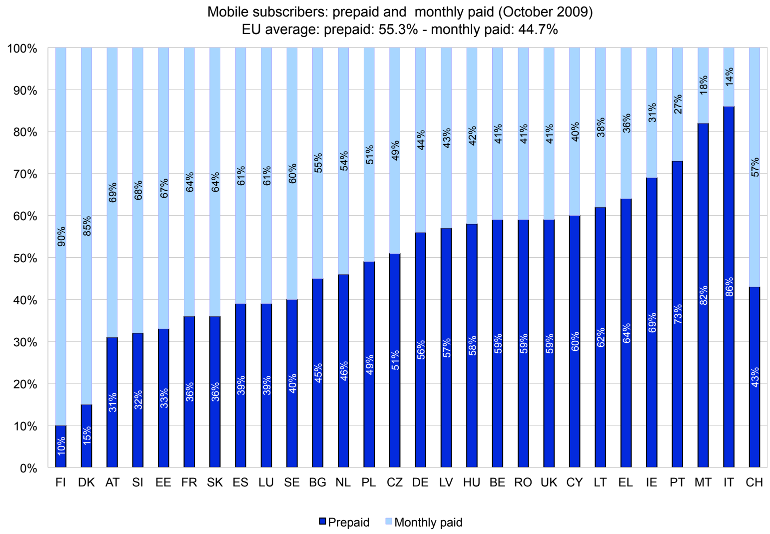


Czech Republic: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.
Estonia: The decrease in penetration is caused by exclusion of all SIMs of Top Connect this year, since it uses a different business model by selling prepaid cards abroad for cheap roaming services. By the end of Q3 2009 it had 1 100 000 SIMs, but most (if not all) of them are not used for calls in Estonia nor by Estonian end users, and it is not known how many are active. Therefore including Top Connect would distort market data.
Italy: The reduction of mobile subscriptions compared with October 2008 is due to (1) the expiration of promotional and special offers linked with handset acquisition and (2) some database cleanup of inactive SIMs.
Lithuania: The number of SIM cards decreased due to database clean-ups of non-active users.
The Netherlands: 2009 data are as of July 2009, 2008 data are as of December 2008.
Finland: Data are as of July 2009.
United Kingdom: Data refers to March 2009. Penetration growth has slowed due to growing proportion of users switching to contract subscriptions (40% of total subscriptions in Q1 2009, compared to 36% at end 2007).
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

In Switzerland, 43% of subscribers had chosen the pre-paid system at the data collection date as against

55.3% on average in the European Union countries. Compared to the last year the difference between Switzerland and the European Union decreased. This shows an opposing trend: the proportion of mobile subscribers choosing a pre-paid system is decreasing in the European Union and increasing in Switzerland.

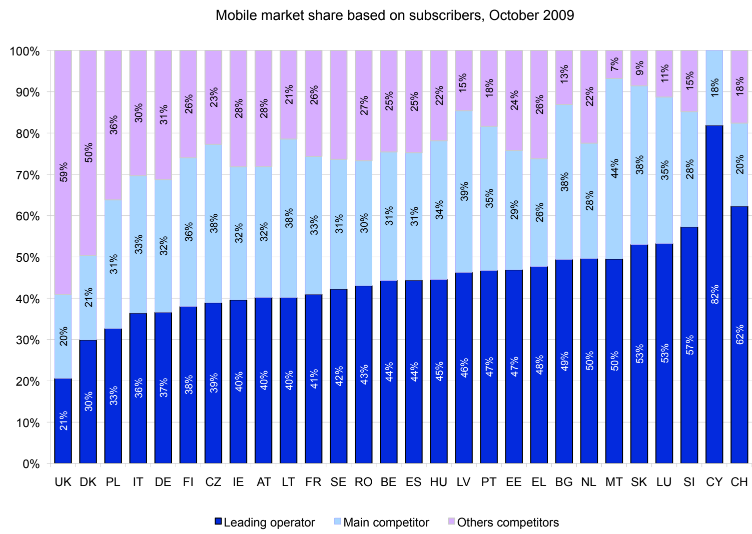
Figure 9 *Prepaid vs postpaid*



Czech Republic: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.
The Netherlands: 2009 data are as of July 2009, 2008 data are as of December 2008.
Finland: Data are as of July 2009.
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

After Cyprus, Switzerland ranks second for the country in which the subsidiary of the historic operator has the largest market share. This rate, 62.3%, is well above the European average (38.1%). As a result, only a relatively small share is distributed between the historic operator's main rival (20.1% percent market share) and the other competitors (17.6%).

Figure 10 *Mobile market share based on subscribers*



Data on market shares for Estonia, Greece, Luxembourg, Hungary, Austria, the Netherlands, Poland, and Portugal come from Informa Telecoms and Media. For the Netherlands Q1 2009, for Hungary, Austria Poland and Portugal Q2 2009 and for Estonia, Greece and Luxembourg Q3 2009 data are used
Czech Republic: 13-months methodology was used for assessing the number of active pre-paid subscribers in order that the 2009 data are comparable with 2008.
Denmark: The market shares include affiliated companies of the operators. Therefore, the market shares if affiliated companies are included are: Leading Operator (TDC, + Telmore, A+Telecom, Fullrate and Dansk Kabel TV), Main competitor (Telenor, + CBB and Bibob)
Finland: Data are as of July 2009.
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

2.2 Mobile number portability

Mobile number portability enables subscribers to retain their number when moving from one operator to another.

Figures are provided by NRAs and include the number of transactions calculated up to 1 October each year. Data also include the average number of days taken to port a number as well as the cost of porting a number. Inter- operator prices for number portability refer to the amount charged by the leading operator 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 some countries there is no charge for the porting of numbers.

Two different measurements were used on number portability. ‘Transactions‘ refer to the total number of number portings between 1 January and 30 September each year. ‘Ported numbers‘ refer to the number of those numbers that are held by another operator than the range holder on 30 September each year.

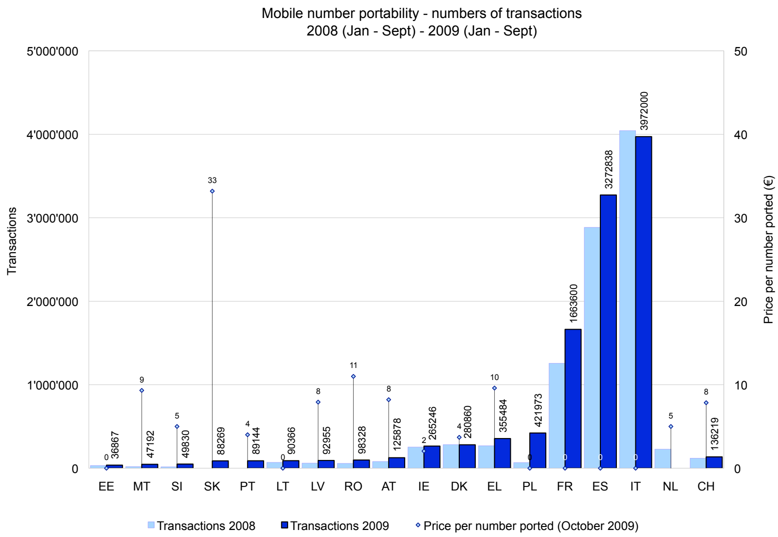
The EU defines ”Ported numbers” as the number of those numbers that are held by another operator than the range holder on 30 September each year. In Switzerland such data are not collected. Therefore no data are available for figure 12. It should also be noted that for figure 11, the Swiss data refer the whole 2008 year and not only 9 month as for the European countries. Comparison of those indicators with the EU is therefore not very welcome.

Mobile telephone number porting was introduced in Switzerland in 2000. During 2006 some 151,432 numbers were ported. This represents a maximum annual value since the introduction of the service. In 2008, 136,219 number were ported in Switzerland representing a proportion of 1.56% of the total number of mobile telephony subscriptions.

The Swiss incumbent operator charges 7.84 Euros per mobile number ported, putting Switzerland in the group of countries with the highest prices (rank 17 with the highest price out of 26) between Luxembourg and Latvia.

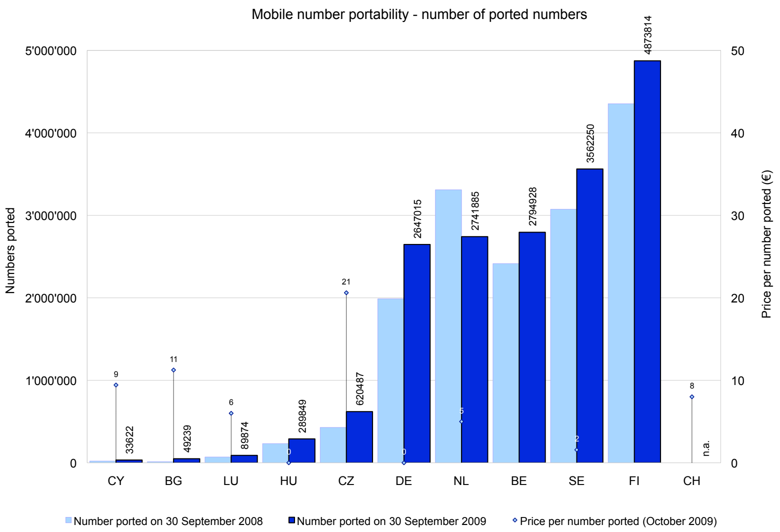
The Swiss incumbent operator needs about 10 working days to migrate a number to another operator. Only in Greece the time taken for mobile number portability is higher.

Figure 11 *Mobile number portability - transactions*



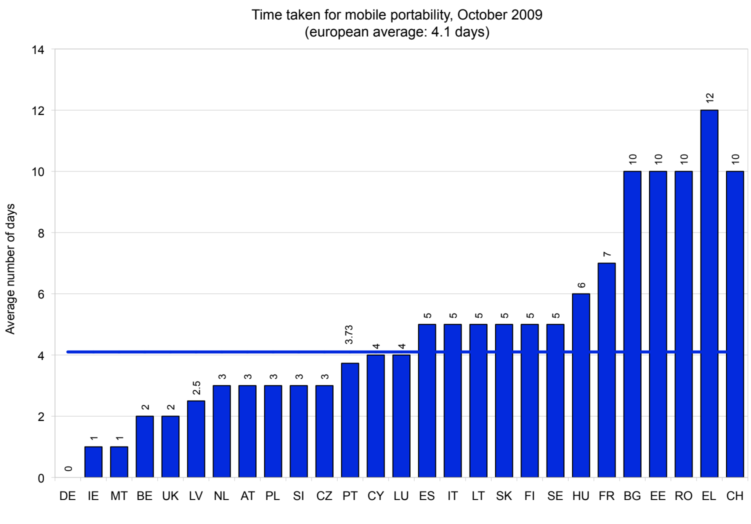
Sources for Switzerland: OFCOM Switzerland, telecom operators. Data refer the whole 2007 and 2008 year, i.e. 12 months

Figure 12 *Mobile number portability – number of ported numbers*



Belgium: 2009 data refers to 23 September. Wholesale prices of 2008 and 2009 are currently subject to legal action.
Bulgaria: Mobile portability was launched in April 2008.
Czech Republic: Price refers to the major mobile operator's charge to other operators. 2009 (c): Price refers to Telefonica O2 (524). Prices charged by other operators vary between 519 (TMobile) and 418 (Vodafone).
Denmark: Data refers to transactions between January and June each year.
Finland: Data is not available on prices.
France, Italy and Slovakia: Data refers to 12 month intervals (1 October to 30 September).
Hungary: Prices are subject to commercial negotiations.
The Netherlands: Not all transactionas are included: numbers which are ported from another operator to the original number holder are not indicated in the table above. The total transactions between 1/10/2008 and 1/10/2009 (including the transactions from another operator to the original number holder) are 1 069.576. Maximum price is Euro 5. Price varies between Euro 0 and Euro 5.
Romania: Number portability was not available in 2008
Slovenia: Maximum price is indicated.
United Kingdom: Data are not collected.
Sources for Switzerland: data not available

Figure 13 *Time taken in number of days for mobile number portability*

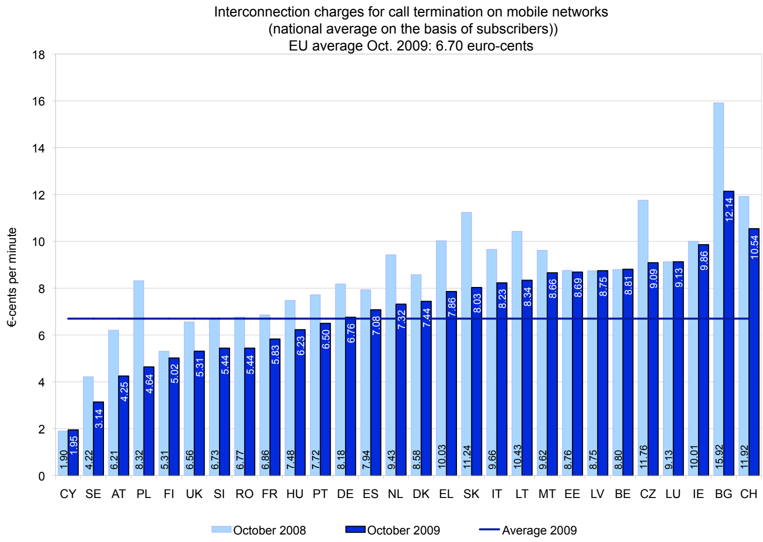


Belgium: The maximum timescale for the donor operator to validate the request to port a number is for simple installations 2 working days, and for complex installations 3 working days.
Czech Republic: Time limit for making number available for porting is 5 hours (prepaid) or 3 days (postpaid). The day of porting is set by the customer (choice is possible between 1 and 10 days).
Cyprus: Data are provisional.
Denmark: Data are not available.
Hungary: Maximum time is eight days, average is six days.
Netherlands: Technical porting is 2 hours. For the end-user (from request to end of technical porting) the average is 3 days (max 10 days).
Germany: If requesting numbers can be ported immediately, otherwise it takes 5 days.
Lithuania, Poland, Romania, Slovenia, Slovakia and Sweden: Maximum time is reported.
Latvia: Maximum time according to law is 10 days. The average number of days is estimated at 2-3.
Luxembourg: Average time for end user (the transaction processing between operators) is less than 2 days.
Austria: The process is completed within 3 days at maximum. Typical cases are shorter, but no detailed information is available. Users are reachable at all times during the porting process for incoming calls without interruption - either at the old or the new SIM/mobile phone.
Sources for Switzerland: Telecom operators, only data concerning incumbent operator

2.3 Mobile Interconnection

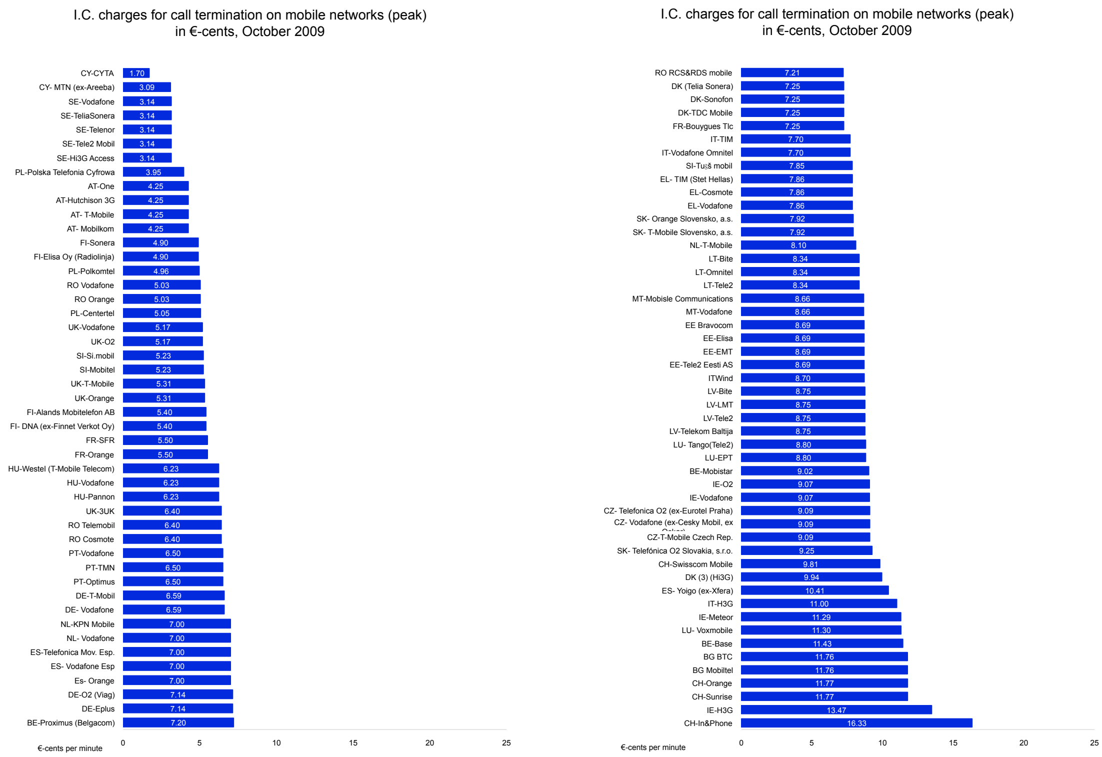
Despite a constant fall (5.1% between 2005 and 2006, 9.6% between 2006 and 2007, 13.3% between 2007 and 2008, 11.6% between 2008 and 2009) the average price charged by Swiss operators in 2009 for call termination was still higher than in the most EU-countries. Bulgaria is the only country in the European Union, in which charges in 2009 were higher than in Switzerland. The cheapest price was charged in Cyprus (1.95 Euro-cents).

Figure 14 *IC charges for call termination on mobile networks*



Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

Figure 15 *IC charges for call termination per operators*



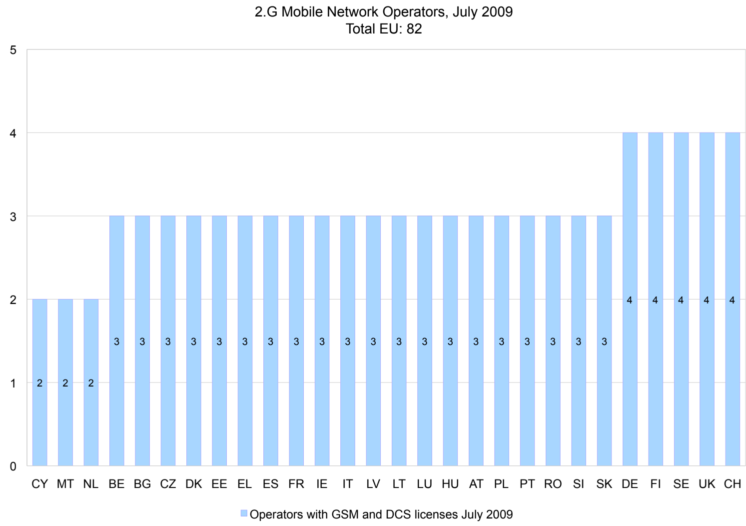
(a) (b)

Bulgaria: IC rates of Cosmo Bulgaria Mobile are confidential.
UK: The data provided are the regulated average target charges for call termination on mobile networks which on average the mobile operators must not exceed (charge control years run from 1 April to 31 March). The actual average mobile interconnection rates are not in the public domain.
Source for Switzerland: Telecom operators, OFCOM Switzerland calculations. For defintion reasons MVNO's such as Barablu are not considered in the benchmark

2.4 Mobile Operators

In Switzerland, four providers were operating a second-generation mobile network in July 2009 - Swisscom Mobile, Sunrise, Orange and In&Phone. This is one operator less, than in July 2008, because Sunrise took over Tele2 at the end of the year 2008. Tele2 surrendered its licence to OFCOM Switzerland in November 2008.

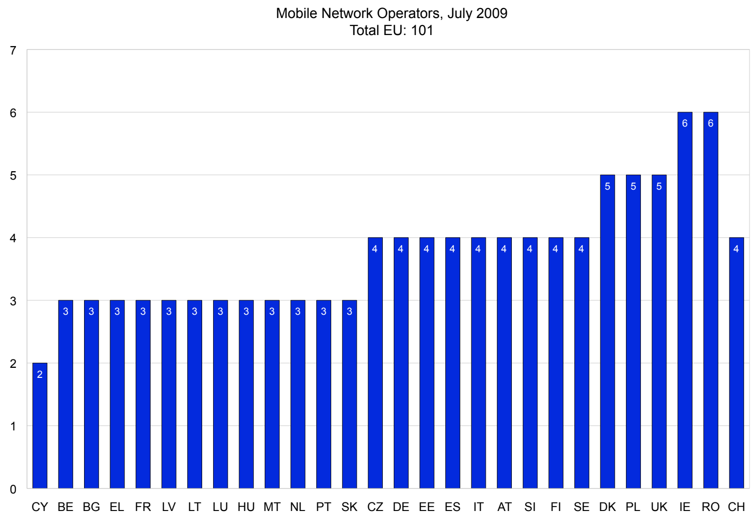
Figure 16 *2G Mobile operators*



Sources for Switzerland: OFCOM Switzerland

In all, four operators were operating a mobile network in Switzerland in July 2009. These are the same operators mentioned in the comments on Figure 16; three of them also possessed a UMTS licence as well. If we consider Figure 17, 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 six (Ireland and Romania).

Figure 17 *Mobile network operators*

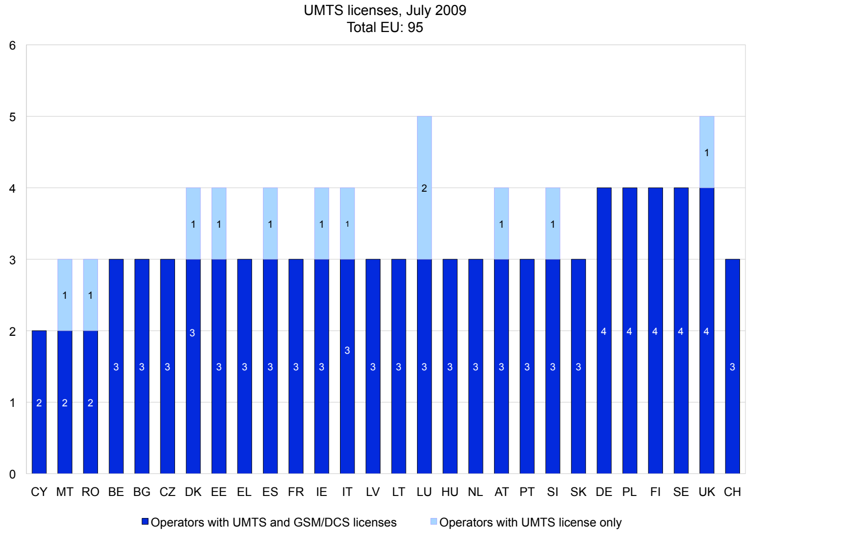


Sources for Switzerland: OFCOM Switzerland

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 2009), three of them were offering fully commercial UMTS services to Swiss consumers. These are Swisscom Mobile, TDC Switzerland (cf. Sunrise), and Orange.

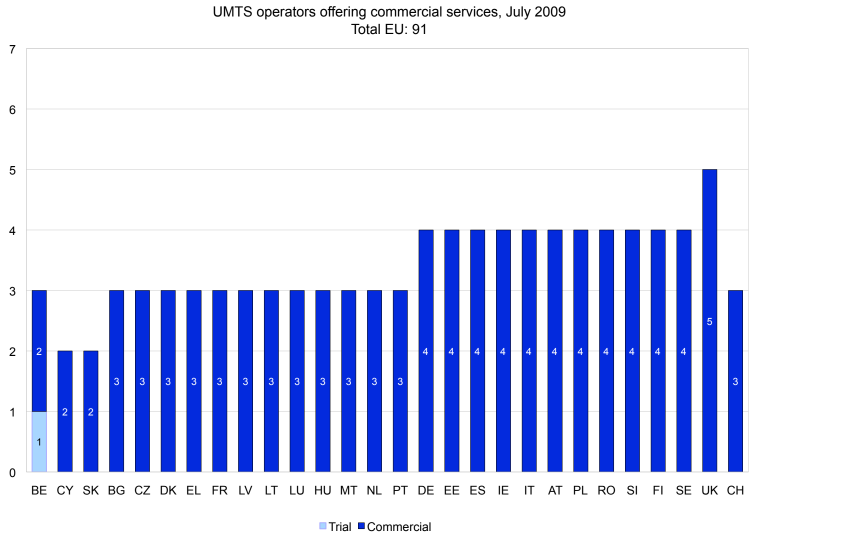
Swiss UMTS operators were obliged by their license conditions to achieve a 3G network population coverage of 50% in the country before the end of 2004. 3G Mobile (Telefonica) did not meet this condition. In March 2006, the Federal Communications Commission revoked Telefonica's UMTS license. This measure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

Figure 18 *UMTS licences*



Romania: One of the operators considered as having UMTS licence only also has a CDMA450 licence; beside these 4 operators, there is another operator with CDMA410 licence only.
Sources for Switzerland: OFCOM Switzerland

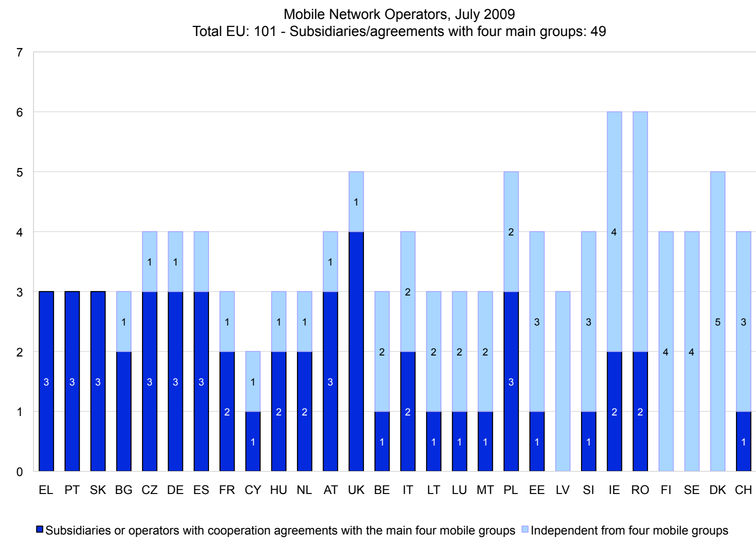
Figure 19 *UMTS operators offering commercial services*



Latvia: There is a CDMA operator.
Romania: Besides these four operators, there is another CDMA410 operator offering commercial services. MVNOs are not included.
Sources for Switzerland: OFCOM Switzerland

Of the mobile network operators active in Switzerland, only Orange is a subsidiary of one of the four main mobile network operators in Europe (Telefonica/O2, Vodafone, T-Mobile, Orange) which is obviously Orange.

Figure 20 *Mobile network operators (main groups)*

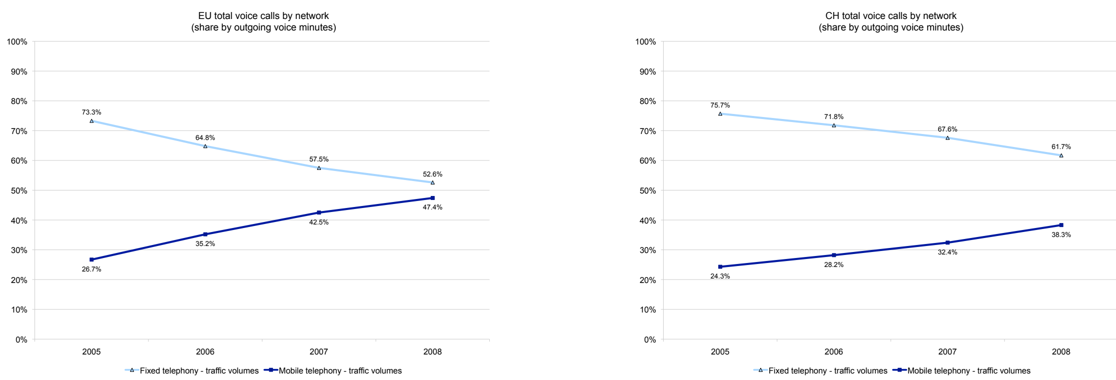


Lithuania: One of the operators (Bite Lietuva) has an agreement with Vodafone.
Sources for Switzerland: OFCOM Switzerland

2.5 Traffic

Between 2005 and 2008, for Switzerland and the European Union one can observe an increasing percentage of calls on mobile networks and a decreasing rate of calls on fixed networks. In the EU, the rate of fixed calls decreased from 2005 to 2008 from 73.3% to 52.6%. In the same time, EU mobile voice calls increased from 26.7% to 47.4%. In Switzerland, fixed voice calls decreased from 75.7% to 61.7%, mobile voice calls increased from 24.3% to a 38.3% share of the voice calls market.

Figure 21 *EU total voice calls by network (1-share)*

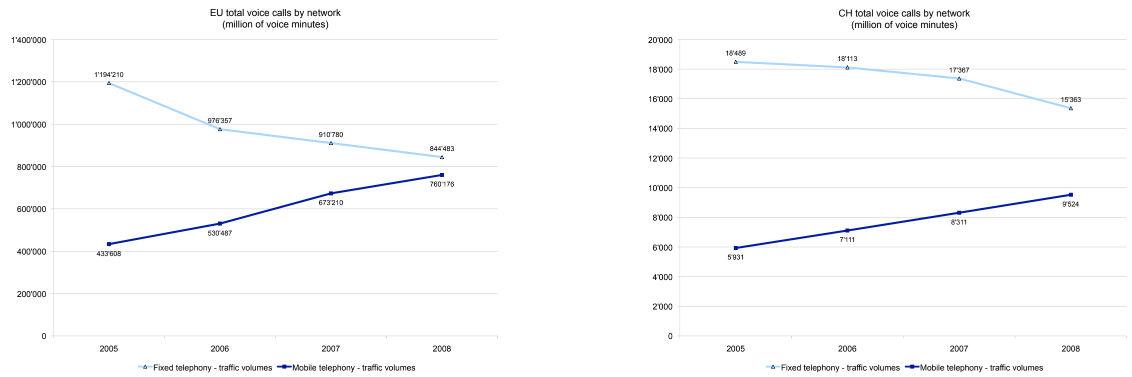


(a) (b)

Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations. Calls to 0800, 0840, 0842, 0844, 0848, 0900, 0901, 0906 numbers are not considered

Total voice calls in absolute terms shows the same picture: in the EU-countries, absolute amount of fixed traffic volume decreased from 1’194’210 millions of minutes in year 2005 to 844’483 millions of minutes in 2008. In the same time, the absolute amount of mobile voice minutes increased from 433’608 millions to 760’176 million minutes. In Switzerland, fixed voice-minutes decreased from 18’489 millions in 2005 to 15’363 millions in 2008. Mobile voice minutes increased from 5’931 million in 2005 to 9524 million of minutes in year 2008.

