

Prices of Mobile Calls in 2006

International Comparison





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Abstract <p>The research examines the development of mobile call prices in 18 European countries from March 2005 to April 2006. The comparison is made using price basket method.</p> <p>A country-specific price basket was formed of mobile call prices. This price basket describes the expenses of household users when using an inexpensive post-paid subscription. The research focuses on the basic services of mobile networks: calls, SMSs, subscription.</p> <p>The average basket price has decreased 3 % during the research period in all countries in the research. In April 2006 the most inexpensive price basket was still found in Finland. The costs of the Finnish basket have decreased 20 % during the year. The comparison showed that other inexpensive countries in terms of the price basket were Sweden, Luxembourg and Denmark. The most expensive price basket was found in Germany.</p> <p>The basket price of bigger countries are noticeably higher than those of the most inexpensive countries. There are big differences between price-levels: the most inexpensive price basket is only about one third of the most expensive one.</p> <p>The average basket prices in all countries have decreased about 27 % between 2001 and 2006.</p>			
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1 Introduction

This study concentrates on the prices of mobile calls and text messages (SMS in the report) within EU15-countries and in Iceland, Norway and Switzerland. The preliminary work of gathering the price information was done during April 2006.

This study concentrates only on network operators. Virtual and service operators are excluded from this study.

The price basket used in comparison does not display individual operator prices. Price basket is calculated from all individual countries' operators and therefore represents mean prices for each country. The weighted value for each operator is calculated by the market share. Therefore operators, which have bigger market share, represent bigger value within the country specific price baskets. The mobile phone subscriber connections included in this study are post-paid connections with low price.

As the market share of pre-paid¹ subscriptions is considerably high in some EU-countries, this study also compares the most significant operators' pricing between the post-paid and pre-paid subscriptions.

The next generation (3G in the report) mobile phone service providers are excluded from the price basket because of their low market share.

The price baskets from previous years 2001-2005 have acted as the basic model for this study. Consequently the time series is extensive and the data is comparable with each year.

¹ Connection, where talking time is purchased in advance.

2 Focus of study

2.1 Target countries and operators

The focus of this study is on the EU15-countries prior to the expansion of the EU in May 2004. Iceland, Norway and Switzerland are also included in this study. The study includes each of those operators, whose market share is at least four per cent (4%) in their market area. This study concentrates only on network operators. Virtual and service operators' (VMNO²) price information is excluded from this study.

In the beginning of the year 2006 there were a total of 396 million 2G generation mobile phone subscriptions in those countries, which were included in this study. Appendix 2 shows the countries as well as the operators and the amount of subscriptions in each individual country.

3G operators' services were excluded from this study, due the reason of varying development of the number of 3G subscriptions in each country. The estimation³ is that by the spring 2006 there were a total of 70 million subscriptions globally, based on WDCMA – technology (16 million in March 2005). Approximately a half of these were located in Europe.

2.2 Target services included in this report

This study contains basic pricing of mobile networks:

- calls
- SMS messages (SMS⁴)
- subscription

The call prices are examined from the consumers' point of view and the evaluation includes the cheapest connections. Subscription price campaigns and discounts are excluded from the study.

²VMNO= Virtual Mobile Network Operator.

³UMTS Forum Q1/2006.

⁴SMS= Short Message Service.

The prices of pre-paid subscriptions are concluded only from the biggest operators in each country and they are compared to market situation in Sweden and Finland.

Multimedia messages (MMS⁵) are excluded from this study. The so called 2.5 G technology services have not yet developed significantly in consumer usage.⁶

Information about operators' services and pricing are based on www-pages. These addresses can be found from appendix 1. Different connections of the operators can be found from appendix 3. The report includes price information about 56 operators.

⁵ MMS, Multimedia Message Service.

⁶ Press release 22.12.2005, Ficora.

3 Price basket and its structure

3.1 Definition of price basket

The price basket used in this study is defined by a group representing different operators. This group was defined by the Ministry of Transport and Communications Finland in the year 2002.⁷

This study concentrates on consumer subscriptions, prices of mobile calls and SMS. Quantity of calls is 150 minutes per month and the length of each call is 3 minutes. 25 SMS messages are sent per month.

The calls are assumed to be divided between daytime, evenings and weekends: 35% of calls are made during daytime and in the evenings and night-times 65%. All the calls are assumed to be domestic calls.

In the basic model of price basket there is a definition, whereby operators with major market shares have a bigger share in domestic calls compared to the operators holding smaller market shares.

Price basket weights the direction of mobile calls by the market share. Operators' internal call quantity is operators' market share added by 15%.

SMS text messages are also included in the price basket. Their quantity is set to 25 messages per month and they are assumed to be oriented in the same way as the calls are oriented. On-net internal SMS quantity is operator's market share added by 15%.

Price basket includes either monthly subscription fees or subscriptions' service packet fees. If some operator's monthly fee contains call time, it is noticed to the appropriate extent within the price basket. The same procedure is done with SMS.

Price baskets are constructed for each country separately. Each individual country specific price basket consists of different operators so that operators' weighted value is defined by

⁷ Prices for digital mobile phones, Ministry of Transport and Communications Finland 33/2002.

their market share. The cheapest subscription is selected from each individual operator which is suitable for the assumptions described earlier. The price baskets are shown in euros, including taxes.

Table 1. The structure of price basket used in this study

Price basket	
<u>Cost factors</u>	
The cheapest subscription connection for households	
Total amount of calls 150 minutes, including 50 calls, 3 minutes per call	
SMS, 25 messages per month	
Monthly subscription fee	
All prices with taxes	
<u>Direction of calls</u>	
Mobile networks	75%, which means 112.5 minutes
Within mobile operators internal network	15% plus own market share
To other networks	rest of the calls
Fixed network	25%, which means 37.5 minutes
<u>Time of calls</u>	
Daytime, weekdays	35% of calls
Other times	65% of calls

3.2 Choice of mobile subscriptions

Mobile markets are in constant development within the countries included in this study. Competition also changes the service supply. Many operators have changed their subscription types during one year's period. However, the starting point when the subscription was chosen for the price basket, has been a standard connection used in each country. Specific new service supply and campaign prices are excluded from this study which includes prices of 56 mobile operators in 18 countries.

