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International Roaming

National and international comparisons (2010)

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Summary

International roaming is a component of the services offered by mobile phone operators and enables mobile telephone users to be reached on their usual mobile number even when they are abroad. This report presents the specific features of this market, highlights legislative measures introduced to increase price transparency, indicates favourable alternatives for communicating when abroad and provides national and international price comparisons for international voice, SMS and data roaming. In addition, developments in terms of volumes and prices are shown on a quarterly basis in the appendices.

Systematic statistical data collections in the international roaming sector have been performed in Switzerland since the end of 2008. A comparison over two years is therefore already possible. In 2010, voice roaming included a total duration of 341.2 million minutes for outgoing calls and 217.4 million minutes for incoming calls; this corresponds to a growth of 2.6% for outgoing calls and 1.1% for incoming calls compared to 2009. In addition, 233.2 million SMS message were sent (10.8% more than in the previous year) and data volumes amounting to 42.3 million megabytes (MB) were transmitted or downloaded (65.6% more than in the previous year).

The standard tariffs for international voice roaming and SMS roaming published by the Swiss mobile operators remained unchanged during 2010. In relation to data roaming, two mobile operators adjusted some of their offerings.

Switzerland performed well in 2009 in comparison with the cost of voice roaming in the OECD countries¹ and is in the first third of the ranking (see report "International roaming; national and international comparisons (2009)". On the other hand, the average price of international roaming services on the basis of billed minutes is significantly higher in Switzerland than in EU/EEA-countries², since roaming services in the EU/EEA are subject to price regulation. In addition to price caps, per second billing (including a minimum charging period of not more than 30 seconds) was introduced in the EU countries. In Switzerland, however, voice roaming calls are charged per minute. Consequently, Swiss customers pay about 14% more for roaming services.

Generally incoming roaming calls are significantly less expensive than outgoing roaming calls and, above a certain level of roaming usage, it may be favourable to choose appropriate tariff options for roaming traffic.

Since the introduction of SMS roaming regulations in the EU, average Swiss prices have been well above the EU average. For data roaming prices, for customers with contracts, Switzerland is in the middle range compared with the EU/EEA countries. Swiss mobile users with pre-paid SIM cards, however, on average pay very high prices for mobile surfing when they are abroad.

¹ The Organisation for Economic Co-operation and Development (OECD).

² The European Union (EU) and the European Economic Area (EEA).

1 Introduction to international roaming

1.1 What is international roaming and how does it work?

International roaming allows mobile telephone users to use their mobile devices abroad on mobile operators' networks with which they have no direct end-customer relationship. Payment of the related communication services is handled by the home provider at the rates it sets (retail price). The home provider must in turn pay the foreign roaming partner a wholesale tariff to ensure that its customers can use the facilities of the roaming partner and make calls on its network.

1.2 Characteristics of the market

To date, no separate market for international roaming services can be observed at the end-user level. Instead, international roaming is marketed in each case as part of a national service offer. It cannot therefore be purchased as an individual service and no real option exists for dedicated roaming services. The retail prices for international roaming services are dependent on the types of contract offered and on specific roaming tariff options which mobile operators market in their own countries.

When setting prices, domestic providers take into account on the one hand the wholesale prices that are payable to the respective foreign providers for handling calls, transferring SMS and processing data services. On the other hand, they offset their own costs (retail billing, advertising, acquisition costs) and usually add a profit margin. High wholesale charges are often a major reason why mobile communications abroad are expensive.

Wholesale tariffs are agreed bilaterally between the participating companies. Mobile operators in different countries which belong to the same international group or which form an alliance usually grant each other lower tariffs. Traffic volume is often a crucial factor in relation to any discounts. This may mean that it is more difficult for small providers to negotiate favourable wholesale prices for themselves, and this may affect the corresponding retail prices. In a market which does not function perfectly, there is also the problem that mobile operators do not always pass on the cost benefits achieved at the wholesale level to customers.

In the EU, prices for international roaming services, which were perceived as high, were already under intensive discussion several years ago. In-depth market analysis had shown that the national authorities were unable to solve this problem of competition by unilateral regulation. In order to strengthen the European internal market for electronic communications and to ensure a high level of consumer protection, the EU Commission proposed regulation of roaming³, which subsequently became binding. Regulated caps therefore apply in the EU to wholesale and retail prices for voice and SMS roaming. However, data roaming is regulated only at the wholesale level.

To date, Switzerland has come out against regulatory measures in relation to roaming tariffs. This is because purely national retail regulation could have only a very limited effect and might lead to injustices for the national operating companies. On the other hand, measures have been introduced to increase transparency for customers (see 0). Regular data collection on international roaming should also make it possible to observe the development of prices for roaming services in greater detail and to compare the price levels in Switzerland with those in EU/EEA member states and OECD countries. In this sense, this report also sets out to provide to greater transparency.

³ EU Roaming Regulation I (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:171:0032:0040:EN:PDF>) entered into force on 30 June 2007. It includes the regulation of wholesale and retail prices for international roaming calls as well as regulations on transparency requirements for end customers. EU Roaming Regulation II (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:167:0012:0023:EN:PDF>), which entered into force on 1 July 2009, complements EU Roaming Regulation I. It extends regulation of voice roaming and now also regulates wholesale and retail prices for SMS messages and wholesale prices for data links (internet). The transparency regulations were also extended to cover messaging and data roaming.

1.3 Legislative framework

On 1 January 2010, the new Article 10a of the Telecommunications Services Ordinance (TSO) brought into effect amendments whose goal is to improve transparency regarding the cost of roaming services. Thus when a subscription contract is concluded or when a prepaid SIM card is purchased, mobile operators must point out how and where information can be found on current rates or options for tariff reductions.

Since 1 July 2010, when customers log on to a foreign telecommunications network, mobile operators will also have to inform them immediately and free of charge of the maximum costs (including VAT) for calls to Switzerland, incoming calls, local calls, sending SMS messages or transmitting data (cost per unit of measurement). It must be possible to deactivate or reactivate reception of automated messages at any time and without charge. Providers must provide information of this option on conclusion of a contract and at least once a year.

These transparency measures are intended to make it easier for Swiss customers to use mobile services abroad in full knowledge of the financial consequences and make it possible to avoid unexpectedly high bills.

1.4 Alternatives to traditional international roaming services

Although there is no ideal substitute for international roaming from the viewpoint of ease of use and easy accessibility, cost-conscious consumers do have alternatives to ensure they can be reached abroad; these are shown below in Table 1.

Table 1 Alternatives to the traditional international roaming package⁴

Alternative	Advantages	Disadvantages
Global MVNOs ⁵ , global SIM cards, regional SIM cards	Local rates or reduced roaming tariffs.	No incoming calls on the mobile user's usual number. Prepaid cards with a preset number of minutes and a limited period of validity that do not always correspond to the individual user's needs. Low awareness of the foreign provider.
Local SIM cards	Local prices. Especially suitable for consumers who travel often to the same country. Often possible to order a SIM card online before travelling.	No incoming calls on the mobile user's usual number. Low level of awareness of the foreign provider. Difficulties in choosing the most suitable package abroad. Language barriers.
Dual SIM card mobile phone	User's local provider retained. Cheaper outgoing calls using a local SIM card.	No incoming calls on the mobile user's usual number.
Call shops, payphones, telephones in hotels	Local rates.	No incoming calls. Lack of mobility. Language barriers.
Phone cards for local and international calls	Usually low costs.	No incoming calls. Lack of mobility. Language barriers.
VoIP - mobile or WLAN network	Lower costs via WLAN internet access.	Restrictions on incoming calls. Tariffs for data roaming. Specific mobile devices or laptops essential. Blocking of VoIP applications or additional billing (for mobile devices).
SMS	Lower costs compared to voice roaming. Availability of low-cost travel-specific SMS messaging services on the internet.	Only a partial substitute for a voice service.
E-mail	Low costs.	No real-time communication.

⁴ More information is available in the OECD reports "International mobile roaming charging in the OECD area", 21 December 2009, DSTI/ICCP/CISP (2009) 8/FINAL and "International mobile roaming services: analysis and policy recommendations", 29 March 2010, DSTI/ICCP/CISP (2009) 12/FINAL.

⁵ Mobile Virtual Network Operator (MVNO).

2 National and international comparisons

2.1 Retail prices for international roaming services in Switzerland

2.1.1 Mobile voice telephony

The rates for international roaming vary depending on country of residence. Providers have defined tariff zones differently. For simplicity, in what follows, calls have been separated into two zones: within the EU/EEA⁶ (Table 2 and Table 4) and in all other countries (Table 3 and Table 5).

Calls abroad are charged per minute.

Table 2 Standard rates for international voice roaming in the EU/EEA, in CHF, including VAT, 1st July 2011

	Local calls	Calls to Switzerland and the EU	Incoming calls when abroad
Swisscom Mobile (subscription & prepaid)	0.85	0.85	0.40
Sunrise (subscription & prepaid)	1.10	1.70	0.80
Orange subscription: A, D, F, I / other EU	1.10 / 1.20	1.70 / 2.00	0.60 - 1.00
Orange prepaid: A, D, F, I / other EU	1.10 - 2.90	1.70 - 2.80	0.60 - 1.60

Table 3 Standard rates for international voice roaming in the EU/EEA, in CHF, including VAT, 1st July 2011

	Local calls	Calls to Switzerland and other countries	Incoming calls when abroad
Swisscom Mobile (subscription)	1.40 / 1.60	2.20 / 3.70	0.80 - 3.00
Swisscom Mobile (prepaid)	2.85 / 4.75	2.85 / 4.75	2.00 / 3.00
Sunrise (subscription & prepaid)	1.60 / 2.20	2.40 - 4.75	2.00 / 3.00
Orange (subscription)	1.30 - 2.20	2.90 / 4.80	0.80 - 4.00
Orange (prepaid)	1.30 - 5.00	2.90 - 5.00	0.80 - 4.20

The basic rates are mainly suitable for occasional mobile use. Above a certain usage level, the activation of a special tariff option for roaming services is worth exploring. These tariff options typically include a monthly fee, but the cost of calls is significantly cheaper.

Table 4 Optional rates in the EU/EEA, in CHF, including VAT, 1st July 2011

	Outgoing calls in the EU	Incoming calls in the EU
Swisscom World Flex Option (CHF 9 per month)	0.60	0.30
Sunrise Global Option (CHF 9 per month)	0.50 + connection charge 1.00	0.50
Orange ⁷ Travel Option (CHF 3 per month)	1st minute 1.20, then 0.40	0.40

⁶ The EU/EEA region corresponds to Swisscom's Zone A, Sunrise's Zone 1 and Orange's Zones 1+2.