Figure 22 *EU total voice calls by network (2- in millions of voice minutes)*

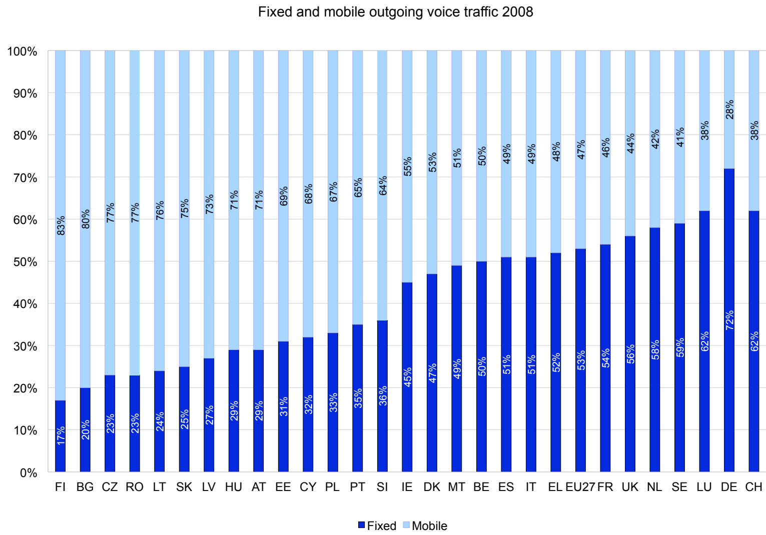


(a) (b)

Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations. Calls to 0800, 0840, 0842, 0844, 0848, 0900, 0901, 0906 numbers are not considered

In the year 2008, 62% of outgoing voice traffic in Switzerland are fixed services, only 38% of outgoing voice traffic are on mobile networks. This ratio is high compared to the EU-average of 53% fixed vs. 47% mobile. Only one country has a higher fixed voice rate, this is Germany with a rate of 72% fixed voice calls. In Luxemburg, as in Switzerland, 62% of all voice calls are made over fixed network. The highest rate of mobile calls was measured in Finland: 83% of all outgoing voice calls are made on mobile networks.

Figure 23 *Mobile network operators (main groups)*



Lithuania: One of the operators (Bite Lietuva) has an agreement with Vodafone.
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

2.6 Mobile voice telephony tariffs

> 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 2008 and 2009. 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.

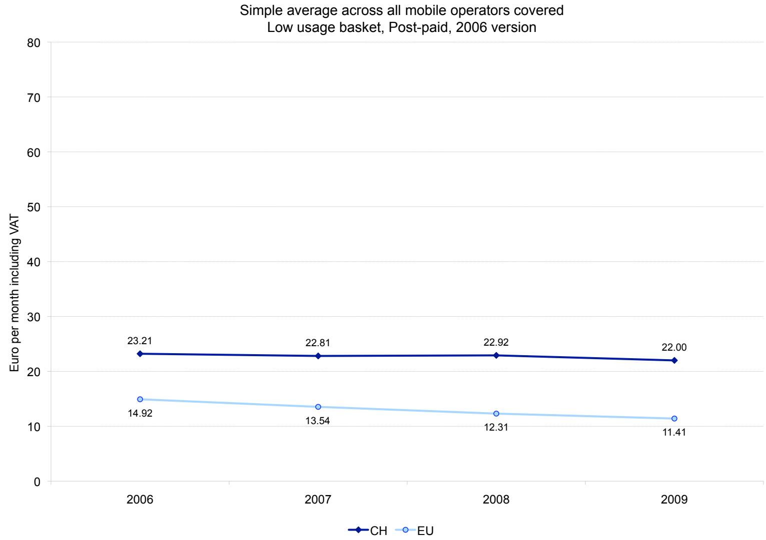
The names of the tariff packages used in the basket analysis are found in the table below.

> In order to show a price trend, the "2006 OECD" baskets have been used. Mobile services from 2007 till 2009 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.

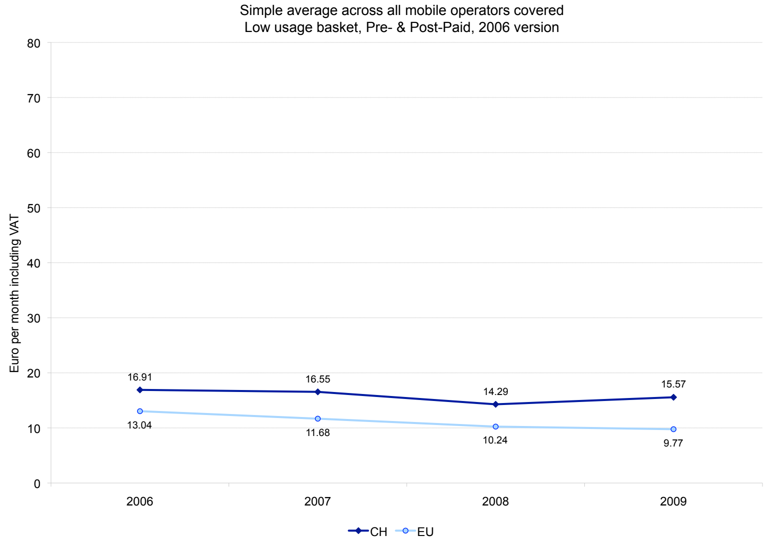
The simple national average for Switzerland is calculated on the basis of the data for three leading mobile operators (Swisscom, Sunrise and Orange). These values are considerably higher than the European average regardless of the usage level and the year considered. In 2009, the best result for the Swiss basket (low usage basket, pre- and postpaid) was 59.4% more expensive. For the other baskets, the difference was between 79.2% and 100.4%. The highest difference was 100.4% (high usage basket postpaid).

Figure 24 *Average 2006-2009 Low usage basket postpaid*



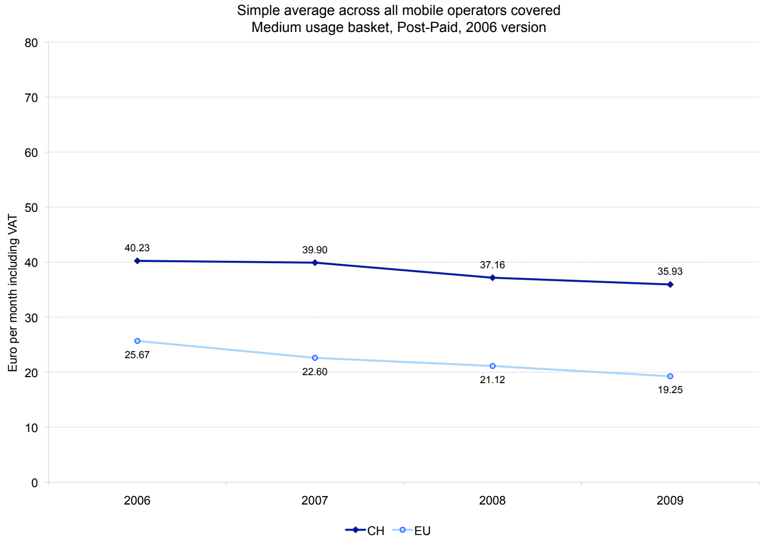
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 25 *Average 2006-2009 Low usage basket pre & postpaid*



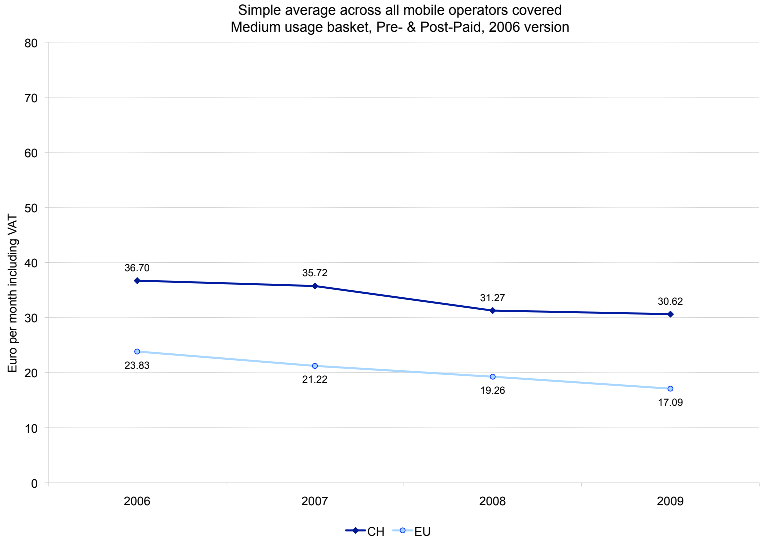
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 26 *Average 2006-2009 Medium usage basket postpaid*



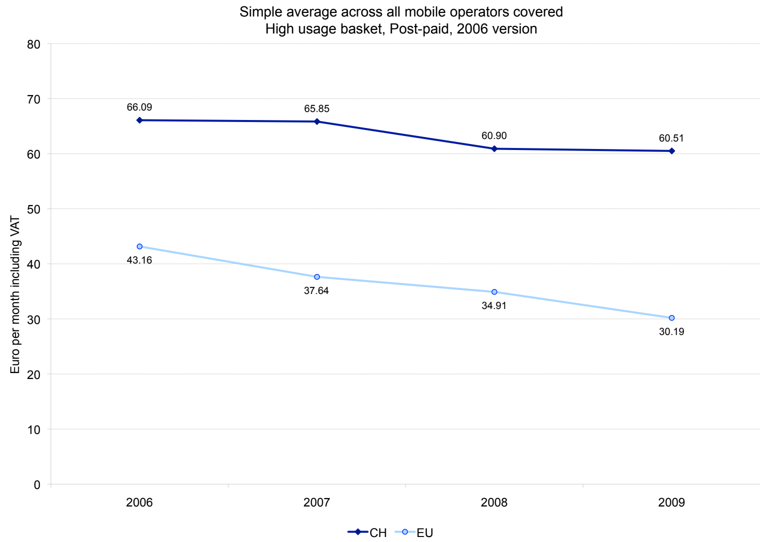
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 27 *Average 2006-2009 Medium usage basket pre & postpaid*



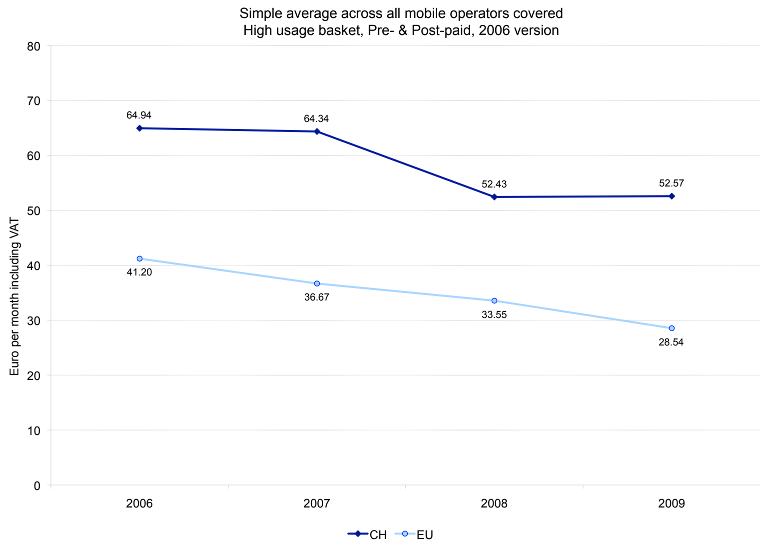
Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 28 *Average 2006-2009 High usage basket postpaid*



Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Figure 29 *Average 2006-2009 High usage basket pre & postpaid*



Sources for Switzerland: Teligen, OFCOM Switzerland calculations

Chapter 3

Fixed market

3.1 Fixed market shares

This section shows the incumbents' market share in the fixed voice telephony markets.

Apart from the overall fixed voice telephony market, submarkets for fixed calls to mobile networks, national fixed calls (including phone local calls, local calls to internet, long-distance calls and fixed calls to mobile networks) and international fixed calls are also shown.

Figures for market shares are calculated on retail revenues and outgoing minutes of traffic. Market shares based on retail revenues exclusively refer to revenues from call markets and do not include any access revenue.

The EU averages are weighted according to the population of each Member State.

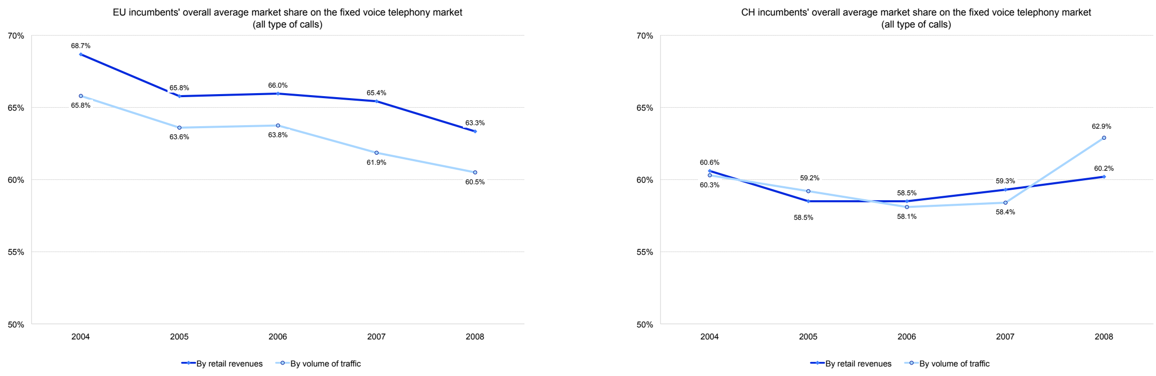
The market shares are based on traffic/revenues from publicly available telephone services and include managed Voice over IP services (VoIP) and calls made from public payphones. Traffic/revenues from peer-to-peer VoIP, simple reselling and calling cards are excluded. However, the above criteria are not followed by all Member States. For this reason the figures are not strictly comparable between countries.

Figures have been provided by NRAs and unless otherwise indicated refer to 31 December 2008 (data for the United Kingdom are for the calendar year). Data for some countries are estimated by NRAs, as indicated in the footnotes.

The following chart shows the trend for the EU weighted average of the incumbents' market share in the fixed voice telephony market since 2004.

In 2008, the market shares of the Swiss incumbent based on retail revenues and on the volume of traffic are pretty much identical to the weighted average of the EU incumbents' market shares. In Switzerland, the market share of the incumbent operator measured by the volume of traffic is a bit bigger than the market share measured by retail revenue. The EU average of the market share measured by the retail revenues is constantly 2 to 3 points higher.

Figure 30 *EU incumbents' overall average market share on the fixed voice telephony market (all types of calls)*



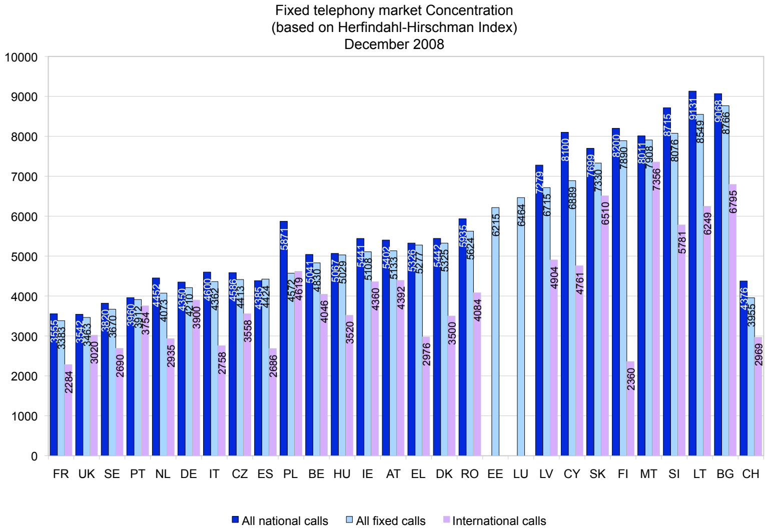
(a) (b)

Sources for Switzerland: OFCOM Switzerland

The following chart shows the indexes of concentration for the fixed telephony market in the Member States on 31 December 2008 based on the Herfindhal-Hirschman index. This is a market concentration index defined as the sum of the squares of the market shares of the competitors in the relevant markets. The index can take the value of 10 000 when the market is entirely controlled by a single firm, and it decreases as concentration reduces. Comparisons between the other Member States should be considered as indicative, 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, UK or The Netherlands, i.e. among the countries where the market is shared relatively equitably between the players. The countries in which market concentration is least prevalent are Bulgaria, Latvia, Slovenia and Slovaquia.

Figure 31 *Herfindhal-Hirschman Index*

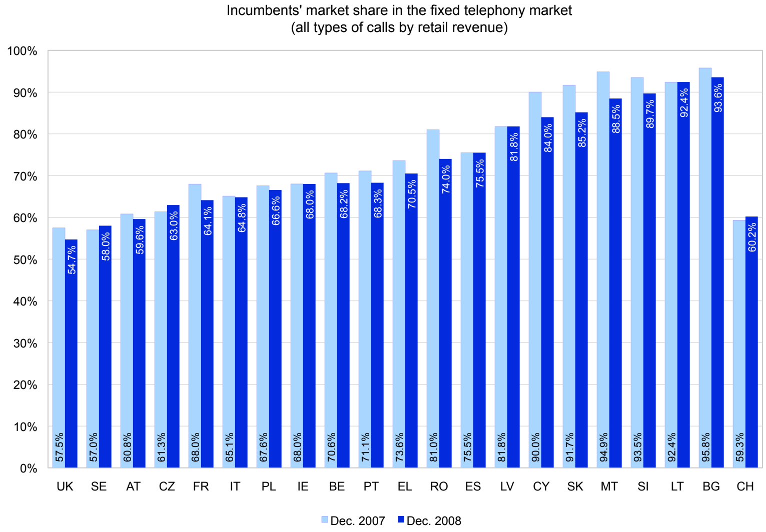


Bulgaria: Including calls made from public payphones.
Cyprus: Figures are estimates.
Denmark: Figures are based on outgoing minutes.
Germany: Figures are based on outgoing call minutes via direct access, excluding Carrier Selection (CS) and Carrier Pre-Selection (CPS).
Greece: Market shares are based on traffic.
France: Based on traffic.
Austria: Figures are estimates.
Finland: Market shares are based on traffic volumes (National calls: estimated average in each operating area, international calls: based on SMP analysis conducted in 2005, fixed calls: estimated average in each operating area).
United Kingdom: Figures are based on call revenues for Q4 2008.
Sources for Switzerland: OFCOM Switzerland

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 shares based on retail revenues do not include any access revenue. Figures are not available for some Member States.

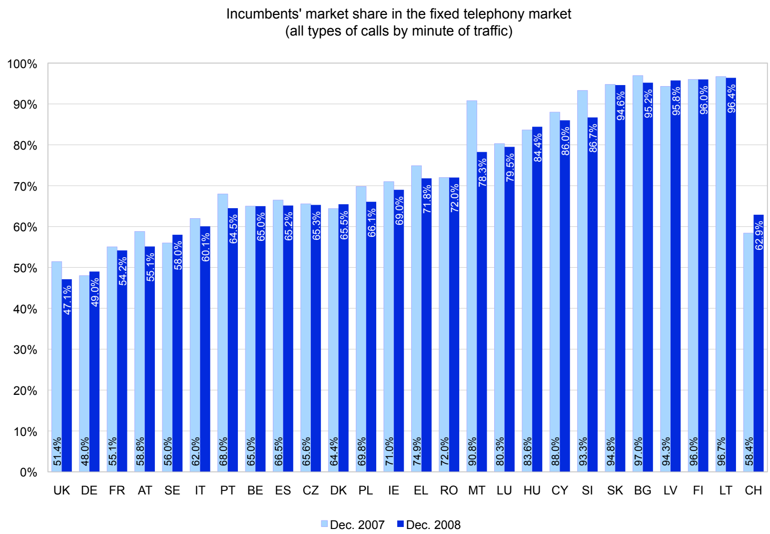
In relation to market shares for all types of calls, Swisscom was positioned fourth in terms of revenue (60.2%) and seventh in terms of minutes (62.9%) in the European ranking.

Figure 32 *Incumbent's market share – all types of calls by retail revenues*



Cyprus: 2008 figures are estimates.
Denmark: Data on market shares by revenues are either not available for publication or confidential.
Germany: Data on market shares by revenues are not available.
Estonia: Data are confidential.
France: 2008 figures are estimates. 2007 figures have been revised.
Hungary: Data on market shares by revenues are not available.
Italy: National fixed calls include local, national long distance, internet dial up and public telephone calls as well as calls to non geographic numbers. Data are not based on the definitions of the 14th Progress Report and Agcom Annual Report 2009 (table 1.25 and 1.26). 'International traffic' includes phone centre and prepaid cards.
Luxembourg: Data are confidential.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 65% for 2007 and 60% for 2008.
Austria: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.
Finland: Data are not available.
United Kingdom: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.
Sources for Switzerland: OFCOM Switzerland. Internet local calls are not included

Figure 33 *Incumbent's market share – all types of calls by volume*



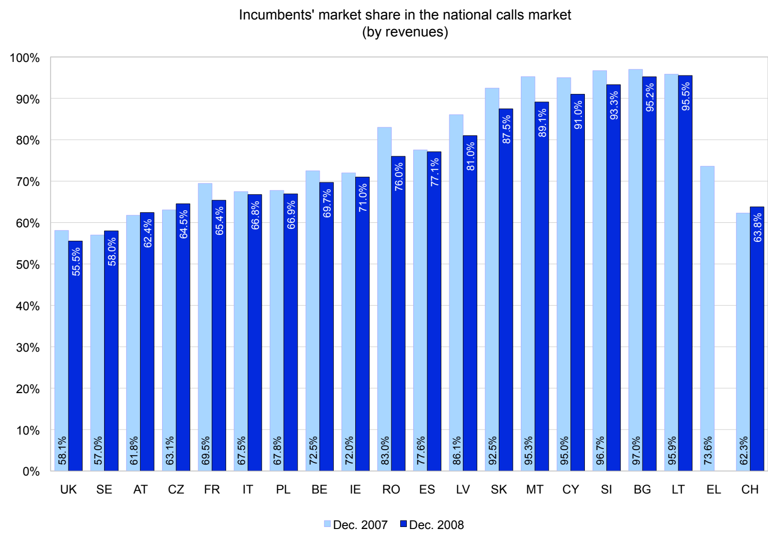
Cyprus: 2008 figures are estimates.
Estonia: Data are confidential.
France: 2008 figures are estimates. 2007 figures have been revised.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 75% in 2007 and 65% in 2008.
Austria: Due to some data corrections, there may be differences with the data published in the 14th Progress Report.
United Kingdom: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.
Sources for Switzerland: OFCOM Switzerland. Internet local calls are not included

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

The following charts show the incumbents' market share in the national, international and fixed to mobile calls markets 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 Member States.

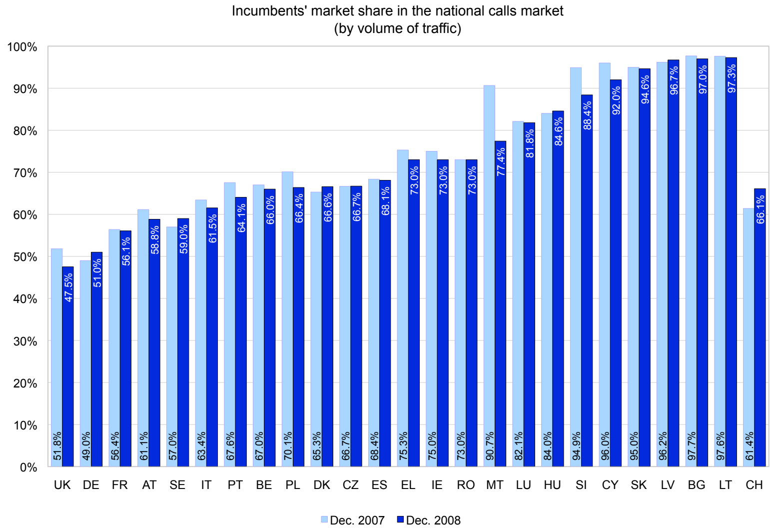
In the national call segment in terms of revenue and traffic, we can see that the situation in Switzerland is relatively competitive. In the international ranking it takes place four and nine, respectively. Interestingly, in some of the countries where is a lot of competition, the incumbent's market share has increased compared to the preceding year. The same thing happened also in Switzerland.

Figure 34 *Incumbent's market share – national calls by revenues*



Cyprus: 2008 figures are estimates.
Germany: Data on market shares by revenues are not available.
Denmark: Data on market shares by revenues are either not available for publication or confidential.
Greece: For 2008 it was not possible to split revenues by type of call, as several operators offered bundled packages and could not distinguish the revenues by type of call.
Estonia and Luxembourg: Data are confidential.
France: 2008 figures are estimates. 2007 figures have been revised.
Hungary: Data on market shares by revenues are not available.
Italy: National fixed calls include local, national long distance, internet dial up and public telephone calls as well as calls to non geographic numbers. Data are not based on the definitions of the 14th Progress Report and Agcom Annual Report 2009 (table 1.25 and 1.26). 'International traffic' includes phone centre and prepaid cards.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 65% in 2007 in 2008.
Austria: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.
Portugal: Data on revenues are not available as one of the largest operators cannot split revenue data by type of call.
Finland: Data are not available.
United Kingdom: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.
Sources for Switzerland: OFCOM Switzerland. Internet local calls are not included

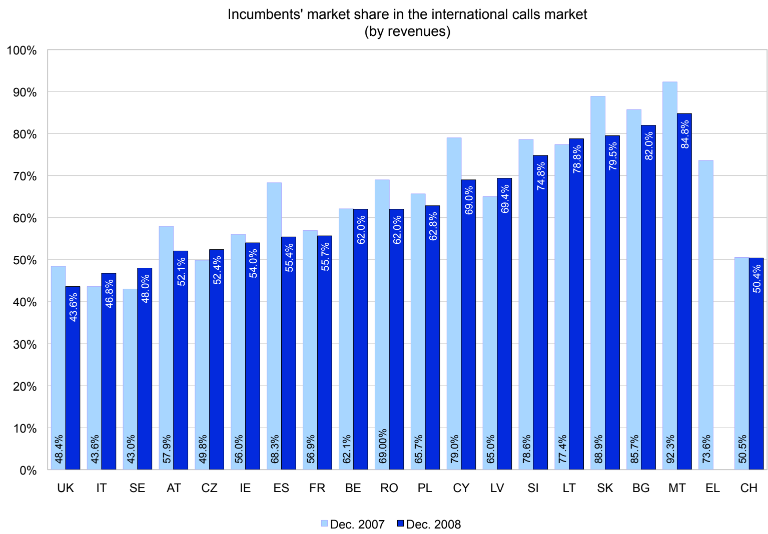
Figure 35 *Incumbent's market share – national calls by volume*



Cyprus: 2008 figures are estimates.
Estonia: Data are confidential.
France: 2008 figures are estimates. 2007 figures have been revised.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 65% in 2007 and 2008.
Austria: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.
Finland: Data are not available.
United Kingdom: Figures are for full calendar years, and include FRIACO calls as it is not possible to split these out.
Sources for Switzerland: OFCOM Switzerland. Internet local calls are not included

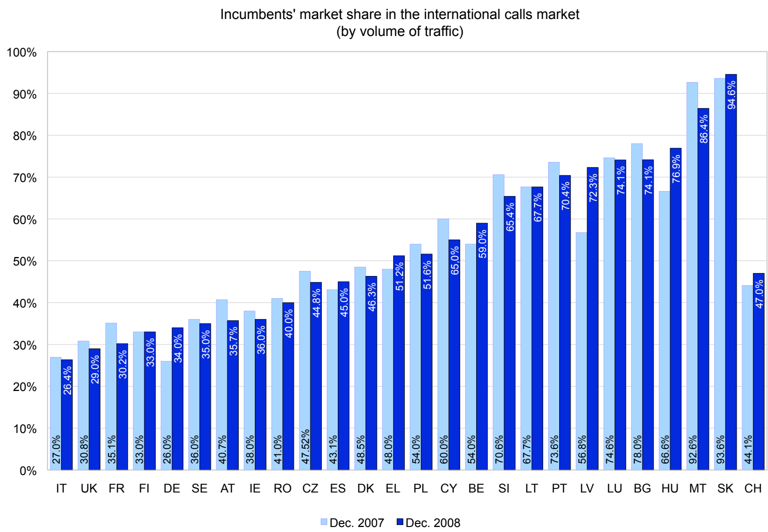
In comparison with the other European incumbents, at the end of 2008, in terms of revenue (Figure 36), Swisscom's international call market share was lower than that for most European countries. The sole exceptions are the market shares for international calls in the UK, Italy and Sweden. The situation is different in the case of market share based on minutes (Figure 37): in this case 12 countries have a lower market share in the international calls segments. The difference between the market share in terms of revenue and in terms of traffic is in most of the countries distinctive. This might indicate that the incumbent charges higher prices for international calls than alternative operators.