The pricing strategies have become simpler compared to the previous year. Increasingly more and more operators are pricing their subscriptions with flat fees, where all calls cost the same.

More and more countries apply packet-pricing method. In this system a fixed monthly charge includes certain amount of call minutes as well as a certain number of text messages. In 2006 about 60% of the operators used packet-pricing methods. Setup cost (starting fee) was used by 16 operators (appendix 3).

Reviewing the Finnish domestic market situation gives a good perspective on the development of mobile markets. In Finland, the subscriptions supply has still changed from the year 2005. Using the mobile comparison counters in Internet pages⁸ one can produce a figure of Finnish mobile subscription supply in April 2006, shown in appendix 4. The criteria used in this calculation were based on the starting values of price baskets in 2006.

It can be seen from appendix 4 that there were a total of 48 different subscription options in April 2006. The price range is significant. The subscriptions included in the Finnish price basket in 2006 are marked in the figure.

3.3 The meaning of the price basket

Price basket used in this study is defined as the average expense of a household user. By weighting the subscriptions of different operators (in the countries which are chosen for this study) to one price basket per each country it is possible to understand the cost level of mobile calls in each case.

One has to recognize that basket calculus works only as an expense indicator, which measures the situation at a certain moment, in this study in April 2006.

The basket calculus profile has been determined already in the year 2002 and considerable changes for example in usage of calls and SMS have occurred all the time. In addition, the using habits of mobile phone customers also vary significantly from country

⁸ www.vaihtovirta.fi.

to country⁹. However, the time series from 2001-2005 support the usage of this certain kind of price basket in order to achieve comparable information.

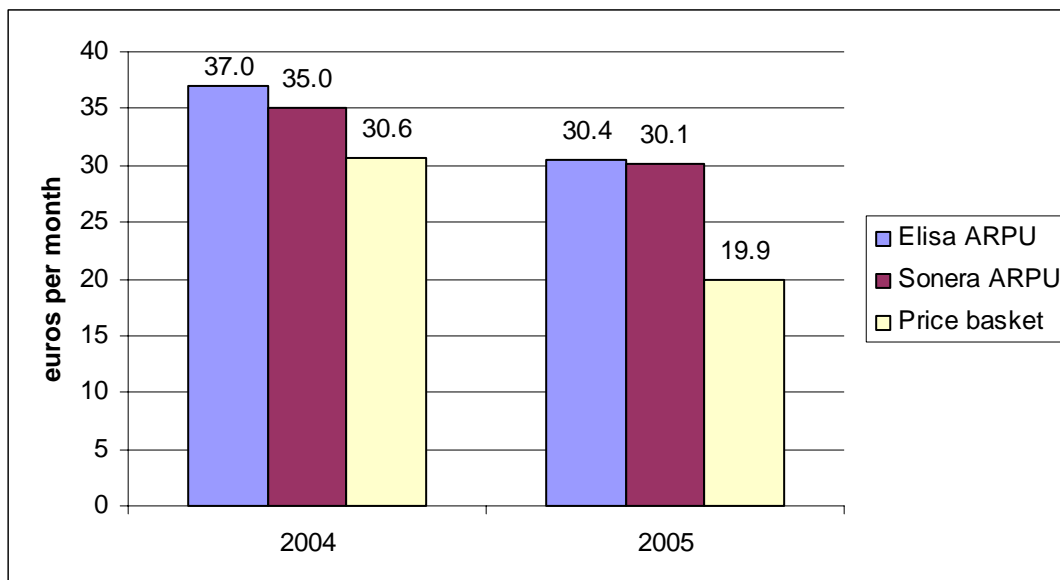
From the view point of operators, the price basket only describes the development of the mobile business in an indicative way. The behaviour of customers, subscription selection as well as market situation will solve the actual billing level of mobile business.

If Finnish operators' price baskets and ARPU¹⁰ in spring 2005 are put side by side, the magnitude can be seen (Table 2.) Operators' ARPU – values are approximately 50% higher than the Finnish country basket.¹¹

Table 2. Finnish price basket and operators' ARPU in 2004-2005

	ARPU, euros per month		Price basket, euros per month	
	2004	2005	2004	2005
Elisa	37	30.4	30.6	19.9
Sonera	35	30.1		

Figure 1. Finnish price basket and operators' ARPU in 2004-2005



⁹ Ministry of Transport and Communications Finland 22/2006, Mobile service markets in Finland 2005.

¹⁰ ARPU= Average Return Per User.

¹¹ Annual reports of Elisa and TeliaSonera in 2005.

4 Information about mobile markets

4.1 Information about countries involved in the study

Table 3 contains information about mobile subscriptions of each country, description about population density and description of GNP corrected with purchasing power parity.¹²

The number of mobile subscriptions in Europe was 396 million and the growth of the previous year was about 10%.

Germany's mobile market is the most significant in this study. Finland has about 1.3% from the total amount of subscriptions included in the study. When compared to Nordic countries, Finland's share is about 20% of the total subscriber base in Finland, Sweden, Norway, Denmark and Iceland.

The population density is the lowest in the Nordic countries. The lowest GNP figures are in Southern European countries.

Table 3. Information about European mobile markets on the 1st of February 2006

Country	Subscriptions, millions	Population density in 2005, inhabitants/km ²	GNP 2005, 1000 euros/inhabitant
Germany	75.4	231	26
Italy	69.4	193	23
Great Britain	66.9	249	29
France	47.7	111	27
Spain	42.7	80	21
Netherlands	15.4	395	30
Greece	11.9	81	16
Portugal	11.7	114	13
Sweden	9.9	20	31
Belgium	8.8	340	27
Austria	8.6	98	30
Switzerland	6.9	181	39
Denmark	5.4	126	37
Finland	5.3	16	29
Norway	4.7	14	50
Ireland	4.2	57	38
Luxembourg	0.7	181	57
Iceland	0.3	3	39
Total amount	396		

¹² Mobile Communications January 31, 2006 and Statistics Finland.

In 2005 altogether 57 operators were included in the study, in 2006 the number was 56. Netherlands is the sole country, where the number of operators has decreased. This is due to a takeover of Telfort by KPN Mobile.