⁷ In addition, mention should be made of Orange "Favourite Countries" costing CHF 8 per month. This is valid for travel in Western Europe. The above-mentioned one-off fee includes 10 free call minutes for calls from a country in the "Favourite Countries" list to Switzerland and 10 free call minutes for incoming calls in all the "Favourite Countries". 30 days after activation unused minutes are not rolled-over.

Table 5 Optional rates in other countries, in CHF including VAT, 1st July 2011

	Local calls	Outgoing calls (outside EU)	Incoming calls
Swisscom World Flex Option (CHF 9 per month)	1.20 / 1.30	1.90 / 3.00	0.70 - 2.70
Sunrise Global Option (CHF 9 per month)	0.95 / 1.00	1.75 - 4.25	1.60 / 1.80
Orange Travel Option (CHF 3 per month)	1.20 - 1.35	1.90 - 2.00	0.80 - 4.00

2.1.2 SMS

Providers of roaming services do not differentiate between geographical regions for sending SMS messages. Costs per SMS message can be reduced by activating a corresponding tariff option.

Table 6 Rates for SMS, in CHF, including VAT, 1st July 2011

Provider	SMS without option	SMS with Option
Swisscom	0.40 (subscription) 0.90 (prepaid)	0.20 in the EU/EEA, 0.30 to 0.35 in other countries - World Flex Option (CHF 9 per month)
Sunrise	0.50	0.40 (subscription only) - Sunrise global
Orange	0.45	0.35 - Travel Option

2.1.3 Mobile data services

The retail prices for data services were at the following level at the time of observation:

Table 7 Regular rates for international data roaming, in CHF including VAT, 1st July 2011

Provider	Price per MB	Billing interval
Swisscom ⁸	Subscription: 7.-/24h per 5 MB in the EU/EEA; 14.-/24h per 5 MB in other 34 countries; 10.- per 1 MB for the rest of the world; Prepaid: 10.-	30 kB
Sunrise	15.6 in the EU/EEA, according to provider in other countries	20 kB
Orange	Subscription: 8.- in the EU/EEA, 15.- in other countries; Prepaid: 15.- in all countries	30 kB

Swisscom, Orange and Sunrise customers can subscribe to certain options for data usage abroad at lower prices:

⁸ The default cost limits are 200.– for adults and 100.– for young people, but they can be adjusted individually. If the costs exceed their limits, data traffic is interrupted automatically.

Table 8 Optional rates for international data roaming, in CHF including VAT, 1st July 2011

Provider	Option	Charge	Data volume included	Price per MB for additional volume	Billing intervals
Swisscom	World Flex Option	9.- per month	Subscription: 7.-/24h per 10 MB in the EU/EEA; 14.-/24h per 10 MB in other 34 countries; 6.67 per 1 MB for the rest of the world; Prepaid: 2.- in the EU/EEA; 7.- in other 34 countries; 10.- for the rest of the world		30 kB
	Data Travel 24h	24.- in the EU/EEA; 49.- in other 34 countries; 149.- for the rest of the world	50 MB		30 kB
	Data Travel 30 days	74.- in the EU/EEA; 149.- for the rest of the world	200 MB		30 kB
Sunrise	Sunrise Global (subscription only)	9.- per month	-	4.4 in the EU/EEA, according to providers in other countries	100 kB
Orange	Travel Data Daily 2MB (in Europe)	4.- per day	2 MB	2.-	30 kB
	Travel Data Daily 10MB (in Europe)	10.- per day	10 MB	2.-	30 kB
	Travel Data Daily 50MB (in Europe)	25.- per day	50 MB	2.-	30 kB
	Travel Data Daily 2MB (World)	10.- per day	2 MB	2.-in the EU/EEA; 8.- in all other countries	30 kB
	Travel Data Daily 10MB (World)	45.- per day	10 MB	2.-in the EU/EEA; 8.- in all other countries	30 kB
	Travel Data Daily 50MB (World)	150.- per day	50 MB	2.-in the EU/EEA; 8.- in all other countries	30 kB
	Travel Data packets	20.- per month	5 MB	4.-	100 kB (30kB for Black-Berry)
		100.- per month	50 MB		
		150.- per month	100 MB		

2.2 Evolution of volumes and average prices in Switzerland

Overall in 2010, roaming calls amounting to 341.2 million minutes of outgoing calls and 217.4 million minutes of incoming calls were made. This corresponds to a growth of 2.6% for outgoing calls and 1.1% for incoming calls compared to 2009. In addition, 233.2 million SMS messages were sent and 42.3 million MB of data were transmitted or downloaded. The use of a tariff option for lower roaming prices has been variable over the last two years and has ranged from 48% of all consumed roaming minutes in the fourth quarter of 2010 to 65% in the first quarter of 2010. The increase in the volume of SMS messages amounted to 10.8%; the rapidly growing market sector for data services saw a rise of 65.5%. Over the year, volumes (number of minutes, sent SMS messages and data downloaded or transferred in MB) increased steadily in the first three quarters but dropped significantly in the fourth

quarter. This trend is similar in both 2009 and 2010 and can be explained by seasonal factors. The details are shown in graphic form in Appendix 2 (Figures 3-8).

Per minute billing of roaming calls made has a direct impact on the cost of those services. The difference between the number of roaming minutes actually consumed (actual minutes) and the minutes billed by mobile providers (billed minutes) is estimated at about 14.2% in Switzerland for 2010. Appendix 3 (Figures 10-12) shows the charges paid based on actual minutes.

In the case of outgoing roaming calls, it is clear that calls within the EU/EEA are the cheapest. On average, the corresponding price per minute in the fourth quarter of 2010 was CHF 1.01. Slightly more (CHF 1.15 in the fourth quarter of 2010) is paid for telephone calls from the EU/EEA region back to Switzerland. Calls to other countries in the world cost Swiss roaming customers on average up to 2.5 times more than roaming calls within the EU/EEA and in the fourth quarter of 2010 were on average CHF 2.28 per minute actually consumed (cf. Figure 10).

Incoming roaming calls are significantly cheaper than outgoing calls, at least in European countries. Thus in the fourth quarter of 2010, Swiss roaming customers were charged an average of CHF 0.52 per minute for incoming roaming calls made during a stay in the EU/EEA. Incoming roaming calls made during a stay in the rest of the world, cost an average of CHF 1.99 in the fourth quarter of 2010. (cf. Figure 10).

The evolution of average prices for SMS services is characterized by a slight downward trend. In the fourth quarter 2010, the average cost of sending a short message was around CHF 0.36, where the price reduction with a tariff option was 23.7% compared to the standard price (cf. Figure 13).

The average price for data roaming in the EU/EEA countries fell gradually during 2010 and in the fourth quarter was CHF 3.63 per MB. Data usage in the rest of the world tended to be cheaper over the year. In the fourth quarter of 2010, the average price per MB was CHF 5.11 (cf. Figure 14). However, it is noteworthy that prices for customers with a pre-paid SIM card were substantially higher than for customers with a contract. In the fourth quarter of 2010, the price difference was 268% (cf. Figure 15). The high price level also has a direct effect on the usage intensity of roaming data services by customers with a pre-paid SIM card; the corresponding volumes (measured in MB) are very low.

2.3 Comparison with the EU⁹

In the European Union, statistical data on international roaming is collected regularly and published as part of the report entitled "International Roaming - Benchmark Data Report" of the BEREC¹⁰. Since late 2008, Switzerland has participated in this publication. Appendix 4 presents results from the latest relevant report¹¹, which includes statistics from 29 countries.

The price comparisons shown in Appendix 4 for voice roaming services are based on the billed minutes. The relevant Swiss average for calls in the EU/EEA countries in the first quarter of 2010 was 80.2% (cf. Figure 16) higher for outgoing calls and 115.0% (cf. Figure 17) higher for incoming calls than the average value for the 29 EU/EEA countries included in the comparison. The price differential has increased over the fourth quarter of 2009 due to the ongoing EU/EEA-price regulation.

For outgoing roaming calls to the rest of the world, at the end of 2010 Swiss roaming customers paid prices which were on average 2.7% more expensive than in the 29 EU/EEA countries (cf. Figure 18). When comparing the average prices for incoming roaming calls in the rest of the world, the difference between the average values for Switzerland and the 29 comparison countries was 46.5% in the last

⁹ Exchange rate: 1 EUR = 1.4632 CHF, quarterly average for Q1 2010; source: <http://sdw.ecb.europa.eu/browseTable.do?DATASET=0&CURRENCY=CHF&node=2018794&FREQ=Q>.

¹⁰ The Body of European Regulators for Electronic Communications (BEREC).

¹¹ International Roaming. BEREC Benchmark Data Report for July 2010 - December 2010, June 2011.

quarter of 2010 (cf. Figure 18). The price difference compared to the same quarter in the previous year has dropped significantly.

The price level for SMS roaming¹² in Switzerland in the fourth quarter of 2010 was 145.7% higher than the average in the regulated EU/EEA markets (cf. Figure 19). In the rest of the world, however, consumers in the EU/EEA countries pay a considerably higher price than in Switzerland.

Data roaming in the EU/EEA countries at the level of the retail market has not been regulated to date. In the fourth quarter of 2010, 11 countries were charging a higher average price per MB¹³ for post-paid products than Switzerland. On the other hand, average prices for Swiss mobile users with prepaid SIM cards appear to be very high in the European comparison. Only the Netherlands and Slovenia were dearer than Switzerland. Swiss prices for data roaming are about 15.2% higher for postpaid products and 275.6% higher for prepaid products than the average for the EU/EEA countries (see Figure 20).

2.4 Data roaming in the OECD countries

In addition to the study „International Mobile Roaming Charging in the OECD Area“¹⁴, which presented the price level for voice and SMS roaming in the OECD area, the OECD published in May 2011 the study „International mobile data roaming“¹⁵. In this study prices for data roaming in packets of 1 MB, 5 MB und 20 MB in one or several sessions are compared for 34 countries (see examples in Appendix 6). The data collection was carried out in autumn 2010 and covered prices of the two largest operators in each country for post-paid subscribers. In all the categories under comparison Switzerland does well and taking into account purchasing power parity is positioned below the average of the OECD countries.

¹² SMS roaming when travelling within the EU/EEA countries.

¹³ Data roaming when travelling within the EU/EEA countries, "Non-Group Retail" (i.e., excluding traffic between the business units within the same group, where those business units are fully or majority owned by the group).

¹⁴ OECD, International Mobile Roaming Charging in the OECD Area, DSTI/ICCP/CISP(2009)8/FINAL, Paris, December 2009.