Figure 36 *Incumbent's market share – international calls by revenues*



Cyprus: 2008 figures are estimates.
Denmark: Data on market shares by revenues are either not available for publication or confidential.
Germany: Data on market shares by revenues not available.
Estonia: Data are confidential.
Greece: For 2008 it was not possible to split revenues by type of call, as several operators offered bundled packages and could not distinguish the revenues by type of call.
France: 2008 figures are estimates. 2007 figures have been revised.
Hungary: Data on market shares by revenues are not available.
Italy: National fixed calls include local, national long distance, internet dial up and public telephone calls as well as calls to non geographic numbers. Data are not based on the definitions of the 14th Progress Report and Agcom Annual Report 2009 (table 1.25 and 1.26). 'International traffic' includes phone centre and prepaid cards.
Luxembourg: Data are confidential.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 70% in 2007 and 50% in 2008.
Austria: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.
Portugal: Data on revenues are not available as one of the largest operators cannot split revenue data by type of call.
Finland: Data are not available.
United Kingdom: Figures are for full calendar years.
Sources for Switzerland: OFCOM Switzerland

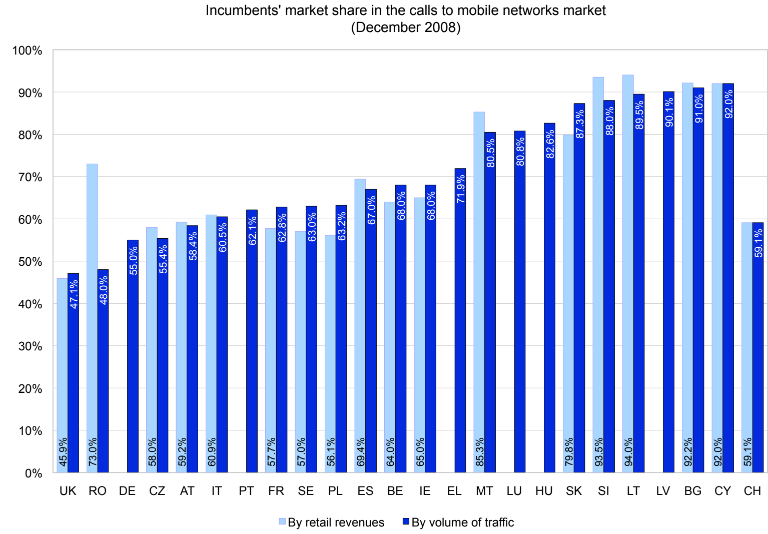
Figure 37 *Incumbent's market share – international calls by volume*



Cyprus: 2008 figures are estimates.
Estonia: Data are confidential.
France: 2008 figures are estimates. 2007 figures have been revised.
Italy: Phone centre and prepaid cards are also included.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 55% in 2007 and 45% in 2008.
Austria: Due to some data corrections, there may be differences to the data published in the 14th Progress Report.
United Kingdom: Figures are for full calendar years.
Sources for Switzerland: OFCOM Switzerland

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 59.1% of market share expressed in terms of revenue, Swisscom was in the 30% of historic operators with the lowest market shares in Europe. Swisscom's market share in terms of minutes is identical than that for revenue (59.1%).

Figure 38 *Incumbent's market share – calls to mobile*



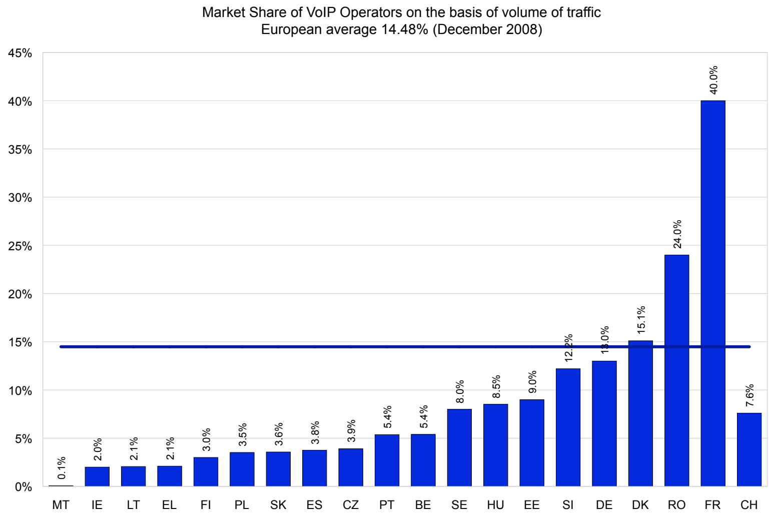
Denmark: Data not available for publication.
Germany: Data on market shares by revenues not available.
Estonia: Data are confidential.
Greece: For 2008 it was not possible to split revenues by type of call, as several operators offered call packages and could not distinguish the revenues by type of call.
France: 2008 figures are estimates. 2007 figures have been revised.
Hungary: Data on market shares by revenues are not available.
Latvia: Data on revenues are not available.
Luxembourg: Data on revenues are confidential.
The Netherlands: The exact market shares are confidential. The regulator provides an approximation of 65% in 2007 and 2008.
Portugal: Data on revenues are not available as one of the largest operators cannot split revenue data by type of call.
Finland: Data are not available.
UK: Figures are for full calendar years.
Cyprus: 2008 figures are estimates.
Sources for Switzerland: OFCOM Switzerland

3.1.2 VoIP market share

The following chart shows the available data for operators' market share on the voice over internet market. The market shares have been calculated on the basis of outgoing minutes of traffic for all fixed calls as of 31 December 2008. 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 through an IP network, at a speed over 128 Kbit/sec. Unmanaged Voice over IP and peer-to- peer services are not included. However, the above criteria are not followed by all Member States and the figures are not strictly comparable between countries.

Figure 39 illustrates the market shares of the Voice over IP segment (VoIP) in terms of traffic. At the end of 2006, Switzerland had a market share of only 0.1% and was very poorly positioned compared to the other countries. At the end of 2008 the situation has changed, Switzerland lies now with (7.6%) in the middle but still far behind Romania, France and Denmark.

Figure 39 *Market share of the VoIP operators by volume*



Belgium: Data are underestimated as cable operator Telenet does not provide a split between VoIP calls and other calls. Data is, therefore, based on the figures of KPN Belgium, Numericable (Coditel Brabant), Tecteo, Belgacom and Scarlet.
Bulgaria: Data are not available. No distinction is made between PSTN and VoIP operators and traffic.
Czech Republic: Data are based on interconnection traffic.
Latvia: Pursuant to national legislation there is no distinction between PSTN and VoIP operators and traffic.
Ireland: Data are an estimate.
Luxembourg: No large operator offered managed VoIP services to residential customers in 2008.
Malta: All networks are IP based. The figure given however includes only connections requiring a speed of 128 Kbit/sec and over (broadband).
The Netherlands: Data are not available for minutes. Based on subscriptions, the market share of VoIP within all fixed telephony is 40% (Q4 2008).
Italy, Cyprus, United Kingdom: Data are not available.
Austria: Data are not available for minutes. Approx. 56% of alternative operators' lines are managed VoIP (including the incumbent, approx. 7% of all fixed lines are managed VoIP)
Sources for Switzerland: OFCOM Switzerland

3.2 Direct Access

Direct access means that customers buy services from an alternative operator using the incumbents' or another operator's network via Local Loop Unbundling. The table below shows what percentage of national and international calls were made through direct access in 2008 and 2009. It is also presented, what percentage of direct access customers used the incumbents' networks.

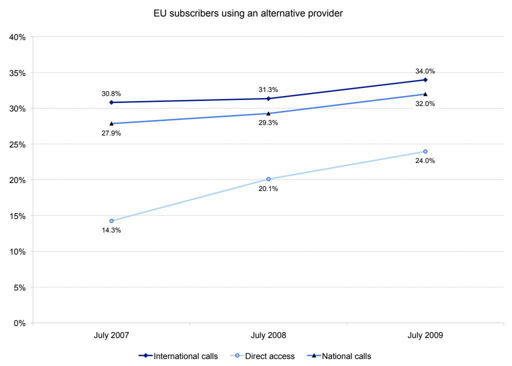
Table 5 *Direct Access*

	National calls 2008	National calls 2009	International calls 2008	International calls 2009	Incumbents direct access 2008	Incumbents direct access 2009
BE	33.0%	36.3%	33.0%	36.3%	85.0%	81.9%
BG	4.0%	6.0%	3.8%	6.3%	96.0%	94.0%
CZ	19.5%	17.8%	13.9%	9.9%	95.6%	93.1%
DK	n.a.	n.a.	n.a.	n.a.	83.3%	83.6%
DE	37.0%	40.0%	39.0%	42.0%	72.0%	67.0%
EE	30.0%	30.0%	29.0%	27.0%	78.0%	76.0%
EL	19.0%	21.0%	21.0%	22.0%	92.2%	85.3%
ES	26.5%	32.8%	26.5%	32.8%	78.1%	72.6%
FR	28.0%	30.7%	29.3%	31.2%	83.6%	79.1%
IE	22.0%	21.0%	22.0%	21.0%	n.a.	n.a.
IT	27.8%	28.7%	28.8%	29.4%	81.7%	78.0%
CY	5.0%	9.0%	5.0%	9.0%	95.0%	91.0%
LV	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
LT	4.9%	6.1%	6.1%	6.8%	98.1%	97.4%
LU	17.7%	20.3%	17.7%	20.3%	93.1%	90.9%
HU	13.9%	17.0%	21.1%	23.1%	91.9%	87.5%
MT	18.5%	22.0%	18.5%	22.0%	82.6%	78.4%
NL	35.0%	35.0%	45.0%	50.0%	75.0%	70.0%
AT	40.0%	38.0%	44.0%	43.0%	84.0%	83.0%
PL	22.0%	26.0%	n.a.	n.a.	78.0%	74.0%
PT	43.1%	42.4%	43.5%	44.4%	63.1%	58.7%
RO	32.0%	36.0%	33.0%	37.0%	68.0%	64.0%
SI	11.3%	19.6%	11.6%	19.8%	89.3%	81.1%
SK	4.7%	5.6%	5.3%	6.1%	95.3%	94.4%
FI	25.0%	25.0%	45.0%	45.0%	99.0%	99.0%
SE	32.0%	33.0%	n.a.	n.a.	100.0%	0.0%
UK	35.4%	39.3%	35.4%	39.3%	79.3%	77.9%
EU	**29.3%**	**32.0%**	**31.3%**	**34.0%**	**80.4%**	**75.9%**
CH	**29.9%**	**30.1%**	**32.2%**	**32.2%**	**90.7%**	**88.2%**

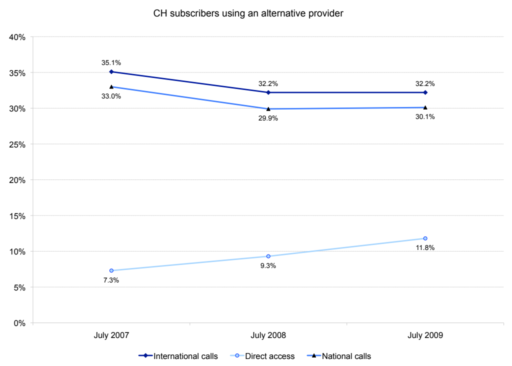
Luxembourg: 2007/2008 figures were revised and presented as of the end of each year.
Poland: Operators cannot separate data between different types of calls (National and International). Only cumulative data are available.
Sources for Switzerland: OFCOM Switzerland. Data refer to December 2007 and 2008

In Switzerland, about one out of three consumers is using the services of an alternative provider for making national or international calls. These values (30.1% and 32.2%) are only slightly lower than the EU average (32.0% and 34.0%). While the market share of alternative providers increases in Europe, it is stabilizing in Switzerland. The picture is different for direct connections: In 2008 88.2% of connections are offered by the incumbent, which is only 2.5 points less than a year before. The EU level is much lower (75.9%). Whereas in 2007 the EU average of the incumbent's subscribers was 10.3 points lower, in 2008 the difference has increased up to 12.3 points.

Figure 40 *EU subscribers using an alternative provider 2007-2009*



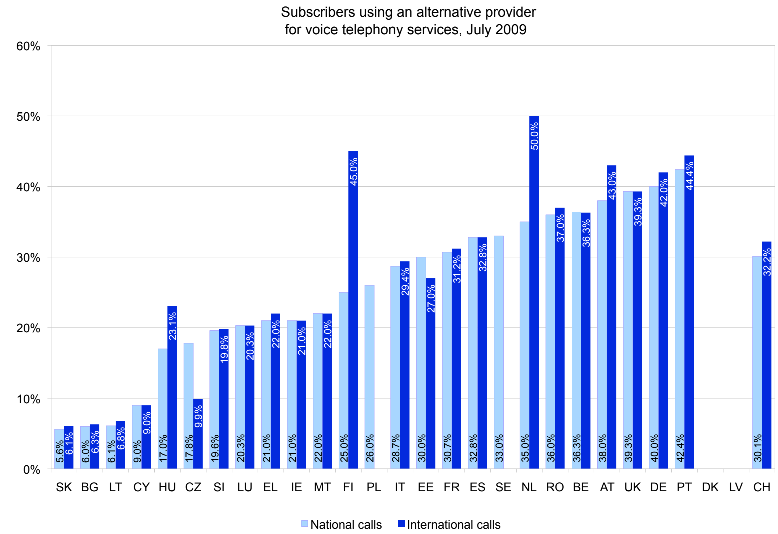
(a)



(b)

Source for Switzerland: OFCOM Switzerland. Data refer to December 2006, 2007 and 2008

Figure 41 *EU subscribers using an alternative provider*



Bulgaria: Most operators can not separate data for type of calls. Therefore, the figures on national calls and international calls should be considered as indicative.
Greece: In case of national and international calls, figures refer to 31 December of the previous year. Direct Access refers to 1 July of the respective year.
Germany: IP access lines are included. Figures for international calls are NRAs estimates.
Austria: Data are estimates
Poland: Operators can not separate data for type of calls. Only cumulative data are available.
Slovenia: Data are based on access lines.
Sweden: Data for international calls are not available.
United Kingdom: Figures refer to number of lines taking voice services from providers other than the incumbent. Split between national and international calls is not available.
Sources for Switzerland: OFCOM Switzerland. Data refer to December 2008

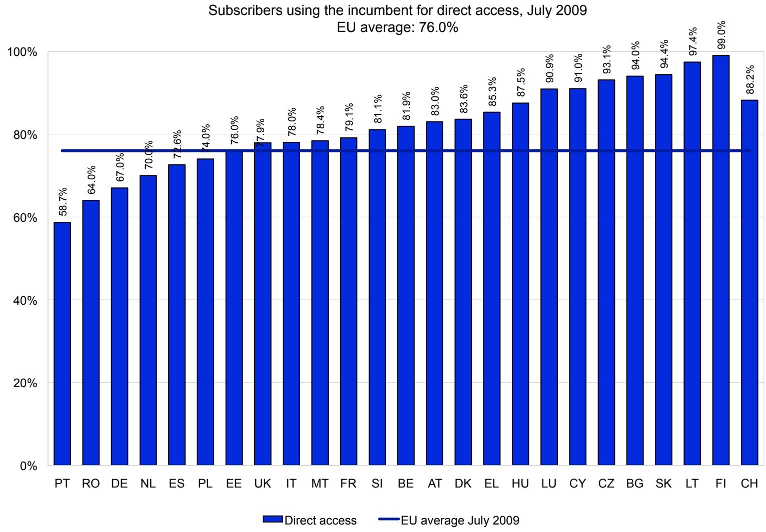
In April 2007, unbundling of the local loop became a reality in Swiss law, whereas this instrument was already in effect in the Union countries at the beginning of 2001. It is from this perspective that the differences between Switzerland and the European Union countries should be interpreted. We should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

It was only in the second half of 2007 that the first offerings appeared. In July 2009, there were already 10 operators (Figure 43, 44 and 47) offering services on unbundled connections.

Shared access is also operational in Switzerland since 3. quartal 2009. Only one operator was using that instrument to access its clients (Figure 43 and 46).

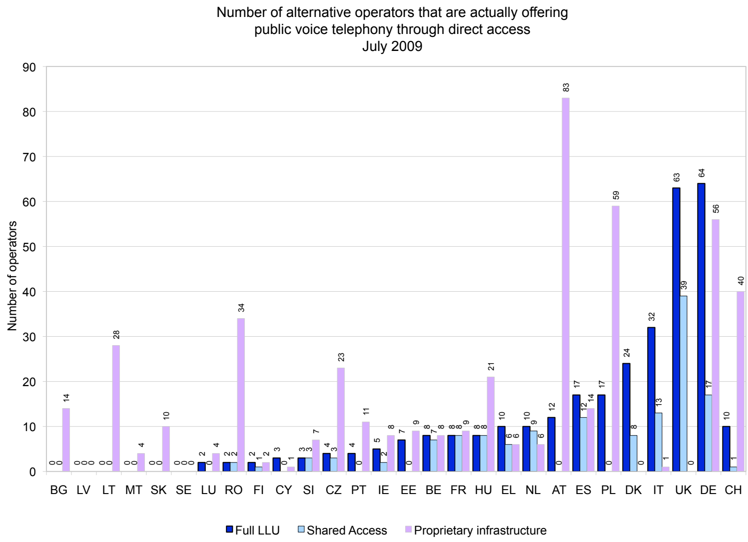
As far as the operators with their own access infrastructure are concerned (Figures 43 and 45), we observe that Switzerland has 40, corresponding to 44.4% of the alternative providers offering public telephony services on the fixed network. In terms of absolute numbers, Switzerland is very well positioned, 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; which are mainly targeted at business customers. Today, only the cable operators offer a genuine alternative access to individuals. But the current investments in new infrastructure, i.e. optical fiber, are not only done by Swisscom, but as well by some cantonal power suppliers.

Figure 42 *EU subscribers using the incumbent for direct access, July 2009*



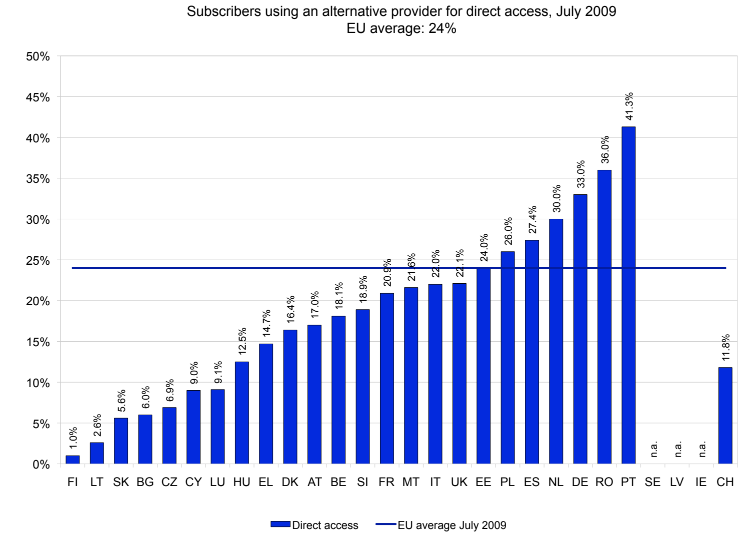
Ireland, Latvia and Sweden: Data are not available.
Austria: Data are estimates.
Slovenia: Data are based on access lines.
Sources for Switzerland: OFCOM Switzerland. Data refer to December 2008

Figure 43 *Number of alternative operators, direct access July 2009*



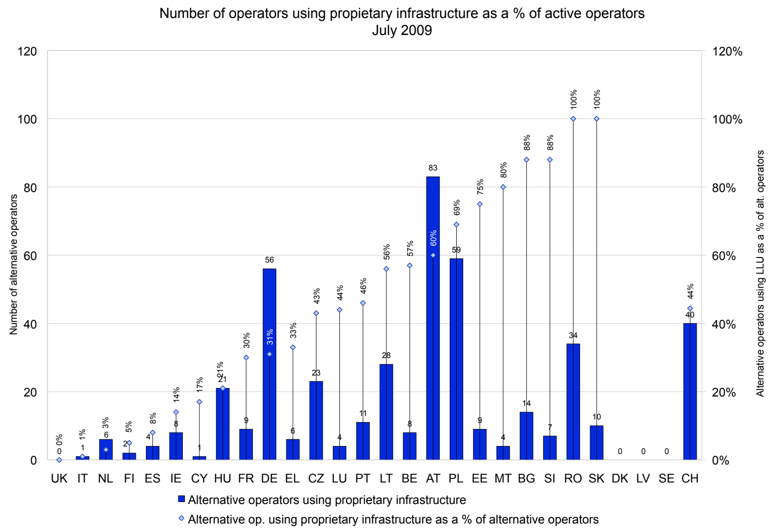
Czech Republic: Only VoIP similar to PATS is included.
Denmark: Data refers to the number of agreements between the incumbent and alternative operators. Information about whether these operators are actually offering public voice telephony through the LLU is not available.
Lithuania: Proprietary infrastructure includes cable TV operators that provide fixed telephony
The Netherlands: Data for full LLU and shared access are as of 31 December 2008. Proprietary access includes small local cable and FttH operators, many using VoIP. Besides KPN, the 4 largest cable operators and the largest FttH operator Reggefiber, there are approximately 50 small cable and FttH operators with proprietary infrastructure.
Austria: Estimates are based on national data request for 2007.
Slovenia: Number of alternative VoIP operators is eight.
Sources for Switzerland: OFCOM Switzerland. Data refer to December 2008 for proprietary infrastructure and to December 2009 for Full LLU and shared access

Figure 44 *Number of subscribers to alternative operators, direct access July 2009*



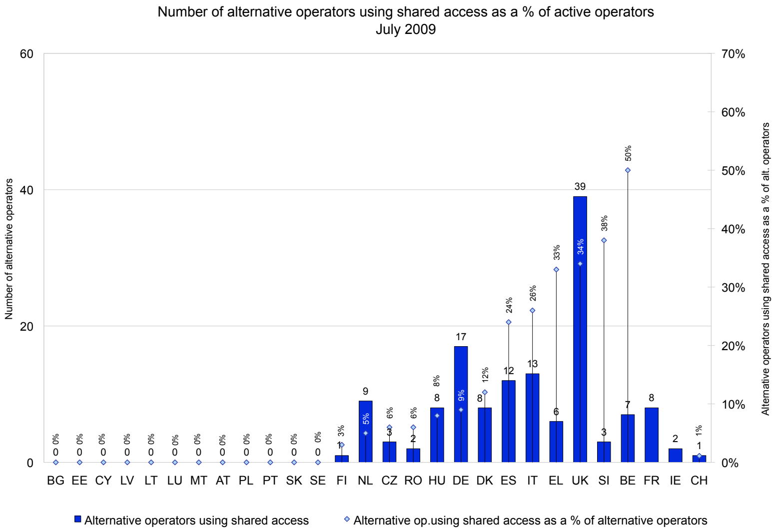
Austria: Data are estimates.
Poland: Data are not available.
Slovenia: Data are based on access lines.
Sources for Switzerland: OFCOM Switzerland. Data refer to December 2008

Figure 45 *Number of operators using proprietory infrastructure as a % of alternative operators*



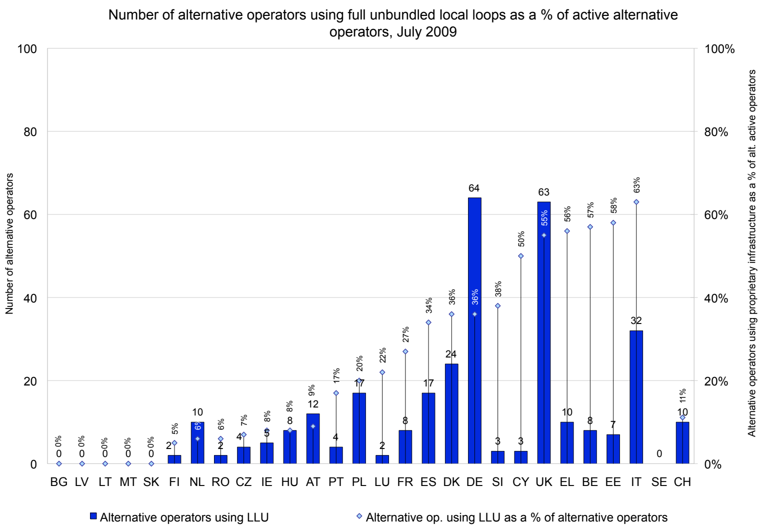
Denmark: The indicated figures comprise only direct access via PSTN or ISDN. Figures for alternative operators owned by incumbent have been counted as part of the incumbent's figures.
Latvia: Data on proprietary infrastructure are not available.
The Netherlands: Only an approximation is given due to confidential data.
Austria: Data are estimates based on national data request for 2007.
Sweden: Data are not available.
Sources for Switzerland: OFCOM Switzerland. Data refer to December 2008

Figure 46 *Number of alternative operators using shared access as a % of active alternative operators*



Denmark: The indicated figures comprise only direct access via PSTN or ISDN. Figures for alternative operators owned by incumbent have been counted as part of the incumbent's figures.
The Netherlands: Only an approximation is given due to confidential data.
Austria: Data are estimates based on national data request for 2007.
Sweden: Data are not available.
Sources for Switzerland: OFCOM Switzerland estimations. Data refer to December 2009

Figure 47 *Number of alternative operators using full unbundled local loops as a % of active alternative operators*



Denmark: The indicated figures comprise only direct access via PSTN or ISDN. Figures for alternative operators owned by incumbent have been counted as part of the incumbent's figures.
Lithuania: Two agreements on the provision of unbundled access to the local loop service were signed, but incumbents' full LLU lines were used in retail level by new entrants for the provision of data transmission services (e.g. VPN).
The Netherlands: Only an approximation is given due to confidential data.
Austria: Data are estimates based on national data request for 2007.
Sweden: Data are not available.
Sources for Switzerland: OFCOM Switzerland estimations. Data refer to December 2009

3.3 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 include the number of transactions calculated up to 1 October each year. Data also include the the average number of days taken to port a number as well as the cost of porting a number. Inter-operator prices for fixed number portability refer to the amount charged by the incumbent to the recipient operators for porting a geographic telephone 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 some countries there is no charge for the porting of fixed numbers.

Two different measurements were used on number portability. 'Transactions' refer to the total number of number ported between 1 January and 30 September each year. 'Ported numbers' refer to the number of those numbers that are held by another operator than the range holder on 30 September each year.

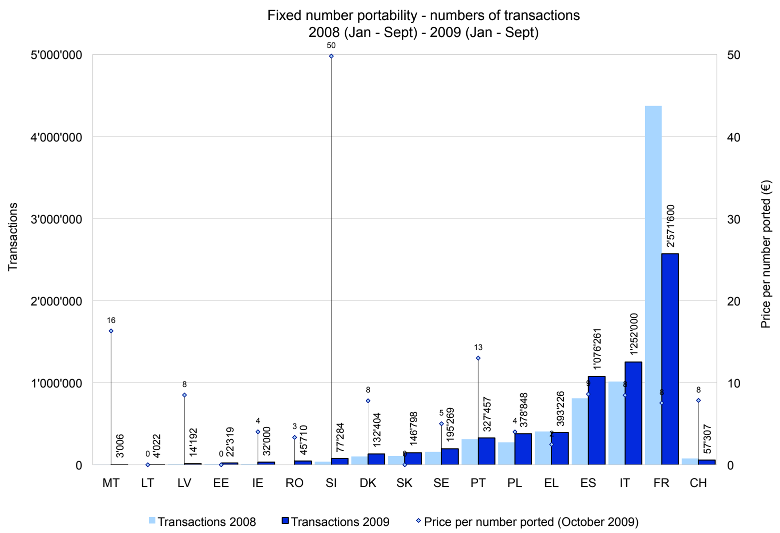
The EU defines 'Ported numbers' as the number of those numbers that are held by another operator than the range holder on 30 September each year. In Switzerland such data are not collected. Therefore no data are available for figure 49. It should also be noted that for figure 48, the Swiss data refer the whole 2008 year and not only 9 month as for the European countries. Comparison of those indicators with the EU is therefore not very welcome.

At the end of 2008 the proportion of ported numbers made up about 1.2% of the total number of fixed telephony subscriptions. Since the introduction of number portability, about 8% of total fixed subscriptions have been ported.

The price in Switzerland (7.84 Euros) lies in the middle of the rest of the European countries who charge for number portability. EU average is 8.14 Euros.

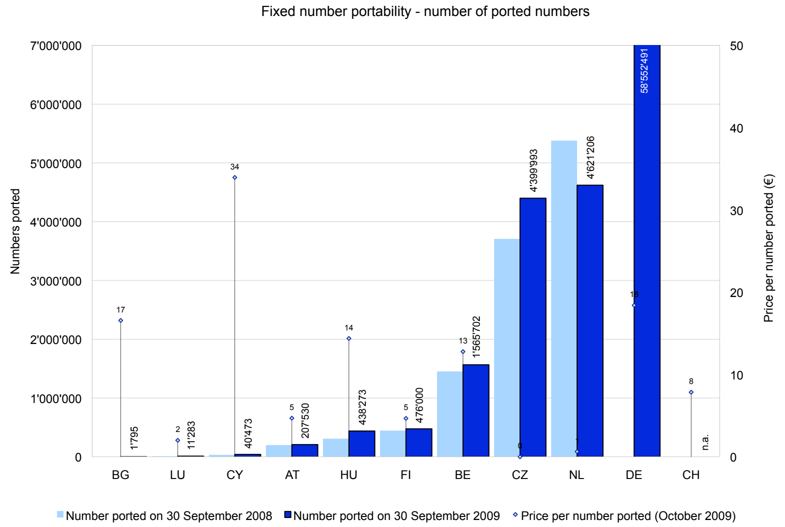
The time taken for fixed number portability is estimated to 10 working days (incumbent). It is 3.5 days more than the European average. Six countries need more time that Switzerland to implement the migration.