Changes in the market shares in different countries are usually minimal. Biggest relative changes have occurred in Netherlands and in Ireland. Countries with insignificant changes are France, Norway, Finland, Switzerland and Luxembourg. Changes in price baskets between 2005-2006 can't be explained by market share changes.

4.2 3G network development in the years 2005-2006

The development of 3G networks has revived during 2006. In the first quarter of 2006 it was estimated that the number of subscriptions based on WDCMA-technology was 70 million (16 million a year before) and about 50% of the amount is in Europe.¹³ The share of 3G subscriptions of all mobile subscribers was about 9%.

Table 4 contains information of 3G subscriptions in different countries in January 2006. Countries with the biggest market shares were Italy, Luxembourg, UK and Sweden. Numbers in Finland are still quite modest.¹⁴

¹³ UMTS Forum Fast Facts Q1/2006.

¹⁴ Finnet Association 2006.

Table 4. Information about 3G subscriptions in January 2006

Country	Mobile subscriptions, million	3G subscriptions, million	Market share of 3G subscriptions, %
Italy	69.4	10.2	14.7
Luxembourg	0.7	0.1	9.0
Great Britain	66.9	4.7	7.0
Sweden	9.9	0.6	6.2
Portugal	11.7	0.6	5.3
Germany	75.4	3.1	4.1
Austria	8.6	0.4	4.1
Spain	42.7	1.6	3.7
France	47.7	1.4	3.0
Ireland	4.2	0.1	2.7
Denmark	5.4	0.1	2.3
Netherlands	15.4	0.3	2.0
Finland	5.3	0.1	1.8
Greece	11.9	0.2	1.3
Norway	4.7	0.1	1.1
Switzerland	6.9	0.1	0.9
Belgium	8.8	0.1	0.8
Iceland	0.3	0	0

Source: Finnet Association.

5 Price basket of post-paid subscriptions 2006

5.1 Price basket in 2006

In the previous studies price baskets were defined with and without set-up cost.¹⁵ In this year's survey price baskets are compared by using only set-up costs.

Table 5. Price baskets in 2006, euros/month

Country	2006, euros/month	2005, euros/month	Change-%
Netherlands	30.0	34.5	-13
Belgium	36.7	42.1	-13
Great Britain	43.4	44.1	-2
Spain	33.0	33.8	-2
Ireland	41.6	46.9	-11
Iceland	33.0	32.9	0
Italy	34.4	36.8	-6
Austria 1)	37.0	36.8	1
Greece 1)	31.3	26.4	19
Luxembourg	21.2	21.2	0
Norway	39.3	38.3	3
Portugal	29.2	33.3	-13
France	43.3	39.7	9
Sweden	18.1	30.5	-41
Germany	46.8	48.3	-3
Finland	15.9	19.9	-20
Switzerland	41.8	56.5	-26
Denmark	22.6	22.5	1
Weighted mean	38.3	39.5	-3

1) The prices of Austria and Greece have been defined in 2005.

Table 5 describes the weighted mean of the price baskets of mobile subscriptions in those countries involved in this survey. This figure has decreased by 3%. The highest country-specific price decreases have taken place in Sweden, Switzerland and Finland.

The price basket of Finland has decreased by 20% when compared to the year 2005. The results of the study confirm that the price level has increased in five countries. One has to recognize that there are significant differences in prices between countries compared because the cheapest price basket is about one third of the most expensive one.

¹⁵ Ministry of Transport and Communications Finland 41/2004, Mobile Call Prices in 2004.

Table 6. Price baskets in 2006 from the cheapest country to the most expensive one, monthly fee in euros

Country	2006, euros/month	2005, euros/month
Finland	15,9	19,9
Sweden	18,1	30,5
Luxembourg	21,2	21,2
Denmark	22,6	22,5
Portugal	29,2	33,3
Netherlands	30,0	34,5
Greece 1)	31,3	26,4
Iceland	33,0	32,9
Spain	33,0	33,8
Italy	34,4	36,8
Belgium	36,7	42,1
Austria 1)	37,0	36,8
Norway	39,3	38,3
Ireland	41,6	46,9
Switzerland	41,8	56,5
France	43,3	39,7
Great Britain	43,4	44,1
Germany	46,8	48,3

1) The prices of Austria and Greece have been defined in 2005.

As shown in table 6, Finland is the cheapest country in both 2006 and 2005. In 2004 Finland was the third in the price comparison. Other cheap mobile countries are besides Finland Sweden, Luxembourg and Denmark.

According to the price basket distribution one can make a conclusion that the price basket in big mobile countries is more expensive than in small countries and the decline in prices and the yearly change in big countries is not so significant as it is in small countries.

5.2 Evaluation of the development

The Ministry of Transport and Communications Finland has made international comparisons concerning mobile call prices since 2001 and that is why changes in the figures can be evaluated by extensive time series. In this time series, the information from years 2001 to 2003 is made comparable by estimating the starting cost meaning with the price baskets of those countries where the set-up cost is included. These countries and operators are introduced in appendix 3.

