Finnish Communications Regulatory Authority

Market review **2/2011**

The price level of telecom services in Finland **2010**

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Summary

The price level of telecom services dropped by a total of 3.4 per cent in 2010. The price level of voice services dropped by 1.4 per cent whereas the price level of data transmission services fell by 7.1 per cent. The price level of data transmission in the mobile network continued in steep decline, but the price level of fixed-line broadband services started to fall again as well. The price level of fixed network voice services was the only one that increased compared to the previous year, while the prices of both data transmission services and mobile voice services dropped.

Data transmission in the mobile network and voice services in the fixed network represent the two extremes of the changes in the price level between 2007 and 2010. The price level of the former dropped considerably as mobile broadband subscriptions have grown in popularity whereas the price level of voice services in the fixed network rose significantly as the use of the fixed network has declined.

According to the price comparisons commissioned by the European Commission and OECD, the Finnish prices of mobile phone and broadband services were among the cheapest in Europe. The price level of the Finnish mobile phone services was approximately 25 - 35 per cent lower than the average of the other EU countries, depending on the measured volume of data service usage. The price level of fixed-line broadband services was 12 per cent lower than the average of the other EU countries.

In 2010, households spent approximately 1.7 billion euros in total on telecom services included in the survey. This was slightly more than in the previous year. The revenue from mobile broadband services and their share of the turnover increased significantly. Mobile calls accounted for almost half of the money households spent on telecom services. The share of voice services of the turnover, however, decreased at the expense of data transmission services.

The survey 'Price Level of Telecommunications Services in Finland 2010' is the third in the series of annual surveys conducted by the Finnish Communications Regulatory Authority (FICORA). The survey examines the price level development of telecommunications services used by households in 2010 in relation to price levels from previous years. The survey contains retail prices from price lists as well as turnover data that concerns the telecommunications branch. In order to illustrate index values based on turnover information, the survey examines both prices per call and the minute-based prices of mobile phone subscriptions and the monthly prices of broadband subscriptions. The survey also compares the Finnish price levels for both mobile services and fixed-line broadband services with those of other European countries.

The companies and background material included in the survey are described in more detail in Annex 1. The indexes used in the survey and how the indexes have been created is shown in Annex 2.

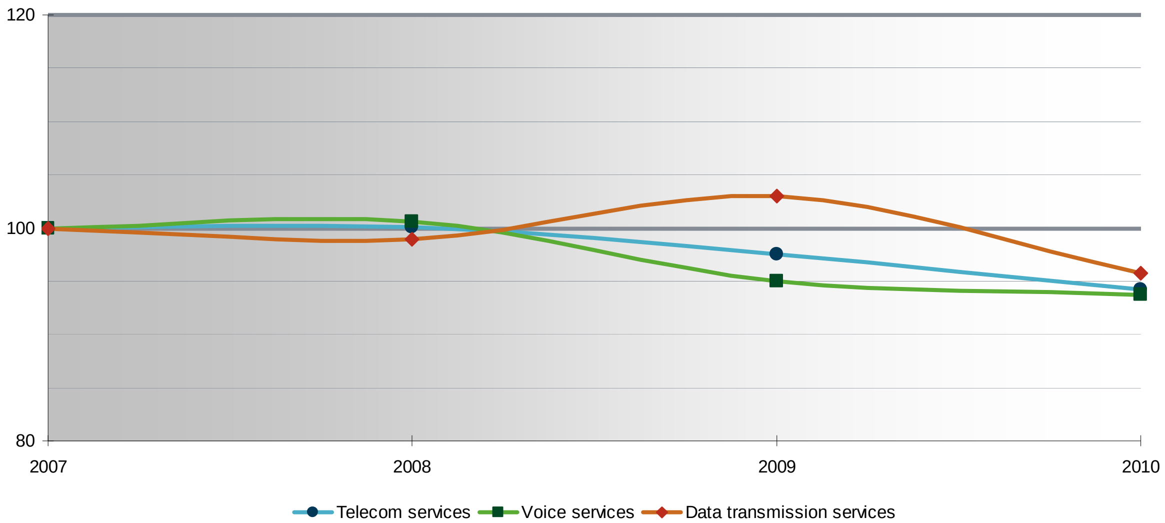

Figure 1: Telecommunications service price level development between 2007 and 2010.

Telecom operators and turnover of telecom services

Turnover from telecommunications networks amounted to a total of EUR 3 770 million in 2010. The turnover consists of voice and data transmission services. This figure does not include for instance cable television operation or sale of terminal equipment. Of the turnover from telecommunications networks, 57 per cent came from mobile network and 43 per cent from fixed network. The previous year, the share of mobile network services was 55 per cent while the share of fixed network services was 45 per cent.

Unlike other information presented in this survey, the turnover information above includes the revenue from both consumer and corporate customers. Approximately three quarters of the turnover consisted of income from retail services. The rest consisted of income from wholesale services. Retail services consist of telecom services sold to consumer and corporate customers. These services are not used to provide other telecom services. Approximately 60 per cent of the retail service turnover consisted of services sold to consumer customers and approximately 40 per cent of the services sold to corporate customers. Wholesale services are services that telecom operators sell to each other and which are used for the provision of other telecom services. Therefore, if a telecom operator wants to provide a fixed internet access service in the area of a telecommunications network owned by another telecom operator, it has to lease a wholesale product from the telecom operator in the area. In addition to the leasing of networks, interconnection fees form another significant wholesale instalment.

Turnover (million euros)	2010
Income from telecommunications networks	**3 770**
Income from fixed telecommunications network	**1 620**
Income from retail services	1 350
Income from wholesale services	270
Income from mobile network	**2 150**
Income from retail services	1 520
Income from wholesale services	630

Table 1. The division of revenue from telecommunications networks into wholesale and retail services.

This survey studies telecommunications services used by households. Of the turnover from services provided for residential customers, the share of voice and messaging services and thus also its value in the total index was approximately 64 per cent. Especially the 56 per cent value of mobile voice and messaging services in the total index was considerable. This share increased by a half percentage unit from the previous year whereas the share of fixed network voice services decreased by over two percentage units to a little less than eight per cent.

Of the turnover from services provided to households, the share of data transmission services and its value in the total index of this price level was approximately 36 per cent. The share of fixed-line broadband services decreased by nearly two percentage units to 26 per cent while the share of mobile broadband services increased by over two percentage units to seven per cent.

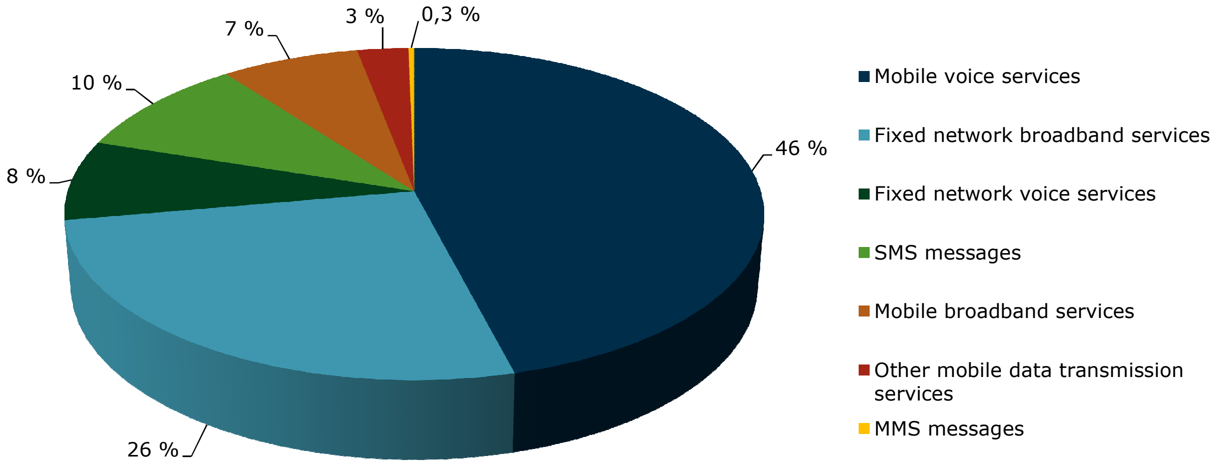

Figure 2: Breakdown of telecom operators' turnover by telecom services provided to households in 2010.

Telecommunications market in Finland

In terms of turnover, the three biggest telecom operators in Finland are TeliaSonera Oyj (TeliaSonera), Elisa Oyj (Elisa) and DNA Oy (DNA). They are also the only operators to offer households mobile and fixed network services with wide geographic coverage, largely via their own communications networks. In addition to these, 27 independent regional telecom operators in mainland Finland have formed the Finnet Group, each of these companies owning a regional fixed network in their respective operating regions. Companies in the Finnet Group do not have a GSM or a UMTS mobile network of their own, but, in addition to fixed-line network services, many offer mobile services as a service provider within the mobile operators' networks.

Other significant telecommunications operators that have their own fixed network include AinaCom Oy and TDC Oy (TDC), both of which also provide mobile services. Several of the fixed network telecommunications operators provide broadband services also via cable TV network in their traditional operating areas. In summer 2010, DNA purchased the operator Welho that owns a cable TV network covering the Helsinki metropolitan area. Welho used to be a significant provider of broadband subscriptions in the metropolitan area.

In the province of Åland, mobile services are provided by Ålands Mobiltelefon Ab and fixed network services are provided by Ålands Telefonandelslag and Mariehamns Telefon Ab.