Figure 48 *Fixed number portability - transactions*



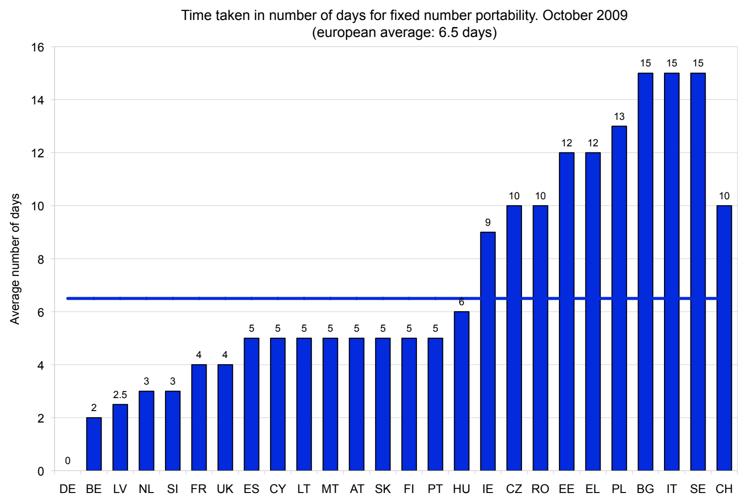
Sources for Switzerland: OFCOM Switzerland. OFCOM Switzerland. Data refer the whole 2007 and 2008 year, i.e. 12 months

Figure 49 *Fixed number portability – number of ported numbers*



Belgium: 2009 data refers to 23 September. Non-geographic numbers are included. Data refer to the price for simple installations (Euro 4.692). Price for a complex installation is Euro 71.222. Simple installation: a PSTN or ISDN- basic access line with one or more numbers or a non geographical number. Complex installation: a PBX or other complex customer premises equipment connected via one or more ISDN or PSTN lines or DDI ranges of 10100 or 1000 non-geographical numbers.
Bulgaria: Fixed portability was launched in July 2009. The price for number portability is the same for all operators: 25.00 BGN per number, excluding VAT.
Czech Republic: Portations of both single numbers and number ranges are included.
Denmark: Data refers to transactions between January and June each year.
Germany: The very high figure on ported numbers is due to the fact, that close to 300 million numbers are allocated to customers. Data is as of 1 January 2009, no data is available for 2008. There are no inter-operator charges for number portability. Retail subscribers have to pay Euro 5.81.
France and Slovakia: Data refers to 12 months intervals (1 October to 30 September).
The Netherlands: Not all transactions are included: Numbers which are ported from another operator to the original number holder are not indicated in the table above. The total transactions between 1/10/2008 till 1/10/2009 are (including the transactions from another operator to the original number holder) are 1.089.426.
Austria: The maximum price (one-off fee) is given.
Portugal: The wholesale price per ported number of the incumbent includes a reduction in case of DDI: Euro 1.47 for DDI blocks between 10 and 100 numbers, Euro 0.73 for DDI blocks with more than 100 numbers.
Romania: Number portability was not available in 2008.
Slovenia: Maximum price is given.
United Kingdom: Data are not collected.
Sources for Switzerland: not available

Figure 50 *Time taken in number of days for fixed number portability*



Belgium: Time needed for simple installations is 2 working days. For complex installation it is 3 working days.
Bulgaria: Time limit for porting a group of numbers is 25 working days and 15 working days for porting a single number.
Czech Republic: Time limit for making number available for porting is 10 days.
Cyprus: A provisional value is presented
Denmark and Luxembourg: Data are not available.
Germany: If requesting numbers can be ported immediately, otherwise it takes 5 days.
Hungary: Maximum time is eight days, average is six days.
Latvia: Maximum time according to law is 10 days. The average number of days is estimated at 2-3.
Slovenia, Sweden, Slovakia, Malta, Lithuania and Romania: Maximum time is given.
Netherlands: Technical porting: is less than 2 hours. For the end-user (from request to end of technical porting) the average is 3 days (max. 10 days).
Poland: Time needed to port to the incumbent's network is given.
Portugal: Minimum time is 2 days.
Sources for Switzerland: OFCOM Switzerland. Data refer to 2007 and 2008

3.4 Public Fixed voice telephony tariffs

This section examines the monthly rental charges and the main tariffs for public fixed voice telephony charged by the incumbent operators in each Member State in September 2009. The price trend over the past 10 years is also analyzed.

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

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

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

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

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

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

For the various types of calls, a benchmark based on a comparison with the USA and Japan is also included. The EU average tariffs shown in the charts are weighted averages (by population of the Member States).

3.4.1 Monthly rental charged by the incumbent operators

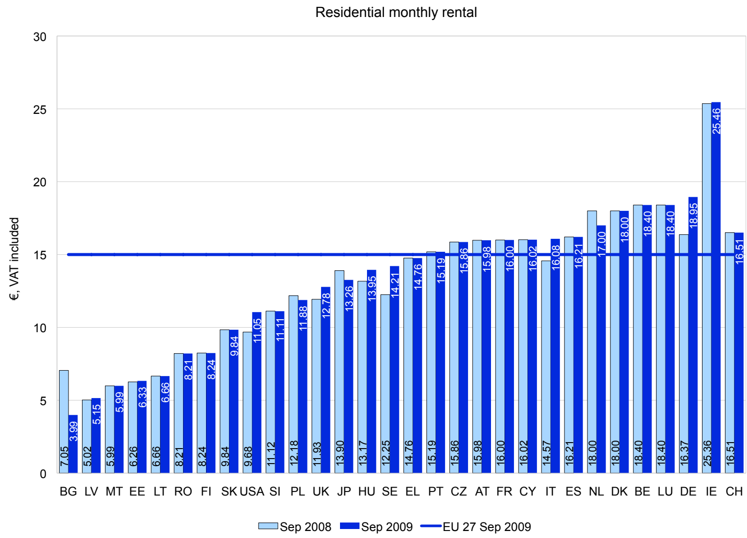
The following charts show the incumbent's monthly line rental charges for residential and business users in September 2008 and September 2009. In order to reflect the real charges actually paid by users, values are expressed in Euros, including VAT for residential users and excluding VAT for business users.

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

In some countries the monthly rental depends 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 16.5 Euros. The EU average (15.0), increased compared to September 2008 (14.4 Euros). The Swiss charge has been unchanged since 2000.

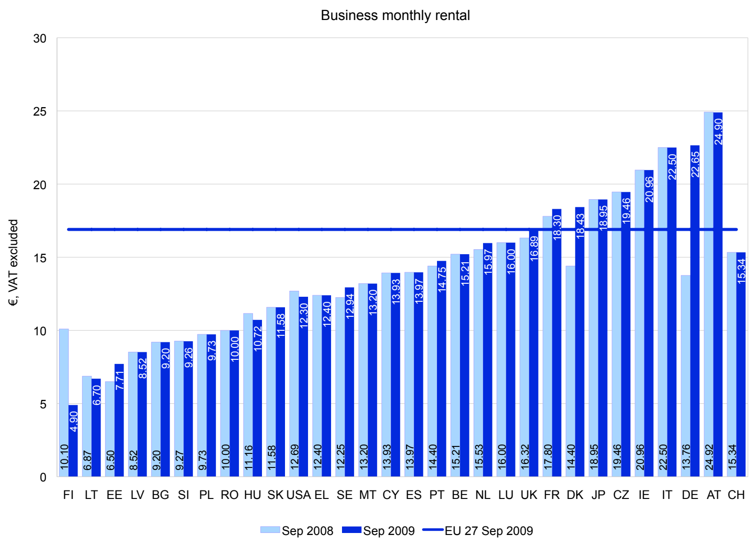
Figure 51 *Residential monthly rental*



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 (16.9 Euros vs. 15.3 Euros).

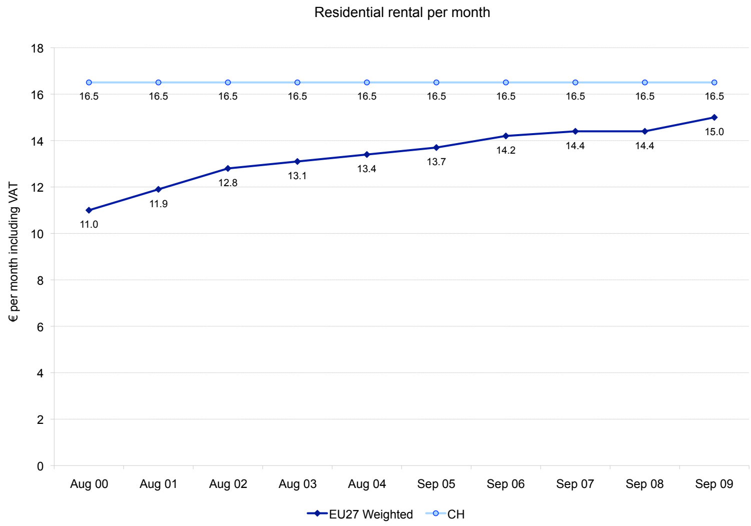
Figure 52 *Business monthly rental*



Sources for Switzerland: Telecom operators

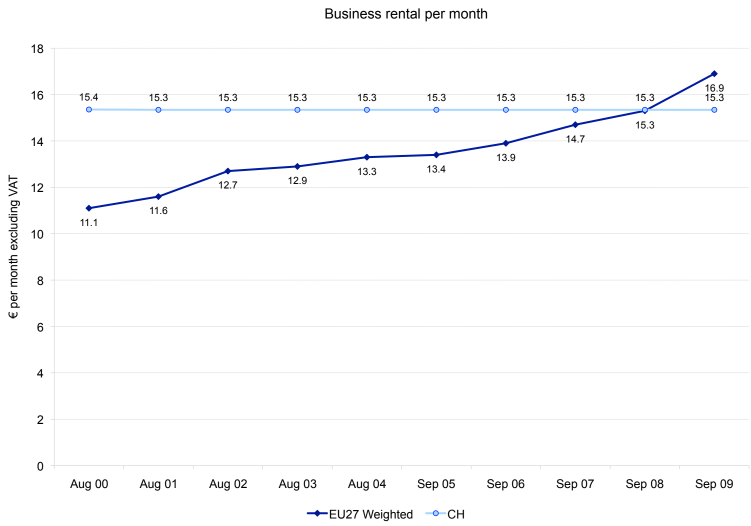
Since the liberalisation of the telecommunications market, which generally took place in 1998, line prices have gradually increased in the European Union countries. This phenomenon is known as tariff readjustment. Its origin lies in the fact that lines were generally subsidized by revenue from calls. 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 its neighbours. Business line rentals are now even cheaper in Switzerland than in the EU.

Figure 53 *Residential rental per month*



Sources for Switzerland: Telecom operators

Figure 54 *Business rental per month*



Sources for Switzerland: Telecom operators

3.4.2 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 2009, 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 as follows:

- Five new baskets for Low, Medium and High residential usage and business baskets for SOHO and SME usage;
- Fixed to Mobile calls now include calls to up to 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.

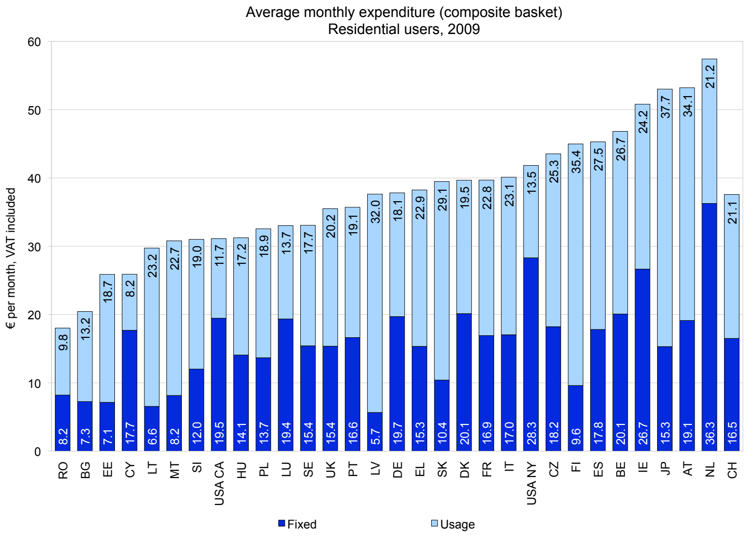
The usage charges for national calls to fixed lines are calculated with a weighted distribution over 14 distances from 3 to 490 km, at representative times of day (4 calls during the week and 2 during the weekend). The call duration varies from 1.9 to 3.1 minutes, depending on time and distance.

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 37.6 Euros per month for a standard range of services showing that Switzerland is positioned near the European average. In 16 countries of the panel (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.

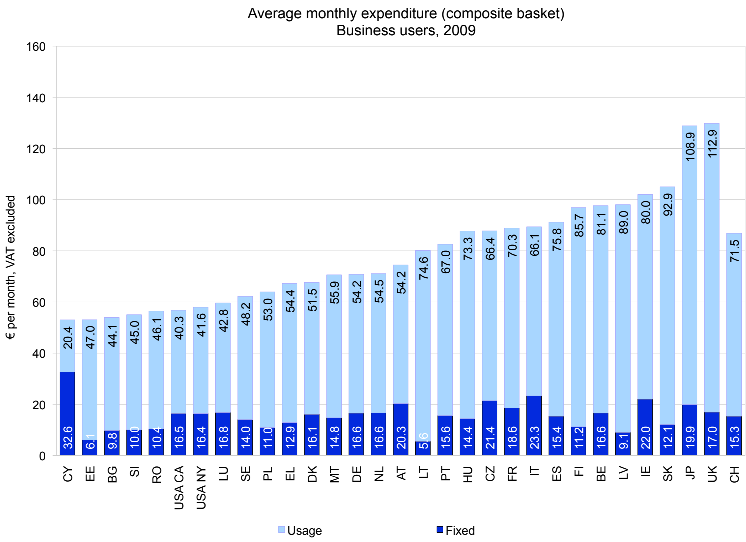
Figure 55 *Average monthly expenditure (composite basket) residential users*



Source for Switzerland: Teligen T-Basket, August 2009, August 2009

The same exercise was carried out for businesses and the results are displayed in Figure 56. The cost of a standard basket of services in Switzerland is 86.8 Euros. 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 56 *Average monthly expenditure (composite basket) business users*



Source for Switzerland: Teligen T-Basket, August 2009

2006 OECD baskets

In Switzerland, residential users pay 28.7 Euros for a low usage basket (Figure 57), and lies therewith in de middle of European prices.

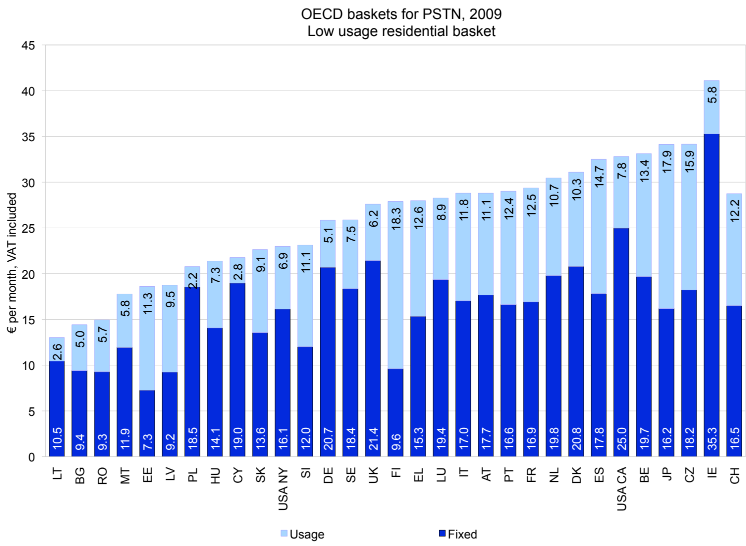
The cost of the medium usage residential basket (Figure 58) in Switzerland (41.1 Euros) is among the six highest in Europe.

For high users Switzerland is with 70.8 Euros one of the most expensive countries (Figure 59).

With a monthly charge of 45.5 Euros, excluding VAT, Switzerland is ranked 8th in terms of the most expensive European SOHO business baskets (Figure 60).

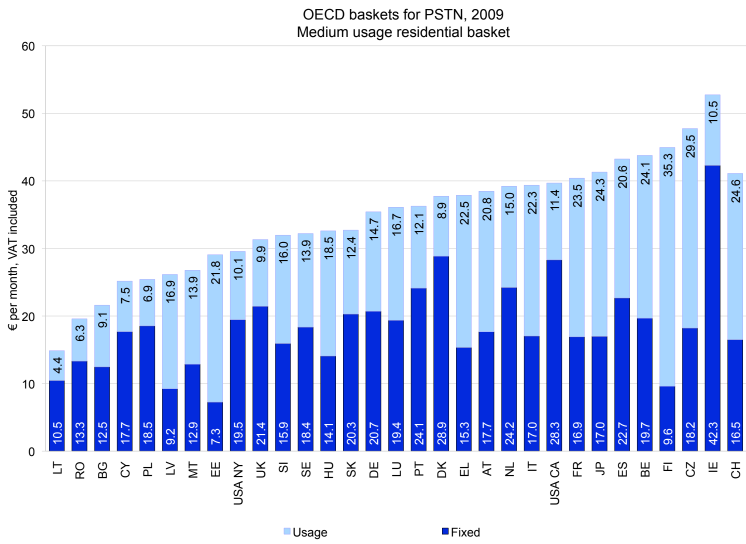
Swiss business users pay 1746.4 Euros, excluding VAT, for the SME basket (Figure 61) which ranks Switzerland 8th in Europe.

Figure 57 *OECD baskets for PSTN, 2009, Low usage residential basket*



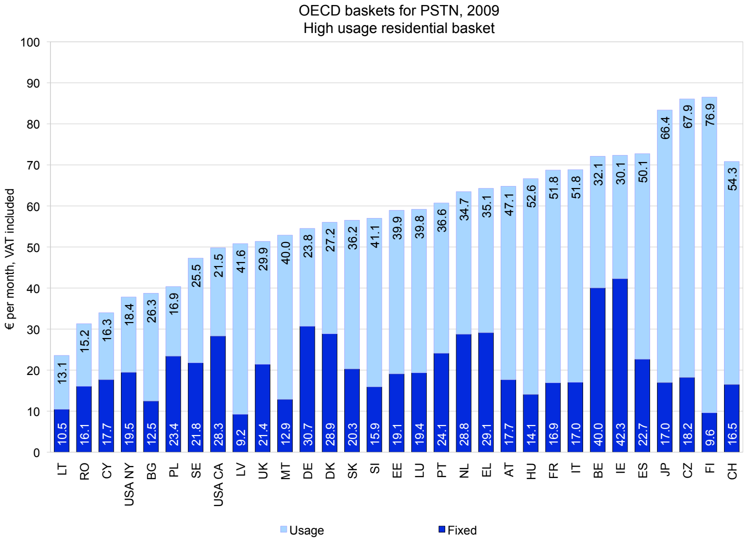
Source for Switzerland: Teligen T-Basket, August 2009

Figure 58 *OECD baskets for PSTN, 2009, Medium usage residential basket*



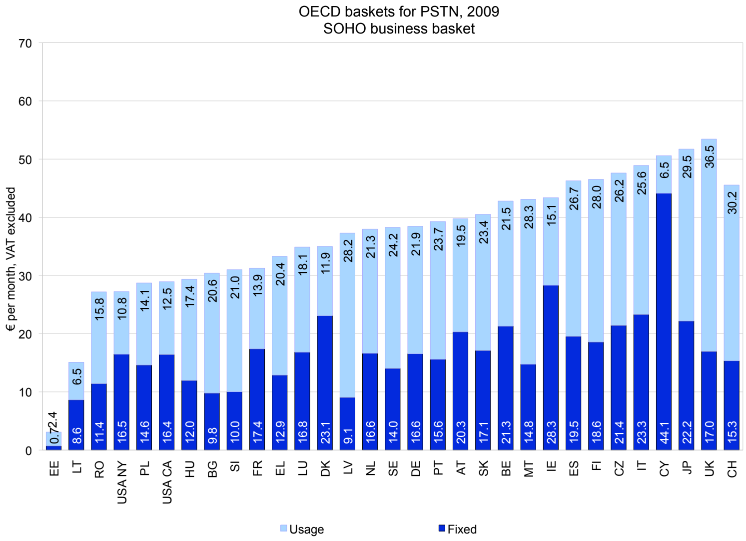
Source for Switzerland: Teligen T-Basket, August 2009

Figure 59 *OECD baskets for PSTN, 2009, High usage residential basket*



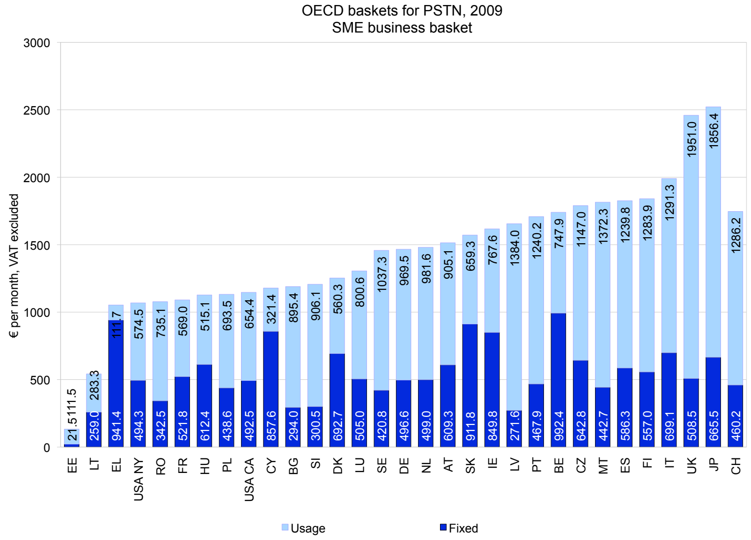
Source for Switzerland: Teligen T-Basket, August 2009

Figure 60 *OECD baskets for PSTN, 2009, SOHO business basket*



Source for Switzerland: Teligen T-Basket, August 2009

Figure 61 *OECD baskets for PSTN, 2009, SME business basket*



Source for Switzerland: Teligen T-Basket, August 2009

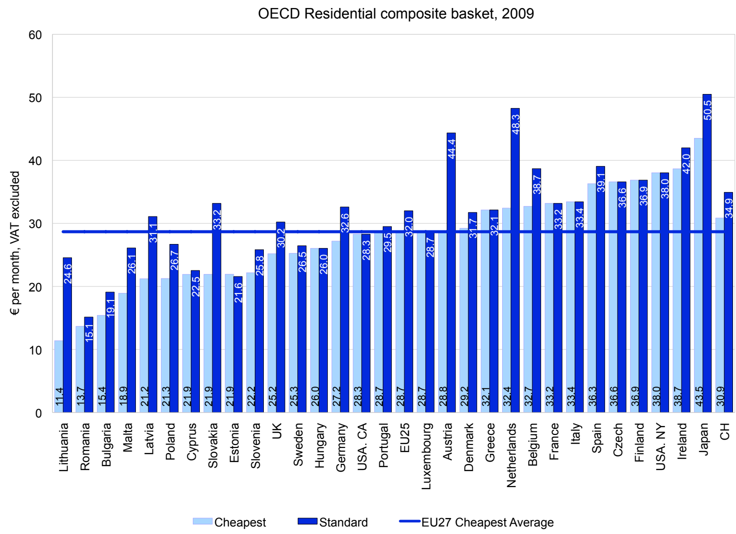
Comparison of the "standard" package with the "cheapest package"

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 a moderate difference between the cheapest and the standard baskets, for both residential and business users. For residential users the "cheapest" basket costs 30.9 Euros while the "standard" basket costs 4 Euros (or 12.9%) more. For business users the cost is 74.6 Euros for the "cheapest" basket and the "standard" costs additional 12.3 Euros. The biggest differences between "cheapest" and "standard" baskets were recorded in the Netherlands, over 15 Euros for residential users, and in Lithuania, over 60 Euros for business users.

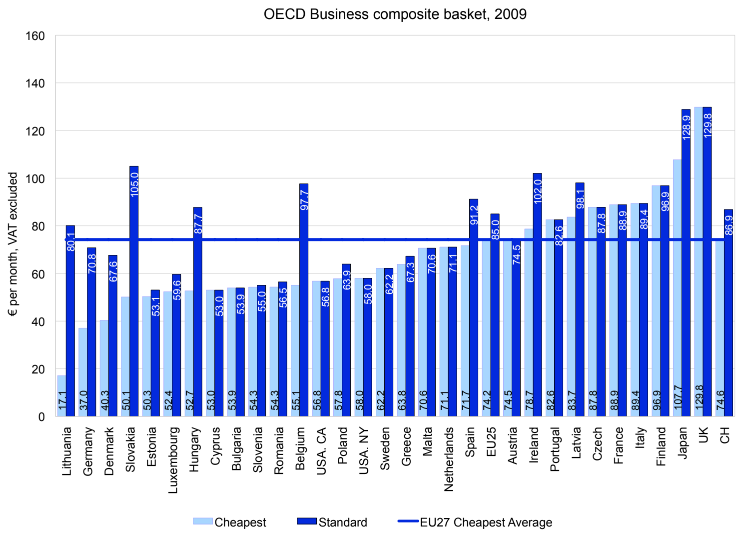
The "cheapest" residential as well as business basket in Switzerland are about at the same level as the EU25 average (28.7 and 74.2 Euros, respectively). The highest residential tariff packages were recorded in Japan, while Lithuania had the lowest. For the business composite basket, the UK and Japan are the most expensive and Lithuania the cheapest country.

Figure 62 *OECD Residential Composite basket*



Source for Switzerland: Teligen T-Basket, August 2009, OFCOM Switzerland calculations

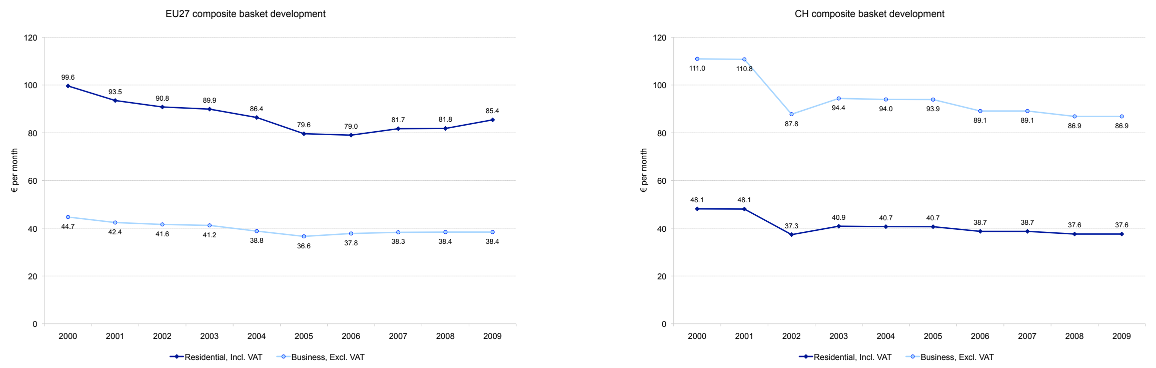
Figure 63 *OECD Business Composite basket*



Source for Switzerland: Teligen T-Basket, August 2009, OFCOM Switzerland calculations

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

Figure 64 *EU composite basket development*



(a) (b)

Source for Switzerland: Teligen T-Basket, August 2009

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

The basket of international calls 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.

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

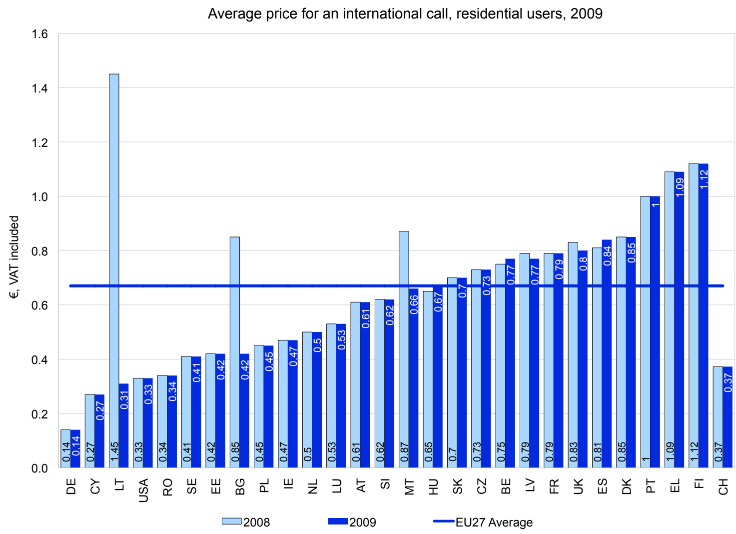
All tariffs are standard prices from incumbent operators, and both these operators and new entrants/alternative operators may offer lower prices.

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

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

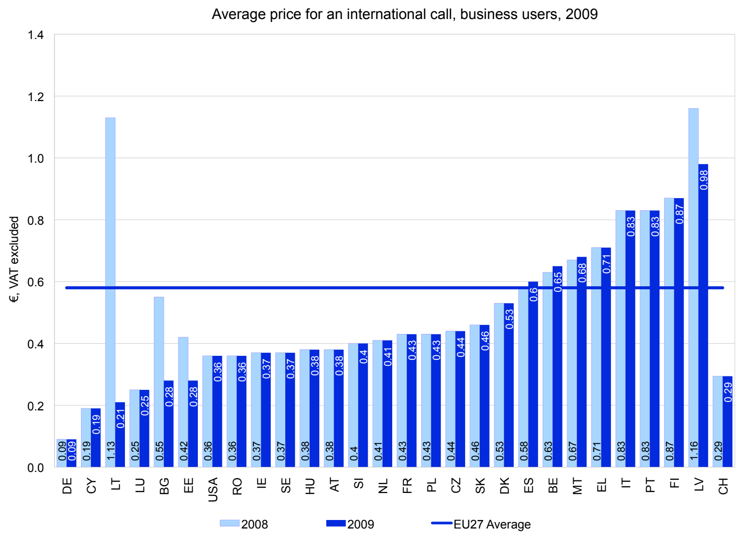
In terms of the cost of international calls, Switzerland is in an good position as only five and six countries have more attractive prices, either for residential (Figure 65) or for businesses users (Figure 66) respectively. The prices charged are well below the weighted European averages. For a country such as Switzerland, which is traditionally orientated towards exporting, this situation is encouraging. As Figures 67 (a) and (b) show, the prices in Switzerland are low for a long time now, whereas the average price in the Union is continuously falling and has still not reached the Swiss level. 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 65 *Average price for an international call, residential user*



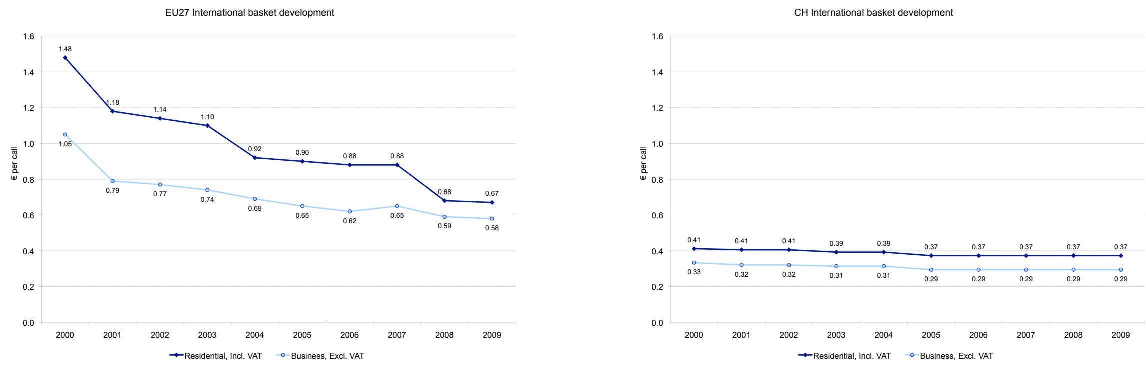
Source for Switzerland: Teligen T-Basket, August 2009

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



Source for Switzerland: Teligen T-Basket, August 2009

Figure 67 *EU27 international basket development*



(a) (b)

Source for Switzerland: Teligen T-Basket, August 2009

3.4.5 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 2009. 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.