Table 7. Development of price baskets between 2001-2006, euros/month

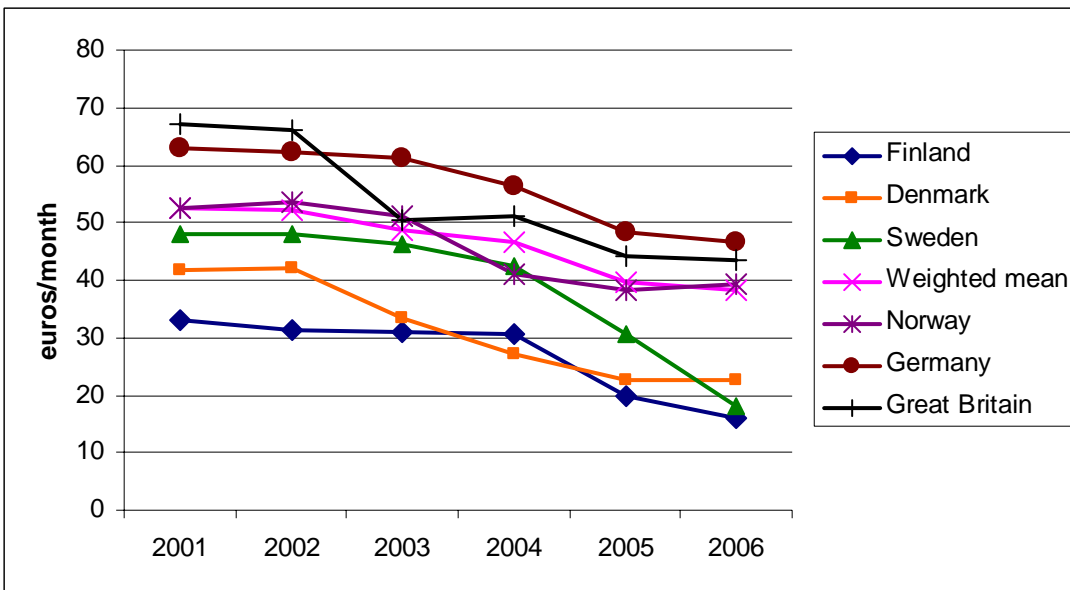
Country	2001	2004	2005	2006	Change-% 2001-2006
Netherlands	48.9	42.4	34.5	30.0	-39
Belgium	43.8	43.1	42.1	36.7	-16
Great Britain	67.3	51.3	44.1	43.4	-36
Spain	41.0	38.6	33.8	33.0	-19
Ireland	55.8	51.9	46.9	41.6	-25
Iceland	32.5	33.9	32.9	33.0	1
Italy	45.1	48.0	36.8	34.4	-24
Austria 1)	46.2	36.6	36.8	37.0	-20
Greece 1)	51.1	31.6	26.4	31.3	-39
Luxembourg	30.0	27.1	21.2	21.2	-30
Norway	52.4	41.0	38.3	39.3	-25
Portugal	51.8	46.4	33.3	29.2	-44
France	43.0	40.7	39.7	43.3	1
Sweden	48.1	42.4	30.5	18.1	-62
Germany	63.0	56.5	48.3	46.8	-26
Finland	33.2	30.6	19.9	15.9	-52
Switzerland	59.7	56.2	56.5	41.8	-30
Denmark	41.8	27.1	22.5	22.6	-46
Weighted mean	52.4	46.5	39.5	38.3	-27

1) The prices of Austria and Greece have been defined in 2005.

When contemplating the years between 2001 and 2006, it can be seen that the most significant changes have occurred in Portugal, Denmark, Finland and Sweden.

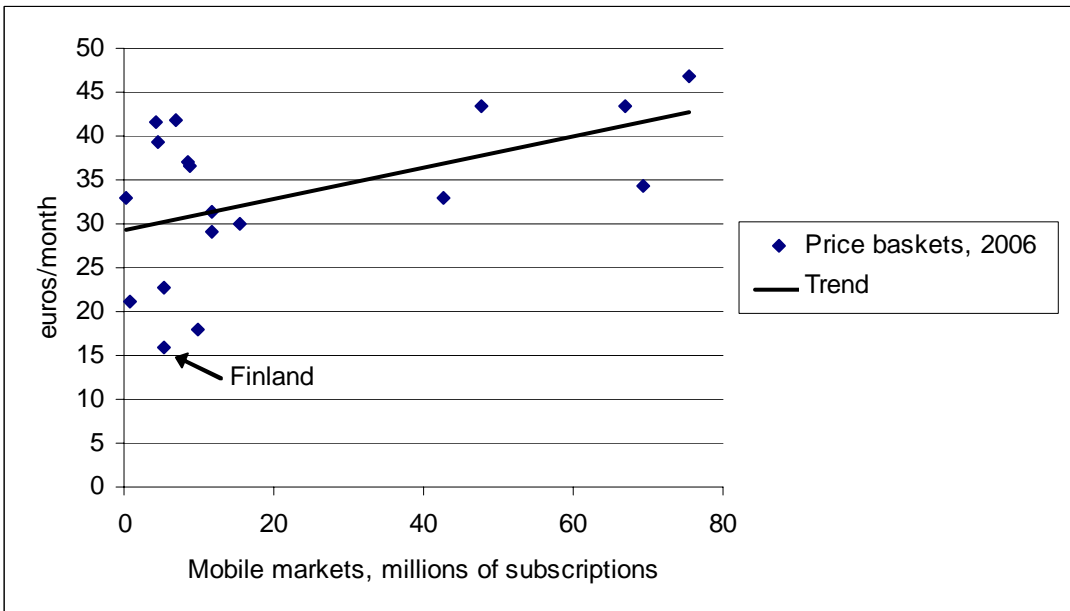
The average weighted by all subscriptions in each country has decreased by 27% from 2001 to 2006 which means 4% per year. Prices in Finland have decreased by 8% per year.

Figure 2. Development of price baskets in 2001-2006 in certain countries



In figure 2 the development in the Nordic countries is compared to major mobile countries like Germany and the UK as well as to the weighted mean of all countries. In this group Finland is the cheapest in 2006 and the figure shows that price level in Nordic countries is low. The decrease in prices in Sweden has been very fast.

Figure 3. Price baskets in 2006 and the size of mobile markets



The figure 3 describes the level of price baskets in proportion to the county's mobile markets. The result can be explained so that the price competition in big mobile countries is more even and more controllable than in less significant mobile markets. In smaller markets the basket deviation is significant. Finland holds the lowest point in the figure.