The @450 network covering the whole of mainland Finland is the most significant network in the provision of wireless broadband subscriptions. The network is implemented by Flash-OFDM technology for the time being. In March 2011, Digita sold the license and business of the network to Datame Oy. Datame Oy does not provide connections straight to consumers but operates as a network service provider. Datame Oy announced in June 2011 that it will switch the technology used in the @450 network to technology that is based on cdma2000. In addition, Datame owns a license that allows it to provide mobile Wimax connections.

TeliaSonera, Elisa and DNA provide broadband services in the fixed network practically in the whole of Finland. These three telecom operators run a geographically extensive backbone network that is used for providing nationwide services. The telecom operators belonging to the Finnet group own a part of the backbone network.

Around ten mobile network operators or service operators in Finland provide mobile services to household customers. The largest telecom operators providing mobile services and running their own mobile network are Elisa, TeliaSonera and DNA. Elisa provides mobile phone services under the brand name Saunalahti. TeliaSonera provides mobile phone services under the brand names Sonera and Tele Finland. These companies account for approximately 98 per cent of all mobile phone subscriptions. All telecommunications operators and service operators provide voice, messaging and data transmission services. In addition, nearly all also provide mobile broadband services.

There are over 70 telecommunications operators or service operators operating in Finland that offer households fixed telephone network services or mobile telephone services. Fixed network services with nationwide coverage are offered by Finland's biggest telecom operators; DNA, Elisa and TeliaSonera, and (primarily within their own regions) operators in the Finnet Group. Also for example TDC provides fixed broadband services through its partners in major cities, 24 Online Oy in the Helsinki metropolitan area and Turun Kaapelitelevisio Oy in the Turku region. In addition to mobile network, wireless broadband services are provided over Datame Oy's @450 network, regional Wimax networks and WLAN networks. Broadband connections provided using the @450 network, Wimax and WLAN technologies are classified as fixed broadband services because the connections currently offered using these technologies are, from the user's perspective, tied to a specific location even when based on wireless network technology.

Annex 1 lists telecom operators included in the price indexes in the survey that offer mobile and/or fixed network services. However, the turnover data presented in the beginning of this chapter includes material gathered from a larger group of telecom operators.

Price level development in voice services

The price level of voice services decreased over one per cent during the year 2010. The decrease was slower than in the previous year. The index value of voice services was 93.7 which means that the price level had decreased by over six per cent compared to the year 2007. The price index for voice services includes mobile network voice and messaging services and fixed network voice services offered to household customers.

The total number of mobile phone subscriptions grew by nine per cent whereas the number of fixed-line telephone subscriptions fell by over 12 per cent. In the end of the year 2010, Finland had nearly 8.4 million mobile phone subscriptions and nearly 1.3 million fixed network subscriptions. Of these, 6.5 million mobile phone subscriptions and 0.6 million fixed network subscriptions were used by households. The number of mobile phone subscriptions also includes mobile broadband subscriptions that are not primarily meant for voice services.

The amount of call minutes made from mobile network increased in 2010 by over five per cent from the previous year to nearly 16 billion minutes. Correspondingly, call minutes in the fixed network decreased by 20 per cent to less than two billion minutes. The decline in the number of minutes in the fixed network has been particularly fast specifically with households. In 2010, households accounted for nearly three quarters of all call minutes in the mobile network. However, in the fixed network households accounted for clearly less than half of all call minutes.

The price level of mobile voice services decreased by nearly three per cent during 2010, but the decrease was slightly slower than in the previous year. The price level of fixed network voice services still continued clearly on the rise and increased by nearly eight per cent. The importance of mobile network services in the index is much greater than that of fixed network services, which is why the total index of voice services decreased.

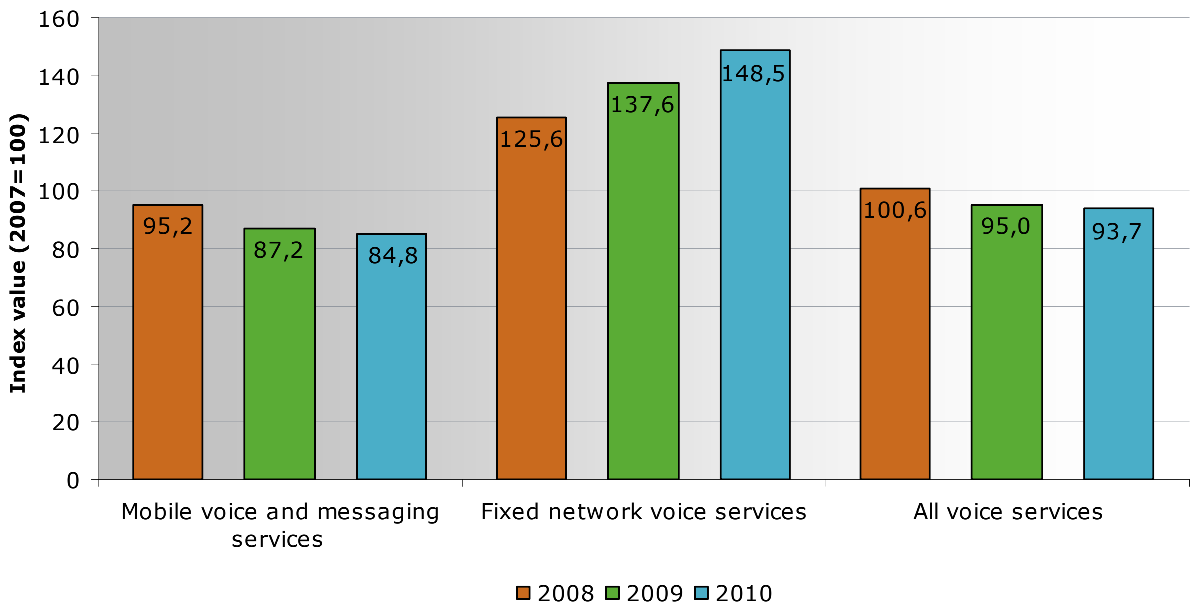

Figure 3: The price level development in voice services in 2007-2010.

Although the price index of voice services provided in the mobile network decreased significantly, the prices per minute presented in the price lists of service providers remained virtually unchanged. The competition in the field consisted mainly of different voice and package deals. The rise in the VAT that entered into force in July 2010 had a small influence in the list prices. The VAT rose by one percentage unit to 23 per cent, which translated into a similar rise in the retail prices of most service providers. Since there were no significant decreases in the list prices, it is evident from the change in the price level index that customers have changed from using more expensive subscriptions to more affordable ones.

Fixed network voice services continued to lose significance for households, which translated into fewer call minutes per subscription in particular. The decline in call minutes per subscription raised the price index in the fixed network because the monthly fee for the subscription remained almost the same.

Of the overall voice services provided, mobile voice and messaging services accounted for some 88 per cent of the turnover from voice services, and fixed network voice services for about 12 per cent in 2010.

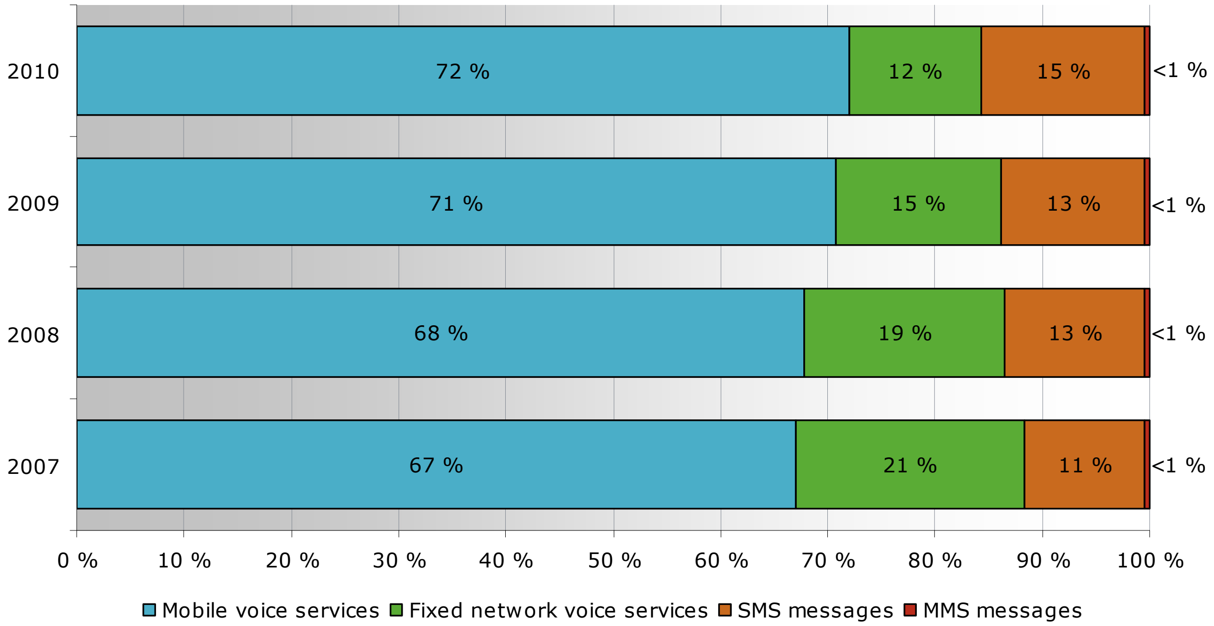

Figure 4: Breakdown of telecom operators' turnover by voice and messaging services provided to households.

Mobile voice and messaging services

The price level of mobile voice and messaging services dropped by nearly three per cent in 2010. The price index was 84.8 which means that the price level had decreased over 15 per cent compared to the year 2007. The mobile voice and messaging services consist of voice services, short message services (SMS) and multimedia messaging services (MMS). Households spent an average of around 14.80 euros per month per subscription on mobile voice and messaging services, which is almost one euro less than in the year before.