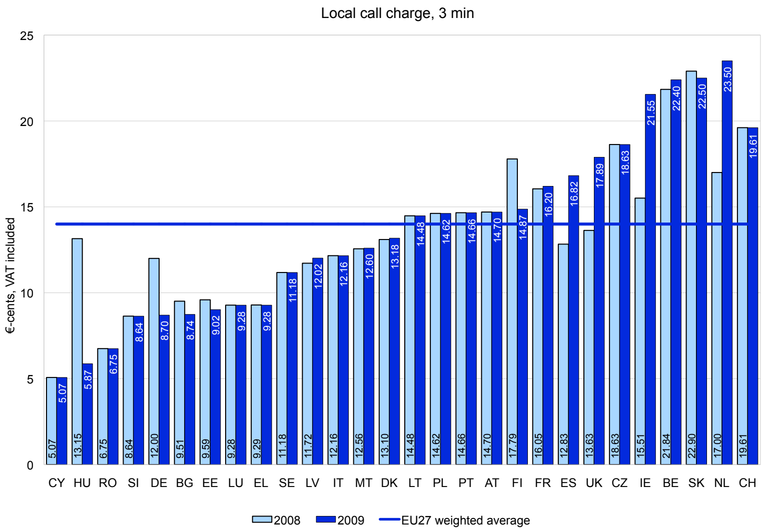
Where different tariff packages exist, the basic, residential package is selected. Otherwise the standard tariff is used. No discount packages are taken into account.

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 68), prices are higher only in Belgium, Slovakia and the Netherlands. The situation is slightly different for a 10-minute call (Figure 69), with six countries applying higher tariffs. Switzerland's poor performance is attributable to the 2002 introduced single national rate, which is independent of distance. Following the introduction of this new method of charging, the price of local calls increased whilst that of national calls decreased.

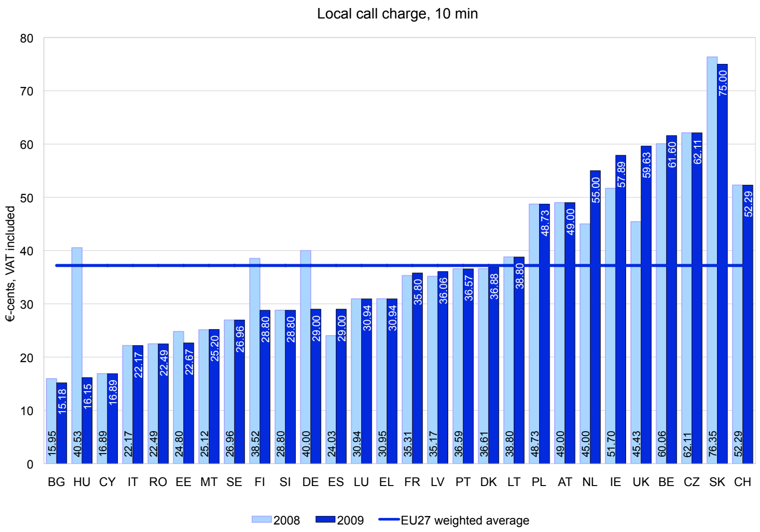
With regard to prices charged for national calls (Figures 70 and 71), Switzerland is well placed in the international comparison. Swiss users get charged 19.61 Euro-cents for 3 and 52.29 Euro-cents for 10 minutes of a call. Indeed, regardless of call duration, Swiss prices are clearly below the EU27 weighted average (24.2 and 70.3 Euros, respectively). In 2009, the lowest national prices has Cyprus, namely for a 3 minutes as well as for a 10 minutes call (5.07 and 16.89, respectively). Slovakia is in this respect the most expensive country, regardless of call duration.

Figure 68 *Local call charge, 3 min*



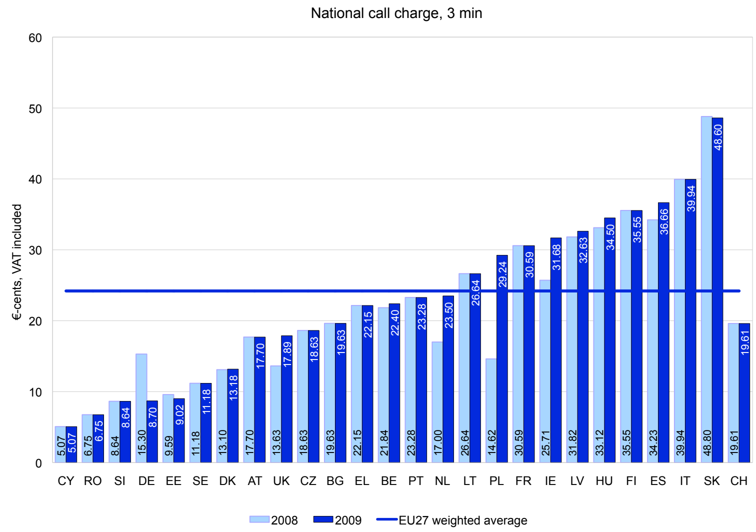
Sources for Switzerland: Telecom operators

Figure 69 *Local call charge, 10 min*



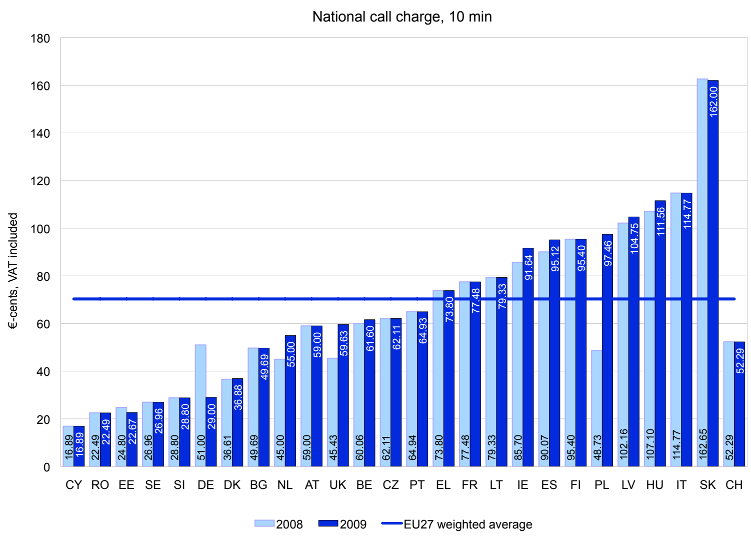
Sources for Switzerland: Telecom operators

Figure 70 *National call charge, 3 min*



Sources for Switzerland: Telecom operators

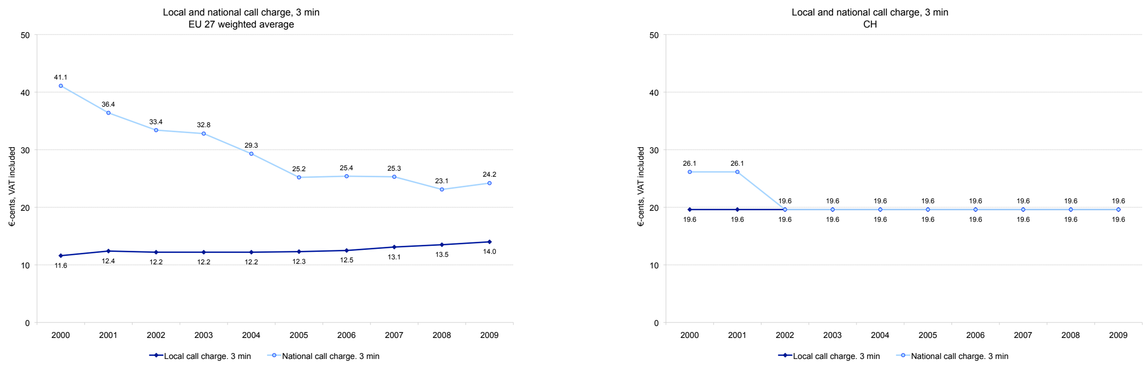
Figure 71 *National call charge, 10 min*



Sources for Switzerland: Telecom operators

Figures 72 (a) and (b) show the evolution of local and national prices from 2000 to 2009 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. On the other hand, the prices of a national 3-minute call fell in the EU. Since the introduction of the single national tariff in Switzerland (2002) the price has not changed, while the price did practically not change in the EU between 2005 and 2009. One can draw similar conclusions from the analysis of the trend in prices for 10-minute calls shown in Figure 73.

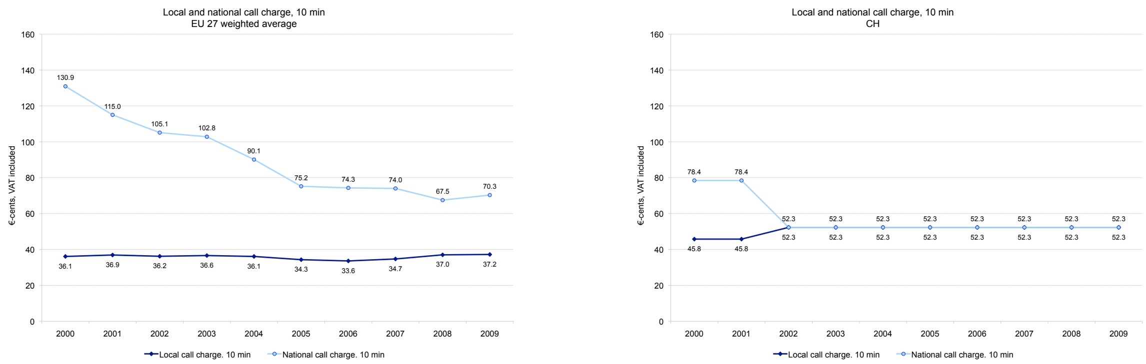
Figure 72 *Local and national call charge, 3 min, EU27 weighted average*



(a) (b)

Sources for Switzerland: Telecom operators

Figure 73 *Local and national call charge, 10 min, EU27 weighted average*



(a) (b)

Sources for Switzerland: Telecom operators

3.4.6 Price of fixed national calls by alternative operators

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

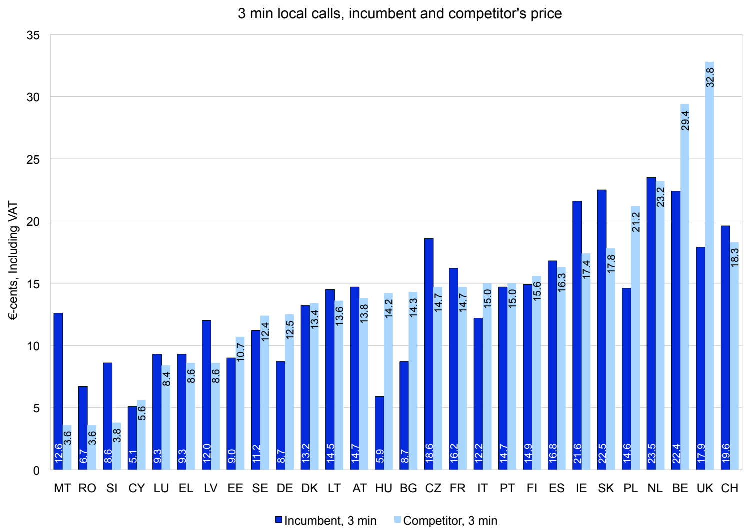
In this report the following second largest operators have been covered for the year 2009. In some cases there has been a change of ”second operator” from last year, and these are marked with an *.

	Dominant (incumbent)	Second largest	Competing service type
Belgium	Belgacom	Telenet	PSTN / IP
Bulgaria	Vivacom	Orbitel	IP
Czech Rep.	Telefonica O2	Radiokomunikace	PSTN / IP
Denmark	TDC	Telenor *	PSTN
Germany	Deutsche Telekom	Vodafone *	PSTN / IP
Estonia	Elion	Starman	IP
Greece	OTE	Wind *	PSTN
Spain	Telefonica	Ono	Cable
France	France Telecom	SFR *	PSTN
Ireland	Eircom	Vodafone *	PSTN
Italy	Telecom Italia	Infostrada	PSTN
Cyprus	CYTA	Primetel *	PSTN / IP
Latvia	Lattelekom	Telecom Baltija	PSTN / IP
Lithuania	TEO LT	Eurocom	PSTN
Luxembourg	P&T Luxembourg	Tele2	PSTN
Hungary	Magyar Telekom	Invitel *	PSTN
Malta	GO	Melita *	Cable
Netherlands	KPN	Tele2 *	PSTN
Austria	Telekom Austria	Tele2	PSTN
Poland	Polish Telecom	Netia *	PSTN
Portugal	Portugal Telecom	Sonaecom	PSTN
Romania	RomTelecom	RCS&RDS	PSTN
Slovakia	Slovak Telecom	GTS Slovakia	PSTN / IP
Slovenia	Telekom Slovenije	T-2	IP
Finland	TeliaSonera	Elisa	PSTN
Sweden	TeliaSonera	Tele2	PSTN
UK	BT	Virgin Media	PSTN / IP
CH	Swisscom	Sunrise	PSTN

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 2009 and correspond to the peak rates. If one compares the price of a 3-minute local or national call (Figures 74 and 76), Sunrise charged 7% less. The same comparison made for a 10-minute call (Figures 75 and 77) shows that Sunrise's prices are 12% 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 has only distance-independent prices, therefore the national prices of Switzerland lie in the middle of the other operators' national tariffs and the swiss local prices lie above the EU average.

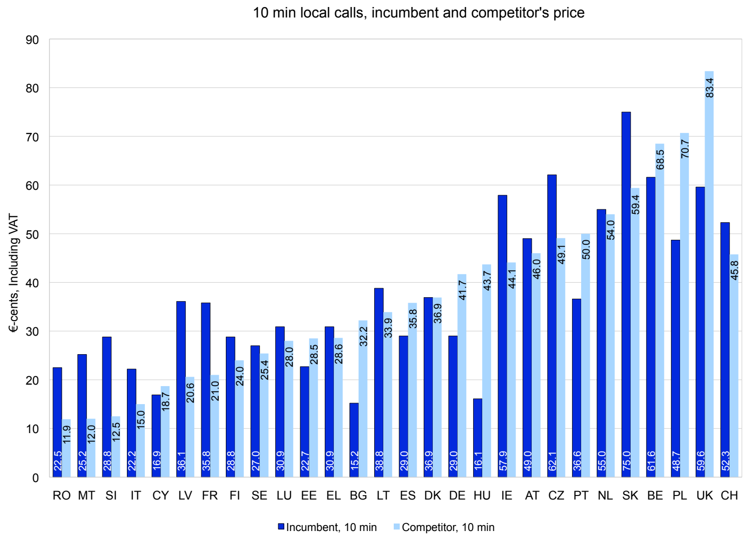
Looking at Figures 74 to 77, there are two more interesting general trends to be observed. The first is that there are still substantial differences in price between the historic operator and its main competitor, which means that competition has not yet resulted in completely homogenised prices. The second lies in the fact that in certain countries, the alternative operator charges a higher price than the historic operator.

Figure 74 *3 min local calls, Incumbent and competitor's price*



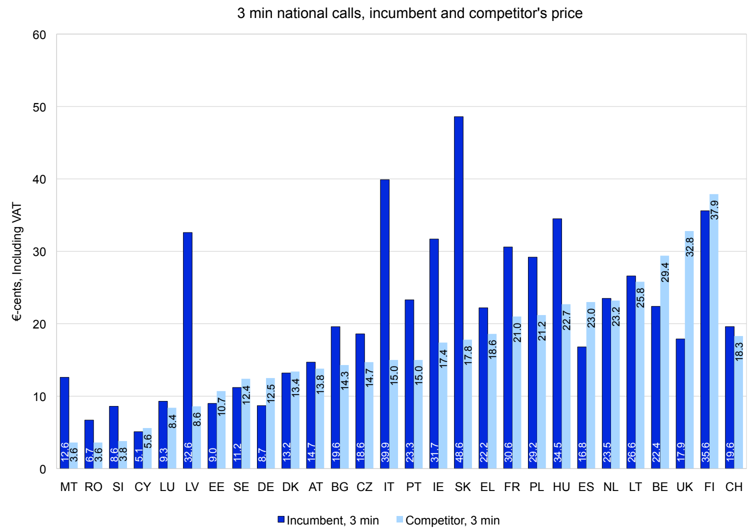
Sources for Switzerland: Telecom operators

Figure 75 *10 min local calls, Incumbent and competitor's price*



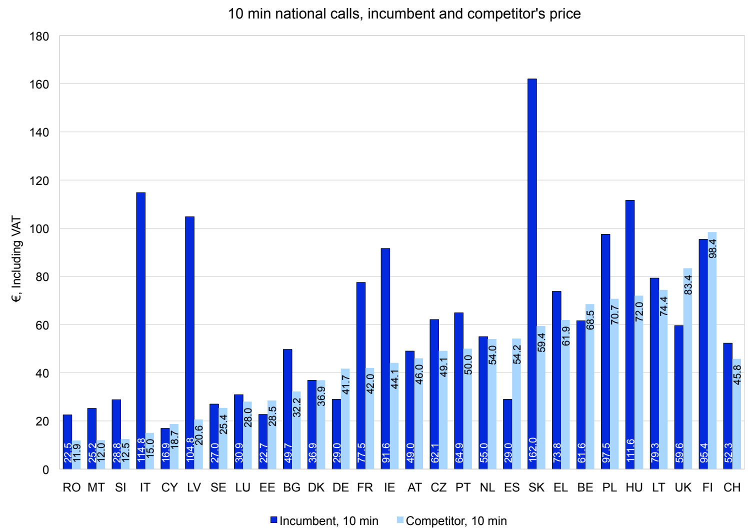
Sources for Switzerland: Telecom operators

Figure 76 *3 min national calls, Incumbent and competitor's price*



Sources for Switzerland: Telecom operators

Figure 77 *10 min national calls, Incumbent and competitor's price*



Sources for Switzerland: Telecom operators

3.4.7 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.

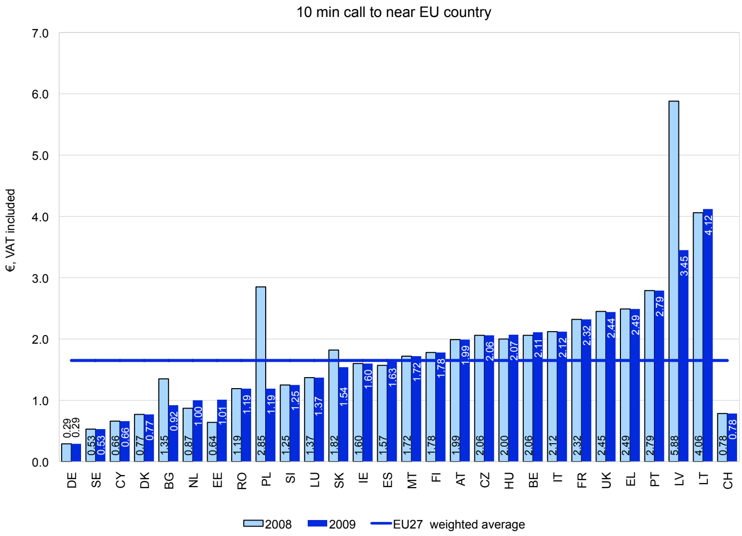
From:	Near Eu	Far EU
BE	FR	EL
BU	EL	PT
CZ	DE	FI
DK	SE	EL
DE	FR	EL
EE	FI	EL
EL	IT	DK
ES	PT	DK
FR	BE	EL
IE	UK	EL
IT	EL	DK
CY	EL	DK
LV	SE	EL
LT	SE	EL
LU	DE	EL
HU	AT	FI
MT	IT	FI
NL	DE	EL
AT	DE	EL
PL	DE	EL
PT	ES	DK
RO	HU	PT
SK	CZ	FI
SI	AT	FI
FI	SE	EL
SE	DK	EL
UK	FR	EL
CH	DE	EL

As far as calls to Switzerland's immediate neighbours (Figure 78) are concerned, it was assumed that Germany was the closest country to Switzerland. It is apparent that in the international comparison a Swiss incumbent subscriber pays relatively little to make a 10-minute call to Germany (0.78 Euro). Switzerland is ranked fifth, together with Denmark. The same price as for Germany a Swiss incumbent subscriber pays for a 10 minute call to the USA (Figure 80). In this respect Swisscom is the third cheapest operator.

Figure 79 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 well below the EU weighted average. A 10-minute call to Greece costs 1.63 Euros for a Swisscom subscriber.

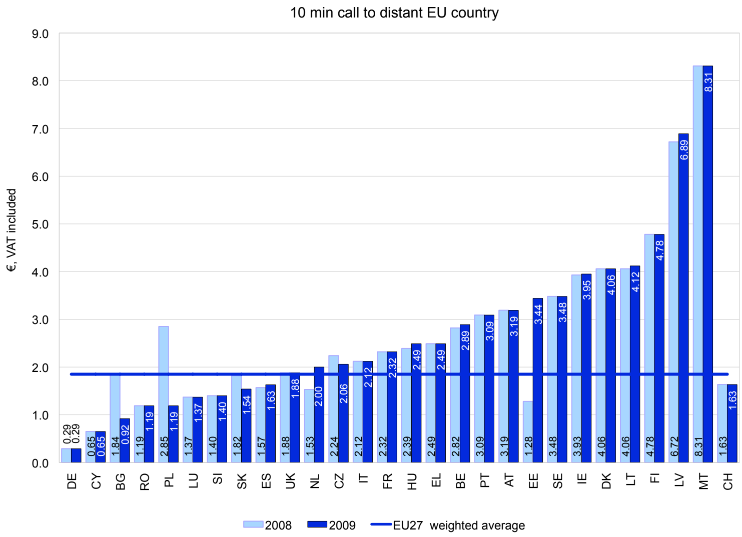
For a 10-minute call to Japan (Figure 81), the conditions in Switzerland are, compared with the EU level, very attractive. Switzerland is placed in the group of the five cheapest countries. The price is the same as for a distant European country, namely 1.63 Euros per 10 minutes of a call.

Figure 78 *10 min call to near EU country*



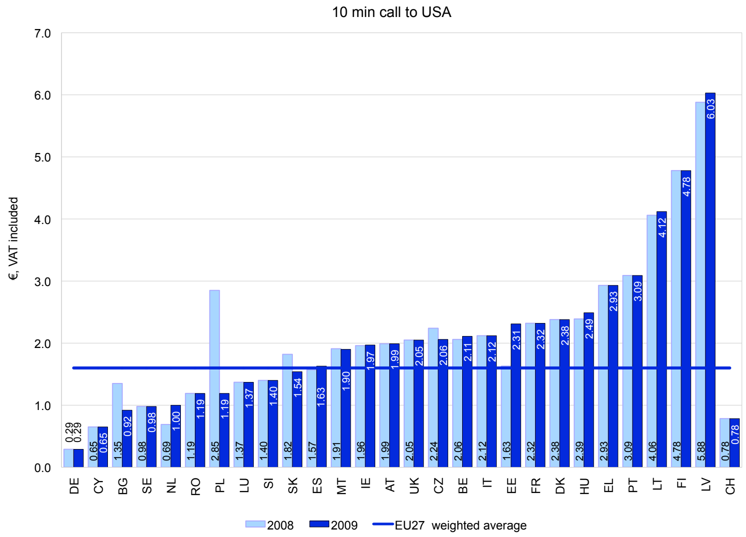
Sources for Switzerland: Telecom operators

Figure 79 *10 min call to distant EU country*



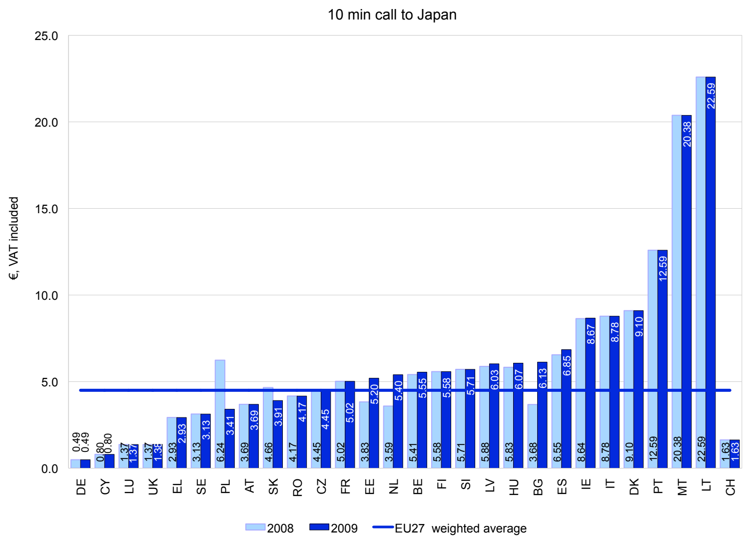
Sources for Switzerland: Telecom operators

Figure 80 *10 min call to USA*



Sources for Switzerland: Telecom operators

Figure 81 *10 min call to Japan*



Sources for Switzerland: Telecom operators

3.4.8 Alternative operators' price for fixed international calls

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

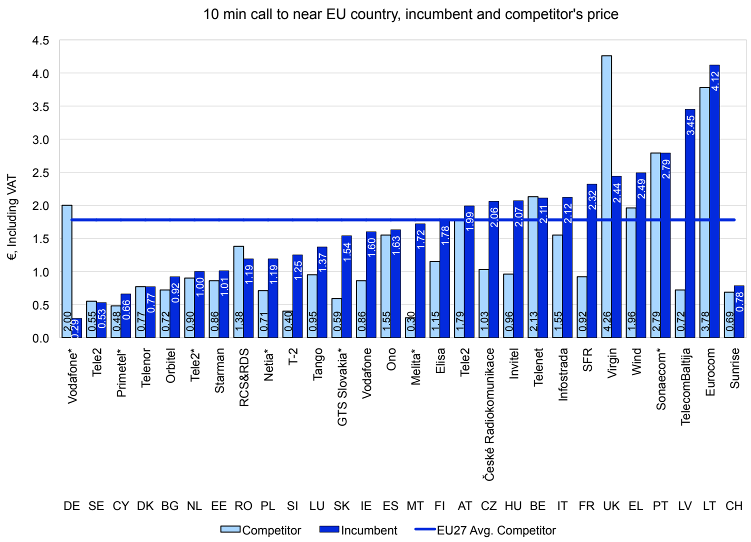
For Switzerland, the comparison was made with the prices charged by Sunrise, Swisscom's main competitor, which does not necessarily mean that they are the cheapest solutions available on the market.

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:

- -12.5% for a call to the nearest neighbour country or to the USA (Figures 82 and 84);
- -16% to the most distant EU member country (Figure 83);

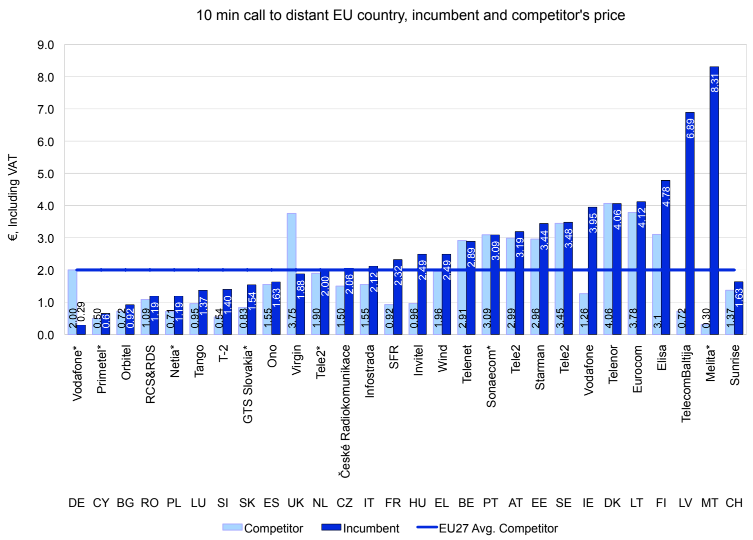
Only for the example of a call to Japan does Sunrise charge higher prices than Swisscom – 89% higher (Figure 85).

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



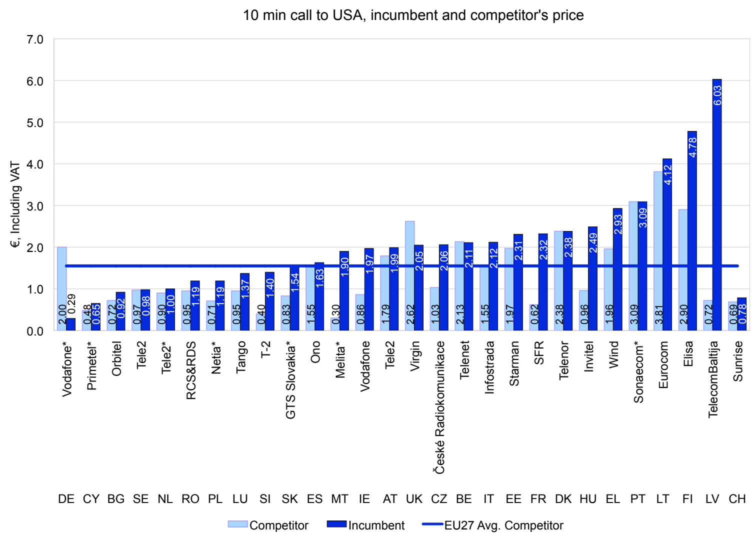
Sources for Switzerland: Telecom operators

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



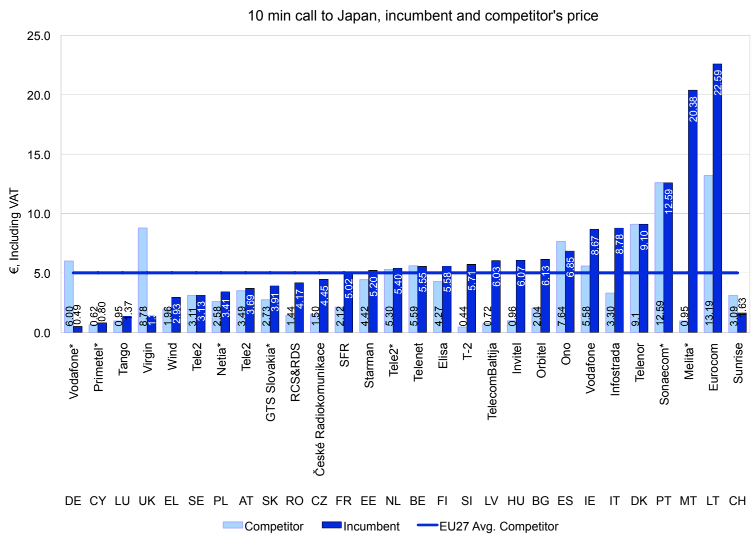
Sources for Switzerland: Telecom operators

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



Sources for Switzerland: Telecom operators

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

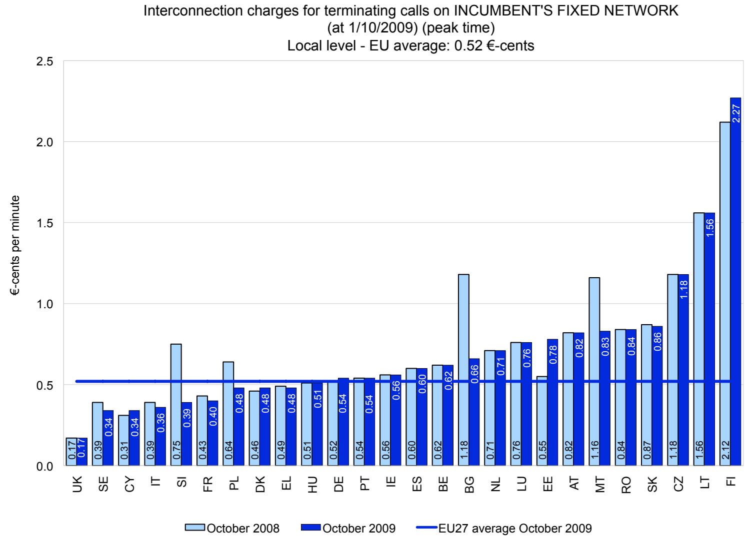


Sources for Switzerland: Telecom operators

3.5 Fixed Interconnection

The following three charts show the interconnection charges for the local level, single and double transit as of October 2008 and 2009. It should be noted that there are no local interconnection charges in Switzerland.