Figure 4. Price baskets in 2006 and density of population

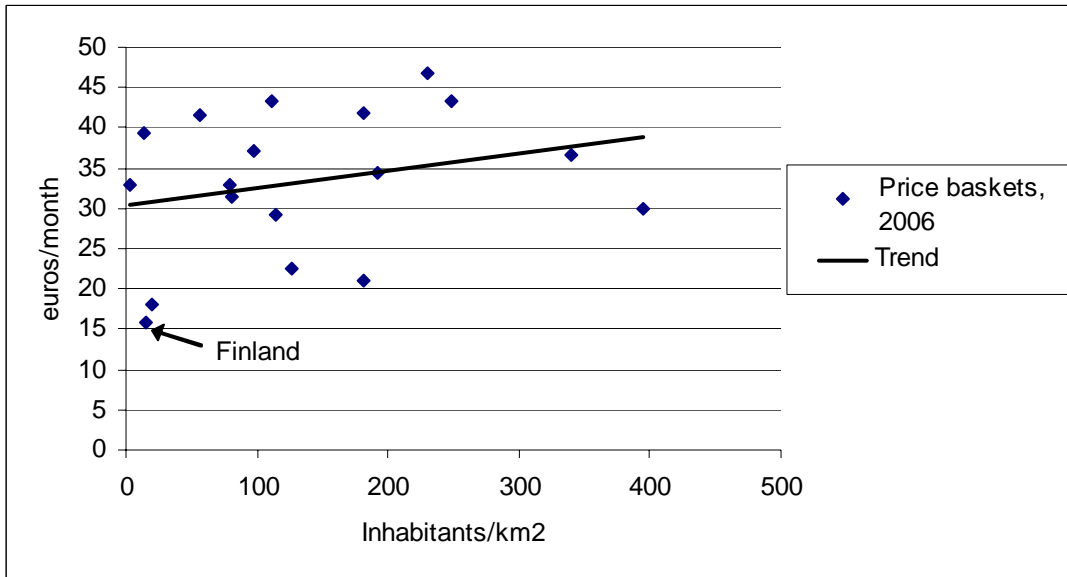
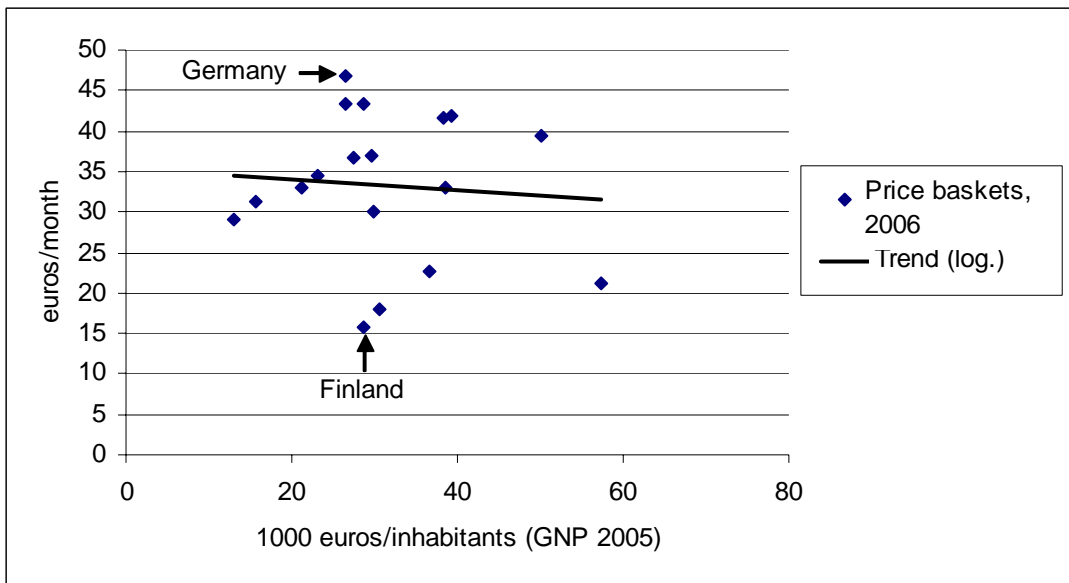


Figure 4 represents the connection between the price baskets and the density of population. In countries where the density of population and the mobile market are more significant, the price baskets are more expensive. However, the correlation between these factors is not tough.

Figure 5. Price baskets in 2006 and GNP per inhabitant



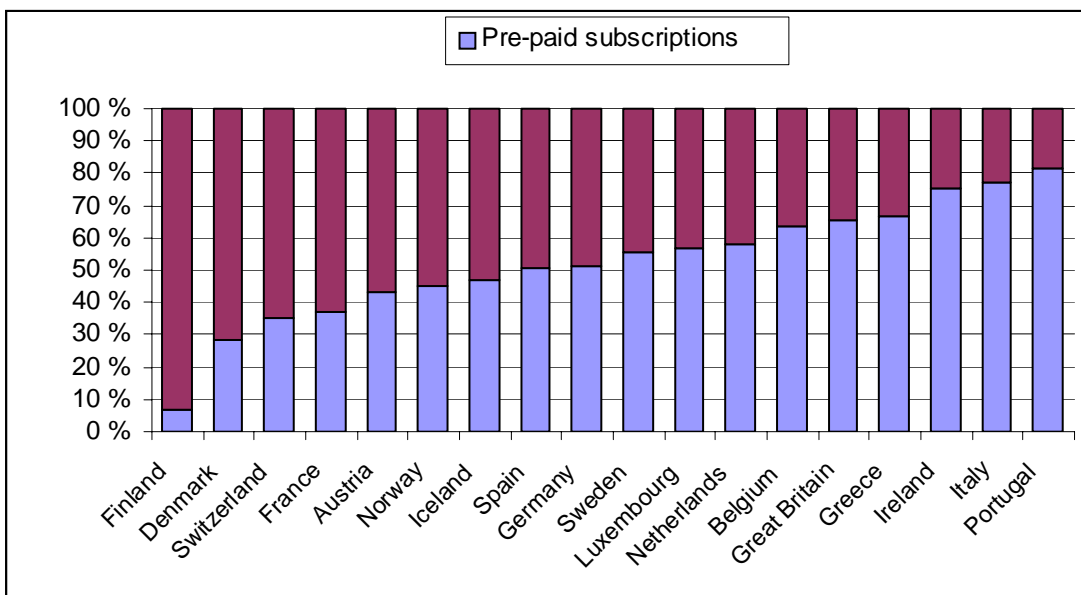
When the price basket of each country and the GNP per capita are shown, the situation can be seen in figure 5. Finland, Sweden, Luxembourg and Denmark can be identified with the help of cheap baskets in the figure. Values of price baskets do not strongly depend on the level of GNP.

6 Examination of pre-paid subscriptions

6.1 Pre-paid subscriptions in certain countries

The situation of pre-paid subscriptions above all in Southern Europe seems to be on a firm basis. In figure 6 a description of the statue of pre-paid situation based on the information in appendix 5 can be found. It must be noticed that in countries with tough competition such as Finland, the proportion of pre-paid subscriptions is low when compared to the mean of other countries involved in the study. However, the statistics on pre-paid subscriptions are not as reliable as they are in post-paid.