The share of mobile voice services represented a little more than 46 per cent of the combined turnover of all telecom services in 2010, and thus remained unchanged. The combined share of SMS and MMS services increased by one percentage unit to over 10 per cent of the turnover. It is worth pointing out that mobile messaging services' share of the total telecom services turnover is now greater than the proportion of fixed network voice services. Voice services accounted for approximately 82 per cent and messaging services for approximately 18 per cent of the combined turnover generated by mobile voice and messaging services.

List prices in Finland

The prices of mobile voice services have remained considerably stable during the past few years. For instance, the changes in minute prices have been very small. Changes can mainly be seen in the prices of different voice and SMS bundles as well as in the prices of any special offers. Table 2 includes the prices of the voice, messaging and data transmission services of basic mobile subscriptions from each operator that provides mobile phone services in Finland (excluding Åland).

The call prices of basic mobile subscriptions between different service providers varied between 5.9 and 7.96 cents/minute. In addition, some of the service providers had separate connection fees for calls.

Operator	Name of the subscription	Subscription activation fee €	Monthly subscription fee €	Connection fee for calls in cents	Calls cents/min	Text messages cents/pc.	Multimedia messages cents/pc.	Video calls cents/min (to operator's own network)	Video calls cents/min (to other networks)	Price for a 3 min. call in cents	Data transmission €/MB	Mobile broadband[4] €/month
Academica[1]	Starttipaketti	0	14,90	0	5,90	5,90	14,9	14,9	14,9	17,7	0	0
Aina Group	Aina Liittymä	7,95	2,00	0	7,90	7,90	49,0	23,0	23,0	23,7	1,51	7,95
Cubio	Save	0	0,66	0	6,55	6,55	29,0	-	-	19,7	1,50	10,56
DNA	Onni S	2,90	0,66	0	6,90	6,90	39,0	20,0	26,0	20,7	1,52	4,90
Globetel[2]	Tähti	0	0,59	0	5,90	5,90	5,9	19,0	25,0	17,7	0,59	-
Dicame	Dicame Liittymä	0	0,59	0	6,04	6,04	19,0	-	-	18,1	1,51	7,96
Partel	Aina	7,96	2,92	4,9	7,90	7,90	49,0	23,0	23,0	28,6	1,51	-
Saunalahti	Norppa	3,90	0,90	0	6,90	6,90	19,0	19,0	19,0	20,7	1,51	4,90
TeliaSonera Finland	Minun Sonera	3,93	1,99	4,9	7,96	7,96	39,0	19,0	25,0	28,8	-[3]	9,98
Tele Finland	Perus	0	0,67	0	6,96	6,96	35,0	19,0	25,0	20,9	-[3]	9,98

[1] The monthly subscription fee includes 150 min. call time and 100 text messa

[2] The monthly subscription fee includes 100 free multimedia messages

[3] Data transmission 0.91 €/hour

[4] Includes data transmission at least 1 Gt/month

Table 2. List prices for mobile phone subscriptions per operator in April 2011.

Even though the prices of calls have remained stable, they still vary greatly according to each service provider. The differences are most evident in the price of a three-minute-long phone call that varied between 17.7 and 28.8 cents. As regards brief calls, connection fees for calls cause the biggest differences between prices.

European comparison of list prices

According to the information in the sixteenth implementation report published by the European Commission, Finland was among the most affordable countries in the European price comparison of mobile phone services. The values of price baskets that describe different ways of usage dropped in Europe by 7 - 15 per cent during 2010.

This chapter includes country-specific, non-weighted averages calculated on the basis of price basket comparisons. The price baskets that were used have been formed according to OECD's definitions, and the user profiles behind the price baskets do not necessarily represent the real average use in a particular country. The prices are monthly prices and they include value added tax. According to the revenue data gathered for the survey, the average monthly fee for household customers for mobile phone services was approximately 14.80 euros in 2010.

The prices in the price basket comparison by the European Commission have been gathered from the price lists of the two biggest service providers, according to an estimate, from each EU country. Apart from few exceptions, the providers represent over half of the subscriptions in the country in question. As regards Finland, the two service providers are Elisa and TeliaSonera. Of every service provider that has been chosen for the comparison, a subscription solution considered to be the cheapest has been selected for each price basket. In addition to mobile phone call minutes, the price baskets also include SMS and MMS messages. Direction of calls varies slightly according to each price basket, but with all profiles approximately 70 per cent of calls are directed to mobile network, 20 per cent to fixed network and less than a tenth to answering services. The profiles do not include data transmission services.

In addition to subscriptions that are invoiced afterwards on a monthly basis, the comparison also includes subscriptions that are paid in advance (prepaid subscriptions) since these kinds of subscriptions constitute the majority of subscriptions in several countries. Although prepaid subscriptions constituted only ten per cent of all mobile phone subscriptions in Finland in 2010, the corresponding share in the whole of EU was approximately 52 per cent. According to the comparison, prepaid subscriptions were the most affordable alternative in Finland if the usage was low. When the use of voice and messaging services is high, subscriptions that are invoiced afterwards are usually the most affordable alternative. In the user profile representing the highest usage, all the least expensive subscriptions were subscriptions that were invoiced afterwards.

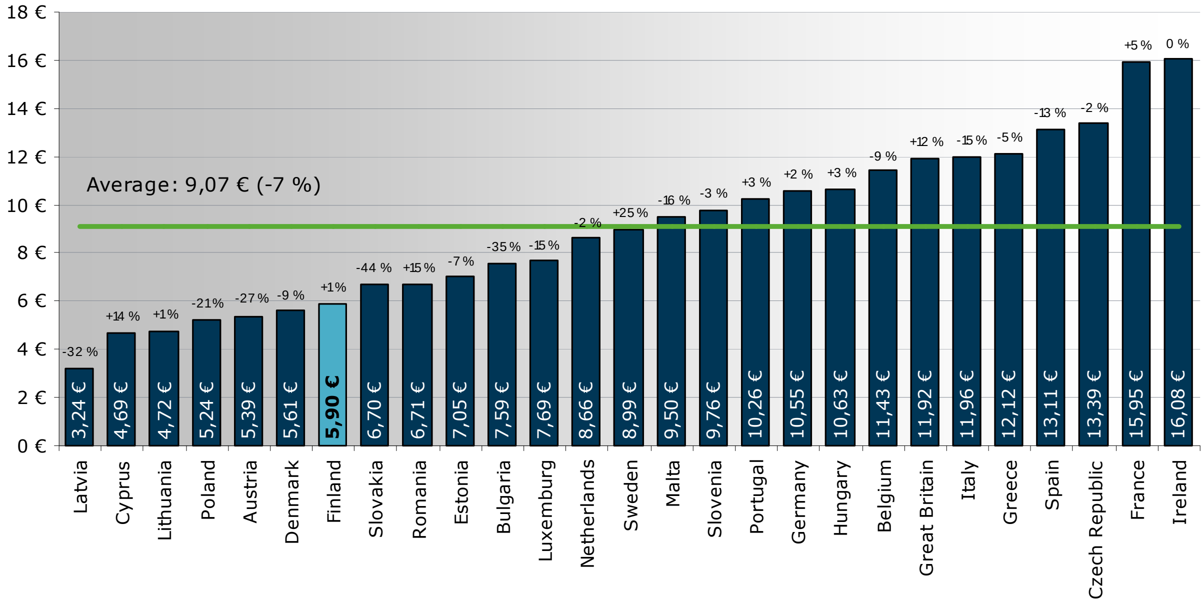

Figure 5: Price basket of low use. Values of baskets and comparison to the previous year (Source: European Commission).

Price basket representing low use includes 30 phone calls with the total duration of 44 minutes. Additionally, the profile includes 33 SMS messages and two-thirds of the price of a single MMS message. In the comparison, Finland is in the seventh place with a monthly fee of 5.90 euros that is 35 per cent more affordable than the EU average.

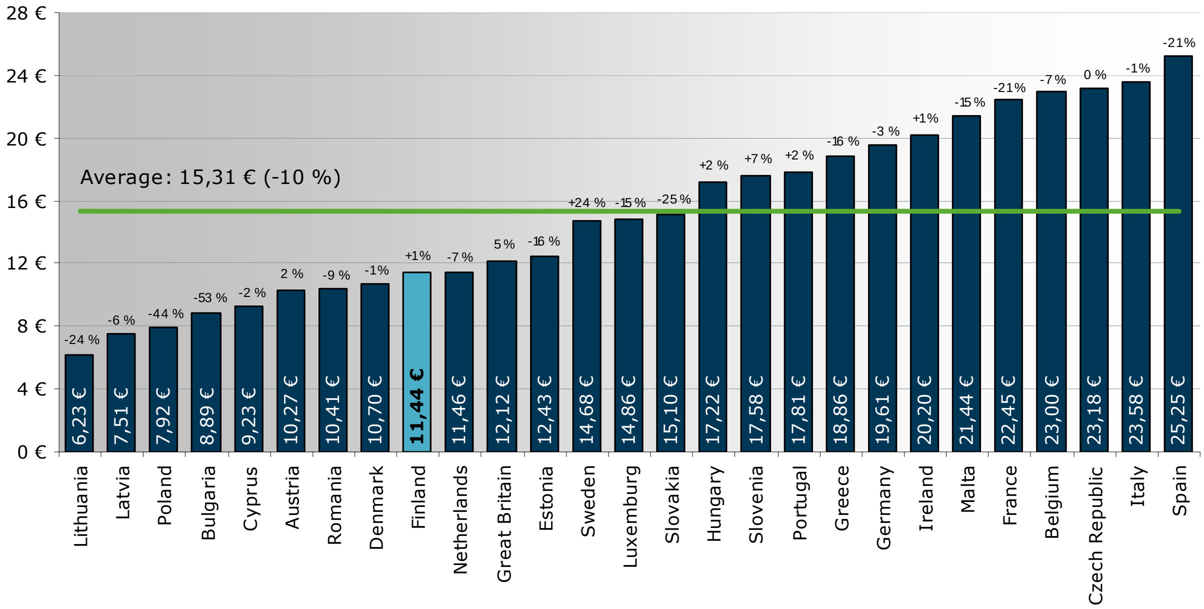

Figure 6: Price basket of average use. Values of baskets and comparison to the previous year (Source: European Commission).

