

Mobile price comparisons in Europe

The Finnish Ministry of Transport and Communication publishes an annual study comparing mobile call prices in 18 European countries. The 2007 edition relies on price information collected in March 2007 and presents a ranking of GSM price baskets, from the cheapest country (which appears to be Finland) to the most expensive one (which appears to be France). In this article we challenge the results of that study. We demonstrate that a more rigorous methodology substantially modifies the results.

The structure of the GSM price basket used

Our aim is not to discuss the choice of the price basket. We simply wish to point out that the specific characteristics of this basket may be relevant for Finnish consumption but less so for other markets. However, in this article we take the Finnish basket (Table 1) as given and use it in our simulations.

Table 1. The structure¹ of the Finnish price basket for Orange France, SFR and Bouygues Télécom

	Orange France	SFR	Bouygues Télécom
Call volume per month (minutes)	150	150	150
<i>On-net (daytime, weekday)</i>	32.55	26.78	16.80
<i>On-net (evening and night, weekday)</i>	30.23	24.86	15.60
<i>On-net (week-end)</i>	30.23	24.86	15.60
<i>Off-net (daytime, weekday)</i>	6.83	12.60	22.58
<i>Off-net (evening and night, weekday)</i>	6.34	11.70	20.96
<i>Off-net (week-end)</i>	6.34	11.70	20.96
<i>Fixed (daytime, weekday)</i>	13.13	13.13	13.13
<i>Fixed (evening and night, weekday)</i>	12.19	12.19	12.19
<i>Fixed (week-end)</i>	12.19	12.19	12.19
SMS per month	25	25	25

Source: Microeconomix from the Finnish study assumptions²

¹ The Finnish study assumes that the sharing between on-net and off-net calls depends on the operator's market share. We used the Finnish profile assuming the following market shares: 47% for Orange France, 36% for SFR and 17% for Bouygues Télécom (Source: Ministry of Transport and Communications (2006), p. 25).

Methodology and assumptions

We collected the characteristics of 206 post-paid plans commercialized by 22 mobile operators in seven European countries³. These data were gathered from the operators' websites in August 2007. For each plan, we took into account:

- the monthly charge which could include a certain number of call minutes as well as a certain number of SMS,
- the setup cost when it existed,
- the price per minute and per SMS above the amount included in the plan,
- the nature of the charging band and the minimum call charge,
- the inclusion of unlimited calls⁴ to a specific destination (landline, three on-net mobiles) or in a certain time period (evenings, week-ends).

Like the Finnish study, we selected the cheapest plan for each mobile operator and calculated each country-specific price basket by weighting the operators' prices in accordance with their market share.

To take into account charge bands, we estimated a "charging factor" which

² The Finnish profile does not distinguish between evening and night during the week and on week-ends. We add the assumption of a 50-50% distribution.

³ The Finnish study compares the average prices in 18 West-European countries. In this article, we limit our simulations to seven countries (Finland, France, Germany, Italy, Spain, Sweden and the United Kingdom).

⁴ Post-paid plans with unlimited calls are particularly widespread in France and in the United Kingdom.

transforms the actual call volume into the charged amount. The value of this factor depends on the nature of the charging band (e.g. per second rate, per minute rate, etc.) and on the minimum call charges (e.g. one minute, one second, etc.) but also on the distribution of calls and their length. One has to rely at least on the average call duration, even if relying on the actual statistical distribution of calls would be better. Table 2 presents the charging factors that we estimated, based on empirical data collected from Orange France.

Table 2. Charging factors

Minimum call charge and charge bands	Charging factor
At a per 30 seconds rate	1.20
1 minute minimum call charge, then a per second rate	1.28
1 minute minimum call charge, then a per 10 seconds rate	1.30
1 minute minimum call charge, then a per 30 seconds rate	1.32
At a per minute rate	1.41

Source: Microeconomix based on Orange France data

To take into account unlimited call plans, we made the assumption that the three most called numbers account for 50% of all on-net calls (25% for the first, 15% for the second and 10% for the third). We also assumed a uniform definition of off-peak hours (evenings and week-ends) across the operators.

Results

Table 3 presents our results. In the seven countries studied, we can distinguish three groups. The first group includes Sweden and Finland with average monthly prices below €20. The second group includes Italy, France and the United Kingdom, where average monthly prices are around €30. Finally, in Spain and Germany, average prices are close to €40 per month.

Table 3. Microeconomix' ranking

1	Sweden	€16
2	Finland	€18
3 (ex-æquo)	France and Italy	€28
5	United Kingdom	€32
6	Spain	€37
7	Germany	€38

Source: Microeconomix

It is interesting to compare our results with those of the Finnish study. Table 3 shows the ranking obtained by the Finnish study. We observe similarities regarding prices in Finland and Sweden, as well as in Italy and Spain. However, we find significant differences regarding prices in France and the United Kingdom. Compared to the Finnish study, the price we estimated for the United Kingdom is 29% lower, while for France it is 39% lower.

Table 4. Finnish ranking

1	Finland	€18
2	Sweden	€18
3	Italy	€32
4	Spain	€36
5	Germany	€44
6	United Kingdom	€45
7	France	€46

Source: Ministry of Transport and Communications (2007)

Why such a difference?