Figure 6. The proportion of pre-paid subscriptions to the total number of subscriptions in the beginning of 2006



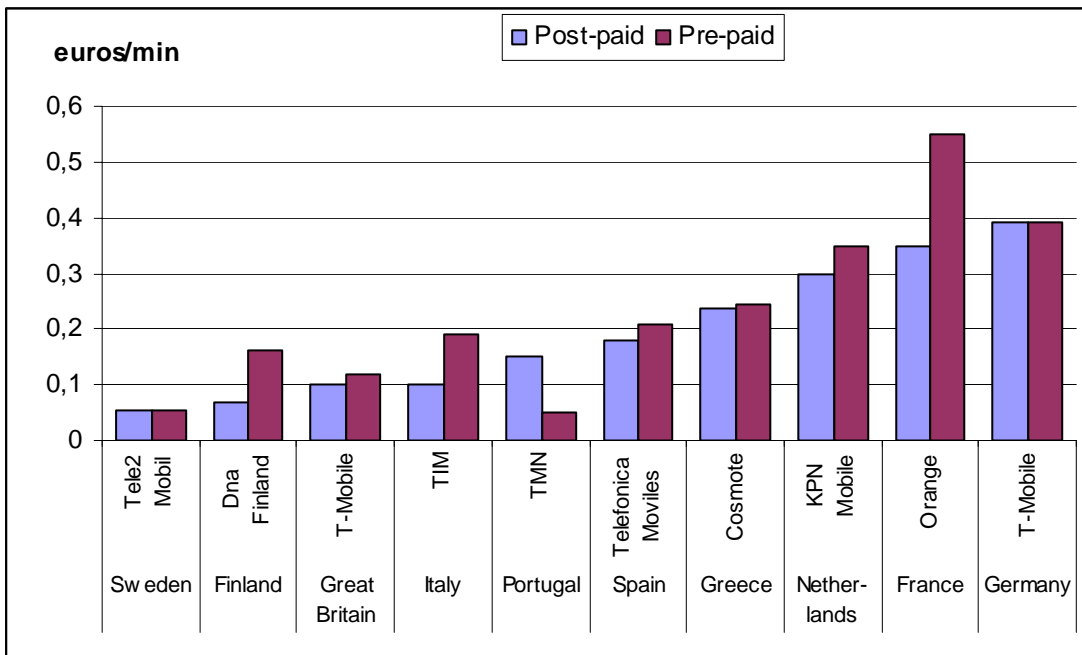
6.2 Price level of pre-paid subscriptions

The operators' pre-paid prices differ significantly in different countries. It can be seen that pre-paid subscriptions are favoured in certain countries and by certain operators because of the market situation, distribution process and because of user experience. In many countries price differences between pre-paid and post-paid alternatives are almost non-existent, which partly explains the popularity of pre-paid -subscriptions.

Loading call time and buying rights of use can nowadays be done via web or cash dispenser besides the traditional methods. An example of an operator with aggressive pricing methods is Swedish Tele2 and its Kontakt-subscription.

To describe the situation, information about the most significant operators' pre-paid prices of those countries with population over 10 million has been collected in figure 7. Also this figure consists of information about the price level of Finland and Sweden although subscription numbers of these two countries are not above the criteria. All the prices included in the figure are on-net prices.

Figure 7. Price comparison of calls of pre-paid and post-paid subscriptions in the beginning of 2006, on-net calls in daytime



7 Conclusion

The study contains information on mobile call prices in 18 European countries from 2005 to 2006. To some extent this study also contains information from earlier years. The country specific basket price contains a definition which describes the costs of private household users, when selecting the cheapest post-paid subscription. Information contains data on basic services of mobile operators, such as prices of calls and SMS and monthly fees.

The decrease in price baskets has continued but the development differs depending on the country. In some cases the prices have increased and in certain countries the decreases have been very significant.

In April 2006 the cheapest price basket was in Finland. The cost to the user in Finland has decreased by 20% when compared to the price of the previous year. Sweden is the second cheapest before Luxembourg and Denmark. Weighted mean of subscriptions of all countries has decreased by 3% compared to the year 2005. Price basket of the cheapest country (Finland) is one third of the price of the most expensive one (Germany).

When the time series in 2001-2006 are examined, it can be seen that the basket prices of bigger countries are remarkably higher than those of smaller countries. The decrease in prices has been less significant in big countries than in smaller mobile telecommunication markets.

The study also contains information on pre-paid subscriptions and these subscriptions have been compared to the situation of post-paid subscriptions. Especially in Southern European countries pre-paid subscriptions are more common than post-paid.

8 Sources

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Ministry of Transport and Communications Finland 33/2002: Prices for digital mobile phones – international comparison

Ministry of Transport and Communications Finland 32/2003: Prices for digital mobile phones – international comparison

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Ministry of Transport and Communications Finland 34/2005: Mobile service markets in Finland 2004

Ministry of Transport and Communications Finland 51/2005: Prices of mobile calls in 2005. International comparison

UMTS Forum

www.vaihtovirta.fi

Annual report of Elisa 2005

Annual report of TeliaSonera 2005

Mobile Communications, January 31, 2006

Operators' www-pages, fact sheets and annual reports

Finnet Association

Appendix 1. The www-pages of operators included in this study

Netherlands	KPN Mobile	www.kpn.com
	Vodafone	www.vodafone.nl
	T-Mobile	www.t-mobile.nl
	Orange	www.orange.nl
Belgium	Belacom Mobile	www.proximus.be
	Mobistar	www.mobistar.be
	Base	www.base.be
Great Britain	T-Mobile	www.t-mobile.co.uk
	O2	www.o2.co.uk
	Orange	www.orange.co.uk
	Vodafone	www.vodafone.co.uk
Spain	Telefonica Moviles	www.movistar.es
	Vodafone	www.vodafone.es
	Amena	www.amena.es
Ireland	Vodafone	www.vodafone.ie
	O2	www.o2.ie
	Meteor	www.meteor.ie
Iceland	Iceland Telecom/Siminn	www.siminn.is
	Og Vodafone	www.vodafone.is
Italy	TIM	www.privati.tim.it
	Vodafone Omnitel	www.vodafon.it
	Wind	www.wind.it
Austria	Mobilkom	www.a1.net
	T-Mobile	www.t-mobile.at
	One	www.one.at
	Tele.ring	www.telering.at
Greece	Cosmote	www.cosmote.gr
	Vodafone	www.vodafone.gr
	TIM Hellas	www.tim.com.gr
	Q-Telecom	www.q-telecom.gr