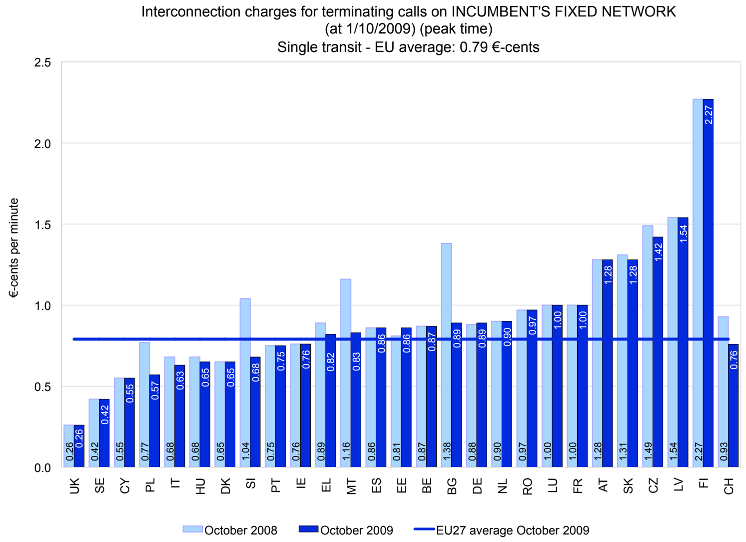
Figure 86 *Interconnection charges – Local level*



Bulgaria: As of 1 October 2009 the termination rates imposed by the Decision no 237/17 March 2009 are not applied by all operators because the incumbent and alternative operators are in the process of negotiating and signing additional agreements. Charges for terminating incumbent's calls on alternative operators' fixed networks are symmetrical with those charged by the incumbent operator and are limited to the price of double transit.
Czech Republic: Call set-up is not charged.
Spain: Capacity-based interconnection for fixed interconnection prices is also used.
France: Single transit and double transit are not regulated anymore. Consequently, current tariffs from the incumbent may differ from the tariffs reported hereby.
Latvia: Local level is not applicable.
Luxembourg: Local level rates are preasented
Netherlands: Double transit is not regulated.
Austria: In a dispute settlement between Telekom Austria and Hutchinson 3G TKK fixed termination rates for calls from Hutchison to Telekom Austria's fixed network are set at 1.12 Euro-cents.
Romania: Figures refer to maximum average tariffs.
Slovenia: Prices are based on APEK's temporary decision.
Finland: Figures are based on the average of 33 SMP-operators call termination charges. Termination charges vary from 1.27 Euro-cents/min to 2.40 Euro-cents/min. Average is 2.27 Euro-cents/min and median charge is 2.35 Euro-cents/min.
Source for Switzerland: Local transit is not offered in Switzerland and is therefore not considered

Figure 88 illustrates the interconnection charges for single transit. In 2009 the price has fallen again while it was rising one year before. Swisscom's charges lie in the cheapest half countries, 10 countries have lower, 17 have equal or higher charges.

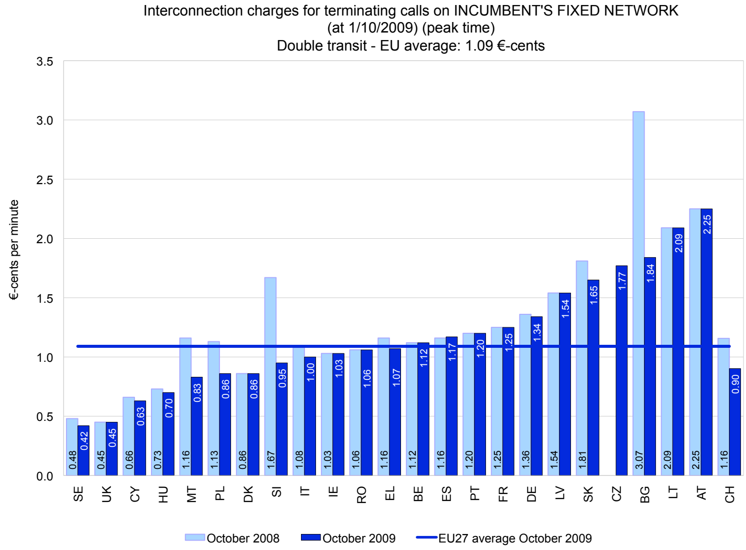
Figure 87 *Interconnection charges – Single transit*



Bulgaria: As of 1 October 2009 the termination prices imposed by the Decision no 237/17 March 2009 are not applied by all operators because the incumbent and alternative operators are in the process of negotiating and signing additional agreements. Charges for terminating incumbent's calls on alternative operators' fixed networks are symmetrical with those charged by the incumbent operator and are limited to the price of double transit.
Czech Republic: Call set-up is not charged.
Spain: Capacity-based interconnection for fixed interconnection prices is also used.
France: Single transit and double transit are not regulated anymore. Consequently, current tariffs from the incumbent may differ from the tariffs reported hereby.
Lithuania: Single transit is not applicable. Local and national level of interconnection is presented.
Luxembourg: National level is presented.
Netherlands: Double transit is not regulated.
Austria: In a dispute settlement between Telekom Austria and Hutchinson 3G TKK fixed termination rates for calls from Hutchison to Telekom Austria's fixed network are set at 1.58 Euro-cents.
Romania: Maximum average tariffs are presented.
Slovenia: Prices are based on APEK's temporary decision.
Finland: Based on the average of 33 SMP-operators call termination charges. Termination charges varies from 1.27 Euro-cents/min to 2.40 Euro-cents/min. Average is 2.27 Euro-cents/min and median charge is 2.35 Euro-cents/min.
Source for Switzerland: OFCOM Swirtzerland. Note: In Switzerland, single transit relates to regional call termination

Figure 89 shows that the double transit charge in Switzerland (0.9 Euro-cents) is slightly lower than the weighted EU average (1.09). In previous years, Swisscom's charge for this service has been higher. Now, after years of falling prices this gap has been closed.

Figure 88 *Interconnection charges – Double transit*



Bulgaria: As of 1 October 2009 the termination prices imposed by the Decision no 237/17 March 2009 are not applied by all operators because the incumbent and alternative operators are in the process of negotiating and signing additional agreements. Charges for terminating incumbent's calls on alternative operators' fixed networks are symmetrical with those charged by the incumbent operator and are limited to the price of double transit.
Czech Republic: Call set-up is not charged. Double transit is not regulated.
Spain: Capacity-based interconnection for fixed interconnection prices is also used.
Finland: Figures are based on the average of 33 SMP-operators call termination charges. Termination charges varies from 1.27 Euro-cents/min to 2.40 Euro-cents/min. Average is 2.27 Euro-cents/min and median charge is 2.35 Euro-cents/min.
France: Single transit and double transit are not regulated anymore as at 01/10/2008 and 01/10/2009. Consequently, current tariffs from the incumbent may differ from the tariffs reported hereby.
Lithuania: Local and national level of interconnection is presented.
Luxembourg: Double transit does not exist due to the size of the country.
Netherlands: Double transit is not regulated.
Austria: In a dispute settlement between Telekom Austria and Hutchinson 3G TKK fixed termination rates for calls from Hutchison to Telekom Austria's fixed network are set at 2.16 Euro-cents.
Romania: Maximum average tariffs are presented.
Slovenia: Prices are based on APEK's temporary decision.
Estonia, Finland: Double transit is not applicable.
Source for Switzerland: OFCOM Swirtzerland. Note: In Switzerland, double transit refers to national call termination

Chapter 4

Broadband market

4.1 Broadband access definitions

This section provides data on the number and type of broadband lines supplied by both incumbent operators and new entrants/alternative operators in the EU. It also contains information on access lines provided by means of alternative technologies such as wireless access (WLL), fibre and cable modems. Data on mobile broadband access is also available, however data is not of the same quality for all countries. Data on speeds is partially available.

Information has been provided by the national regulatory authorities through the COCOM questionnaires on data for local broadband access. Given the rapid developments in this sector, it has been agreed with NRAs to update the questionnaires on a regular basis in January and July. Unless otherwise stated, the data below refer to the market situation at 1 January 2010.

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. The Swiss so called bitstream product must be compared to the EU shared access product. The access point for the Swiss bitstream product is made at local the exchange which corresponds to the EU definition.
- Simple resale: In contrast to bitstream access, simple resale occurs where the new entrant receives and sells on to end users - with no possibility of value added features to the DSL part of the service - a product that is commercially similar to the DSL product provided by the incumbent to its own retail customers, irrespective of the ISP service that may be packaged with it. Resale offers are not a substitute for bitstream access because they do not allow new entrants to differentiate their

services from those of the incumbent (i.e. where the new entrant simply resells the end-to-end service provided to him by the incumbent on a wholesale basis).

- Incumbent's DSL lines: Provided to end users by the incumbent, its subsidiaries or partners (for example an associated company such as a joint venture providing ISP services).
- WLL: Internet broadband connections by means of wireless local loop (sometimes referred to as fixed wireless access).
- Cable modem: Internet broadband connections by means of cable TV access.
- L.L. or Other traditional wireline access: Internet broadband connections by means of dedicated capacity (Leased Lines) provided over metallic copper pairs, including tail ends or partial circuits. "Incumbent's leased lines" includes only retail lines and excludes lines provided to other operators. "New entrants' leased lines" includes all retail lines provided to end users, even if based on wholesale lines supplied by the incumbent.
- Fibre to the home: Internet broadband connections by means of fibre optic.
- Satellite: Internet broadband connections via satellites.
- Powerline communications: Internet broadband transmitted over utility power lines.
- Other categories: Internet broadband connections by means of local area networks, other.
- Retail access: Access provided to end users.
- Incumbents : 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 : alternative telecommunications operators, as well as internet service providers (ISPs).
- Mobile Broadband: Internet access using 3G or higher mobile standards. Mobile Broadband can be accessed either by means of dedicated data devices (modems, cards and USB keys) and mobile handset enabling 3G or higher standard technologies. In the case of access through dedicated data devices the total number of subscribers is taken into consideration. In the case of access through mobile handsets, only active users (those who used the service in the past 90 days) are included.
- Broadband connection: an internet connection enabling higher than 144 Kbit/s download speed. As of January 2010 it is estimated that 1-2 Mbps is the minimum download speed and that just a fraction of all retail broadband lines provide speeds of 144 Kbit/s.

4.2 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.

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 services, including fully unbundled access to the local loop for an undefined period and high-speed bitstream access for a period limited to four years.

Though the first steps towards unbundling of the local loop in Switzerland have been modest, they are quite encouraging. In fact, in January 2010, Swisscom had already signed ten contracts with alternative operators, an entirely satisfactory figure in comparison with other countries, as Switzerland has more agreements than countries like e.g. France, Ireland and Luxembourg e.g. The number of actually unbundled lines is 153'000 at the end of 2009. This are 122'000 new unbundled lines compared to the year 2008. In the same time, the number of resale lines decreased by 100'000 from 431'000 to 331'000 lines. This gives some evidence to the validity of the ladder of investment-theory: by a slightly increasing number of total DSL retail lines offered by alternative operators (from 462'000 to 484'000, see Table 9), the number of resale lines decreases and the number of unbundled lines increases.

However, the situation is different with regard to high-speed access (bitstream 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 lost. In June 2009, Swisscom published its wholesale bitstream product for the alternative operators and in 4. quartal 2009 the product was operational for delivering services.

Table 6 *Number of wholesale lines and agreements (full LLU, shared lines, bitstream and resale lines) on 1 January 2010*

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	No. of lines	No. of agreements
BE	3242197	6958	403	8	27657	18	8	132869	10	59052	13
DK	1950000	182	n.a.	20	45	n.a.	7	89	19	18	16
DE	35391000	9100000	0	161	91	0	22	838	19	1382800	9
EL	5248000	937878	34875	19	49432	375	7	52625	0	0	0
ES	15067436	1706127	0	16	447668	0	11	333061	24	33339	2
FR	8879844	6414377	0	0	1309074	0	0	1891891	0	0	0
IE	1614325	16497	70	7	6406	1	7	200678	16	0	0
IT	15545083	5814774	38319	33	596227	513	13	1740733	162	0	0
LU	216402	15092	285	4	12	0	4	0	0	13485	6
NL	7555000	536	0	6	170	0	4	0	20	0	0
AT	2510000	288509	849	36	85	0	2	554	45	0	0
PT	2696819	280518	ND	4	0	0	0	44787	10	138	2
FI	2071000	314	0	0	343	0	0	522	0	0	0
SE	4379000	202917	n.a.	n.a.	389061	n.a.	n.a.	n.a.	n.a.	74022	n.a.
UK	18221660	2576941	n.a.	63	3785505	n.a.	39	468076	31	7564417	459
CY	382516	n.a.	0	3	235	0	3	564	6	0	0
CZ	1820304	4364	0	6	88	0	6	48103	21	0	0
EE	395	8436	8	7	0	0	0	161	1	0	0
HU	2131316	16991	321	7	7412	34	7	168327	19	n.a.	n.a.
LV	570	0	0	2	0	0	2	420	13	0	0
LT	658648	121	0	2	494	0	0	1606	11	0	0
MT	188074	0	0	0	0	0	0	3352	8	0	0
PL	7542587	32131	n.a.	5	19483	n.a.	5	458186	13	0	0
SK	1	0	0	1	0	0	1	2903	19	0	0
SI	719322	56349	173	3	2032	42	3	2159	4	0	0
BG	1993619	0	0	0	2	10	3	206	7	0	0
RO	2800000	1073	3	16	275	0	16	n.a.	n.a.	n.a.	n.a.
CH	3484000	153000	n.a.	10	10	n.a.	1	0	0	331000	35

Austria: Incumbent activated mainlines and bitstream access lines are estimates based on Q3 2009. The number of bit stream access agreements is an estimate based on Q1 2009.
Belgium: Wholesale lines supplied by Scarlet are no longer included as Scarlet has been bought by Belgacom.
Czech Republic: Number of fully unbundled lines and shared lines are as of Q3 2009.
Germany: Incumbent activated mainlines excludes bitstream access and DSL resale.
Hungary: Data on incumbent activated mainlines refer to Q3 2009.
The Netherlands: Data as of July 2009
Lithuania: Incumbents' full LLU lines are used at retail level by new entrants for the provision of other data transmission services (e.g. VPN) and 40 lines are used for the provision of broadband internet access services. The same two agreements can be used for fully unbundled lines and for shared access lines, too.
Portugal: All data refer to Q4 2009 except for bit stream access (Q3 2009).
Romania: All data are provisional.
Sweden: Data on simple resale is an estimate; data as of 30 June 2009.
Source for Switzerland: Telecom operators, OFCOM Switzerland

4.3 Retail fixed broadband access

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

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

New entrants' DSL lines can be provided to end users by means of fully unbundled or shared access lines, bitstream access or resale. In some Member States, new entrants have started rolling out parallel DSL networks. In all the charts below on fixed broadband retail lines the data refer to 1 January 2009 and 1 January 2010. In some cases only estimates are available or data is from 1 October 2009.

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

Table 7 *Number of fixed broadband lines by operator and technology on 1 January 2010*

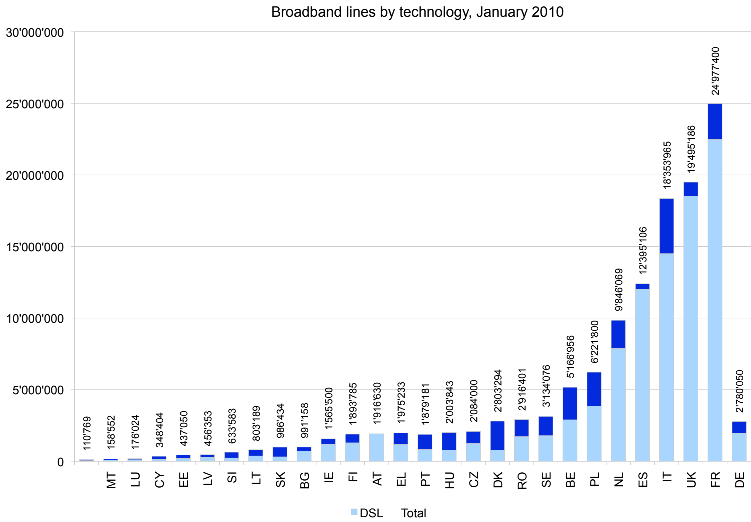
		New entrants' DSL lines on PSTN						Incumbents' access lines by other means								
	Incumbent's DSL lines	Own network	Full ULL	Shared access	Bitstream access	Resale	Total DSL lines	WLL	Cable modem	Other trad. wireline	FTTH	Sat	PLC	Other	Public Hotspots	Total (excl. WiFi)
BE	1'521'597		53'851	8'796	101'705	89'460	253'812			5'090					854	5'090
DK	911'000		169'000	56'000	81'000	34'000	34'000	1'000	361'000	12'000	5'000	n.a.	n.a.	26'000	n.a.	405'000
DE	11'500'000	13'000	8'600'000	91'000	838'000	1'382'800	10'924'800	n.a.		3'000		14'000			8'000	44'000
EL	1'060'821		745'246	49'432	52'625		847'303	16		231	81	565				893
ES	5'365'745		1'706'127	447'668	333'061	33'339	2'520'195				29'223					29'223
FR	8'879'844		6'414'377	1'309'074	1'891'891		9'615'342									
IE	490'435		16'497	6'406	200'678		223'581	266		10'757		83			971	11'106
IT	7'040'000	1'461	3'077'770	142'647	1'740'830	1'781	4'964'489			268	750	2'389		442		3'849
LU	105'069	21	12'604	33		14'152	26'810		766	410	293				41	1'469
NL	2'823'800		537'000	170'000	247'000	55'000	1'009'000				139'000					139'000
AT	967'200		266'810	85	55'400		322'295				350					350
PT	844'048		269'066		44'787	138	313'991			636	20'011	23			1'524	20'670
FI	810'100	n.a.	314'000	8'200	52'200	n.a.	374'400	23'700	109'800	n.a.	7'200	n.a.		94'800	n.a.	235'500
SE	1'041'000		202'917	389'061	n.a.	74'022	666'000				83'171			8'000	n.a.	91'171
UK	5'200'072	96'066	2'576'941	3'785'505	468'076	2'364'345	9'290'933									
CY	138'080		27'040	235	499		27'774				81				93	81
CZ	677'050	550	43'640	8'800	48'103		101'093				2'000					2'000
EE	137'823	1'810	6'355		161	25	8'351	6'359			36'576			366	399	43'301
HU	630'545	n.a.	16'991	7'412	168'327	n.a.	192'730	800	124'684		7'136				n.a.	132'620
LV	215'128		68	10	33	339	450	1'157			9'249			667		11'073
LT	226'484			40	1'606		1'646	22'531			62'772			56	3'998	85'359
MT	49'395				3'352		3'352								6	
PL	2'068'686	298'800	32'131	19'483	458'186		808'600				53	28		7'525		7'606
SK	338'693				29'030		29'030									
SI	191'141		56'349	20'320	21'590		98'259				23'570				70	23'570
BG	309'554				194		194			930				30		960
RO	781'000	550	470		n.a.	n.a.	1'020	n.a.	n.a.	n.a.	1'730	n.a.	n.a.		81	1'730
CH	1'472'000		153'000	10	0	331'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

	New entrants' access lines by other means										
	WLL	Cable modem	Other trad. wireline access	FTTH	Sat	PLC	Other	Public Hotspots	Total (excl. WiFi)	Total Broadband lines (excl. WiFi)	Total number of new entrants
BE	19'186	1'331'526	1'263	1'407			195	1'693	1'353'577	3'134'076	50
DK	24'000	196'000	6'000	116'000	n.a.	n.a.	86'000	n.a.	428'000	2'084'000	78
DE	1'100	2'300'000	37'000	133'700	26'800	10'000			2'508'600	24'977'400	100
EL	1'043		4'026	2'544					7'613	1'916'630	
ES	57'875	1'866'101	1'787	3'099	1'616		428		1'930'906	9'846'069	
FR		1'000'000							1'000'000	19'495'186	
IE	103'077	150'823	3'613	5'678	2'854			331	266'036	991'158	34
IT	911		1'959	331'612	50'000	1'709	577	3'540	386'768	12'395'106	34
LU	4	25'130	10	60				90	25'204	158'552	
NL		2'250'000							2'250'000	6'221'800	
AT	33'500	560'000		5'500		4'700	240		603'940	1'893'785	240
PT	23'563	760'637	1'571	10'748	1		4	5'539	796'524	1'957'233	32
FI	8'100	113'000	n.a.	5'400	n.a.	1'200	17'800	n.a.	145'500	1'565'500	55
SE	3'331	577'070		537'829				n.a.	1'118'230	2'916'401	244
UK	18'300	3'844'660							3'862'960	18'353'965	13'153'893
CY		9'772			196		121	21	10'089	176'024	
CZ	680'000	441'700		102'000					1'223'700	2'003'843	1'150
EE	31'927	76'757		33'106			17'139	743	158'929	348'404	82
HU	94'200	715'725		2'700		206	110'455	n.a.	923'286	1'879'181	461
LV	16'548	32'998	6'499	12'888	55		141'411	n.a.	210'399	437'050	228
LT	46'507	52'428	1'327	190'797			29'035	204	320'094	633'583	107
MT	3'757	54'221					44	12	58'022	110'769	13
PL	7'336	1'389'943	2'304	2'016	1		880'464	706	2'282'064	5'166'956	n.a.
SK	174'190	85'482	2'200	71'991	205	1'021	108'933	600	417'022	803'189	610
SI	2'160	104'939	407	44'872	5			600	152'383	465'353	
BG	7'247	119'261	55	12'485	38		536'640		675'726	986'434	530
RO	22'300	480'000	42	97'200	602	n.a.	1'419'400	922	2'019'544	2'803'294	1'016
CH	n.a.	777'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	222

Austria: Incumbent DSL, bitstream access, fibre, and new entrants' lines by other means are estimates based on Q3 2009. Number of new entrants is an estimate based on Q1 2009.
Belgium: Wholesale lines supplied by Scarlet are no longer included as Scarlet has been bought by Belgacom.
Czech Republic: Number of fully unbundled lines and shared lines are as of Q3 2009. New entrants FWA and fibre lines (including FTTH and FTTB) are estimates.
Germany: Number of new entrants' DSL lines on own networks and lines of other traditional wire line access are estimates. FWA refers to the number of BWA base stations.
France: Figure on cable modem internet is an estimate.
Italy: 'Incumbent DSL lines' is an estimate.
The Netherlands: Data as of July 2009.
Luxembourg: FWA is counted as number of access points regardless of the number of end users.
Portugal: All data refer to Q4 2009 except for bitstream access (Q3 2009) and public access WIFI hotspots (Q4 2008).
Romania: All data are provisional.
Sweden: Data on simple resale is an estimate; data as of 30 June 2009.
Slovakia: Figures on fibre, FWA, cable modem, other traditional wire line, PLC and Other are estimates.
United Kingdom: FWA includes satellite. Some figures are estimated
Sources for Switzerland: OFCOM Switzerland, Telecom operators

In January 2010, Switzerland had 2’780’050 broadband lines (active customers). Note that 1’955’750 customers were connected using DSL technology and 824’300 by other technologies (mainly cable modem). In absolute terms, the Swiss market is relatively small in size, especially compared to countries such as Germany, France, the United Kingdom or Italy with over 10 millions high-speed lines each.

Figure 89 *EU fixed broadband lines by Member States, January 2010*

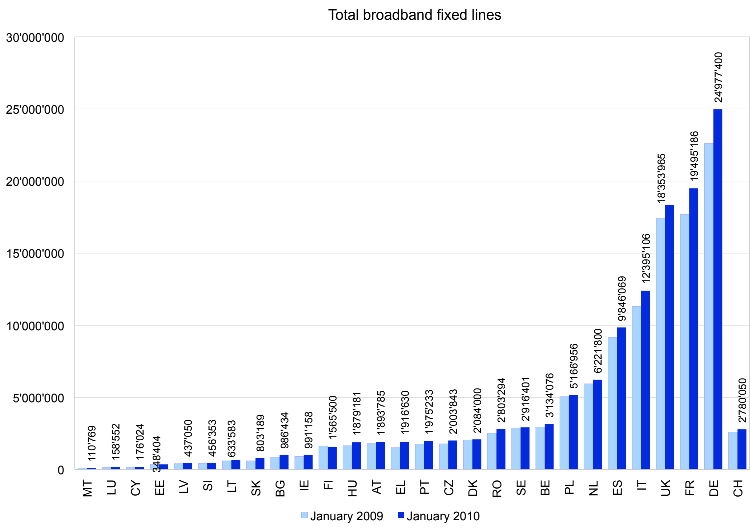


Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included.

The following chart presents the number of broadband lines per Member State on 1 January 2009 and 1 January 2010.

Figure 90 clearly shows that the number of high-speed lines increased from 2’591’605 in January 2009 to 2’780’050 in January 2010, representing a 7.3% increase. All the European Union member countries exhibit a positive trend, though to very different extents.

Figure 90 *Total fixed broadband retail lines*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included.

The following two charts show the breakdown of broadband lines according to the two main groups of types of technologies. Figure 91 shows the number of DSL lines. Amongst the technologies other than

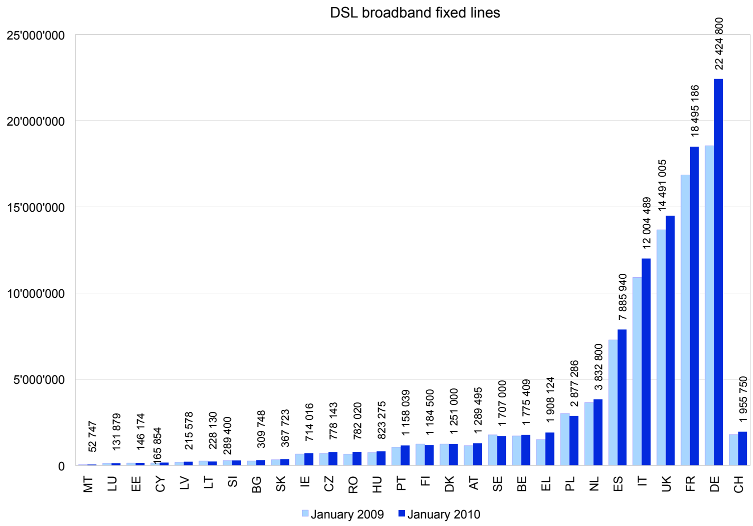
DSL (Figure 92), cable modem is the most common technology. Other technologies are still marginal, though some (fibre to the home and WLL) are quickly developing.

Figures 91 and 92 show that growth in broadband connections in Switzerland was as follows:

- + 9.5% for DSL broadband connections (Figure 91);
- + 2.3% for broadband connections with technologies other than DSL – mainly cable modem (Figure 92). Cable modem connections grew by 2.1% compared to a 14.3% growth between 2008 and 2009.

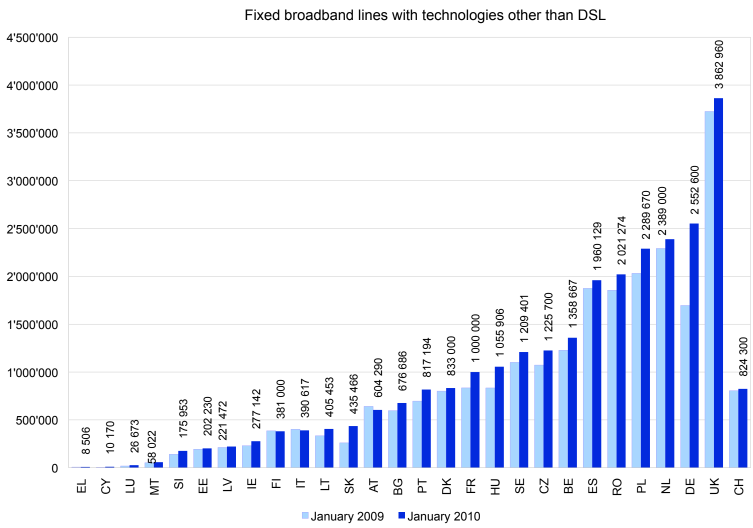
For several years now, DSL connections have been enjoying greater success than cable modem connections. Consequently, DSL technology continues to gain ground. But it seems as if the loss of the cable modem connections stabilized this year.

Figure 91 *Total DSL retail lines*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included.