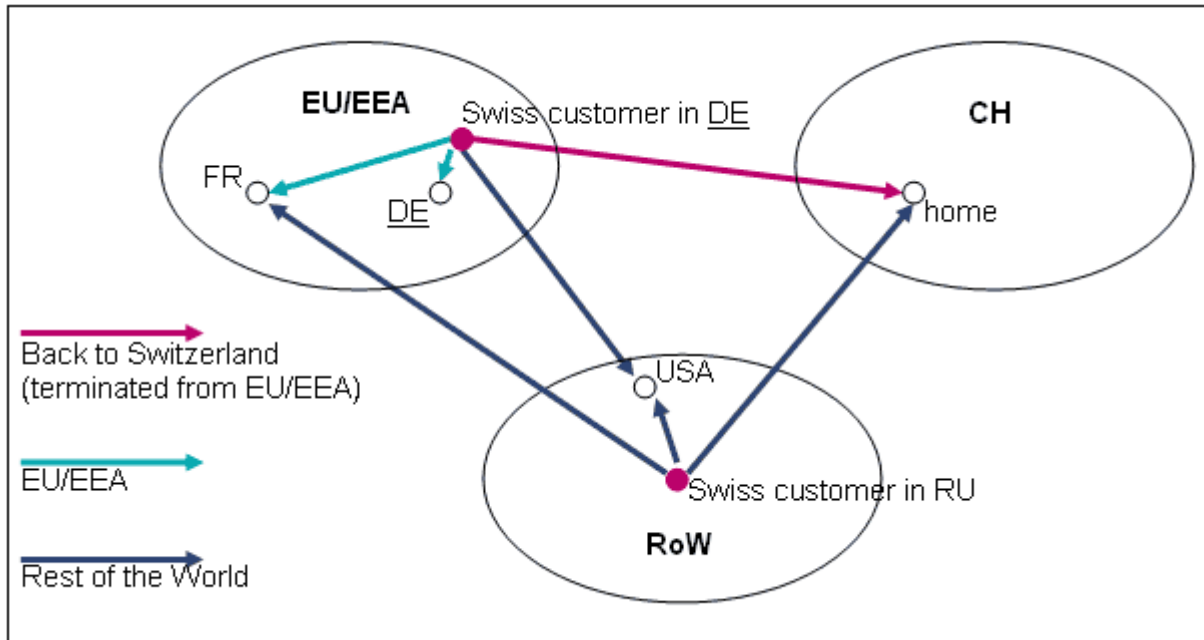
¹⁵ OECD, International Mobile Data Roaming, DSTI/ICCP/CISP(2010)12/FINAL, Paris, May 2011.

Appendix 1. Principles for data collection in Switzerland

Outgoing calls (Figure 1) are sub-divided into three categories:

- Calls back to Switzerland (from the EU/EEA region),
- Calls within the EU/EEA,
- Rest of the World – all other calls.

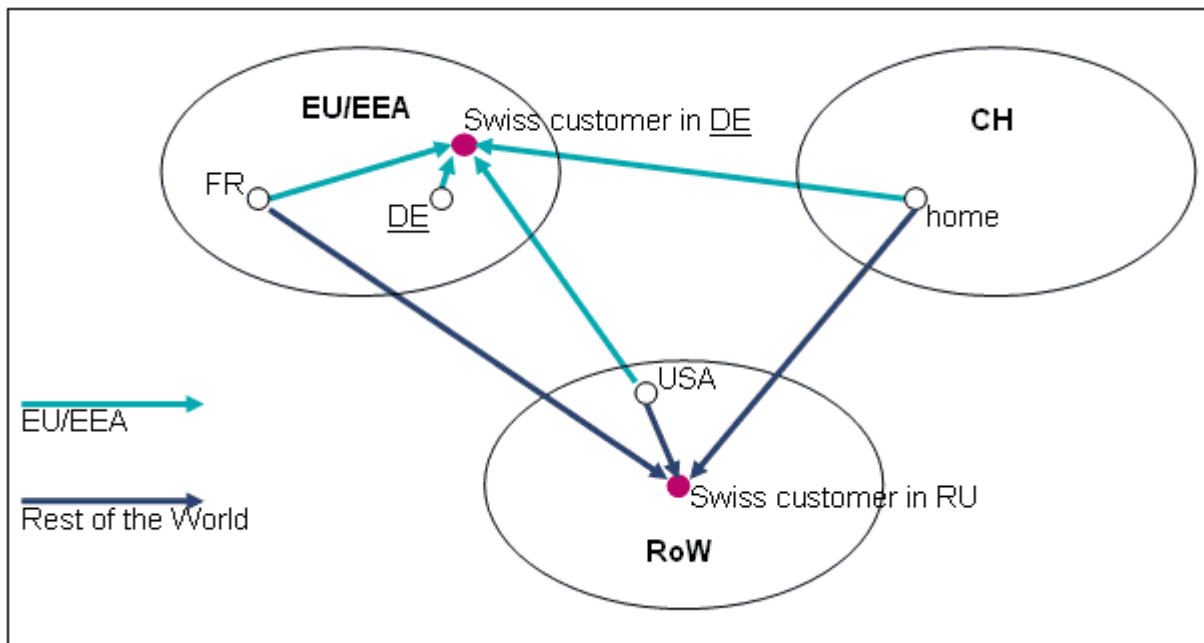
Figure 1 Calls made



Incoming calls (Figure 2) are sub-divided into two categories:

- Calls within the EU/EEA,
- Rest of the World – all other calls.

Figure 2 Calls received



Appendix 2. Evolution of volumes

Figure 3 Total actual minutes - calls made and received (incl. special corporate), 2009/2010

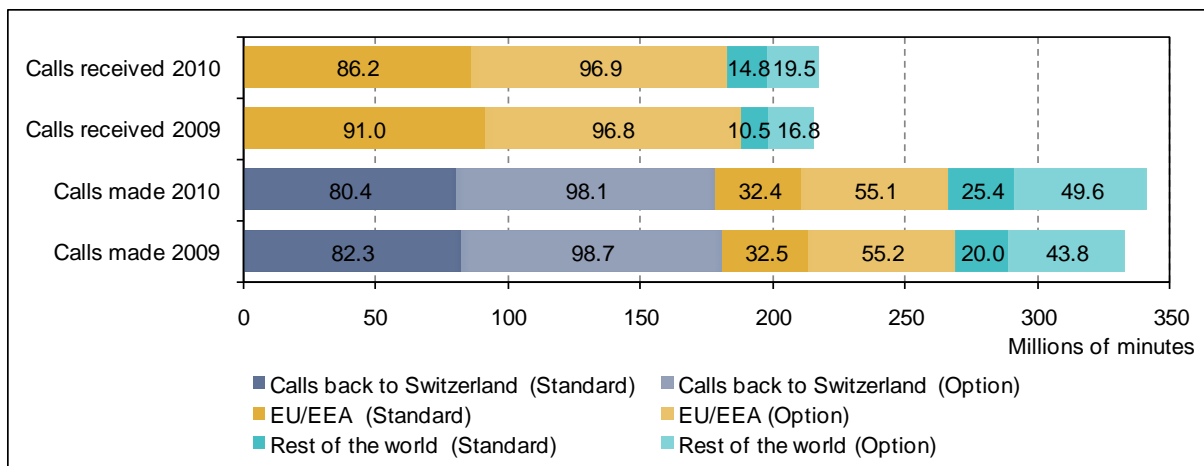


Figure 4 Choice of a tariff plan for voice communication

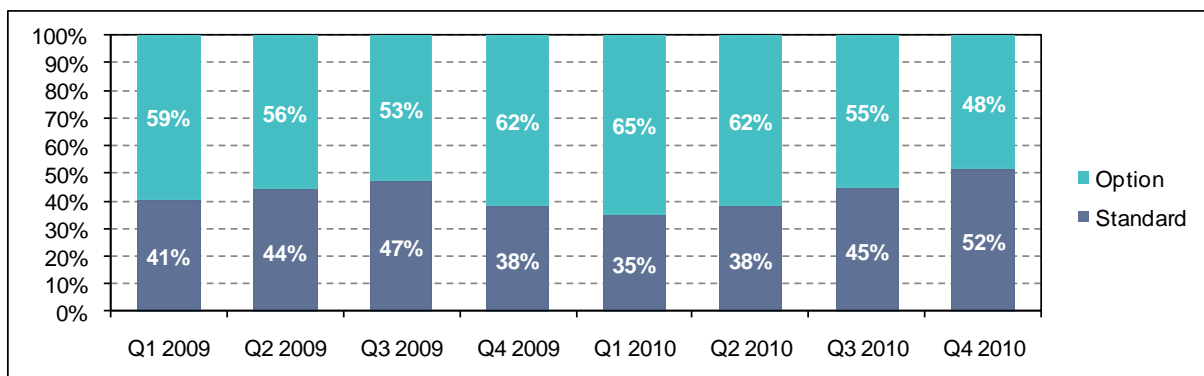


Figure 5 Total number of SMS sent, 2009/2010

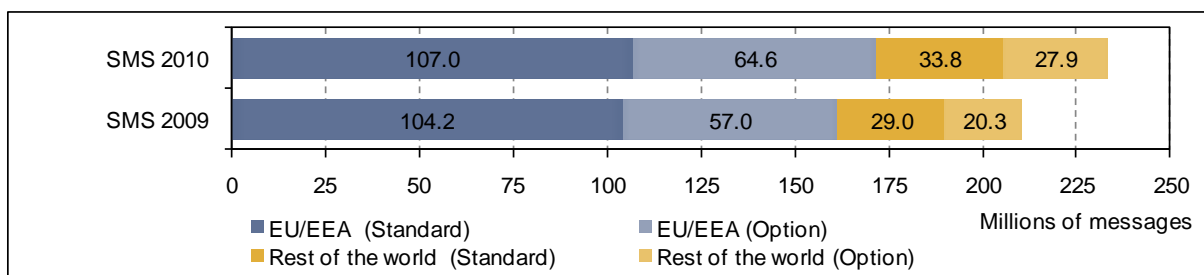


Figure 6 Total data volumes, 2009/2010

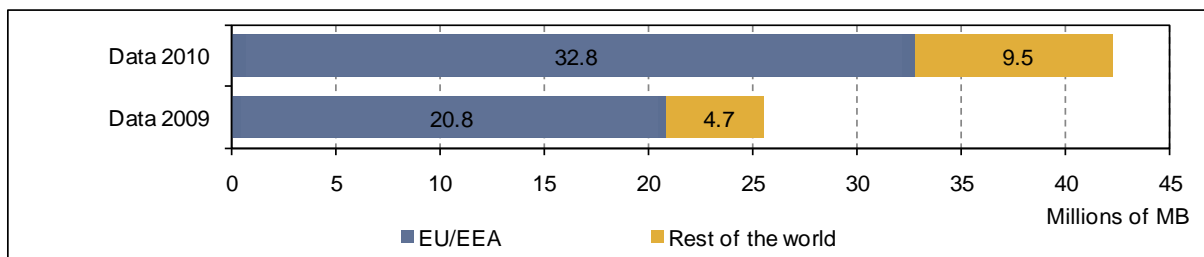


Figure 7 Total actual minutes - calls made and received (incl. special corporate), Q1 - Q4 2010