Price basket representing average use includes 65 phone calls with the total duration of 114 minutes. Additionally, the profile includes 50 SMS messages and two-thirds of the price of a single MMS message. In the comparison, Finland is in the ninth place with a monthly fee of 11.44 euros that is over 25 per cent more affordable than the EU average.

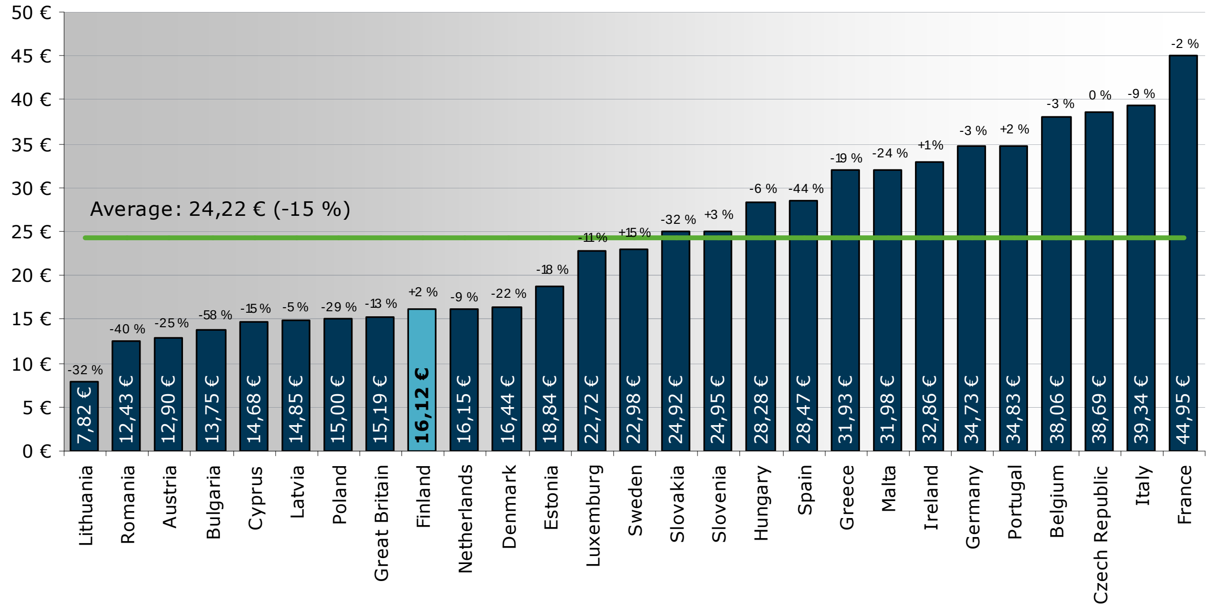

Figure 7: Price basket of intensive use Values of baskets and comparison to the previous year (Source: European Commission).

The price basket representing intensive use includes 140 phone calls with the total duration of 246 minutes. In addition, the profile includes 55 SMS messages and one MMS message. In the comparison, Finland is in the ninth place with a monthly fee of 16.12 euros that is 33 per cent more affordable than the EU average. The monthly fees in Finland have not changed much in regard to any of the three price baskets compared to the year 2009. The prices in all price baskets had increased by 1 - 2 per cent. This was also affected by the rise in VAT which came into force in July 2010. Finland's placing in the price basket comparison had dropped from the previous year since the prices in other European countries have come down on average.

To sum up, it can be stated that many Eastern-European and Baltic countries have the least expensive nominal prices. However, the purchasing power of consumers is lower in these countries than in many other countries. Therefore, in relation to purchasing power, the price level in Finland can be considered to be lower. Cyprus and Austria remained among the countries of low price level as well. Denmark was the only Nordic Country with lower prices compared to Finland, Denmark being more affordable in two price baskets.

Fixed network voice services

The price level increase of fixed network voice services was nearly eight per cent in 2010. The price index was 148.5 which means that the price level had increased by almost 50 per cent compared to the year 2007. A key factor contributing to this price increase was the rapid decrease in the use of fixed network voice services that have been replaced mainly by mobile network services. The number of fixed-line telephone subscriptions used by residential customers had dropped by nearly 40 per cent from 2007, whereas call minutes had dropped by almost two thirds. Meanwhile, the revenue from these services has decreased by almost a half. The share of fixed network voice services of the total turnover of telecom services decreased from 10 per cent in 2009 to under eight per cent in 2010.

Households used 17.30 euros on average per a fixed network telephone subscription per month. This amount has dropped nearly by one euro since the previous year. An examination by region and telecom operator reveals rather significant differences in income per subscription and in the decrease in call minutes. Fixed network voice services include all fixed network voice service costs such as activation and monthly fees, calls and service calls. The unit price per minute rises, because the monthly fee for the subscription is divided between fewer minutes than previously. The monthly fee for fixed network voice services was relatively high compared with the monthly fee for mobile voice services.

Price level development in data transmission services

After the increase in 2009, the price level in data transmission services started to decline again and went down by approximately three per cent in 2010. The price level of mobile data transmission services has been decreasing since 2007, whereas the price level of fixed network broadband services has decreased at times and increased at others. As a whole, the price index for data transmission services in 2010 was 95.7.

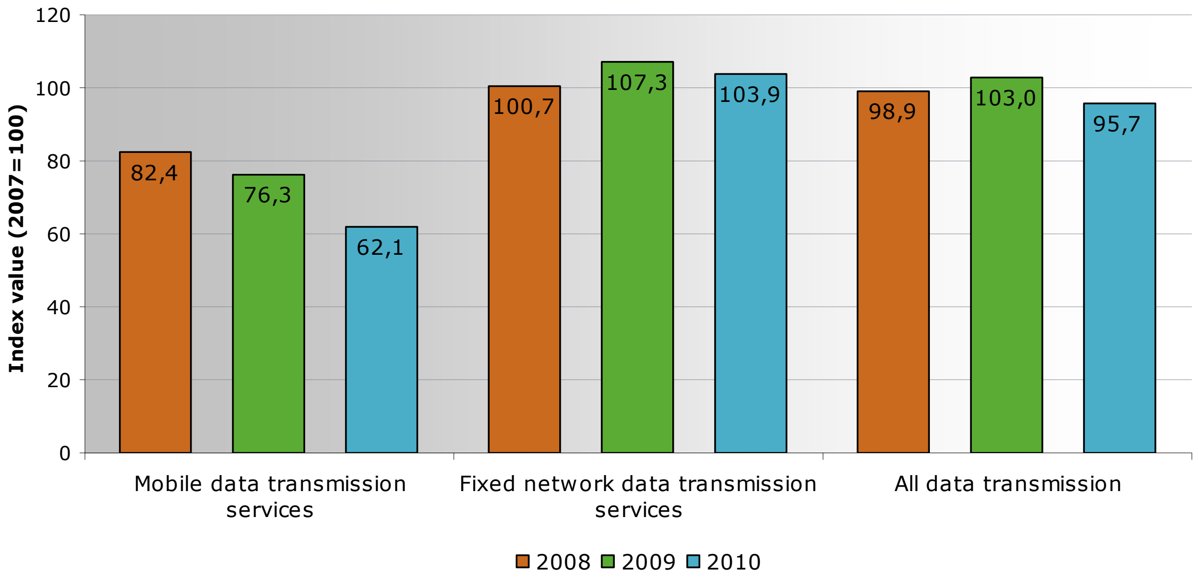

Figure 8: Price level development in data transmission services 2007 - 2010.

The price index of data transmission services calculated for the survey is based on mobile network and fixed network data transmission services offered to household customers. Mobile data transmission services are further divided into mobile broadband services and other mobile data transmission services. The starting values or average prices for price indexes of data transmission services and mobile broadband services were calculated by dividing the telecom operators' revenues received from household customers by the number of subscriptions used by such customers. Income from other mobile data transmission services was divided by the number of data transmission service users.

At the end of 2010, the total number of fixed and mobile broadband subscriptions in Finland was almost 3.2 million, which was 29 per cent more than in 2009. The growth was solely based on the growth in the amount of mobile broadband subscriptions. Households held approximately 2.4 million broadband subscriptions. In addition, over two million mobile phone subscriptions owned by households used mobile data transmission services other than mobile broadband services.

Fixed network data transmission services' proportion of the total turnover from data transmission services used by households was nearly 73 per cent in 2010, which was almost eight percentage units less than in the year before. The share of mobile data transmission services was over 27 per cent in total. As late as in 2007, the proportion of fixed network services of the turnover was 93 per cent, but the situation has changed significantly during the last years along with the increased popularity of mobile broadband services. The amount of money used for broadband services decreased as well. On the contrary, the amount of money used for data transmission services continued to increase in the year 2010 as well. Especially the income from mobile broadband subscriptions continued in steady rise, but the use of other data transmission services in the mobile network increased as well and so did the related income.