Figure 92 *Total fixed broadband retail lines with technologies other than DSL*

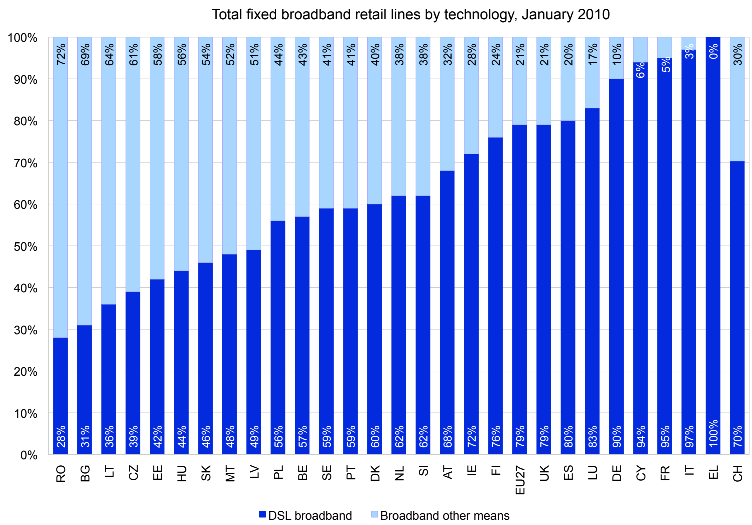


Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included.

The following charts provide information on the national broadband market according to the technology used and the type of operator. Data show that DSL is the predominant technology in the EU. On average 79% of the EU broadband lines use DSL technologies, while in nine countries DSL takes less than 50% of the overall market.

With a market share of 70.3%, 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.

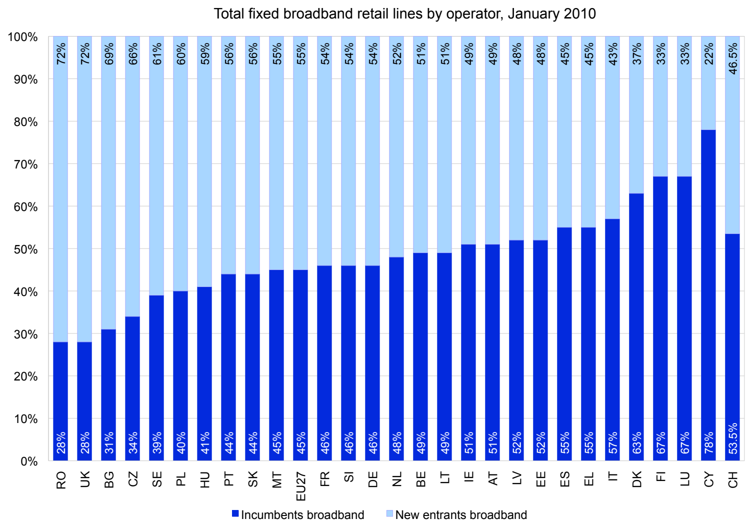
Figure 93 *Fixed broadband lines by technology (January 2010)*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations

The historic operator's subsidiary has 53.5% of the market for high-speed lines on fixed networks, putting Switzerland about 8 points above the European average (45.2%). 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 94 *Fixed broadband access lines by operator (January 2010)*

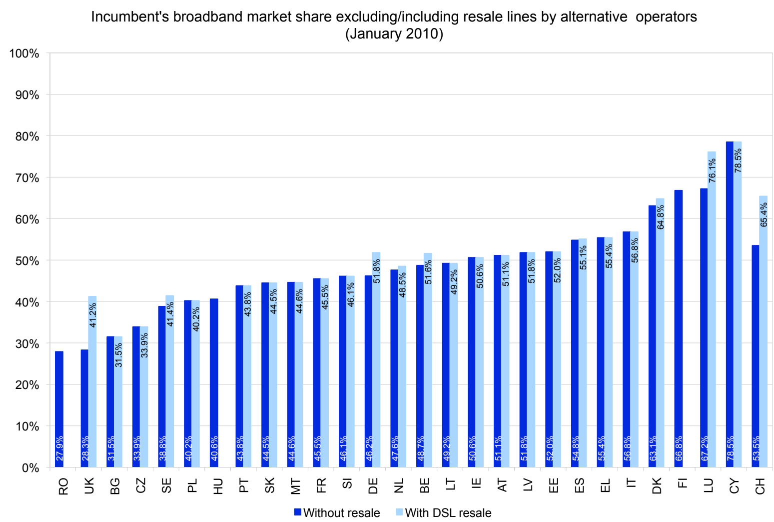


Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

With the exception of a number of countries (BE, DK, DE, LU, SE and UK), differences in the incumbents' market share depending on whether DSL resale lines are included or not are now negligible.

In most of the countries, there is little difference in the incumbents' market share when DSL resale lines are included. Finland, Romania and Hungary count no DSL resale lines. In Germany, Luxemburg, United Kingdom and Switzerland these differences are between 5.6% (Germany), and 12.9% (United Kingdom). Switzerland difference is 11.9%.

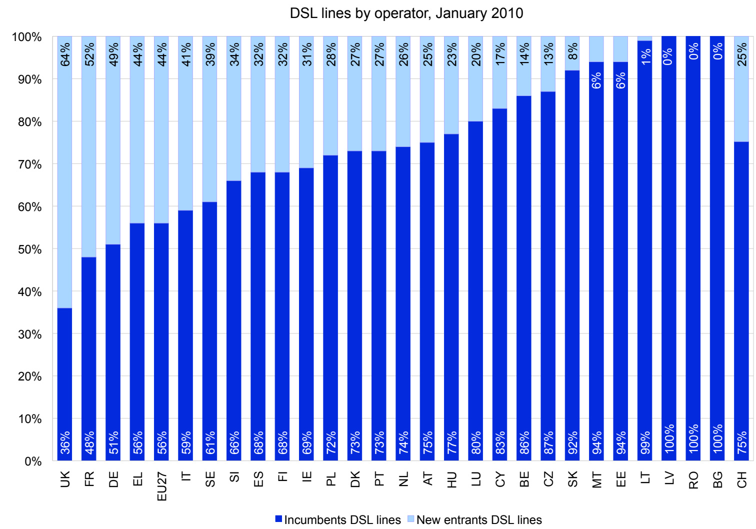
Figure 95 *Incumbent's broadband market share excluding/including resale lines of alternative operators (January 2010)*



Data on resale not available for Hungary, Romania and Finland.
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

In January 2010, the historic operator in Switzerland had a market share of 75.3%, the other 24.7% of the connections were held by competing operators. In the international comparison, after a constant growth of the incumbent's market share (59% in July 2004, 64% in October 2005, 68% in October 2006, 72.2% in October 2007 and 75.5% in January 2009), 2010 is the first year without any growth of incumbent market share in Switzerland.

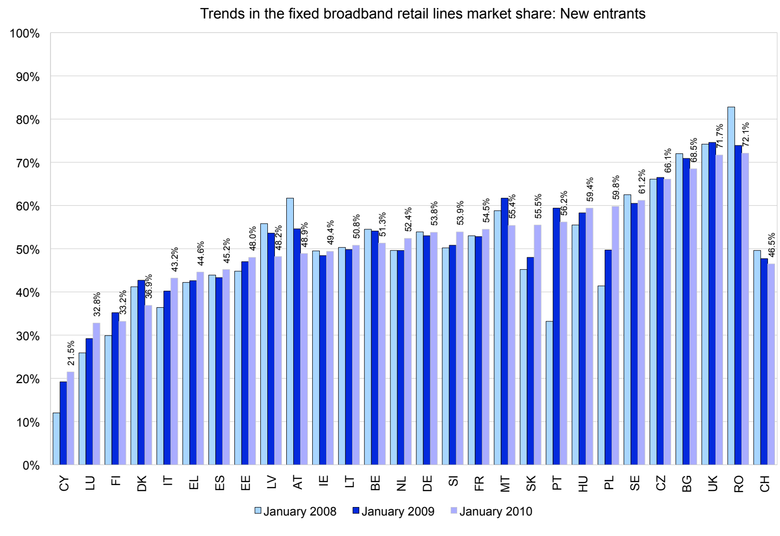
Figure 96 *DSL access lines per operator (January 2010)*



Sources for Switzerland: Telecom operators

In 11 EU-countries and also in Switzerland, the fixed incumbent operators increase their market share in the overall fixed broadband market. 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 historic operator (53.5%).

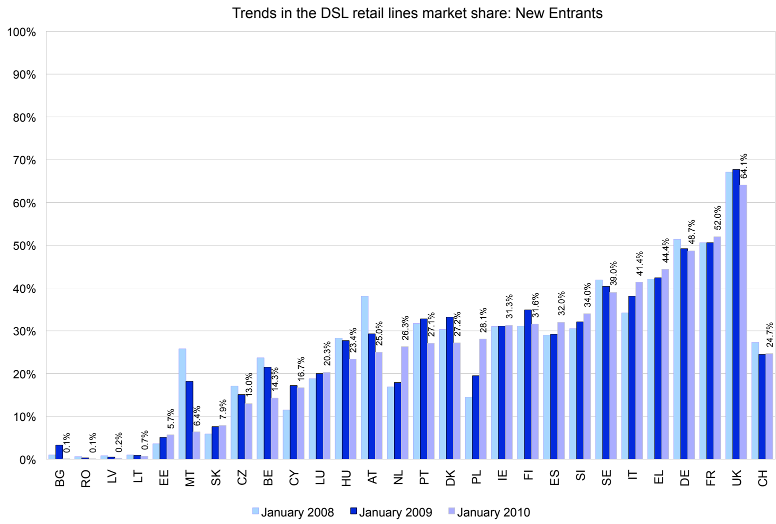
Figure 97 *Trends in the fixed broadband retail lines market share: New entrants*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

Looking at the DSL segment one can see that between the two observed periods, the Swiss historic operator lost 0.2 point market share, stopping the upward trend that putted Switzerland 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.

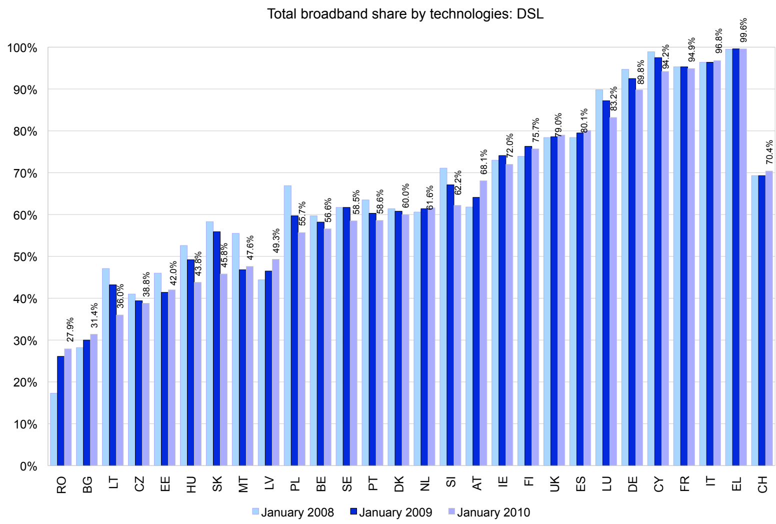
Figure 98 *DSL market share: New entrants*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

In Switzerland, 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 alternative broadband connections. In the observed period the DSL market share increased from 69.3% to 70.4%, though Switzerland is still 8.2 percentage points below the European average of 78.6%.

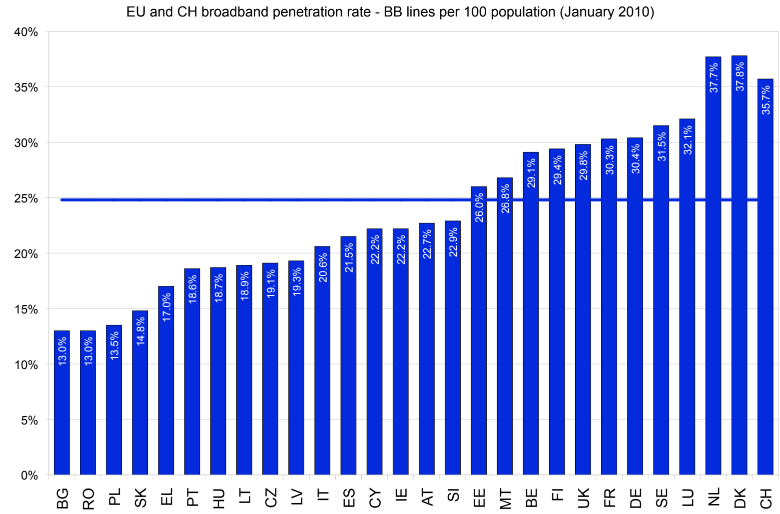
Figure 99 *Total broadband market share by technologies: DSL*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

In January 2010, the broadband access penetration rate in Switzerland was one of the highest in Europe (35.7%). This is relatively high compared to the European average of 24.8%. Only the Netherlands and Denmark had higher broadband penetration rates than Switzerland.

Figure 100 *EU broadband penetration rate (January 2010)*



Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

The next table shows how the fixed broadband lines have been distributed by various speeds as of 1 January 2010.

Only 75% of all retail lines available in January 2010 are presented below.

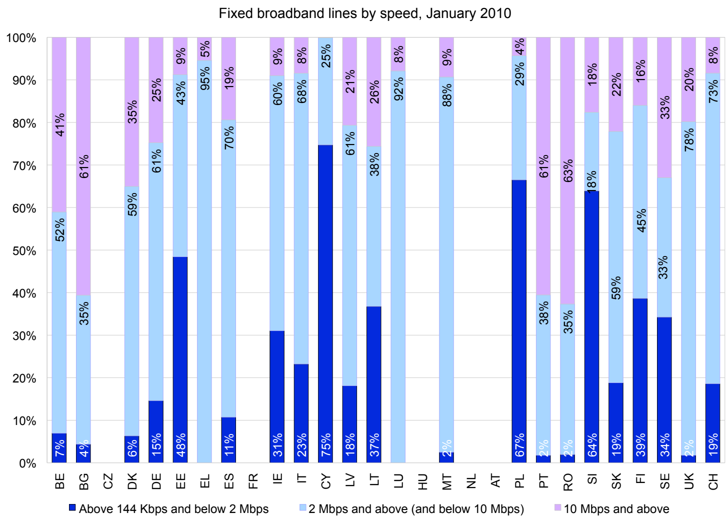
In Switzerland, 18.6% of the Swiss fixed broadband connections speeds lies below 2 Mbps, 73% over 2 Mbps and below 10 Mbps, 8.4% are 10 Mbps or higher. The situation is pretty similar with the European Union proportions which are respectively 19.1%, 65.5% and 15.5%. Switzerland has about 8 point percentage less of very high speed connections (>10 Mbps) which are instead included in the 2-10 Mbps speed category.

Table 8 *Fixed broadband lines by speeds in the EU by country*

	Above 144 Kbps and below 2 Mbps	2 Mbps and above (and below 10 Mbps)	2 Mbps and above (and below 10 Mbps)	TOTAL	Above 144 Kbps and below 2 Mbps	2 Mbps and above (and below 10 Mbps)	10 Mbps and above
BE	211'814	1'582'576	1'248'986	3'043'376	6.96%	52.00%	41.04%
BG	43'167	345'455	597'812	986'434	4.38%	35.02%	60.60%
CZ	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
DK	129'000	1'197'000	715'000	2'041'000	6.32%	58.65%	35.03%
DE	3'630'970	15'076'250	6'153'080	24'860'300	14.61%	60.64%	24.75%
EE	168'660	149'070	30'522	348'252	48.43%	42.81%	8.76%
EL	0	1'003'473	57'348	1'060'821	0.00%	94.59%	5.41%
ES	1'040'561	6'773'976	1'879'950	9'694'487	10.73%	69.87%	19.39%
FR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IE	308'026	595'037	88'095	991'158	31.08%	60.03%	8.99%
IT	2'878'165	8'472'461	1'044'480	12'395'106	23.22%	68.35%	8.43%
CY	131'507	44'334	183	176'024	74.71%	25.19%	0.10%
LV	79'196	267'580	90'274	437'050	18.12%	61.22%	20.66%
LT	232'925	238'354	162'304	633'583	36.76%	37.62%	25.62%
LU	20	146'017	12'515	158'552	0.01%	92.09%	7.89%
HU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MT	2'760	97'689	10'320	110'769	2.49%	88.19%	9.32%
NL	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
AT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
PL	3'424'933	1'512'668	222'879	5'160'540	66.73%	29.31%	4.32%
PT	35'027	744'386	1'195'820	1'975'233	1.77%	37.69%	60.54%
RO	85'895	1'566'529	2'773'732	4'426'156	1.94%	35.39%	62.67%
SI	297'411	85'993	81'949	465'353	63.91%	18.48%	17.61%
SK	151'108	474'482	177'598	803'188	18.81%	59.07%	22.11%
FI	604'800	710'500	250'200	1'565'500	38.63%	45.38%	15.98%
CH	453'424	1'780'755	204'986	2'439'165	18.60%	73.00%	8.40%

Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included. It has to be noted that 111'797 or 4.6% of all broadband connections the speeds are classified as "unknown" and not counted in this table.

Figure 101 *EU countries by speeds – retail fixed broadband lines*



Germany: Figures are estimates.
Romania: All data are provisional.
Slovakia: Figures of alternative operators on speeds are estimates.
Czech Republic, France, Hungary, the Netherlands and Austria: Data not available.
Italy: Figures on the incumbent operator are estimates.
Sweden: Data as of 30 June 2009.
United Kingdom: Data refer to Q3 2009
Sources for Switzerland: Telecom operators, OFCOM Switzerland estimations. Note: Leased line services are not included

4.4 Retail mobile broadband access

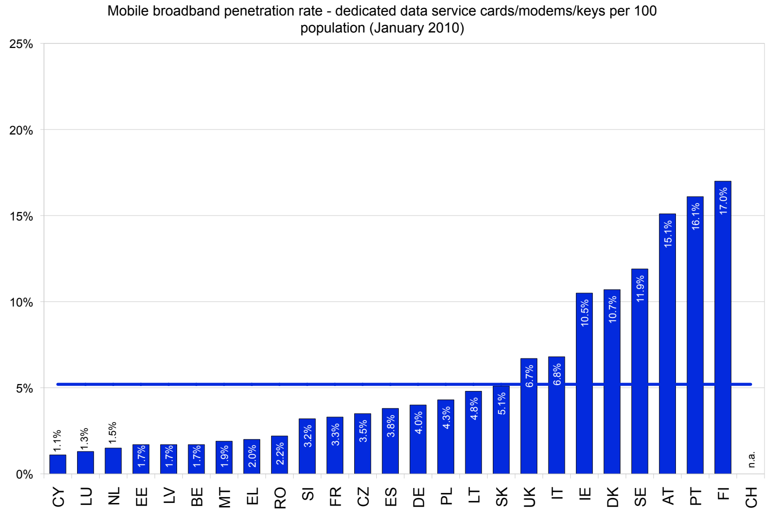
The only data available in Swiss official Telecom statistics is the number of clients that used the UMTS net (the identification is made through the IMEI code).

Table 9 *Mobile Broadband*

	All available terminals, SIM cards & mobile BB dedicated data services	Mobile active users - (access to dedicated data services via modems/cards and other active 3G equivalent advanced data users using mobile terminals)	Mobile BB dedicated data services cards/modems/keys only
AT	4’522’000	n.a.	1’264’000
BE	898’012	614’831	182’614
BG	n.a.	520’912	n.a.
CY	928’564	94’537	9’129
CZ	n.a.	58’286	370’638
DE	26’000’000	19’000’000	3’300’000
DK	1’968’000	1’635’000	587
EE	n.a.	250	22’336
EL	3’922’888	1’374’624	225’325
ES	23’129’655	14’719’443	1’754’330
FI	2’933’000	2’933’000	908
FR	15’400’000	n.a.	2’100’000
HU	n.a.	n.a.	n.a.
IE	2’220’510	1’662’666	466’969
IT	32’923’000	9’891’000	4’094’900
LT	460’083	226’361	160’385
LU	408’601	105’684	6’564
LV	2’745’069	391’471	37’917
MT	976	62’345	7’925
NL	n.a.	n.a.	252
PL	41’891’439	14’197’701	1’658’736
PT	5’984’053	2’580’175	1’713’673
RO	3’005’000	1’647’000	476
SE	n.a.	5’888’179	1’099’761
SI	2’165’849	577’392	65’414
SK	2’236’759	1’239’157	278’554
UK	25’503’490	15’300’000	4’100’000
EU27	199’343’572	94’969’764	25’142’170
CH	n.a.	1’813’700	n.a.

Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

Figure 102 *EU countries by number of dedicated data service cards/modems/keys per 100 population*



Austria: Figures are estimates based on Q3 2009. Mobile broadband dedicated data services via cards/modems/keys are defined as the number of contracts with included data volume of 250 MB or more per month as well as dedicated prepaid data services (UMTS/HSPA) including at least 750 MB downloaded per quarter. If the Commission's definition was applied, the above figure would be higher.
Bulgaria, Hungary: Data not available
Germany: Figures are estimates.
Denmark: As of the second half of 2009 the definition on mobile broadband dedicated data services via cards/modems/keys has been adjusted.
Estonia: Number of active mobile broadband lines is an estimate.
Greece: 'Total active mobile broadband lines' refers to subscribers of 3G services, using a 3G device or data card, who have made use of any retail or wholesale service during the past 3 months. Data on subscribers who have made use of a 3G data service in the past 3 months are not available. 'Mobile broadband access through dedicated data services via cards/modems/keys' refers to subscribers of 3G services, using a 3G data card (excluding 3G handsets) and who have made use of the data service in the past 3 months.
France: 'Mobile broadband access through dedicated data services via cards/modems/keys' includes all internet SIM cards as of Q4 2009.
Italy: Figures are estimates.
The Netherlands: All data are as of July 2009.
Portugal: Data excludes MVNO figures. Data on 'Mobile broadband access through dedicated data services via cards/modems/keys' is an estimate.
Romania: All data are provisional.
Sweden: 'Total active mobile broadband lines' refers to active post paid subscriptions and pre-paid cards for data traffic and voice services, and subscriptions primarily used for data traffic in mobile networks with transfer speeds over 144 kbit/s. 'Mobile broadband access through dedicated data services via cards/modems/keys' refers to active subscriptions primarily used for data traffic in mobile networks with transfer speeds over 144 kbit/s. Data is as of 30 June 2010.
United Kingdom: Figures are estimates as of end of December 2009.
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

4.5 Price of the Local Loop

This section illustrates the cost of connection and monthly rental for both Fully 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, which is calculated as the monthly fee + the connection fee amortised over three years.

Unless otherwise stated in the footnotes, 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 otherwise stated, figures exclude 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 those of the previous reports, due to changes in methodology in some countries.

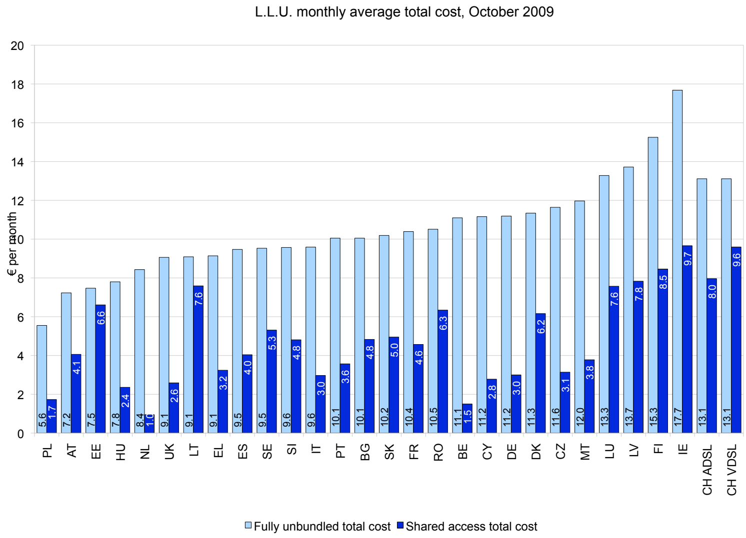
The following charts illustrate the monthly total cost for the full Local Loop Unbundling and Shared Access (connection and monthly fees) based on the assumption that the loop is used for three years. The EU average since 2005 is also shown.

At an average total cost of 13.1 Euros per month, Switzerland is no longer the most expensive country for unbundling. In Ireland (17.7), Finland (15.3), Latvia (13.7) and Luxembourg (13.3) the ULL product is more expensive. But the total cost for ULL in Switzerland is still higher than the European average of

9.8 Euros. In the European Union countries, total costs for ULL vary between 5.6 Euros (Poland) and 17.7 Euros (Ireland).

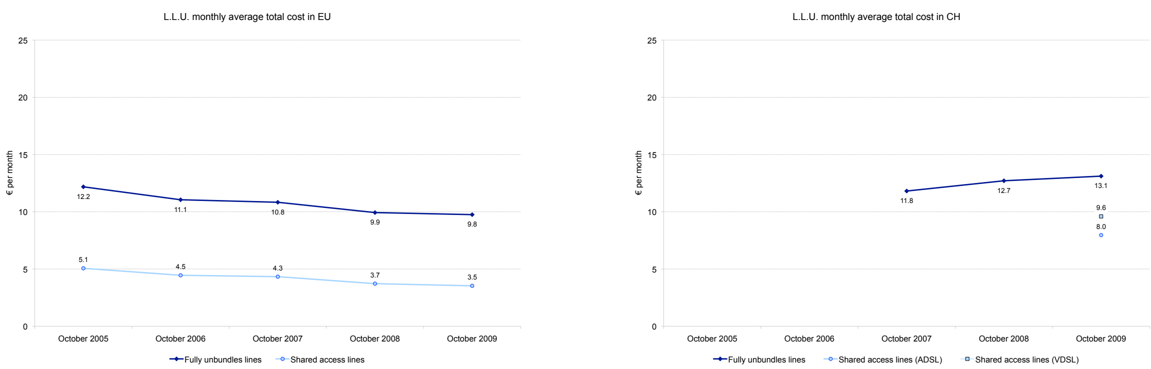
In Switzerland, the shared access products (so called bitstream in Switzerland but comparable with the shared access Eu definition) was proposed for the first time in June 2009. There are two offers: ADSL with a speed of 5000/500 kbps and VDSL with a speed of 20'000/1000 kbps. The average total cost for the ADSL offer is 8 Euros the cost for the VDSL offer is 9.6 Euros. For the European countries, the speed is not specified in the report. The average total cost for shared access in the EU is 3.5 Euros. In Switzerland both products have higher prices than that average.

Figure 103 *Monthly average total cost*



Sources for Switzerland: Telecom operators. In Switzerland, there are two types of bitstream available: speeds of 5000/500 kbps (ADSL) and max 20000/1000 kbps (VDSL)

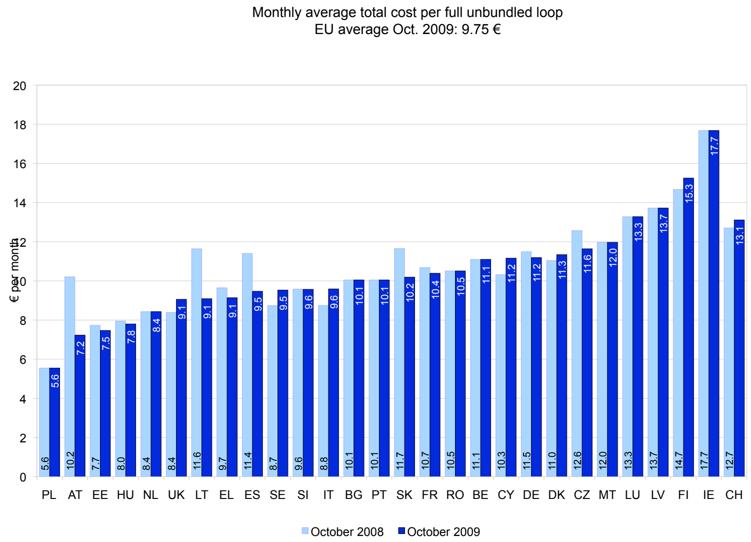
Figure 104 *LLU Monthly average total cost*



(a) (b)

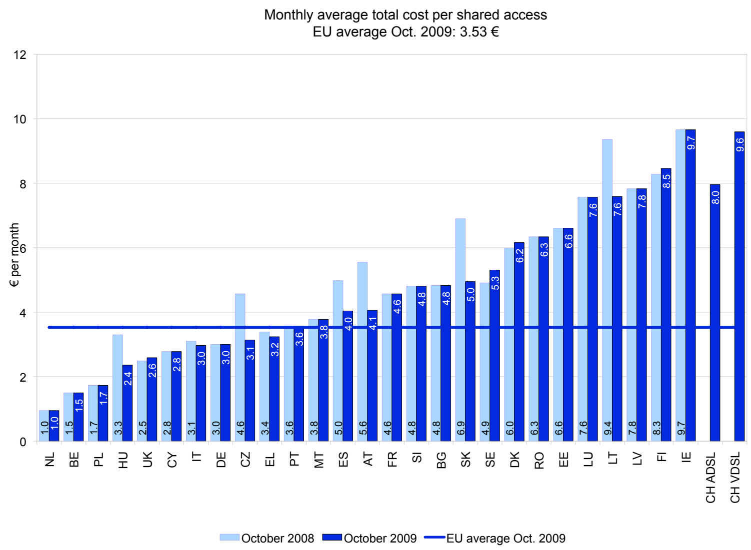
Sources for Switzerland: Telecom operators, OFCOM Switzerland calculations

Figure 105 *Monthly average total cost per fully unbundled loop*



Sources for Switzerland: Telecom operators

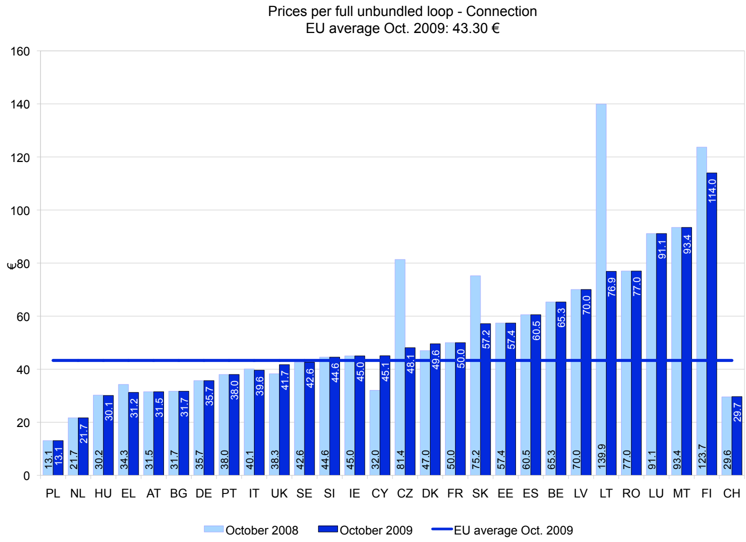
Figure 106 *Monthly total cost per shared access*



Sources for Switzerland: Telecom operators

The one-off price which alternative operators had to pay to Swisscom for transferring the line (an active line) was 29.70 Euros in October 2009, i.e. 13.60 Euros below the average in the European Union (43.30). Among Switzerland's neighbours, this price varied between 13.10 Euros (Poland) and 114 Euros (Finland).