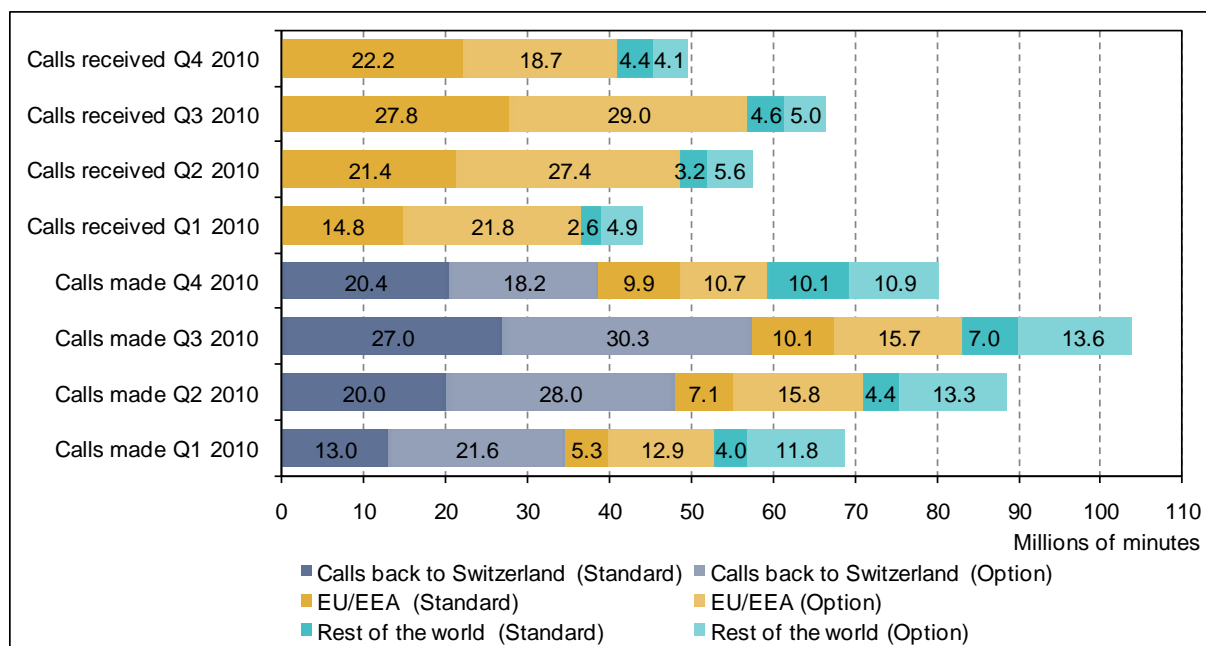


Figure 8 Total number of SMS sent, Q1 - Q4 2010

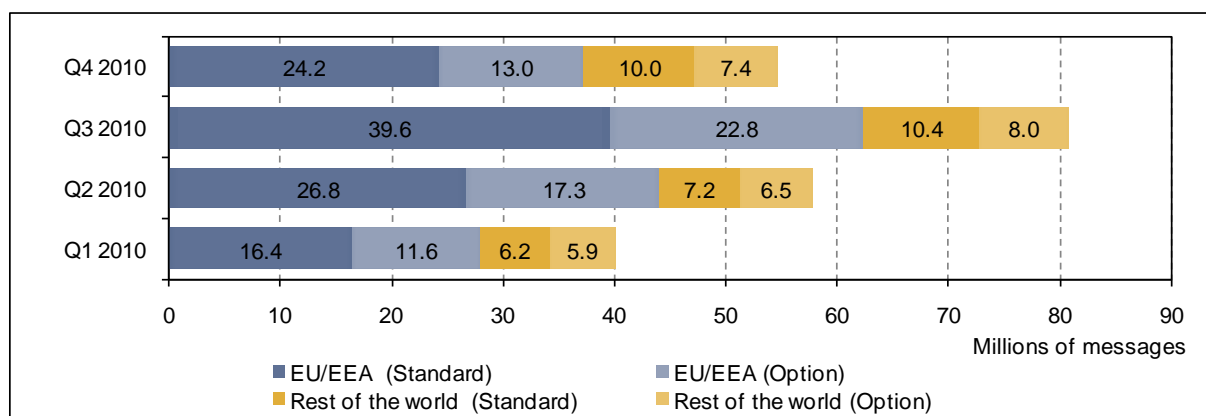
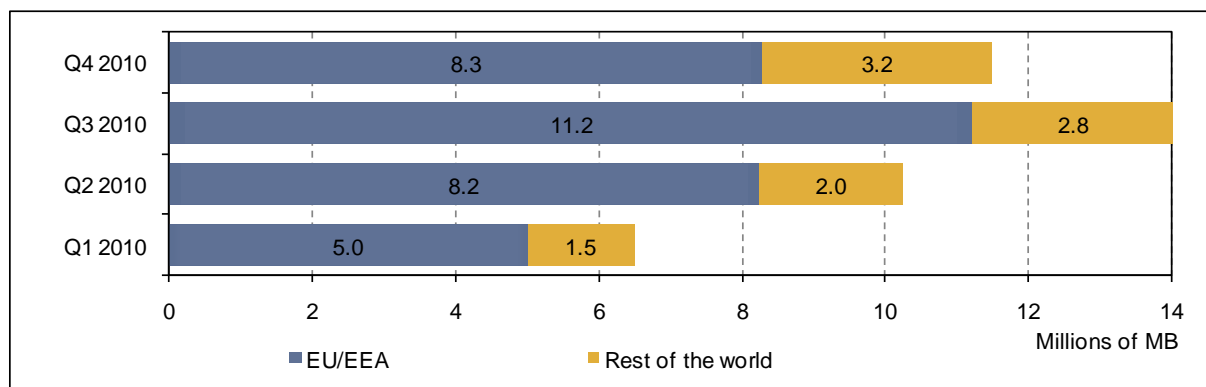


Figure 9 Total data volumes, Q1 - Q4 2010



Appendix 3. Average prices in the retail market (in CHF)

Figure 10 Price evolution 2009-2010 (based on actual minutes, excluding special corporate)

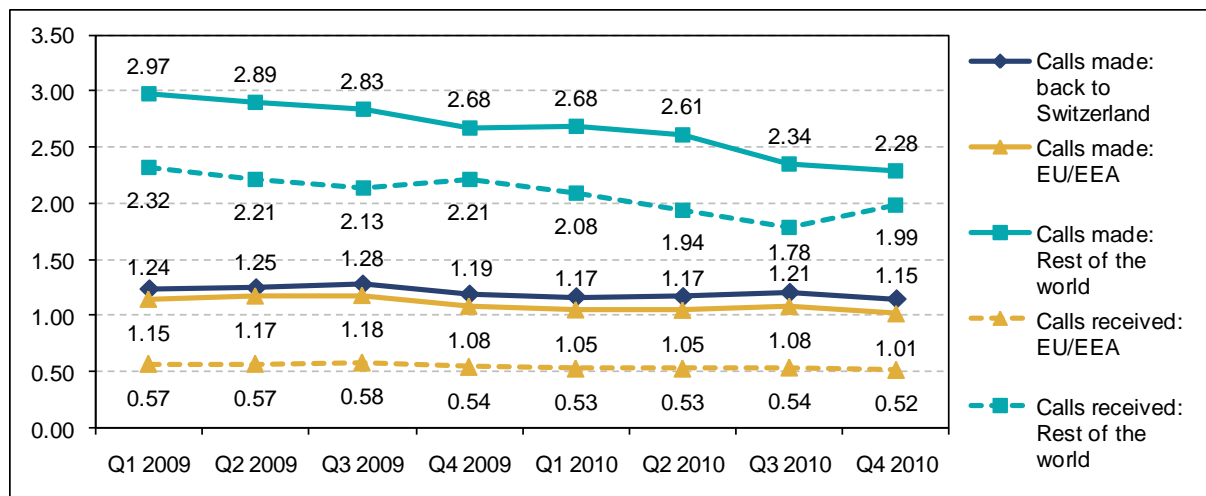


Figure 11 Price per minute (based on actual minutes, excluding special corporate) - Calls made, Q1 - Q4 2010

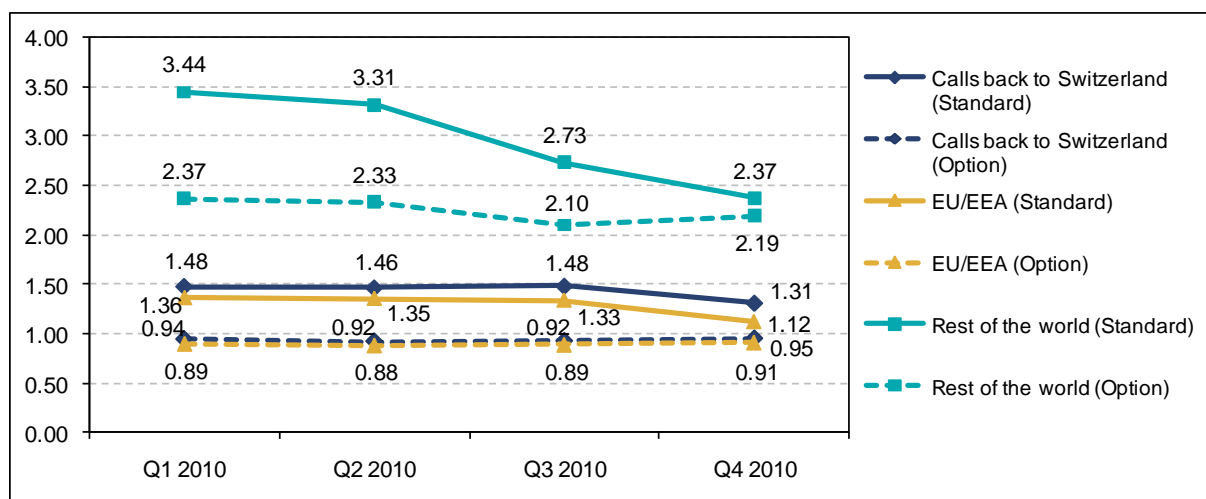


Figure 12 Price per minute (based on actual minutes, excluding special corporate) - Calls received, Q1 - Q4 2010

