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## Loose connections

### THE IMPACT OF LOWER TERMINATION RATES ON CONSUMER WELFARE

*In May 2009, the European Commission published a methodology for setting mobile termination rates (MTRs) for the interconnection of calls between operators that could lead to a drastic reduction in MTRs. These proposals, which reflected US experience of low MTRs, were based on the assumption that cutting them would drive up usage and increase consumer welfare. Work carried out by Frontier Economics for a group of European mobile phone operators challenges this reasoning.*

A key objective for telecom regulators is to establish a pricing framework that maximises market efficiency and consumer welfare. Influenced by the US experience, a paper published earlier this year by the European Commission (EC) proposed a framework that could lead to a sharp cut in MTRs.<sup>1</sup> In the United States, the interconnection arrangements between mobile operators involve very low MTRs. Mobile subscribers are also “consuming” many more minutes of mobile phone usage than their counterparts in Europe. But is this relationship cause and effect? And if so, would there be the same consequences in Europe?



In 2008, Frontier Economics undertook an analysis of the effect of moving to very low MTRs in Europe (one to two euro cents per minute). After reviewing the economic theory, we developed a simulation model designed to enable us to assess the impact on consumer welfare, and also carried out an analysis of the US and European markets, in order to be able to compare the outcomes in each.<sup>2</sup>

### MAKING ONE SIZE FIT ALL

The primary aim of the European Commission, in making its recent recommendations on termination rates, was to harmonise the somewhat varied approaches taken by the national regulatory authorities within the European Union. The EC endorsed a cost-oriented approach, on the (correct) ground that this was likely to be the most economically efficient. However, its detailed proposals, including the exclusion of a number of elements from the calculation of costs (notably coverage costs and any contribution to the recovery of fixed and common costs), would be likely to result in MTRs having to be set significantly below cost.

Frontier's analysis indicates that driving MTRs below cost might result in a loss of consumer welfare, rather than a gain. This loss would come from a decline in mobile phone penetration. Using our model to simulate the effect of setting MTRs at two euro cents per minute, we estimate that the loss would be 11% in western Europe, and only slightly less in eastern Europe, compared with setting termination rates at average European cost. Were MTRs to be reduced to one euro cent per minute, the effect would be still greater.

This shrinkage would be driven by an important feature of the mobile phone market. Mobile phone tariffs have a number of different elements – call prices, connection charges and rentals, with handset subsidies further complicating the issue. Through what is vividly described as the “waterbed effect”, putting downward pressure on one element of mobile charges (MTRs) can be expected to lead to swellings elsewhere – meaning increases in retail prices for other mobile phone services. A recent study of 24 developed economies – most of them in Europe – suggests that a reduction in MTRs leads to an increase in mobile retail prices.<sup>3</sup>

It is this increase in other charges that leads our model to predict a fall in penetration. If either handset charges (through a reduction in subsidies or an increase in rental) or call prices were to become more expensive, owning a mobile phone would become less attractive to would-be users.

### AMERICAN DREAM?

So does the American experience fit with the results suggested by our model? Well, penetration is lower than in Europe – about 85%, compared with rates of 100% in Spain, Germany and the UK, and even in some smaller, lower-income economies such as Latvia. (These rates have been estimated after adjustment for inactive subscribers, i.e., those having but not using a SIM card.) Consumer surveys, based on households, indicate lower rates of penetration on both sides of the Atlantic, but the same difference between the two. Indeed, throughout