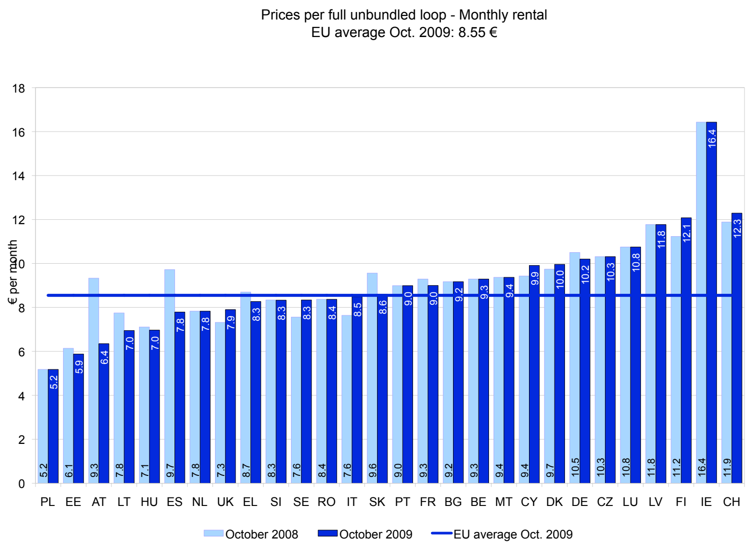
Figure 107 *Prices per fully unbundled loop – Connection*



Bulgaria: Cost of the test of access is not included. Disconnection fees are included (15 BGN, Euros 7.67).
Czech Republic: Cost of test and disconnection fees are not calculated separately. Disconnection fees are only charged for co-location.
Cyprus: Costs are Euros 45.07 for active loops and Euros 103.67 for inactive loops in 2009.
Denmark: No disconnection fees are included.
Spain: For full LLU connection the cost of the test is included, too. The price of the NTU (Network Termination Unit) installation is included.
Italy: Price of active pair with NP is presented (price of active pair without NP is Euros 35.88). Cost to asses the speed ("qualification cost") is Euros 11.56. This cost is optional and only due if the line was not previously used for xDSL. Disconnection charge is Euros 31.93 (Euros 32.37 in 2008), which is not due if the customer migrates to a different OLO or to the incumbent.
Latvia: Connection (7.78 LVL, Euros 11.1) and testing (27.08 LVL, Euros 38.5) are included.
Lithuania: Figures include the cost of the test to access and the disconnection cost.
Malta: Disconnection fees are included (Full unbundled: Euros 33). The splitter is to be procured by OAOs. Data are different compared to those in the 14th Progress Report as they include disconnection fees.v Austria: In case of full LLU there is no installation or connection fee during promotion periods.
Poland: Co-location costs are not included. Cost of non-active loops is Euros 33.88 (143.83 PLN).
Portugal: The splitter is not provided by the incumbent. The test to assess the speed is not requested.
Netherlands: Price includes disconnection fees and the price of the test to assess the speed of the access line.
Romania: In case of full LLU connection the cost of the test to assess the speed and disconnection fees are included.
Slovakia: Costs of the test to assess the speed and disconnection fees are excluded
Finland: Data are the weighted average of 31 SMP operators providing LLU.
Sources for Switzerland: Telecom operators

In October 2009, the monthly price of an unbundled line in Switzerland was 12.3 Euros, nearly 44% above the European average. At that time the price in the European Union countries was between 5.18 Euros (Poland) and 16.43 Euros (Ireland).

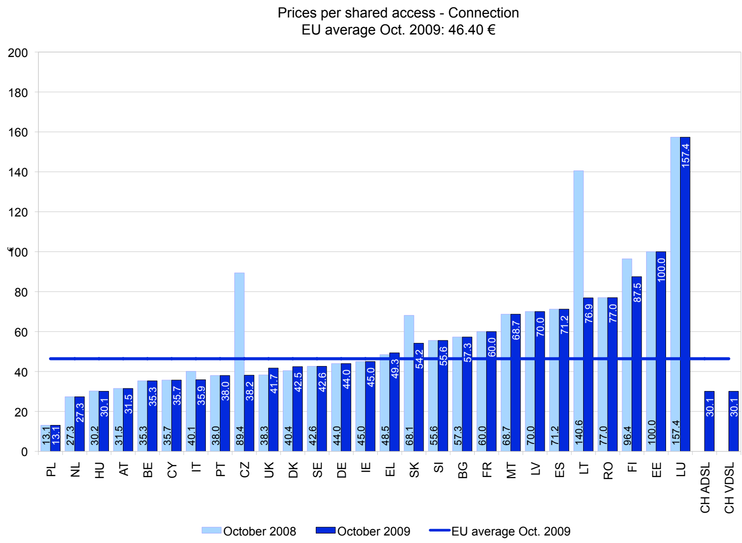
Figure 108 *Prices per fully unbundled loop – Monthly rental*



Belgium: Blend of installations with and without customer visit. An additional Euros 12.01 is charged if customer moves or leaves DSL. If customer changes from DSL operator no disconnection fee is charged.
Germany: New decision was taken in March 2009.
Austria: Regular LLU price was lowered to the value of the former promotional price.
Finland: Data are the weighted average of 31 SMP operators providing LLU.
Sources for Switzerland: Telecom operators

The one-off price which alternative operators had to pay ofr a shared access connection was 30.1 Euros in October 2009. i.e. 16.3 Euros below the European average (46.40). EU average is 54% more expensive. Among Switzerland's neighbours, this price varied between 13.08 Euros (Poland) and 157.36 Euros (Luxembourg).

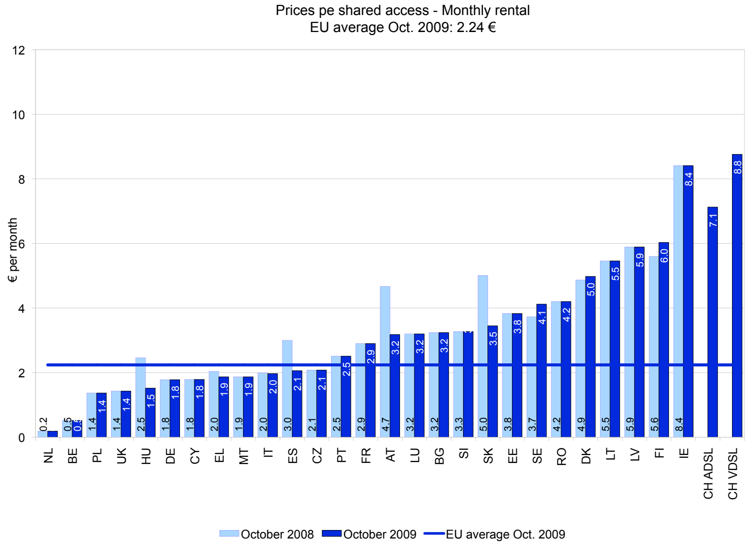
Figure 109 *Prices per shared access – Connection*



Bulgaria: Cost of the test of access is not included. Disconnection fees are included (15 BGN, Euros 7.67).
Denmark: No disconnection fees are included.
Spain: The cost of the test is included. The price of the splitter provided by the incumbent is included.
Czech Republic: Cost of test and disconnection fees are not calculated separately. Disconnection fees are only charged for co-location. The price of the splitter is included in the monthly rental for shared access.
Italy: Cost to asses the speed ("qualification cost") is Euros 11.56. This cost is optional and only due if the line was not previously used for xDSL. Disconnection charge is Euros 31.93 (Euros 32.37 in 2008), which is not due if the customer migrates to a different OLO or to the incumbent.
Latvia: Connection (7.78 LVL, Euros 11.1) and testing (27.08 LVL, Euros 38.5) are included.
Lithuania: The cost of the test and disconnection are included. Frequency splitter's price is included.
Malta: Disconnection fees are included (Euros 26.76). The splitter is to be procured by OAOs. Data are different compared to those in the 14th Progress Report as they include disconnection fees.
Austria: No installation or connection fee applies during promotion periods.
Netherlands: Price includes disconnection fees and the price of the test to assess the speed of the access line.
Poland: Co-location and splitter's cost are not included. Cost of non-active loops is Euros 33.88 (143.83 PLN).
Portugal: The splitter is not provided by the incumbent. The test to assess the speed is not requested.
Romania: Splitter price is included.
Slovakia: Costs of the test to assess the speed, disconnection fees and the price of the splitter are excluded
Finland: Data are the weighted average of 31 SMP operators providing LLU.
Sources for Switzerland: Telecom operators

In October 2009, the monthly price of the shared access ADSL product was 7.1 Euros and 8.8 Euros for the VDSL product. For the European Union countries, the speed is not specified in the report. The Swiss monthly rental price is more than 3 times the price of the European average (2.24). At that time the price in the European Union countries was between 0.19 Euros (Netherlands) and 8.41 Euros (Ireland).

Figure 110 *Prices per shared access – Monthly rental*



Belgium: An additional Euros 23.12 is charged if customer moves or leaves DSL. If customer changes from DSL operator no disconnection fee is charged.
France: Price includes splitters.
Austria: In 2008 the Shared Access monthly rental was 50% of full LLU.
Finland: Data are the weighted average of 31 SMP operators providing LLU.
Sources for Switzerland: Telecom operators

Chapter 5

Converged services – bundled offers

Fixed voice telephony offers are increasingly bundled to other services (e.g.: broadband internet or television). Although bundling is hard to measure (sometimes services in one offer are invoiced separately, sometimes not), it is becoming a key element of the fixed electronic communications markets: according to the questionnaires sent by NRAs 15.5% of the European population already subscribes to a bundled offer with a single bill.

Actually, in this case, 'Bundled offer' means a commercial offer of a single operator which includes two or more services such as fixed and mobile public telephony services, access to TV programmes and broadband internet access, offered for a single price and as part of one bill.

Although not every Member State is collecting data to measure the extent of this market development, the situation is likely to improve in the following Reports.

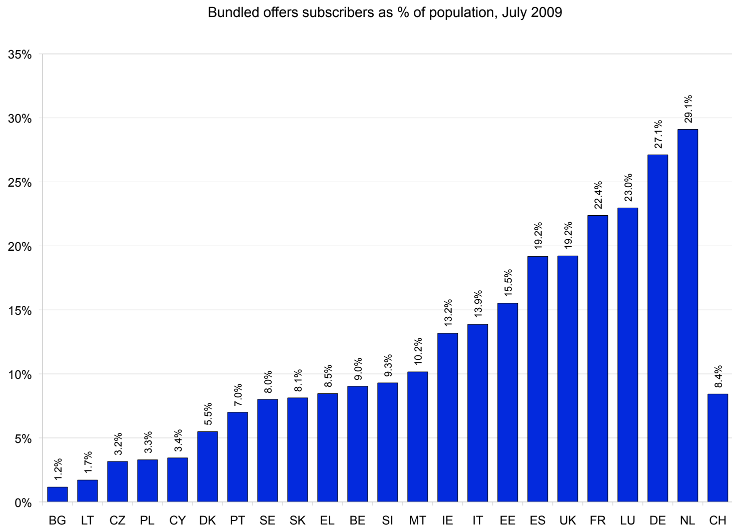
Data in this section is purely indicative and can be completed with the Eurostat E-Communications Household survey. The differences with this Progress Report results can be attributed to a different definition (due to the billing of the services) and the lack of data for some countries.

The charts show the penetration of bundled services (measured as the % of the population subscribing to such offers) and the number of operators providing these offerings.

In Switzerland, bundled offers as defined by the European Commission play a more and more important role. In particular, double-play offers gained market shares compared to the year before. Not only local operators provide bundled offers but also major operators which are active throughout the national territory. By analogy with what happens in the European Union we can assume that bundled offers shall become more attractive for customers in a near future.

In Switzerland 8.4% of the population have subscribed to bundled offers. This percentage lies far below the EU average which is 15.5%. Switzerland is about at the same level as Sweden, Slovakia or Belgium.

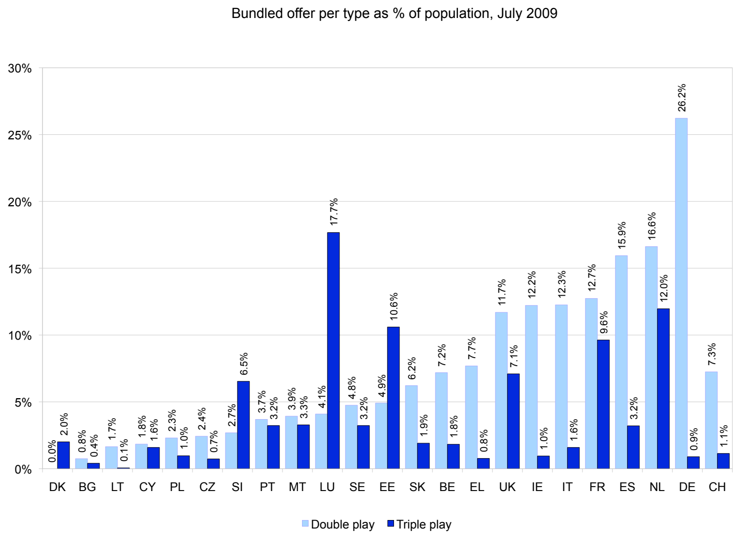
Figure 111 *Bundled offers (double, triple and quadruple play offers) subscribers as a % of population*



Bulgaria: Data of subscribers are as of 31 December 2008.
Denmark: Triple play includes internet, telephony (either mobile or fixed) and TV, so only the subtotal is reported.
Germany: In case of Triple Play cable operators are not included. Access to TV programs, broadband internet and fixed voice telephony is marketed as a single offer by cable operators but not for a single price. Therefore, bundled offers provided by cable operators do not go in line with the definition given by European Commission. Data on mobile voice telephony & BB are estimates.
Latvia, Hungary, Austria, Finland, Romania: Data are not available.
Netherlands: Data are as of 31December 2008.
Poland: Data are from 54 undertakings.
Portugal: All figures refer to 31 December 2008.
Slovenia: Only pure bundling is included (single offer for a single price). Tied offers where the purchase of one offer is conditional on the purchase of another are not included.
United Kingdom: Data are as of 1 March 2009.
Source for Switzerland: Telecom Operators, OFCOM Switzerland calculations. EU Average figure: OFCOM Switzerland calculations, weighted average, weighted by population. Data refer to December 2008

In 2007, double play procucts (4.58%) in Switzerland were more popular than triple play one(1.05% of the population are subscribers). In 2008, the situation is pretty much identical for triple play (1.14%) but the ratio increased for double play to 7.25%. Compared to the EU countries, Switzerland is the 9th country (out of 23) with the most penetration, between Belgium and Greece. Focusing on triple play, Switzerland is positioned 16th in the ranking.

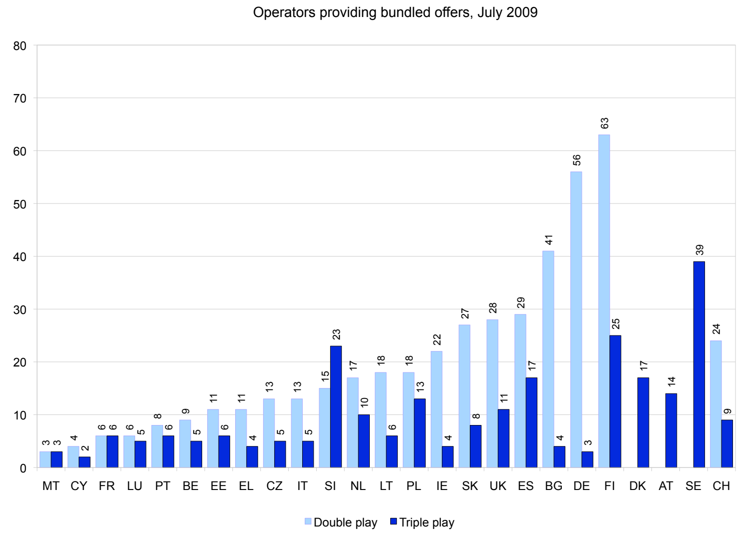
Figure 112 *Bundled offers per type as a % of population*



Denmark: Data are on triple play only, which comprises internet, telephony (either mobile or fixed) and TV so only the subtotal is reported.
Latvia, Hungary, Austria, Finland Romania: Data are not available.
Luxembourg: Triple play is in general fixed voice telephony + fixed BB + mobile
Netherlands: Data are as of 31 December 2008
Poland: Data are from 54 undertakings
Portugal: All figures refer to 31 December 2008.
Slovenia: Only pure bundling is included (single offer for a single price). Tied offers where the purchase of one offer is conditional on the purchase of another are not included.
UK: Data as of 1 March 2009
Sources for Switzerland: Telecom Operators, OFCOM Switzerland calculations. Data refer to December 2008

The number of operators offering double and triple play is respectively 24 and 9. For a small country, these figures are high compared to bigger European countries. This situation is explained by the fact that the Swiss telecommunication market is characterized by a large amount of small regional enterprises, mainly cable operators.

Figure 113 *Bundled offers operators*



Bulgaria, Belgium: Data are as of 31 December 2008.
Latvia, Hungary and Romania: Data are not available.
Netherlands: Data are as of 31 December 2008. Figures refer to operators that market such offers. Data on all small operators are not available.
Poland: Data come from 54 undertakings.
Portugal: All figures refer to 31 December 2008.
Finland: All operators offer services, which are invoiced on a single bill, at a cheaper price than if the services are invoiced separately. Services may be bought individually though.
Austria: Figures are estimates out of scale with 170 double play operators.
Slovenia: Only pure bundling is included (single offer for a single price). Tied offers where the purchase of one offer is conditional on the purchase of another are not included.
Sweden: Data is out of scale with 417 double play operators.
Sources for Switzerland: Telecom Operators, OFCOM Switzerland calculations. Data refer to December 2008

Chapter 6

Broadcasting

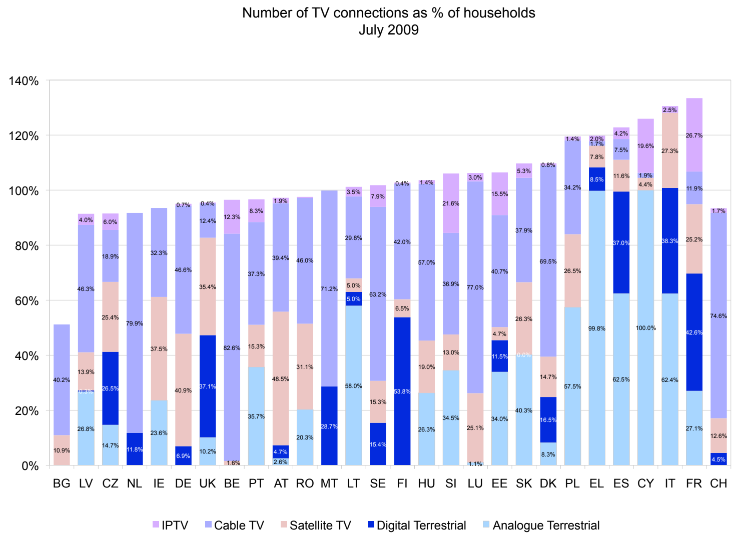
In this section some indicators are presented for broadcasting. This market is becoming more and more important from an electronic communications point of view due to the convergence phenomenon, by which the frontiers between these two traditional markets are diffusing.

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

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

The figures for Switzerland were obtained using standardised telephone interviews. Only one type of connection could be cited per household. This limits the maximum penetration of television connections to 100%, because of the method employed.
In 2008, Switzerland had approximately 93.4 TV connections per 100 households. Cable connections are the most popular and connect 74.6 households out of 100. In second place, far behind cable, are satellite connections (12.6 households per 100), then analogue or digital aerials (4.5 households per 100). IPTV connections are only used by 1.7% households.

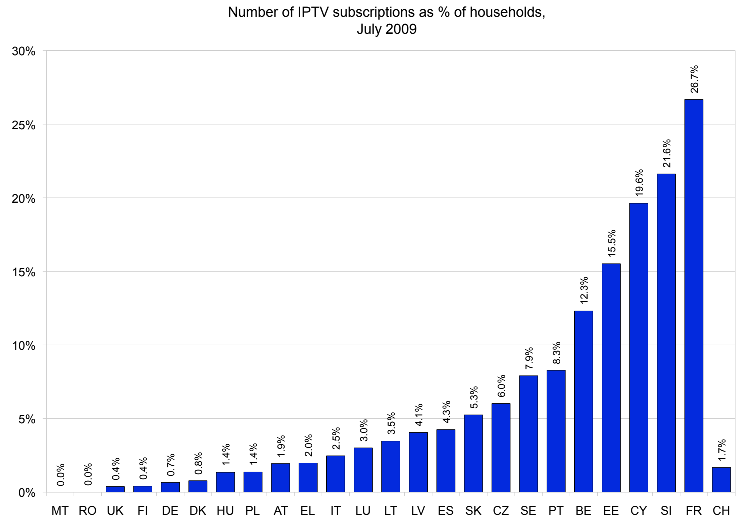
Figure 114 *Number of TV connections as % of households*



Belgium: TV only includes pay-TV. Source: Press release TV Vlaanderen of 29 September 2008, Cable Belgium at end of 2008(Cable TV), Belgacom's press release of Q1 (IPTV).
Bulgaria: Data are as of 31 December 2008.
Czech Republic: Data concerning single technological platform refers to the number of households receiving national TV programmes primarily via this platform.
Denmark: Data include double counting. Figures refer to the number of households that use the technology as their primary TV connection. Figures are survey based and are therefore estimates.
Germany: Data are as of January 2009. Source: SES ASTRA
Ireland: Analogue TV refers to free to air. Cable TV data includes MMDS and cable.
Greece: Data for analogue terrestrial TV is not available. It can be however considered that all households with terrestrial TV also have analogue TV.
Spain: Data on Terrestrial TV (analogue+digital) refer to 31 December 2008. Some digital terrestrial TV households can still receive analogue TV. Data on satellite TV, cable TV and IPTV refer to 1 July 2009.
France: Source: Etude Mediamétrie Q2 2009 "référence des équipements multimédia". Data may include double counting as analogue TV is still available.
Italy: Source: Operators (Telecom Italia, Fastweb, Wind) for IPTV data. Other Platforms: Agcom evaluation based on on Istat, DGTVI, GFK data.
Latvia: Data refer to main access technologies and estimated by the Latvian Association of Electronic Communications HS using different technologies exceeding total number of HS because many households use several technologies.
Luxembourg: In 2008 an estimated 10% of households have cable and satellite.
Hungary: Analogue Terrestrial households are estimates.
Lithuania: Data on terrestrial TV are estimates. Coverage of analogue terrestrial network is estimated at about 100% of households and coverage of digital terrestrial network at about 95%.
Netherlands: Data on satellite TV and IPTV subscriptions are confidential. Data are as of Q2 2009. Cable data comes from the structural monitoring for large cable companies (Q2 2008) and increased by approximately 200 000 connections at very small cable companies.
Poland: Source: Survey conducted by an external company on behalf of UKE. Data on terrestrial TV reflect the number of households equipped with a terrestrial TV according to the definition, but without the ability to access any other sources of transmission of television signals. Data on cable include households equipped with cable and ADSL television.
Portugal: According to the Portuguese National Statistical Institute, the percentage of TV households in Portugal is 99.4. Data on Terrestrial TV are estimates based on TV households (source: Mavise http://mavise.obs.coe.int/country?id=25) and the number of pay-TV subscribers. Satellite TV figures include DTH only. Split between terrestrial and digital TV is not available.
Romania: The number of Analogue Terrestrial TV connections is estimated; digital terrestrial TV is not available in Romania.
Slovenia: Households with several types of TV platforms are double counted. Data for analogue terrestrial TV is an estimate.
Slovakia: Digital Terrestrial TV commercial service is being tested. DVB-T will be launched in 2012. Data are estimates.
Finland: Based on Finnpanel Oy's research "TV Households in Finland" (May to June 2009). Satellite TV and IPTV are additional platforms.
Sweden: Free-to-air households do not have any subscriptions and are not registered by free-to-air broadcasters.
Sources for Switzerland: Mediapulse Establishment-Survey, OFCOM Switzerland calculations. Terrestrial connections are only digital since 2008. Data refer to the year 2008

In Switzerland, 1.7% of households had IPTV-subscription in 2008.

Figure 115 *Number of IPTV subscriptions as % of households*



Belgium: IPTV figures. Source: Belgacom's press release of Q1 2009.
Denmark: Data include double counting. Figures are estimates based on a survey and refer to the number of households that use the technology as their primary TV connection.
Germany: Data are as of January 2009. Source: SES ASTRA.
Italy: Source: Operators (Telecom Italia, Fastweb, Wind) for IPTV data.
Latvia: Data are an estimate by the Latvian Association of Electronic Communication.
Bulgaria: Data are not available.
Netherlands, Ireland: Data are confidential.
Sources for Switzerland: Mediapulse Establishment-Survey, OFCOM Switzerland calculations

Chapter 7

Exchange rates and population

7.1 Exchange rate used for NRAs data

	Average exchange rate for 2008	Average exchange rate for 2009
Belgium	1	1
Bulgaria	1.96	1.96
Czech Republic	24.95	25.42
Denmark	7.46	7.44
Germany	1	1
Estonia	15.65	15.65
Greece	1	1
Spain	1	1
France	1	1
Ireland	1	1
Italy	1	1
Cyprus	1	1
Latvia	0.7	0.71
Lithuania	3.45	3.45
Luxembourg	1	1
Hungary	251.51	270.26
Malta	1	1
Netherlands	1	1
Austria	1	1
Poland	3.51	4.25
Portugal	1	1
Romania	3.68	4.27
Slovenia	1	1
Slovakia	1	1
Finland	1	1
Sweden	9.62	10.19
UK	0.8	0.91
CH	1.529787	1.529787
Source	Average Exchange Rate 2008 (www.ecb.eu)	Exchange Rate as of 1st October 2009 (www.ecb.eu)

Source for Switzerland: Teligen T-Basket, August 2009, as of 1.08.2009

7.2 Exchange rates used for retail tariffs (mobile tariffs, public voice telephony tariffs)

	From 2002	From 2007	From 2008	From 2009
Austria	1	1	1	1
Belgium	1	1	1	1
Bulgaria	0.511221308	0.511221308	0.511221308	0.511221308
Cyprus	1.708525542	1.708525542	1	1
Czech	0.039312967	0.039312967	0.039312967	0.039312967
Denmark	0.134341792	0.134341792	0.134341792	0.134341792
Estonia	0.063911649	0.063911649	0.063911649	0.063911649
Finland	1	1	1	1
France	1	1	1	1
Germany	1	1	1	1
Greece	1	1	1	1
Hungary	0.003669738	0.003669738	0.003669738	0.003669738
Ireland	1	1	1	1
Italy	1	1	1	1
Japan	0.007519419	0.007519419	0.007519419	0.007519419
Latvia	1.419244962	1.419244962	1.419244962	1.419244962
Lithuania	0.289519398	0.289519398	0.289519398	0.289519398
Luxembourg	1	1	1	1
Malta	2.300966406	2.300966406	1	1
Netherlands	1	1	1	1
Poland	0.243652843	0.243652843	0.243652843	0.243652843
Portugal	1	1	1	1
Romania	0.236088486	1	1	1
Slovakia	0.033193919	0.033193919	0.033193919	1
Slovenia	0.004172926	1	1	1
Spain	1	1	1	1
Sweden	0.098027683	0.098027683	0.098027683	0.098027683
UK	1.135718342	1.135718342	1.135718342	1.135718342
USA	0.699105145	0.699105145	0.699105145	0.699105145
CH	0.653686	0.653686	0.653686	0.653686

Slovakia joined the Euro in 2009, and the most recent prices are based on the Euro currency.
The prices for Romania are in fact also given in Euro.
PPP rates are taken from Eurostat website, where the latest available data refer to 2008.
Source for Switzerland: Teligen T-Basket, August 2009, as of 1.08.2009

7.3 Population

	2008	2009
BE	10666866	10754528
BG	7640238	7606551
CZ	10381130	10467542
DK	5475791	5511451
DE	82221808	82050000
EE	1340935	1340415
EL	11214992	11257285
ES	45283259	45828172
FR	63753140	64351000
IE	4419859	4465540
IT	59618114	60053442
CY	79458	793963
LV	2270894	2261294
LT	3366357	3349872
LU	483799	4935
HU	10045000	10031208
MT	410584	413627
NL	16404282	16486587
AT	8331930	8355260
PL	38115641	38135876
PT	10617575	10627250
RO	21528627	21498616
SI	2025866	2032362
SK	5400998	5412254
FI	5300484	5326314
SE	9182927	9256347
UK	61185981	61634599
EU	497481657	499794855
CH	7701900	7783000

Source: Eurostat http://epp.eurostat.ec.europa.eu
Source for Switzerland: Swiss Federal Statistical Office

Chapter 8

OECD telecommunications basket definitions

8.1 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.

8.2 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

8.3 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

8.4 OECD mobile baskets

8.4.1 2002 Basket

1. 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
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
   - Medium user basket. This basket will have 75 outgoing calls per month
   - High user basket. The usage level is about twice the Medium user basket
3. The usage profiles will also include a number of SMS messages per month.
4. Call and message volumes for each basket are:

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

5. The information received showed that there is little difference between the average pre-paid usage and the low user post-paid usage. The low user basket can therefore be used for both pre- and post-paid tariffs, allowing a simple comparison also between the two types.

6. Only national calls are included in the profiles, with 4 different destinations:
   - Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National
   - National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above
   - Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller
   - Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller's country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country
7. Distributions per destination for each basket are:

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

8. As the information received produced little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local:national, i.e. 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.
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	38.0%	35.0%	27.0%
Medium user	47.0%	30.0%	23.0%
High user	63.0%	22.0%	15.0%

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

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

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

8.4.2 2006 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.