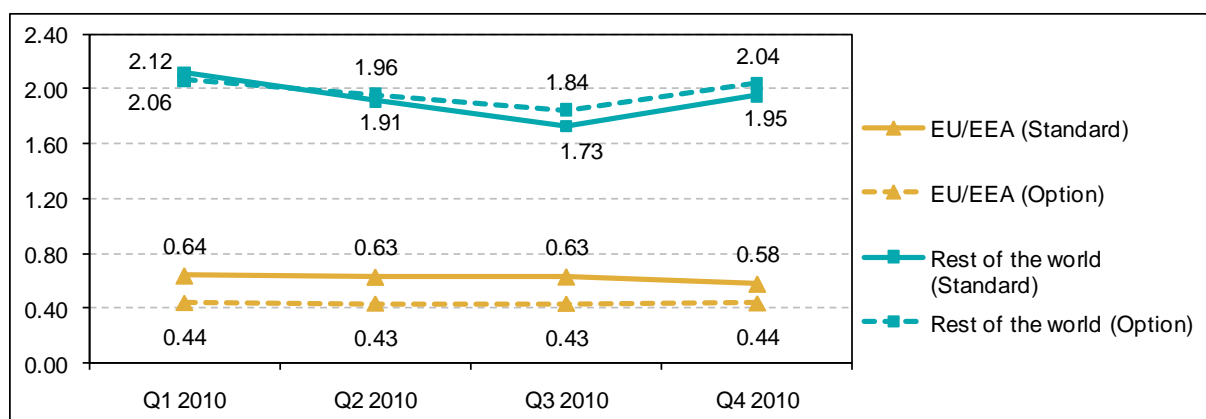


Figure 13 Price evolution 2009-2010: average price per SMS

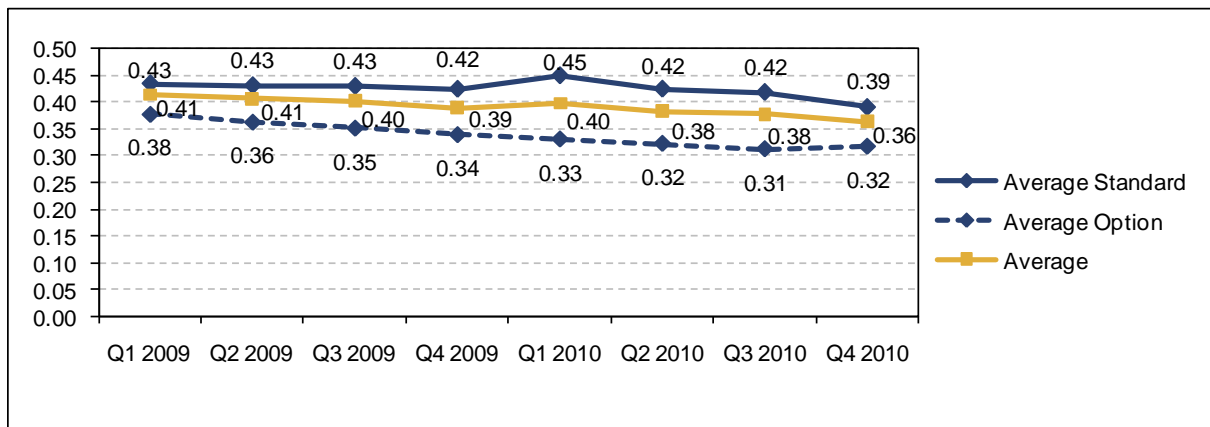


Figure 14 Price evolution 2009-2010: average price per MB

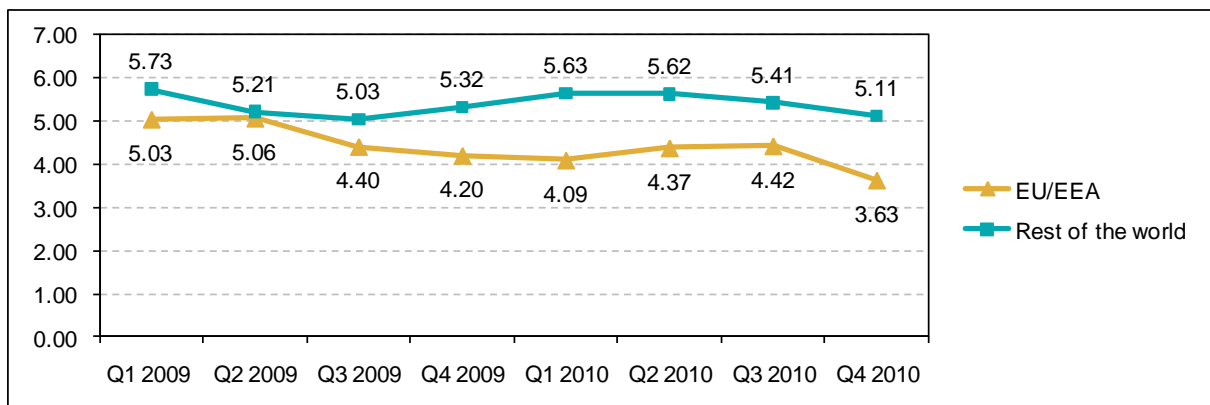
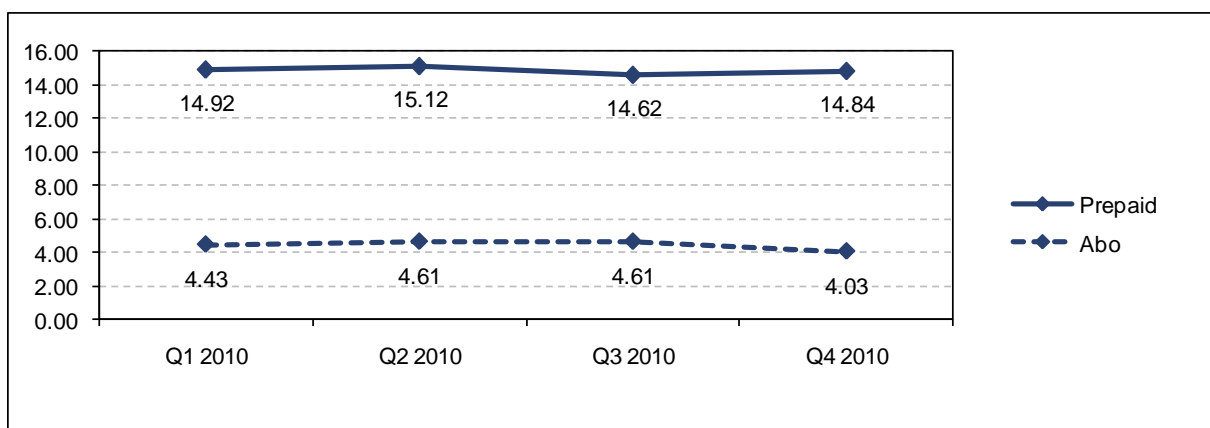


Figure 15 Average price per MB, Q1 - Q4 2010



Appendix 4. Comparison with the EU

Figure 16 EU/EEA average retail price per minute for voice calls made for all consumers (excluding special corporate, based on billed minutes) Q3-Q4 2010

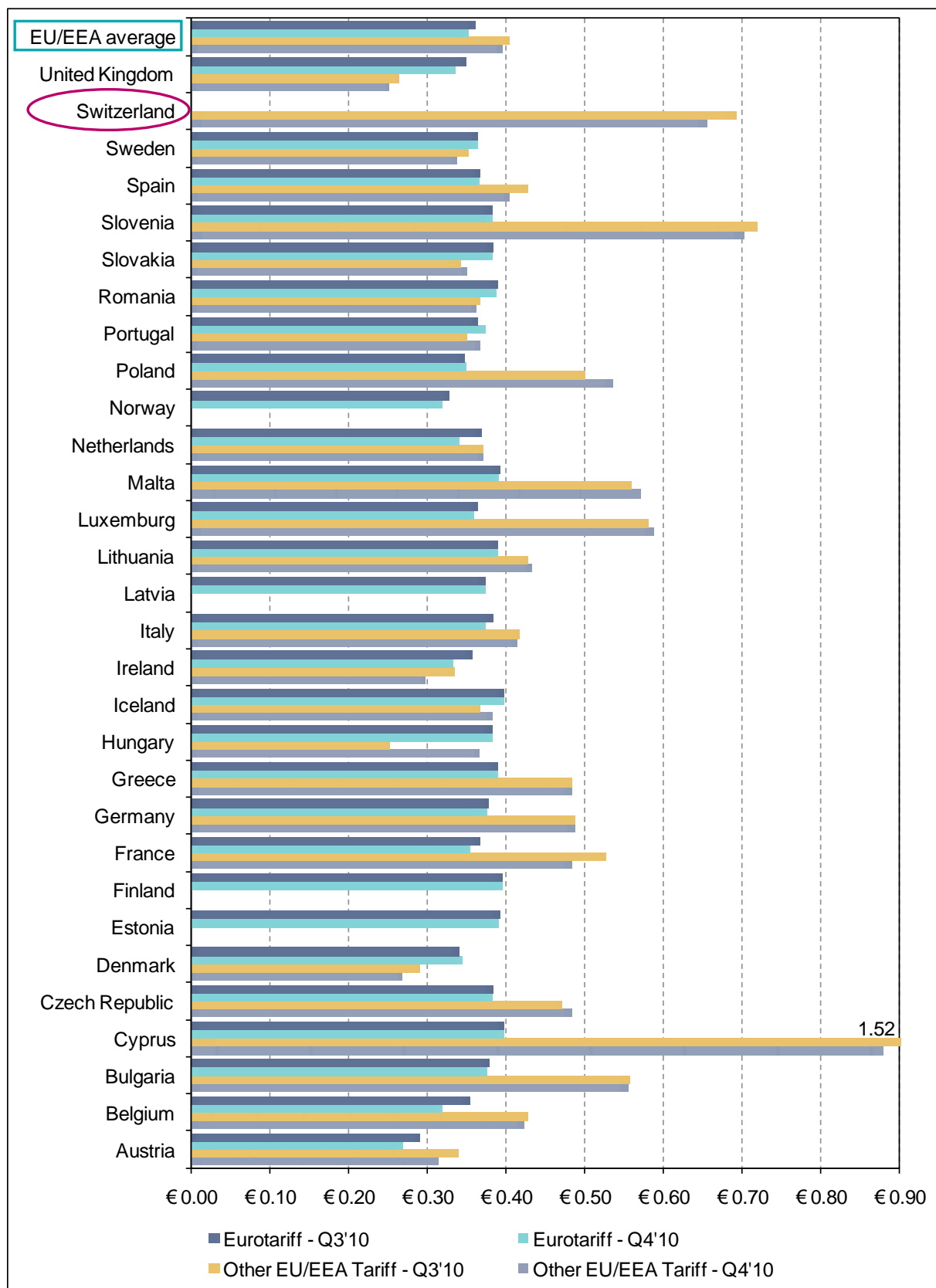


Figure 17 EU/EEA average retail price per minute for voice calls received for all consumers (excluding special corporate, based on billed minutes) Q3-Q4 2010