Luxembourg	Mobilux	www.mobilux.lu
	Tele2	www.en.tango.lu
Norway	Telenor Mobil	www.telenormobil.no
	NetCom	www.netcom.no
Portugal	TMN	www.tmn.pt
	Vodafone	www.vodafone.pt
	Optimus	www.optimus.pt
France	Orange	www.orange.fr
	SFR	www.sfr.fr
	Bouygues Telecom	www.bouyguetelecom.fr
Sweden	TeliaSonera	www.telia.se
	Tele2	www.tele2.se
	Vodafone	www.vodafone.se
Germany	T-Mobile	www.t-mobile.de
	D2 Vodafone	www.vodafone.de
	E-Plus	www.eplus.de
	O2	www.o2online.de
Finland	TeliaSonera	www.sonera.fi
	Elisa	www.elisa.fi
	DNA Finland	www.dnafinland.fi
Switzerland	Swisscom Mobile	www.swisscom-mobile.ch
	Sunrise	www.mobile.sunrise.ch
	Orange Comms	www.orange.ch
Denmark	TDC Mobile	www.tdcmobil.dk
	Sonofon	www.sonofon.dk
	Telia Mobile	www.teliamobile.dk

Appendix 2. List and information of operators included in this study

Country	Subscriptions, million 1)	Operator 1)	Operators' subscriptions, million 1)	Operators' market share, %
Netherlands	16,4	KPN Mobile/Telfort	8,3	51
		Vodafone	3,7	23
		T-Mobile	2,4	15
		Orange	2	12
Belgium	8,8	Belacom Mobile	4,2	48
		Mobistar	2,9	33
		Base	1,7	19
Great Britain	66,0	T-Mobile	17,2	27
		O2	16	26
		Orange	14,6	23
		Vodafone	14,8	24
Spain	42,0	Telefonica Moviles	20	48
		Vodafone	12,1	29
		Amena	10	24
Ireland	4,1	Vodafone	2	49
		O2	1,6	39
		Meteor	0,5	12
Iceland	0,3	Iceland Telecom/Siminn	0,2	67
		Og Vodafone	0,1	33
Italy	68,9	TIM	27,6	44
		Vodafone	21,8	34
		Wind	13,9	22
Austria	8,6	Mobilkom	3,4	40
		T-Mobile	2,1	25
		One	1,8	21
		Tele.ring	1,1	13
Greece	11,7	Cosmote	4,7	40
		Vodafone	3,7	31
		TIM Hellas	2,4	20
		Q-Telecom	1	8
Luxembourg	0,7	P+T (Mobilux)	0,4	67
		Tango (Tele2)	0,2	33
Norway	4,4	Telenor Mobil	2,8	64
		NetCom	1,6	36
Portugal	11,6	TMN	5,3	46
		Vodafone	3,9	34
		Optimus	2,4	21
France	46,5	Orange	21,7	47
		SFR	16,8	36
		Bouygues Telecom	8,1	17
Sweden	10,0	TeliaSonera	4,5	47
		Tele2 Mobil	3,6	38
		Vodafone	1,5	16
Germany	74,7	T-Mobile	29,5	39
		D2 Vodafone	25,8	35
		E-Plus	9,6	13
		O2	9,8	13
Finland	5,3	TeliaSonera	2,5	48
		Elisa	2,0	37
		DNA Finland	0,8	15
Switzerland	6,9	Swisscom/Natel	4,3	62
		Sunrise	1,3	19
		Orange Comms	1,3	19
Denmark	5,4	TDC Mobile	2,6	50
		Sonofon	1,5	29
		Telia Mobile	1,1	21

1) Source: Mobile Communications January 31, 2006.

Appendix 3. Operators and subscriptions included in this study

Country	Operator	Chosen subscription 1)	Packet-pricing 2)	Starting fee 3)
Netherlands	KPN Mobile/Telfort	KPN Mobil 150	x	
	Vodafone	Vodafone 150	x	
	T-Mobile	Relax 150	x	x
	Orange	Free	x	x
Belgium	Belacom Mobile	Proxi Smile	x	
	Mobistar	Bestdeal	x	
	Base	Base advantage 20	x	
Great Britain	T-Mobile	Relax 25	x	
	O2	Online 50	x	
	Orange	Racoon	x	
	Vodafone	Anytime 200	x	
Spain	Telefonica Moviles	Conrato 24h		x
	Vodafone	Universal 25	x	x
	Amena	Libre 18	x	x
Ireland	Vodafone	Perfect fit 100	x	
	O2	Actice life 150	x	
	Meteor	Meteor Talk 60	x	
Iceland	Iceland Telecom/Siminn	AlmennAskrift		
	Og Vodafone	Simply		
Italy	TIM	Unica 10		x
	Vodafone	Valore		x
	Wind	Wind 10		x
Austria	Mobilkom	Easy	x	
	T-Mobile	Relax 100	x	
	One	One Plus 20	x	
	Tele.ring	Mobil 90	x	
Greece	Cosmote	Cosmote 120	x	
	Vodafone	Vodafone 100	x	
	TIM Hellas	TIM 120	x	
	Q-Telecom	Q1		
Luxembourg	P+T (Mobilux)	Cool		
	Tango (Tele2)	Twist		
Norway	Telenor Mobil	Fri 120	x	x
	NetCom	Activ Talk		x
Portugal	TMN	Plano	x	
	Vodafone	Plano best		
	Optimus	Total		
France	Orange	Classique	x	
	SFR	Forfaits ESSENTIEL	x	
	Bouygues Telecom	Forfait NEO	x	
Sweden	TeliaSonera	Mobil till alla		x
	Tele2 Mobil	Knock out		x
	Vodafone	Abonnemang 99		x
Germany	T-Mobile	Relax 100	x	
	D2 Vodafone	Vodafone 100	x	
	E-Plus	Time&More 100	x	
	O2	Active 100	x	
Finland	TeliaSonera	Netto		
	Elisa	Aito		
	DNA Finland	Onni		
Switzerland	Swisscom/Natel	Swiss liberty	x	
	Sunrise	minute 120	x	
	Orange Comms	Optima 100	x	
Denmark	TDC Mobile	MobilExtra 100		x
	Sonofon	Debillos		x
	Telia Mobile	Telia Go		x