The main explanation stems from the fact that unlimited call plans are not taken into account in the Finnish study.

The following example illustrates that argument. With our methodology, the Finnish price basket can be satisfied with the Orange France plan "Classique 2h". This plan includes unlimited calls to three on-net mobiles, which means that around 43 minutes (corresponding to three most called on-net mobiles) are included in the unlimited calls. That is why this plan, which includes only 120 minutes per month, is enough to cover the remaining consumption.

If unlimited call plans had not been taken into account, we would have selected a 3-hour plan and obtained a price close to the one in the Finnish study.

In France and the United Kingdom, almost every plan includes unlimited calls. This specificity should therefore be taken into account when comparing mobile prices, as consumers significantly benefit from lower prices.

Results with OECD baskets

We used exactly the same methodology as the one described above to estimate prices for each of the three OECD baskets (Table 5) that have been used by the European Commission (2007)⁵.

Table 5. 2006 OECD baskets

	Low user	Medium user	High user
Call volume per month (minutes)	42	110	238
<i>On-net (daytime, weekday)</i>	1.06	29.64	75.01
<i>On-net (evening and night, weekday)</i>	5.76	14.23	23.75
<i>On-net (week-end)</i>	6.22	15.41	26.25
<i>Off-net (daytime, weekday)</i>	4.44	13.26	39.31
<i>Off-net (evening and night, weekday)</i>	2.31	6.36	12.45
<i>Off-net (week-end)</i>	2.49	6.89	13.76
<i>Fixed (daytime, weekday)</i>	4.75	12.28	28.56
<i>Fixed (evening and night, weekday)</i>	2.48	5.90	9.04
<i>Fixed (week-end)</i>	2.67	6.39	10.00
SMS per month⁶	33	50	55

Source: European Commission (2007)

Table 6 presents our results for the low-user basket. Finland and Sweden are again the cheapest countries, followed by Italy. Spain, France and Germany are around €20. The United Kingdom appears to be the most expensive country for this basket: post-paid plans in the UK include a lot of minutes, leading to a relatively more expensive minimum charge.

Table 6. GSM prices: low-user basket

1	Finland	€9
2	Sweden	€11
3	Italy	€13
4	Spain	€18
5	France	€19
6	Germany	€22
7	United Kingdom	€26

Source: Microeconomix

Table 7 presents our results for the medium-user basket. Again, Finland and Sweden appear to be the cheapest countries. They are now followed by France and Italy. Spain loses two positions in the ranking because the setup

costs are paid on each call and therefore increase along with the number of calls. The United Kingdom ranks fifth, with a modest price increase compared to the low basket. Germany is the most expensive country for the medium-user basket.

Table 7. GSM prices: medium-user basket

1	Finland	€16
2	Sweden	€17
3	France	€26
4	Italy	€28
5	United Kingdom	€29
6	Spain	€38
7	Germany	€40

Source: Microeconomix

Finally, Table 8 presents our results for the high-user basket. Finland and Sweden remain in first and second position, while the United Kingdom ranks third, followed by France and Italy. Spain is now more expensive than Germany.

Table 8. GSM prices: high-user basket

1	Finland	€26
2	Sweden	€30
3	United Kingdom	€36
4	France	€43
5	Italy	€49
6	Germany	€59
7	Spain	€70

Source: Microeconomix

Our results confirm that Finland and Sweden are the cheapest countries, for any given basket. France ranks average, whatever the basket, and Germany appears to be expensive in all cases.

The results contrast more sharply for the other countries.

Italy and Spain appear to be more favorable for low users because monthly subscription fees are cheap, as plans generally do not include calls or SMS. However, because the price per minute is higher and setup costs are charged, these plans disadvantage high users.

⁵ The European study ranks only the two main operators of each country and not the country itself. We use OECD baskets to estimate a price per country, assuming the same market shares as the Finnish study.

⁶ OECD baskets also include 0.67 MMS (for low and medium users) and 1 MMS (for high users) per month. We include them as SMS, assuming 1 MMS = 3 SMS.

In contrast, the United Kingdom appears to be more favorable for high users. In this country, post-paid plans usually include a relatively large number of minutes and unlimited calls.

Conclusion

Comparing mobile call prices across Europe is not easy. One has first to define one or several baskets⁷.

Of course, each basket should be based on assumptions regarding the monthly call volume, the number of SMS and the services included, but additional assumptions are needed if we want to take into account specific characteristics such as charge bands or unlimited call plans. It is necessary to split the total number of calls according to their direction (on-net, off-net and landlines), their duration and the time of the call (daytime, evenings and week-ends). For instance, it is necessary to make an assumption regarding the share of the three preferred numbers in the total number of calls, in order to take into account unlimited call plans restricted to three on-net numbers. Thus, it is very important to be precise when setting out the selected assumptions.

Ranking countries from the cheapest to the most expensive can easily lead to different results depending upon the assumptions. Our analysis shows that the ranking presented by the Finnish study is challenged when the existence of unlimited call plans is taken into account.

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⁷ The definition of these baskets and the related assumptions are of course required when using a basket methodology. An alternative method is to compare average revenue per minute, which does not require the definition of baskets.

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