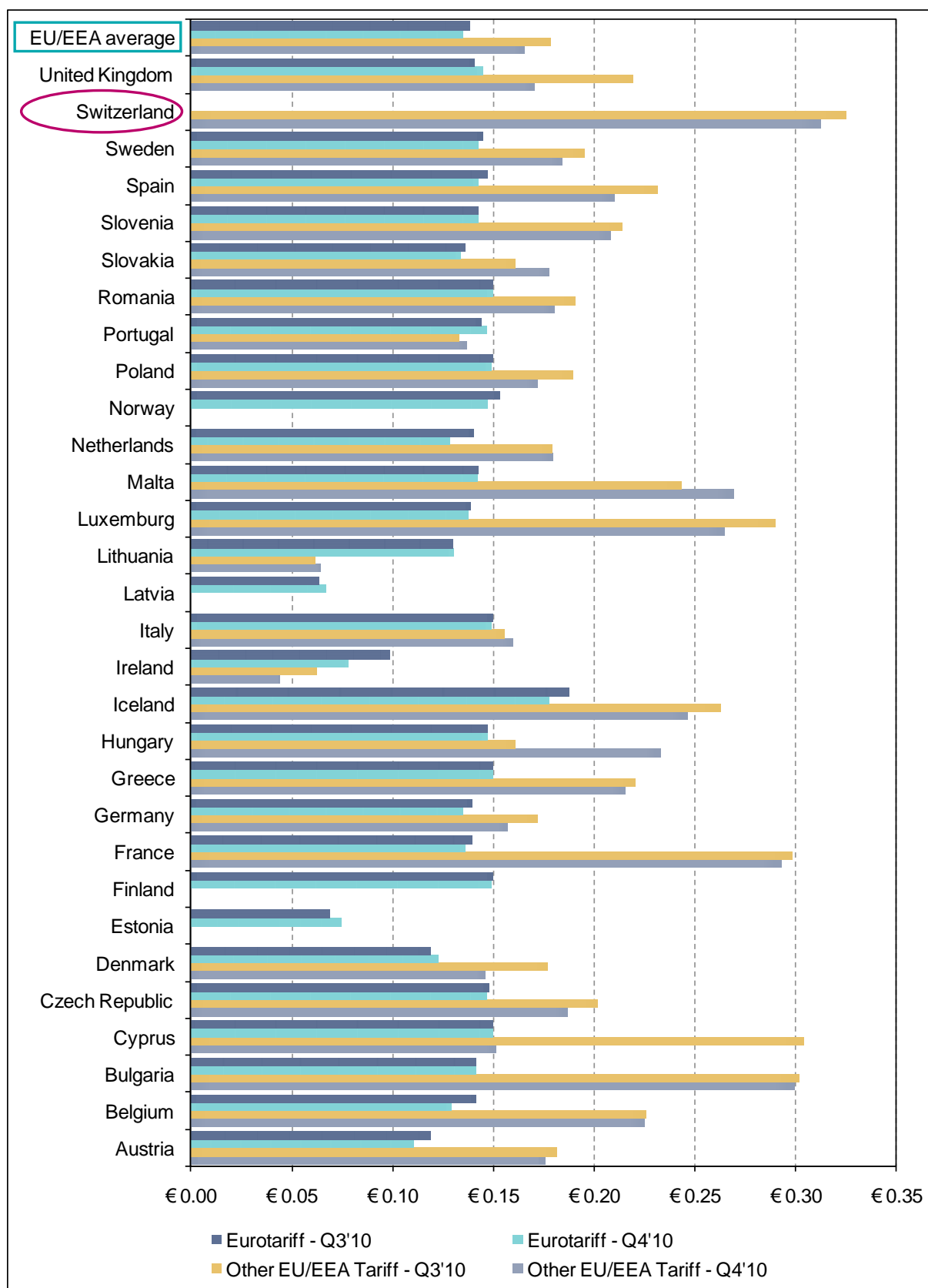


Figure 18 Average retail price per minute voice call made and call received for all consumers (excluding special corporate, based on billed minutes): Rest of the world, Q3-Q4 2010