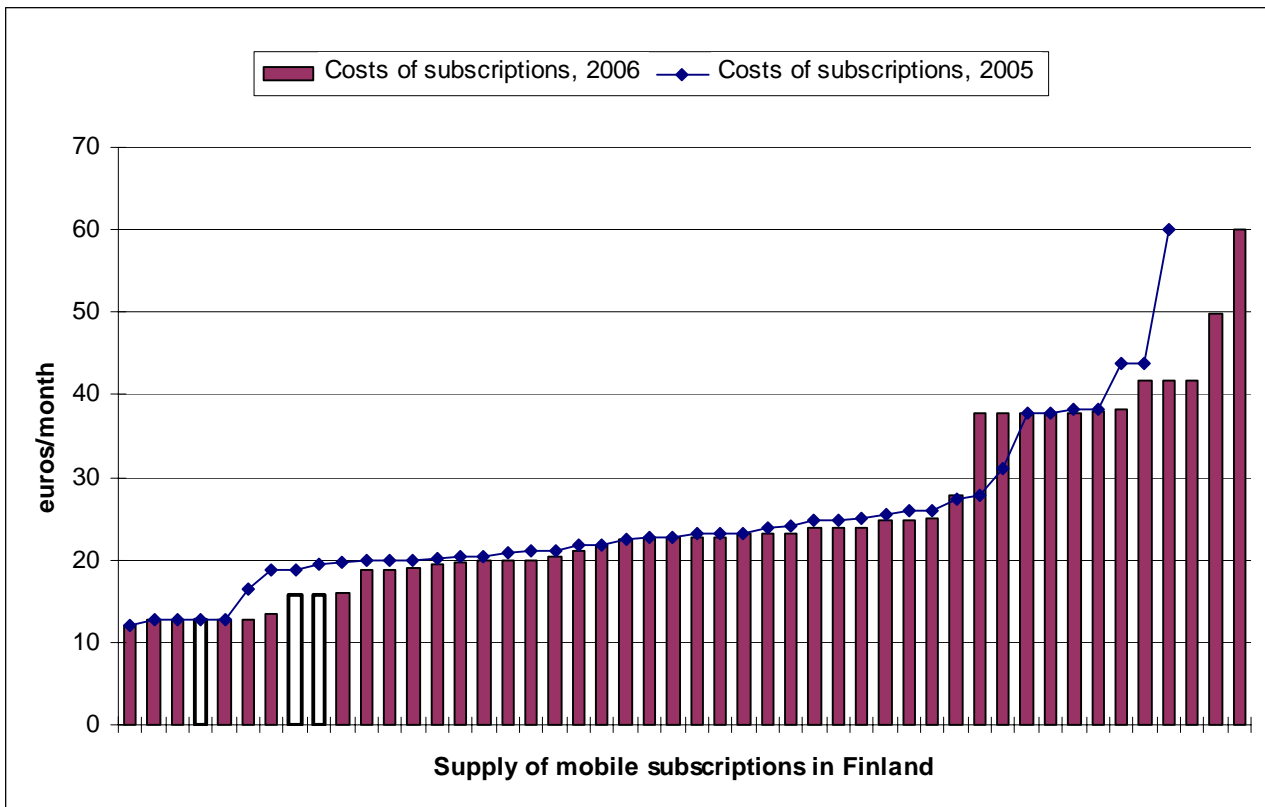
1) Connection chosen is the one, which fills out the criteria of cheapest connection.

2) Monthly subscription fee includes calls, SMS text messages or the fee is compensated in billing.

3) Prices when starting a call.

Source: Mobile Communications, January 31, 2006.

Appendix 4. An example of Finnish subscription supply in April 2006



Appendix 5. The number of pre-paid subscriptions in the target countries

Country	All mobile subscriptions, million 1)	Share of pre-paid in each country, %	Operator 1)	Share of pre-paid in each operator, % 1)	Included within the pre-paid price comparison	Subscription type
Netherlands	16,4	58	KPN Mobile	56	x	KPN PrePaid
			Vodafone	54		
			T-Mobile	60		
			Orange	70		
Belgium	8,8	64	Belacom Mobile	59		
			Mobistar	60		
			Base	81		
Great Britain	66	65	T-Mobile	81	x	Everyone
			O2	66		
			Orange	66		
			Vodafone	61		
Spain	42	50	Telefonica Moviles	48	x	Tarjeta total
			Vodafone	51		
			Amena	54		
Ireland	4,1	75	Vodafone	73		
			O2	73		
			Meteor	90		
Iceland	0,3	47	Iceland Telecom/Siminn	47		
			Og Vodafone	46		
Italy	68,9	77	TIM	75	x	TIM Planet
			Vodafone Omnitel	92		
			Wind	90		
Austria	8,6	43	Mobilkom	43		
			T-Mobile	58		
			One	44		
			Tele.ring	23		
Greece	11,7	67	Cosmote	62	x	What's up
			Vodafone	66		
			TIM Hellas	64		
			Q-Telecom	89		
Luxembourg	0,7	57	Mobilux	na		
			Tango (Tele2)	57		
Norway	4,4	45	Telenor Mobil	47		
			NetCom	41		
Portugal	11,6	81	TMN	82	x	Perto
			Vodafone	80		
			Optimus	82		
France	46,5	37	Orange	38	x	La mobicarte
			SFR	38		
			Bouygues Telecom	32		
Sweden	10	55	TeliaSonera	55		
			Tele2 Mobil	71	x	
			Vodafone	34		
Germany	74,7	51	T-Mobile	52	x	Xtra Tarife
			D2 Vodafone	53		
			E-Plus	48		
			O2	49		
Finland	5,3	7	TeliaSonera	4		
			Elisa	0		
			DNA Finland	30	x	Dna Prepaid
Switzerland	6,9	35	Swisscom/Natel	38		
			Sunrise	30		
			Orange Comms	30		
Denmark	5,4	28	TDC Mobile	28		
			Sonofon	33		
			Telia Mobile	28		

1) Source: Mobile Communications, January 31, 2006.