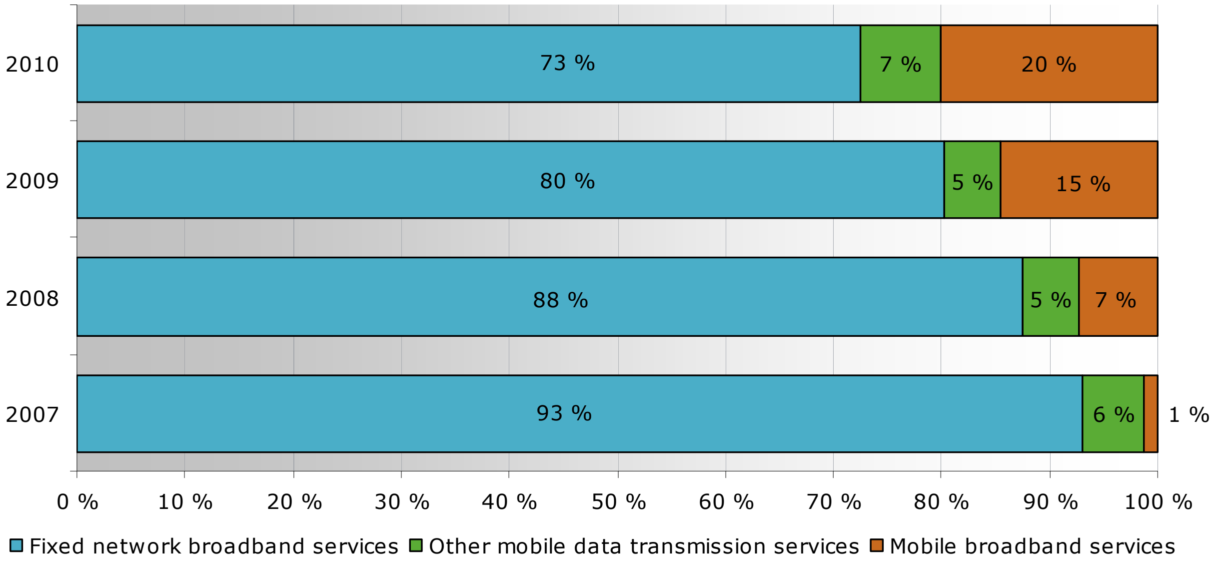

Figure 9: Breakdown of telecom operators' turnover by data transmission services provided to households.

Mobile data transmission services

The price level in mobile data transmission services decreased in 2010 by almost 19 per cent. The decrease accelerated clearly from the previous year. Compared to the year 2007, the data transmission services of mobile network have become almost 40 per cent more affordable. The price index for mobile network data transmission services consists of two data transmission services: mobile broadband services and other mobile data transmission services.

Mobile broadband services cover subscriptions involving a fixed monthly fee, with an unlimited monthly data transmission volume and a minimum theoretical speed of 144 kbit/s. In the end of 2010, Finland had approximately 1.6 million mobile broadband subscriptions while the number a year before was 0.9 million. The strong growth in the number of mobile broadband subscriptions has been a significant factor in the market of data transmission services. As the 3G network expanded and 3G terminal devices became more popular, the use of data transmission services via mobile phones increased as well. At the same time, the number of fixed broadband subscriptions remained almost unchanged during 2010.

Turnover from mobile broadband subscriptions constituted approximately 73 per cent of the turnover consisting of data transmission in the mobile network in households. The share remained almost unchanged compared to the previous year. In 2008 the corresponding share was under 60 per cent and in 2007 less than 20 per cent. Extensive mobile broadband service provision to consumers did not begin until in the closing months of 2007. After this, both the turnover and user volumes have strongly increased. The greatest growth measured in euros was seen in the turnover of mobile broadband services in 2009, but the growth in 2010 was almost similar despite the decrease in prices. An average of around 10.90 euros per month was spent on mobile broadband services per subscription, which was a quarter less than in the year before.

Other mobile data transmission services have been priced differently, for example based on data transmission volume or on the time spent using the services. Data transmission services are also sold as service packages with a monthly fee that includes a certain amount of data transmission. Due to inconsistent pricing methods, it is impossible to define a unit of measurement to which service prices could be proportioned. Therefore, the unit of measurement selected for the survey was a household customer using the service. This enables the calculation of the average spend per user on other data transmission services. However, price proportioned to the number of users is highly susceptible to changes in consumer behaviour since part of the other data transmission services are priced according to the used data transmission volume.

Fixed network data transmission services

The price level of data transmission services in the fixed network fell by approximately three per cent in 2010. The price level started to decline again after the previous year's increase. At the end of 2010 there were approximately 1.6 million fixed network broadband connections in Finland[1], of which approximately 1.2 million was in domestic use. The number of subscriptions in domestic use has fallen nearly two per cent in comparison with the situation at the end of 2009.

Fixed network data transmission services only include broadband services offered to household customers. In the calculation of indexes, account has been taken of the monthly fees, installation and connection charges and other subscription maintenance related fees paid by households. However, when calculating the index no account has been taken of information security services such as antivirus software unless these have been automatically included in the monthly subscription fee.

The price index does not directly indicate the manner in which the prices of broadband subscriptions with different speed classes developed, but it represents the average development of monthly fees paid for a broadband subscription. For instance, it is possible that in 2010 subscriptions with a speed of 2 Mbit/s were sold at the same price as those with a speed of 1 Mbit/s during the previous years. In 2010, the share of subscriptions under 2 Mbit/s of all subscriptions dropped by over a third and was approximately 24 per cent in the end of the year. On the other hand, the share of subscriptions with a speed of at least 10 Mbit/s doubled in one year to 33 per cent. This is to say that in year 2010, consumers used broadband connections that were both faster and cheaper than before.

In 2010, the average amount of money spent on a fixed network broadband connection was 32.70 euros per month on average. This sum is quite close to the average price of 4 and 8 Mbit/s connections calculated from the list prices. When comparing these prices, it should be borne in mind that the material used for the calculation of the index has a greater geographical coverage than the material calculated from price lists, taking also account of any activation fees and possible discounts and special offers for fixed-term subscription agreements.

List prices in Finland

FICORA monitors the price level of broadband services also by collecting list prices from service providers' public price lists. The information is gathered from different operators according to provinces and speed class. Since the speed categories available depend on the region, operator and the technology used, price specification is based on the minimum speed required. For the minimum speed definition, the speed required in each category is twice that of the previous category. In other words, the table indicates how much the price would change if the consumer wanted a connection that was twice as fast. The speed categories are as follows:

1. at least 512 kbit/s
-only mobile broadband subscriptions
2. at least 1 Mbit/s
3. at least 2 Mbit/s
4. at least 4 Mbit/s
5. at least 8 Mbit/s
-only fixed network subscriptions
6. at least 16 Mbit/s
-only fixed network subscriptions
7. at least 32 Mbit/s
Fixed network subscriptions

This year, the survey includes the 32 Mbit/s speed class as well. This speed class describes mainly broadband subscriptions implemented by fast cable-TV or fibre-optic connections. Correspondingly, the 256 kbit/s speed class has been left out since most mobile broadband subscriptions provided by operators have a connection speed of at least 512 kbit/s. Price development monitoring involves DNA, Elisa, TeliaSonera and local telecom operators. The most inexpensive broadband connection meeting the minimum speed requirement in each category was selected for each region. The offered speed may also exceed the specified limit significantly if the telecom operator in the region does not sell the minimum speed of the speed class. In some cases, top-speed broadband connections provided in a city centre (for example optical fibre connections) may be less expensive than slower connections provided in other parts of the same city (for example ADSL connections).

The average price in each region was calculated by weighting the price offered by the so-called traditional telecom operator in that region, using twice the weighting of the two other telecom operators selected for the region. This market share estimate (50 % - 25 % - 25 %) is not based on the actual num-

[1] This figure includes wireless solutions in a fixed location.

ber of subscriptions in individual regions, but does provide a more accurate picture of the situation at national level than a non-weighted average.

Fixed network broadband connection, €/month							
City	**512K**	**1M**	**2M**	**4M**	**8M**	**16M**	**32M**
Helsinki	Data not collected	24,65	24,65	24,65	24,65	32,15	41,15
Porvoo		26,06	35,28	42,57	42,57	48,66	57,63
Turku		25,06	32,86	38,53	38,53	47,04	56,00
Pori		31,03	35,19	37,46	37,46	43,00	48,81
Hämeenlinna		23,99	32,49	39,51	39,51	49,30	59,95
Tampere		25,72	27,47	31,47	31,47	39,74	44,49
Lahti		28,08	33,11	36,87	36,87	43,91	48,31
Kotka		29,57	31,34	36,60	36,60	45,40	43,90
Lappeenranta		25,26	32,31	39,38	39,38	47,36	48,71
Mikkeli		23,86	32,64	41,25	41,25	47,86	54,90
Kuopio		29,89	39,19	41,65	41,65	47,69	52,33
Joensuu		27,46	28,97	33,48	33,48	41,28	46,15
Jyväskylä		26,22	26,22	26,97	26,97	35,49	42,99
Seinäjoki		30,55	33,81	38,35	38,35	44,61	53,67
Vaasa		27,97	33,47	36,97	36,97	44,99	52,49
Kokkola		32,92	39,31	43,60	43,60	47,61	49,99
Oulu		29,59	37,13	40,92	40,92	45,95	49,99
Kajaani		30,48	36,52	41,59	41,59	43,63	49,40
Rovaniemi		27,90	38,49	44,36	44,36	50,08	50,31
Maarianhamina		25,73	31,73	33,49	33,49	38,53	39,90
Weighted average		**26,70**	**30,61**	**33,79**	**33,79**	**41,02**	**47,48**

Mobile broadband connection, €/month							
Region	**512K**	**1M**	**2M**	**4M**	**8M**	**16M**	**32M**
Finland	14,87	19,83	31,50	35,00	Data not collected		

Table 3. List prices of broadband subscriptions by province and by speed category in April 2011.