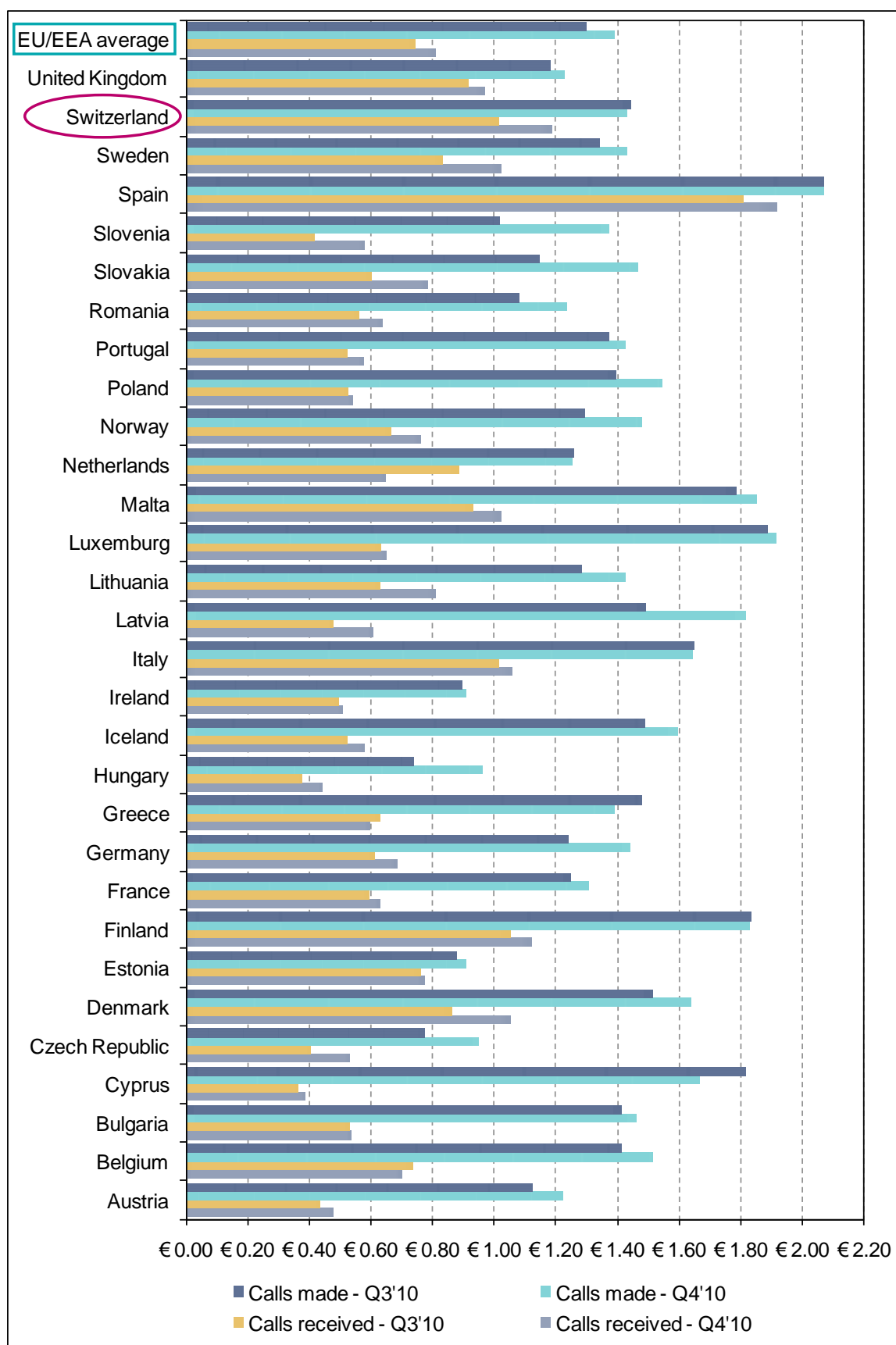


Figure 19 Average retail price per SMS: EU/EEA Q3-Q4 2010

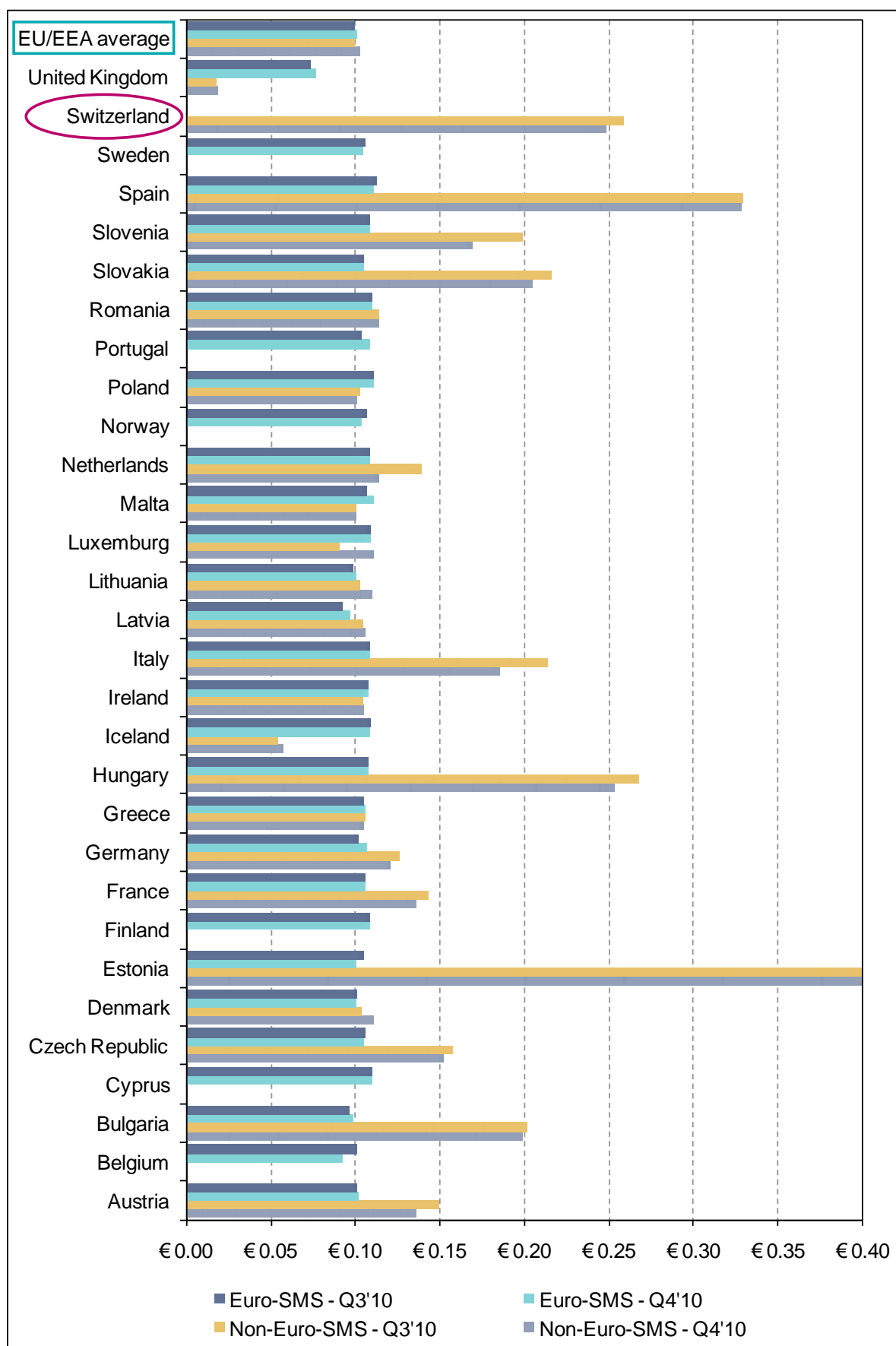
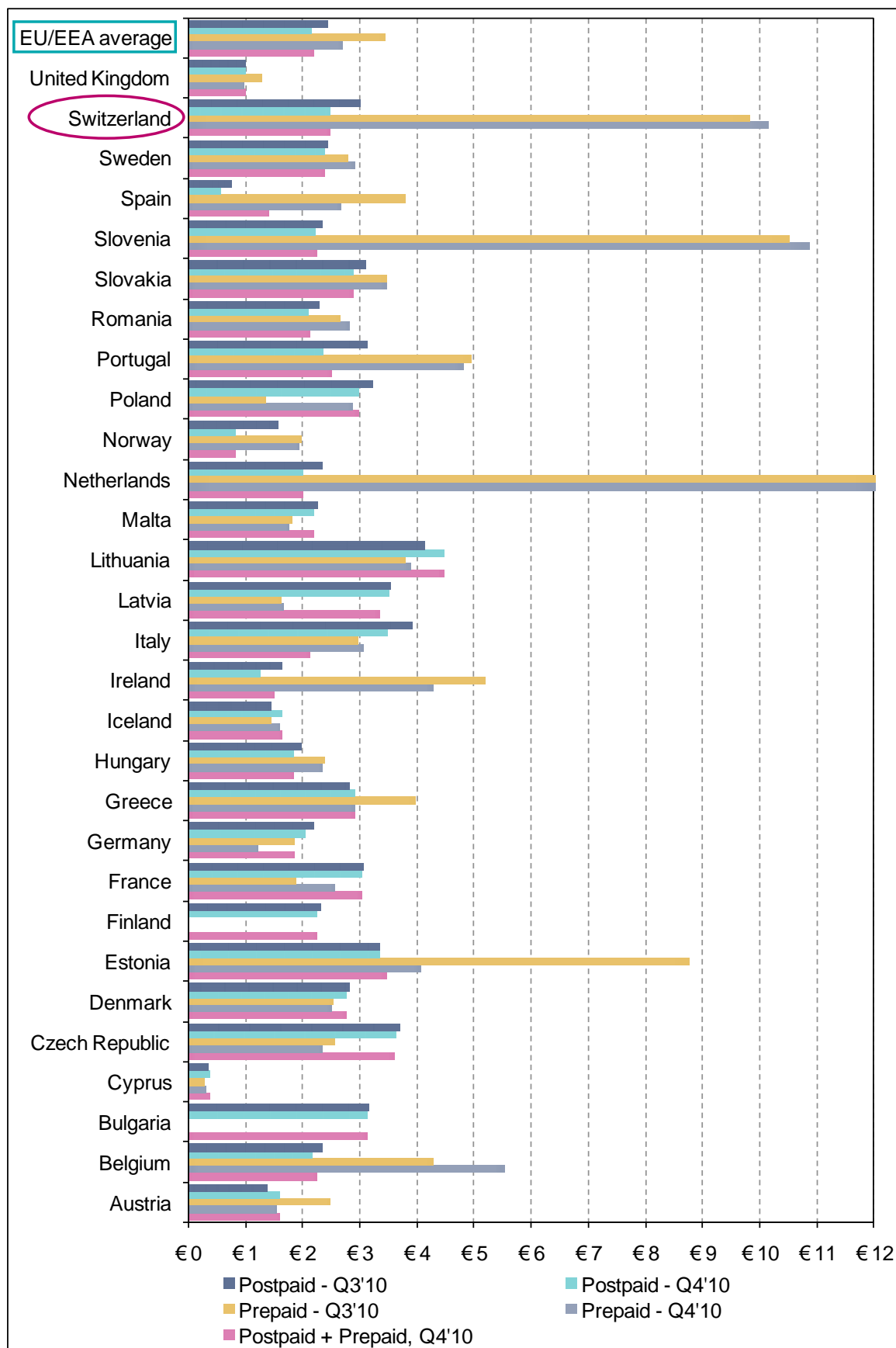


Figure 20 Average EU/EEA off-net retail price per data MB (based on billed megabytes) Q3-Q4 2010



Appendix 5. Comparison with the EU (raw data)

**Table 9 EU/EEA average retail price per minute for voice calls made for all consumers
(excluding special corporate, based on billed minutes) Q3-Q4 2010**

	Eurotariff - Q3'10	Eurotariff - Q4'10	Other EU/EEA Tariff - Q3'10	Other EU/EEA Tariff - Q4'10
Austria	0.29	0.27	0.34	0.31
Belgium	0.35	0.32	0.43	0.42
Bulgaria	0.38	0.38	0.56	0.55
Cyprus	0.40	0.40	1.52	0.88
Czech Republic	0.38	0.38	0.47	0.48
Denmark	0.34	0.34	0.29	0.27
Estonia	0.39	0.39		
Finland	0.40	0.40		
France	0.37	0.35	0.53	0.48
Germany	0.38	0.38	0.49	0.49
Greece	0.39	0.39	0.48	0.48
Hungary	0.38	0.38	0.25	0.37
Iceland	0.40	0.40	0.37	0.38
Ireland	0.36	0.33	0.33	0.30
Italy	0.38	0.37	0.42	0.41
Latvia	0.37	0.37		
Lithuania	0.39	0.39	0.43	0.43
Luxemburg	0.36	0.36	0.58	0.59
Malta	0.39	0.39	0.56	0.57
Netherlands	0.37	0.34	0.37	0.37
Norway	0.33	0.32		
Poland	0.35	0.35	0.50	0.54
Portugal	0.36	0.37	0.35	0.37
Romania	0.39	0.39	0.37	0.36
Slovakia	0.38	0.38	0.34	0.35
Slovenia	0.38	0.38	0.72	0.70
Spain	0.37	0.37	0.43	0.40
Sweden	0.36	0.36	0.35	0.34
Switzerland			0.69	0.66
United Kingdom	0.35	0.34	0.26	0.25
EU/EEA average	0.36	0.35	0.40	0.40

**Table 10 EU/EEA average retail price per minute for voice calls received for all consumers
(excluding special corporate, based on billed minutes) Q3-Q4 2010**

	Eurotariff - Q3'10	Eurotariff - Q4'10	Other EU/EEA Tariff - Q3'10	Other EU/EEA Tariff - Q4'10
Austria	0.12	0.11	0.18	0.18
Belgium	0.14	0.13	0.23	0.22
Bulgaria	0.14	0.14	0.30	0.30
Cyprus	0.15	0.15	0.30	0.15
Czech Republic	0.15	0.15	0.20	0.19
Denmark	0.12	0.12	0.18	0.15
Estonia	0.07	0.07		
Finland	0.15	0.15		
France	0.14	0.14	0.30	0.29
Germany	0.14	0.13	0.17	0.16
Greece	0.15	0.15	0.22	0.22
Hungary	0.15	0.15	0.16	0.23
Iceland	0.19	0.18	0.26	0.25
Ireland	0.10	0.08	0.06	0.04
Italy	0.15	0.15	0.16	0.16
Latvia	0.06	0.07		
Lithuania	0.13	0.13	0.06	0.06
Luxemburg	0.14	0.14	0.29	0.26
Malta	0.14	0.14	0.24	0.27
Netherlands	0.14	0.13	0.18	0.18
Norway	0.15	0.15		
Poland	0.15	0.15	0.19	0.17
Portugal	0.14	0.15	0.13	0.14
Romania	0.15	0.15	0.19	0.18
Slovakia	0.14	0.13	0.16	0.18
Slovenia	0.14	0.14	0.21	0.21
Spain	0.15	0.14	0.23	0.21
Sweden	0.14	0.14	0.20	0.18
Switzerland			0.33	0.31
United Kingdom	0.14	0.14	0.22	0.17
EU/EEA average	0.14	0.13	0.18	0.17

Table 11 Average retail price per minute for voice calls made for all consumers (excluding special corporate): Rest of the world (based on billed minutes) Q3-Q4 2010

	Calls made - Q3'10	Calls made - Q4'10	Calls received - Q3'10	Calls received - Q4'10
Austria	1.12	1.22	0.43	0.48
Belgium	1.41	1.51	0.74	0.70
Bulgaria	1.41	1.46	0.53	0.54
Cyprus	1.82	1.66	0.36	0.38
Czech Republic	0.78	0.95	0.40	0.53
Denmark	1.52	1.64	0.86	1.06
Estonia	0.88	0.91	0.76	0.77
Finland	1.83	1.83	1.06	1.12
France	1.25	1.31	0.59	0.63
Germany	1.24	1.44	0.61	0.69
Greece	1.48	1.39	0.63	0.60
Hungary	0.74	0.96	0.37	0.44
Iceland	1.49	1.59	0.52	0.58
Ireland	0.90	0.91	0.49	0.51
Italy	1.65	1.64	1.01	1.06
Latvia	1.49	1.82	0.48	0.60
Lithuania	1.28	1.43	0.63	0.81
Luxemburg	1.89	1.91	0.63	0.65
Malta	1.79	1.85	0.93	1.02
Netherlands	1.26	1.25	0.88	0.65
Norway	1.29	1.48	0.66	0.76
Poland	1.40	1.55	0.53	0.54
Portugal	1.37	1.43	0.52	0.57
Romania	1.08	1.24	0.56	0.64
Slovakia	1.15	1.47	0.60	0.78
Slovenia	1.02	1.37	0.41	0.58
Spain	2.07	2.07	1.81	1.92
Sweden	1.34	1.43	0.83	1.02
Switzerland	1.45	1.43	1.01	1.19
United Kingdom	1.18	1.23	0.92	0.97
EU/EEA average	1.30	1.39	0.74	0.81