The list prices of fixed network broadband connections show that the price gap between provincial centres is wide in all speed categories. Weighted for population levels, the average price of a 1 Mbit/s or higher fixed broadband connection obtained from provincial centres was less than 27 euros, which is approximately one euro more than a year ago. The average monthly cost of a 2 Mbit/s connection was less than 31 euros. The average price for the 4M and 8M speed categories was exactly the same because operators in the regions in question no longer separately provided connections with a connection speed that would have been at least 4 megabytes but under 8 megabytes. Both categories include for example an ADSL subscription with 8M connection speed or an optical fibre connection with 10M speed. The 16M category includes for example an ADSL subscription with a connection speed of 24M . The 32M category includes for example a cable TV subscription with a connection speed of 40M or an optical fibre connection with a connection speed of 100M.

During 2010, the list prices for fixed broadband subscriptions have increased only in the 1 Mbit/s speed category. At the same time, the number of slower connections like this has decreased significantly. Correspondingly, the prices for faster connections have decreased and the number of these connections has increased.

The list prices for mobile broadband subscriptions did not change at all during the year. The monthly cost of a 1 Mbit/s mobile broadband connection was just under 20 euros. Mobile broadband subscriptions were clearly more affordable in the 1 Mbit/s speed category than the fixed network broadband connections. In the speed category of 2 and 4 Mbit/s, the price level of fixed network subscriptions decreased during the past year so that the prices resulted in being slightly lower than the corresponding mobile subscriptions.

A small rise could be seen in the list prices in July 2010. The VAT rose by one percentage unit to 23 per cents, which translated into a similar rise in the retail prices of most service providers.

European comparison of list prices

According to the price comparison of fixed broadband subscriptions implemented by OECD in September 2010, the prices in Finland are lower than the European average. The price level in Finland was approximately 12 per cent lower than in other European countries. The price comparison studied the nominal monthly prices for broadband subscriptions in 24 European countries. The comparison includes all Nordic countries but some EU countries were left out. When considering the prices in relation to purchasing power, Finland is the third most affordable country included in the comparison. The price comparison studied fixed broadband subscriptions with connection speeds between 2,5 - 30 Mbit/s (France 15 - 30 Mbit/s). Slightly over half of broadband subscriptions used in Finland are included in these speed categories.

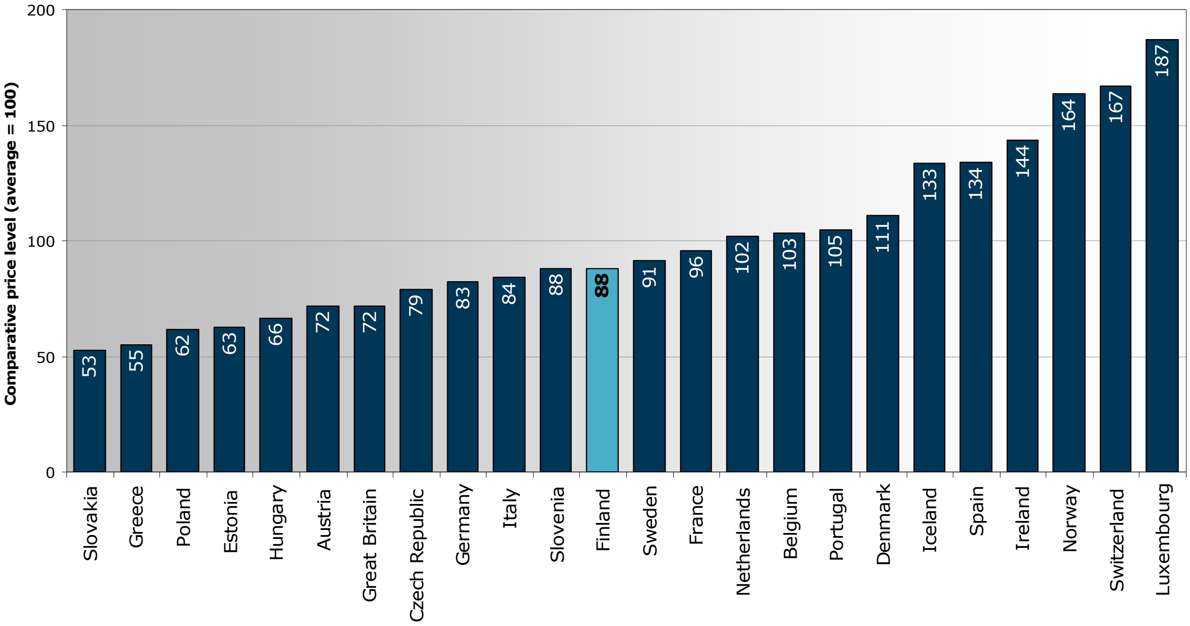

Figure 10: Comparative price level of fixed broadband subscriptions in Europe, average = 100 (Source: OECD)

Universal service broadband

In July 2010, broadband services became a part of the universal services. Every consumer, business or organisational customer has the right to obtain a basic internet connection to its permanent place of residence or business. According to the decree of the Ministry of Transport and Communications, the minimum speed for a basic connection is 1 Mbit/s. FICORA designated 26 telecom operators as having an obligation to provide broadband services subject to universal service. FICORA has defined a monthly price of 30 - 40 euros as reasonable for a universal service subscription.

FICORA explored the price level of universal service subscriptions after the obligations came into force, first in autumn 2010 and then in spring 2011. In autumn 2010, many operators provided universal service subscriptions with a monthly price of nearly 50 euros. The Ministry of Transport and Communications was prepared to set a price cap for the services, but in October 2010 the telecom operators announced that they would ensure reasonable pricing for the universal service broadband by means of self-regulation, and thus an amendment was not needed. According to the data gathered by FICORA in spring 2011, the prices for the universal service broadband subscriptions have stayed at the reasonable level defined by FICORA. The monthly prices for all universal service broadband subscriptions were 40 euros at most.

FICORA also discussed universal services with the designated telecom operators and found out that awareness of the universal service obligation varied between different operators. Some customer servants of these operators were not able to advice customers in obtaining universal service subscriptions and did not know the requirements set for such subscriptions.

Price development in telecommunications services

Households spent approximately 1.7 billion euros on telecom services included in the survey in 2010. The amount of money was slightly greater than in 2009. The survey does not include the smallest telecom operators, entailing the exclusion of less than five per cent of household customers from the survey. A share estimated to be sufficient (95 %) of the total number of subscriptions owned by households was achieved by studying the revenue data from 17 largest telecom operators.

Finnish households spent approximately 56 euros per month on telecom services, taxes included. Mobile calls accounted for slightly less than half of the money households spent on telecom services. The share of both fixed-line broadband services and voice services of the turnover decreased by a couple percentage units. On the contrary, the share of data transmission and messaging services increased. The share of mobile broadband services increased the most. Mobile network services accounted for 66 per cent of the money households spent on telecom services, while the share of fixed network services was 34 per cent.

Service	Proportion (%)			
	2007	2008	2009	2010
Mobile voice services	49	48	46	46
Fixed network broadband services	25	26	28	26
Fixed network voice services	16	13	10	8
SMS messages	8	9	9	10
Mobile broadband services	< 1	2	5	7
Other mobile data transmission services	2	2	2	3
MMS messages	< 1	< 1	< 1	< 1

Table 4. The division of money spent on telecom services by households.

The price level of telecom services dropped by over three per cent in 2010, which was slightly more than in the previous year. The total index value for telecommunications services was 94.2 which means that the price level of telecom services had decreased by nearly six per cent compared to the 2007 price level.

Out of the key components of the total index, the price levels for voice and data transmission services decreased. The price level of voice services has been decreasing since 2007, but there was a temporary rise in the data transmission service prices in 2009. The nominal price level of voice services was over six per cent whereas the price level of data transmission services was four per cent lower that in 2007.

The prices for fixed network services and mobile network services have developed in opposite directions during the years 2007 – 2010. Although the price level of fixed network broadband services decreased in 2010, the price level had increased compared to 2007. The price level of fixed network voice services continued to rise sharply. This was due to the decreased use of land-line services.

The price level of mobile services continued to drop, especially with regard to data transmission services. This is due to the expanding mobile networks, the strong growth of the popularity of mobile broadband services and price competition.

Nominal price indexes (2007=100)	Point figure 2008	Point figure 2009	Point figure 2010
Telecom services	**100,1**	**97,5**	**94,2**
Voice services	**100,6**	**95,0**	**93,7**
Fixed network voice services	125,6	137,6	148,5
Mobile voice and messaging services	95,2	87,2	84,8
Data transmission services	**98,9**	**103,0**	**95,7**
Fixed network data transmission services	100,7	107,3	103,9
Mobile data transmission services	82,4	76,3	62,1

Table 5: The nominal price indexes for telecommunications services by type of service 2007 - 2010.

In principle, the prices of telecommunications services have fallen due to the lead taken by the prices of mobile services from mid-1990's to 2006. However, the prices of fixed network voice services are an exception as they have been rising since the year 2000. In 2007, there was an increase especially in the prices of mobile services and voice services in the fixed network. In 2008, the prices for telecom services stayed almost at the same level as in 2007. In 2009 and 2010, the trend from the early 2000's reappeared: the prices of telecom services declined as the prices of mobile services fell.

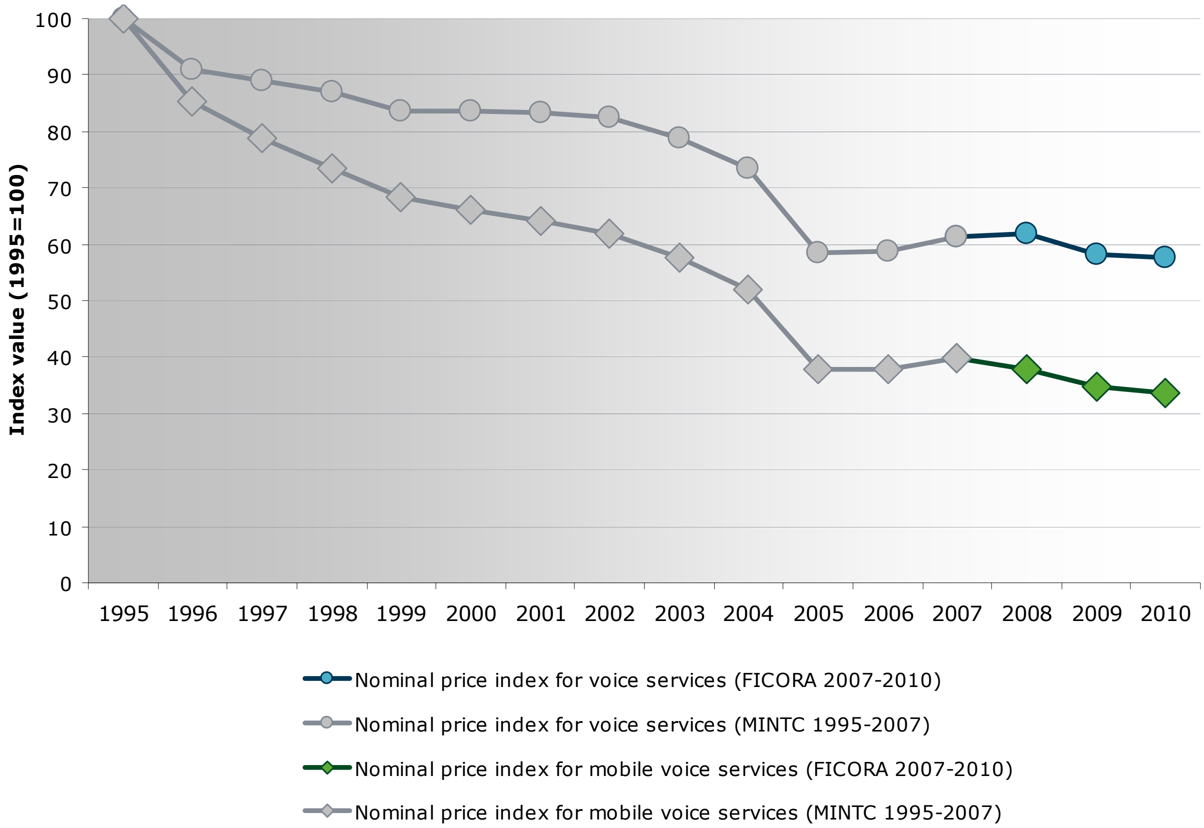

Figure 11: The nominal price indexes for voice services 1995 - 2010.

By and large, it is fair to say that the price indexes for voice services in 2010 follow the trend of the last few years and there have been no dramatic changes compared with the previous nominal price indexes for fixed and mobile voice services published by the Ministry of Transport and Communications. As regards the index for voice services, the price level is decreasing after the increase between 2006 and 2008. The index for mobile voice and messaging services started to decline already in 2008. The indexes continued to drop in a slightly slower pace in 2010.

General economic development

The long period of economic growth in Finland and practically all over the world came to a halt during the latter part of 2008 due to global recession. The Finnish gross domestic product decreased steeply in early 2009, but became stable towards the end of the year. In 2010, the economic situation improved and the gross domestic product increased by 3.1 per cent.

The development of consumer prices in 2010 in relation to the development of prices in the previous year is used as a baseline in the survey. On average, the consumer prices increased slightly in 2010 compared to the previous year. However, the increase of consumer prices was clearly slower than before the economic recession during 2005 - 2008.

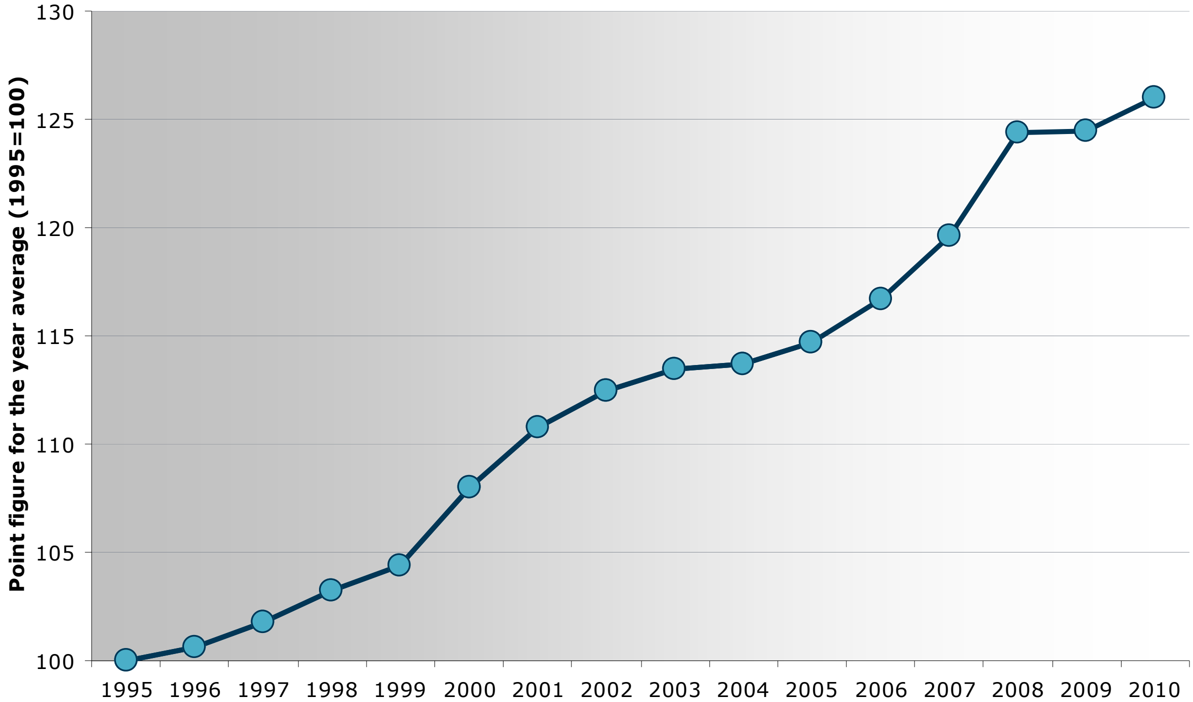

Figure 12: Consumer price index in 1995 - 2010. (Source: Statistics Finland).

The global recession barely changed the economic state of Finnish telecom operators. The development of turnover and profitability of operators remained relatively stable. New investments were made for instance in optical fibre and 3G mobile networks. The price competition between operators could still be seen in the increased amount of ported numbers. According to Numpac Oy, nearly 610,000 numbers were ported in 2010, which is six per cent more than in the year before.

When comparing the price level development to the development of other consumer prices, the price level of telecommunications services has decreased by 4.5 per cent from the previous year. Compared to the year 2007, the price level has decreased by 10.5 per cent.

Real price indexes (2007=100)	Point figure 2008	Point figure 2009	Point figure 2010
Telecommunications services	**95,2**	**93,7**	**89,5**
Voice services	**96,7**	**91,3**	**89,0**
Fixed network voice services	120,7	132,3	141,0
Mobile voice and messaging services	91,5	83,8	80,5
Data transmission services	**95,0**	**98,8**	**90,9**
Fixed network data transmission services	96,8	103,1	98,7
Mobile data transmission services	79,2	73,3	58,9

Table 6. The real price indexes for telecommunications services by type of service 2007 - 2010.

When comparing the price level of voice services with the development of other consumer prices, it can be seen that the decrease in the price level is slightly steeper than when comparing nominal prices. In the early 2000's, the nominal prices had hardly changed but voice services became relatively cheaper because of the increase in other consumer prices.