Table 12 Average retail price per SMS: EU/EEA Q3-Q4 2010

	Euro-SMS - Q3'10	Euro-SMS - Q4'10	Non-Euro-SMS - Q3'10	Non-Euro-SMS - Q4'10
Austria	0.10	0.10	0.15	0.14
Belgium	0.10	0.09		
Bulgaria	0.10	0.10	0.20	0.20
Cyprus	0.11	0.11		
Czech Republic	0.11	0.11	0.16	0.15
Denmark	0.10	0.10	0.10	0.11
Estonia	0.10	0.10	0.40	0.40
Finland	0.11	0.11		
France	0.11	0.11	0.14	0.14
Germany	0.10	0.11	0.13	0.12
Greece	0.11	0.11	0.11	0.11
Hungary	0.11	0.11	0.27	0.25
Iceland	0.11	0.11	0.05	0.06
Ireland	0.11	0.11	0.10	0.10
Italy	0.11	0.11	0.21	0.19
Latvia	0.09	0.10	0.10	0.11
Lithuania	0.10	0.10	0.10	0.11
Luxemburg	0.11	0.11	0.09	0.11
Malta	0.11	0.11	0.10	0.10
Netherlands	0.11	0.11	0.14	0.11
Norway	0.11	0.10		
Poland	0.11	0.11	0.10	0.10
Portugal	0.10	0.11		
Romania	0.11	0.11	0.11	0.11
Slovakia	0.11	0.10	0.22	0.20
Slovenia	0.11	0.11	0.20	0.17
Spain	0.11	0.11	0.33	0.33
Sweden	0.11	0.10		
Switzerland			0.26	0.25
United Kingdom	0.07	0.08	0.02	0.02
EU/EEA average	0.10	0.10	0.10	0.10

Table 13 Average EU/EEA off-net retail price per data MB (based on billed megabytes) Q3-Q4 2010

	Postpaid - Q3'10	Postpaid - Q4'10	Prepaid - Q3'10	Prepaid - Q4'10	Postpaid + Prepaid, Q4'10
Austria	1.37	1.58	2.49	1.55	1.58
Belgium	2.34	2.18	4.29	5.52	2.24
Bulgaria	3.16	3.13			3.13
Cyprus	0.35	0.36	0.28	0.30	0.36
Czech Republic	3.70	3.62	2.55	2.34	3.60
Denmark	2.82	2.76	2.53	2.50	2.76
Estonia	3.34	3.34	8.76	4.07	3.46
Finland	2.31	2.24			2.24
France	3.06	3.03	1.87	2.55	3.03
Germany	2.20	2.04	1.86	1.20	1.85
Greece	2.81	2.92	3.96	2.92	2.92
Hungary	1.99	1.83	2.38	2.35	1.84
Iceland	1.46	1.64	1.46	1.59	1.64
Ireland	1.64	1.25	5.20	4.28	1.49
Italy	3.93	3.48	2.95	3.05	2.13
Latvia	3.54	3.51	1.62	1.66	3.33
Lithuania	4.13	4.48	3.80	3.90	4.48
Malta	2.26	2.19	1.80	1.76	2.18
Netherlands	2.33	2.00	12.05	12.05	2.00
Norway	1.58	0.82	1.99	1.93	0.82
Poland	3.23	2.99	1.36	2.86	2.98
Portugal	3.14	2.36	4.95	4.80	2.51
Romania	2.28	2.10	2.64	2.82	2.11
Slovakia	3.10	2.88	3.46	3.46	2.89
Slovenia	2.35	2.23	10.52	10.89	2.23
Spain	0.75	0.55	3.80	2.68	1.40
Sweden	2.43	2.39	2.79	2.92	2.39
Switzerland	3.01	2.47	9.83	10.17	2.48
United Kingdom	1.00	0.99	1.27	0.97	0.99
EU/EEA average	2.44	2.14	3.45	2.71	2.19

Appendix 6. Data roaming in the OECD countries

Table 14 1 MB in one session - average price by country of origin of the traveller, price of the least expensive destination of the traveler, average price by country of origin of the traveller - intra EU/EEA routes excluded¹⁶

	Av.-USD	Av-USD PPP	Least exp.-USD	Least exp.-USD PPP	Av-USD excl. intra EU/EEA	Av-USD PPP excl. intra EU/EEA
Australia	16.60	11.62	16.60	11.62	16.60	11.62
Austria	9.51	8.49	5.88	5.25	16.67	14.88
Belgium	10.01	8.48	6.73	5.70	16.57	14.04
Canada	29.27	24.61	11.93	10.02	29.27	24.61
Chile	12.47	16.41	11.50	15.13	12.47	16.41
Czech Republic	5.50	6.70	2.88	3.52	10.72	13.08
Denmark	8.87	5.54	4.49	2.81	17.61	11.01
Estonia	7.92	8.61	4.59	4.99	15.68	17.04
Finland	6.37	4.68	3.54	2.60	12.04	8.85
France	6.08	5.24	4.25	3.66	9.75	8.40
Germany	9.48	8.54	3.78	3.41	20.86	18.80
Greece	4.37	4.17	2.99	2.85	7.15	6.81
Hungary	5.99	8.09	2.75	3.72	12.46	16.84
Iceland	5.26	4.42	1.87	1.57	14.82	12.45
Ireland	8.29	6.23	7.21	5.42	10.46	7.86
Israel	18.63	15.15	9.74	7.92	18.63	15.15
Italy	12.08	10.50	5.88	5.11	24.48	21.28
Japan	20.30	13.44	19.42	12.86	20.30	13.44
Korea	7.80	9.75	7.80	9.75	7.80	9.75
Luxembourg	5.57	4.46	4.13	3.30	8.47	6.77
Mexico	13.10	19.85	5.76	8.72	13.10	19.85
Netherlands	7.51	6.64	2.91	2.57	16.71	14.78
New Zealand	12.07	10.06	4.72	3.93	11.66	9.72
Norway	7.70	4.75	4.54	2.80	14.03	8.66
Poland	9.27	12.70	6.60	9.04	14.62	20.03
Portugal	6.00	6.45	4.68	5.02	8.66	9.31
Slovak Republic	7.89	9.73	3.02	3.73	16.92	20.88
Slovenia	5.98	6.04	2.94	2.97	12.39	12.50
Spain	10.10	9.90	8.48	8.32	13.32	13.07
Sweden	8.38	6.35	3.36	2.55	17.20	13.03
Switzerland	11.90	6.92	7.99	4.65	11.90	6.92
Turkey	8.71	9.79	8.71	9.79	8.71	9.79
United Kingdom	6.27	6.02	3.50	3.37	10.51	10.10
United States	22.06	22.06	9.78	9.78	22.06	22.06
OECD average	10.22	9.48	6.32	5.84	14.55	13.52

¹⁶ OECD, International Mobile Data Roaming, DSTI/ICCP/CISP(2010)12/FINAL, Paris, May 2011, p. 24-25.

Table 15 5 MB in 5 sessions over a week – average price by country of origin of the traveller, price of the least¹⁷

	Av.-USD	Av-USD PPP	Least exp. USD	Least exp. USD PPP
Australia	78.46	54.89	61.51	43.03
Austria	23.63	21.09	18.63	16.63
Belgium	28.70	24.31	20.38	17.26
Canada	71.46	60.06	16.26	13.67
Chile	57.10	75.14	52.26	68.76
Czech Republic	24.12	29.42	11.06	13.48
Denmark	40.43	25.27	14.36	8.97
Estonia	39.60	43.05	22.95	24.95
Finland	32.06	23.56	17.93	13.18
France	12.46	10.73	8.43	7.26
Germany	38.05	34.28	16.31	14.69
Greece	14.25	13.58	9.93	9.46
Hungary	29.95	40.47	13.76	18.59
Iceland	26.30	22.10	9.33	7.84
Ireland	41.46	31.16	36.05	27.09
Israel	33.66	27.37	18.06	14.68
Italy	39.12	34.00	19.61	17.05
Japan	98.79	65.42	87.69	58.07
Korea	28.55	35.69	18.92	23.65
Luxembourg	15.00	12.00	7.03	5.62
Mexico	39.60	60.01	23.68	35.87
Netherlands	37.54	33.20	14.54	12.86
New Zealand	60.36	50.32	23.58	19.66
Norway	37.50	23.15	14.44	8.91
Poland	45.74	62.67	32.98	45.19
Portugal	30.02	32.26	23.38	25.12
Slovak Republic	35.79	44.16	10.10	12.46
Slovenia	27.07	27.32	7.19	7.26
Spain	50.48	49.51	42.42	41.60
Sweden	41.92	31.76	16.81	12.74
Switzerland	33.62	19.54	24.50	14.24
Turkey	43.57	48.95	43.57	48.95
United Kingdom	27.85	26.76	15.58	14.97
United States	69.91	69.91	20.12	20.12
OECD average	39.83	37.15	23.33	21.88

¹⁷ OECD, International Mobile Data Roaming, DSTI/ICCP/CISP(2010)12/FINAL, Paris, May 2011, p. 26.

Table 16 20 MB in 20 sessions over a month, average price by country of origin of the traveller, price of the least expensive destination of the traveller¹⁸

	Av.-USD	Av-USD PPP	Least exp. USD	Least exp. USD PPP
Australia	308.08	215.53	218.90	153.14
Austria	54.08	48.27	28.43	25.38
Belgium	77.43	65.60	24.52	20.77
Canada	216.52	181.99	32.53	27.34
Chile	228.76	301.00	133.00	175.00
Czech Republic	91.89	112.06	39.63	48.33
Denmark	149.28	93.31	39.01	24.39
Estonia	158.42	172.20	91.80	99.78
Finland	119.45	87.78	61.02	44.84
France	50.74	43.71	45.75	39.41
Germany	145.61	131.20	58.14	52.39
Greece	50.25	47.87	32.95	31.39
Hungary	115.36	155.89	48.61	65.69
Iceland	105.19	88.40	37.32	31.36
Ireland	142.11	106.79	84.87	63.78
Israel	165.11	134.26	77.31	62.87
Italy	156.47	136.02	78.43	68.18
Japan	395.16	261.69	350.77	232.30
Korea	95.44	119.29	56.75	70.94
Luxembourg	62.30	49.86	29.87	23.90
Mexico	82.49	124.99	42.50	64.40
Netherlands	150.17	132.81	58.17	51.45
New Zealand	241.46	201.29	94.34	78.64
Norway	150.02	92.60	57.76	35.65
Poland	182.98	250.69	131.93	180.75
Portugal	101.08	108.60	66.50	71.45
Slovak Republic	139.92	172.64	11.75	14.50
Slovenia	102.85	103.80	17.97	18.14
Spain	171.08	167.79	138.82	136.15
Sweden	167.66	127.02	67.24	50.94
Switzerland	112.11	65.16	72.85	42.34
Turkey	117.29	131.78	117.29	131.78
United Kingdom	111.39	107.06	62.31	59.88
United States	155.71	155.71	31.61	31.61
OECD average	143.35	132.20	74.73	68.50

¹⁸ OECD, International Mobile Data Roaming, DSTI/ICCP/CISP(2010)12/FINAL, Paris, May 2011, p. 28.