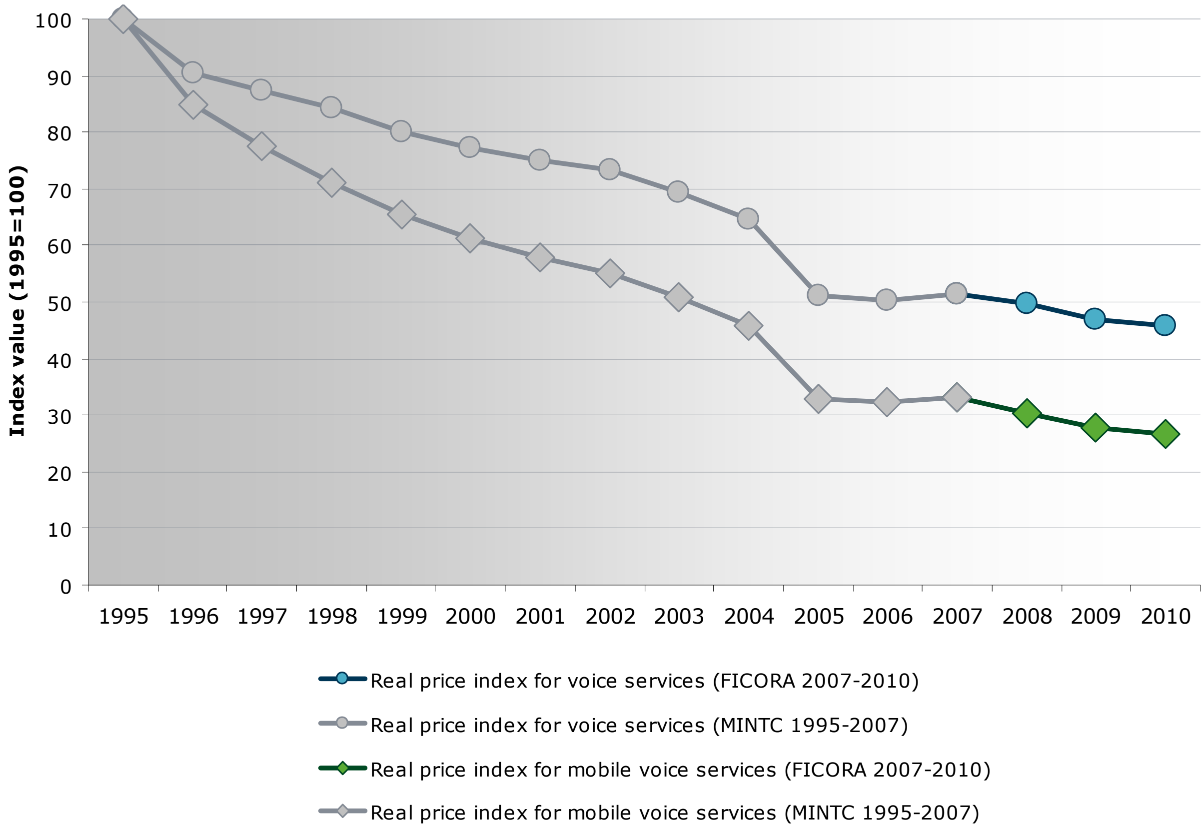

Figure 13: The real price index for telecommunications services 1995 - 2010

ANNEX 1. Background information on the survey

The aim of the survey of telecommunications service price levels is to study the price level of telecommunications services used by Finnish households and price trends compared to previous years. Key telecommunications services used by households were included in the survey. On the contrast, telecommunications services used by corporate customers were excluded. Telecommunications services used by Finnish consumers abroad were excluded as well. For the purposes of the survey, extensive background material containing key figures such as revenues and the number of subscriptions was collected from telecommunications operators.

The price indexes calculated for the survey reflect the development of prices actually paid by consumers rather than those appearing on telecommunications operators' price lists. Consequently, the survey does not reveal the price development of individual operators, but the general price development of particular services. The indexes used in the survey also cover the impact of different special offers on the prices paid by consumers for telecommunications services. Price information collected from public sources was also used. Of the price information gathered from public sources, the survey illustrates the prices of mobile voice and messaging services in Finland, comparing them to other EU countries. The survey also illustrates the manner in which the list prices of broadband services vary between provinces in Finland.

The material used in the survey has been divided into the following service groups: fixed network voice services, fixed network data transmission services, mobile messaging services, mobile multimedia services, mobile voice services, mobile data transmission services (so-called mobile broadband services) and other mobile data transmission services. Based on the number of subscriptions, the background material covers at least 95 per cent of the total offering for each service in Finland. Turnover data from the entire telecommunications branch is presented in the beginning of the survey. This data is similar to the data published earlier by Statistics Finland in their Telecommunication Statistics. The material collected for the turnover data covers more than 99.5 per cent of the supply of telecom services in Finland, based on subscription volumes.

In addition to data requested from telecommunications operators, the public price lists of telecom operators were studied to obtain the retail prices of fixed and wireless broadband subscriptions. Regional price information for broadband subscriptions was collected from ten provinces. The implementation report published by the European Commission has been used as a source in the comparison between the prices of voice and SMS services in different EU countries. The European comparison of broadband subscription prices uses data gathered by OECD.

Telecom operators included in the survey by type of service		
Mobile services	Fixed network services	
	Broadband services	Voice services
DNA Oy	24 Online Oy	Aina Group Oyj
Elisa Oyj	Aina Group Oyj	Anvia Oyj
TeliaSonera Finland Oyj	Anvia Oyj	DNA Oy
	Blue Lake Communications Oy	Elisa Oyj
	DNA Oy	Etelä-Satakunnan Puhelin Oy
	Elisa Oyj	Kainuun Puhelinosuuskunta
	Kainuun Puhelinosuuskunta	Kokkolan Puhelin Oy
	Kokkolan Puhelin Oy	Kymen Puhelin Oy
	Kymen Puhelin Oy	Loviisan Puhelin Oy
	Mikkelin Puhelin Oy	Mariehamns Telefon Ab
	Pietarsaaren Seudun Puhelin Oy	Mikkelin Puhelin Oy
	Pohjanmaan Puhelin Oy	Pietarsaaren Seudun Puhelin Oy
	Salon Seudun Puhelin Oy	Pohjanmaan Puhelin Oy
	Tampereen Puhelin Oy	Pohjois-Hämeen Puhelin Oy
	Telekarelia Oy	Salon Seudun Puhelin Oy
	TeliaSonera Finland Oyj	Telekarelia Oy
	Turun Kaapelitelevisio Oy	TeliaSonera Finland Oyj
		Ålands Telefonandelslag Ab

Table A. The telecom operators included in the survey by type of service.

ANNEX 2. Indexes used in the survey

A total of seven indexes were calculated for the survey. These indexes are split into three levels. The highest level features the overall telecommunications service price level index. At the next level down, we have the voice and messaging service price level index and the data transmission service price level index. The lowest index level consists of indexes depicting the price levels of fixed network voice services, mobile network voice and SMS services, fixed network data transmission services and mobile network data transmission services. In all cases, the highest-level price index has been calculated based on starting values, in other words unit price per service and weight per service.

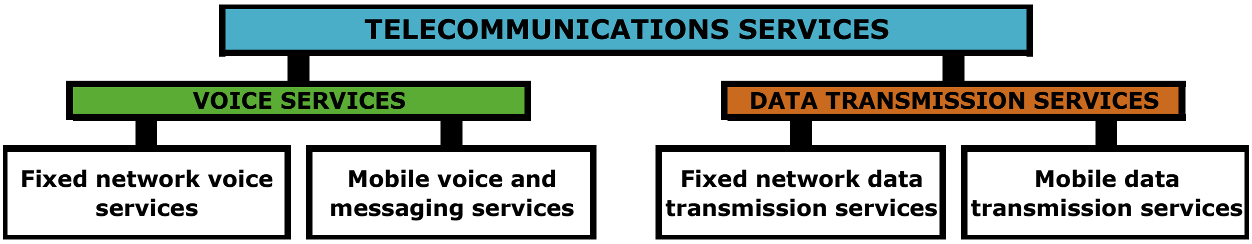

Figure A. The grouping of telecom services used in the survey.

The Törnqvist price index[2]. is used in calculating the indexes. This price index is a theoretical calculation model used to describe the price changes at a specific time and for certain commodities in relation to the price level at a pre-determined base time.

For the Törnqvist price index, unit prices per service were calculated by dividing a telecom operator’s combined revenues for a particular service by the volume of use, such as call minutes, for that service. In other words, a so-called monopoly was formed for the calculation of unit prices per service and a unit price for the related telecom service was calculated.

In fixed network and mobile voice services, the unit price is based on the price per minute. This includes all call charges such as monthly fees, call charges and activation fees. In text messaging (SMS) and multimedia services (MMS), the unit price is based on the price per message, which includes all costs such as message charge and any monthly fees. In fixed network data transmission services and mobile broadband services, the price used is the monthly subscription fee. The unit price of other mobile data transmission services is based on the unit price per user. In the case of these data transmission services, unit prices include all fees and charges involved in the service, such as activation fees, monthly fees and charges per service.

[2] The index is also known as the Divisia-Törnqvist price index or the Divisia price index.

In the price indexes calculated for various services, prices of services generating higher revenue are given more weight. For example, when calculating the overall index for telecommunications services, the prices of mobile network services are given more weight than those of fixed network services, because revenue from mobile network services are higher than those from fixed network services.

To calculate the indexes, so-called chain indexing was used, in other words price level comparisons are made between consecutive calculation times. The period between calculation times is one calendar year. In the survey, the price development for 2010 is compared to that for previous years. In the survey, the so-called year zero is 2007 where the price level indexes have the value 100.

In addition to price indexes calculated using nominal prices, the real price level of telecom services, and the price trend, were calculated. The real price level describes the relationship between telecom service prices and the general price level and its development. Price calculation was based on the consumer price index published by Statistics Finland. To calculate real price levels, each sub or total index calculated for the survey was divided by the value of the consumer price index.

Additionally, in order to illustrate index values, the amount of money households spend on different telecom services has been calculated by using the background material. The average amount of money spent on a subscription per month has been calculated by dividing the turnover from the service by the average amount of subscriptions per year and then adding value added tax to this figure.

Price indexes are used to depict the change in prices by a certain point in time, in relation to a certain base time. The simplest price index is one which compares average prices for two periods. Indexes do not provide an absolute value for changes in real price levels, but enable the formation of a sufficiently accurate picture of price level development. For the purposes of this survey, the Törnqvist price index was selected, which can be presented as follows:[3]:

$$P^T(p^1, x^1, p^0, x^0) = \prod_{n=1}^{N} (p_n^1 / p_n^0)^{(s_n^0 + s_n^1)/2}$$

,where p_n^t is the price of the product n, x_n^t is the quantity of product n, and s_n^t is the weight of the product n at a time t, when $t = \{0,1\}$ and $n = 1,...,N$. Weight is generally defined so that $s_n^t = p_n^t x_n^t / p^t x^t$, when $n = 1,...,N$, ja $\sum_{n=1}^{N} s_n^t = 1$.

[3] Balk, Bert M. (2008): Price and Quantity Index Numbers: Models for Measuring Aggregate Change and Difference, Cambridge University Press.

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