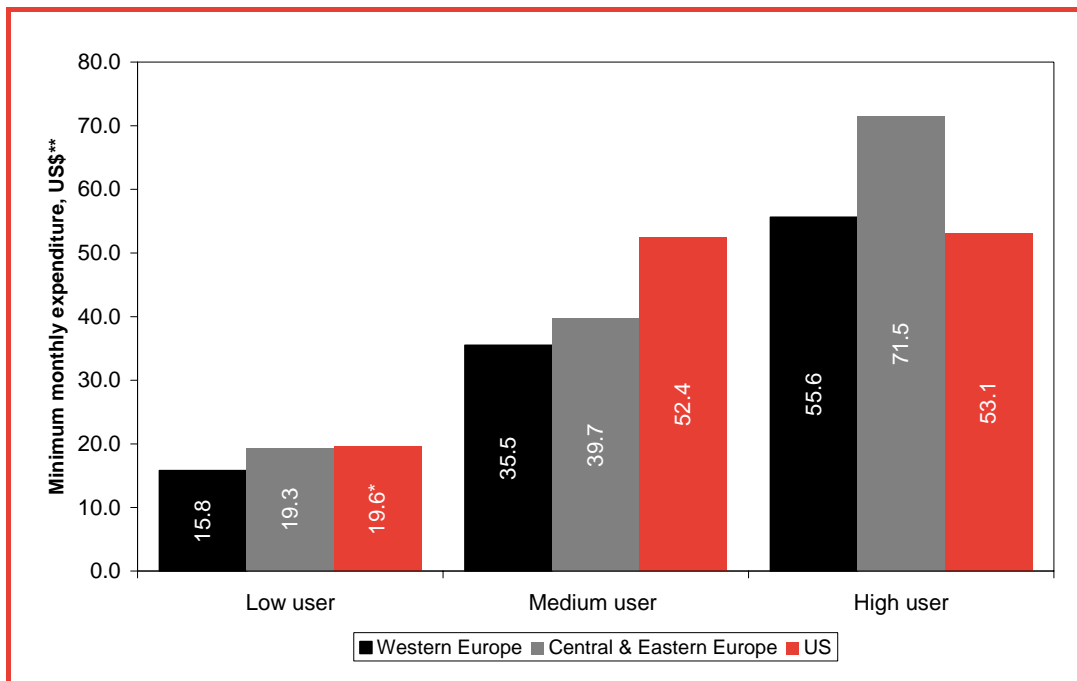
Europe there are only two countries with lower penetration than in the US – Romania and Bulgaria.

However, usage is significantly higher in the US. The raw statistics show a misleadingly large gap, as US data include ring time, even if the phone call is not in fact answered. But even after adjusting for this, minutes of use per subscriber appear to be, on average, more than twice as high as in Europe.

Clearly, some of the difference in average usage is accounted for by greater European penetration, since the higher this is, the more light users it is likely to include. It is difficult to adjust accurately for this, since there is a lack of reliable information on which to base a calculation. It seems reasonable to suppose, however, that there would still be some gap in usage, even after allowing for this effect. Most US mobile phone plans are post-paid, incentivising high usage at a lower price/minute, compared with pre-pay plans, which are much more prevalent in Europe. As a result, average revenue per user is much higher in the US than in Europe, although revenue per minute is lower.

In short, in comparing the US and Europe, we find that:

- there are proportionately fewer mobile phone users in the US than in Europe;
- these US users are on their phones for more time;
- they pay less per minute; but
- they pay more in total.



Mobile expenditure in OECD countries

Source: OECD Communications Outlook 2007, pages 216-218. \* Figure includes the cost of receiving calls.

\*\*Measured in US \$ taking into account the purchasing power of customers in different countries.

So are US users better or worse off? The answer varies by category of user. The figure on the previous page shows the minimum monthly expenditure for three groups of users. Low and medium users were better off with the European approach; only heavy users would be better off with the US approach. While this OECD data relates to 2006, more recent analyses show similar results.<sup>4</sup>

The results also assume that the quality of service is the same, and there is some evidence that indicates it may be lower in the US (for example, the area covered by mobile networks is proportionately lower than in Europe, even when adjusted for population density by excluding uninhabited areas of the US).

## CONCLUSION

The EC accepts the principle that MTRs should be cost-oriented, and hence that below-cost MTRs might lead to inefficiency and a loss of consumer welfare. This means that its recommendation depends heavily on the calculation of “relevant” costs. Our analysis suggests if costs are underestimated, then through the “waterbed effect”, sharp reductions in MTRs could lead to a loss of, not a gain in, consumer welfare. Analysis of US experience further suggests that, while high users would benefit from features of the American approach that led to a lower cost per minute, medium and light users would be likely to be worse off.

## SOURCES

- 1 *“Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU” C(2009) 3359 final, 7 May 2009*
- 2 *Our report, “Assessing the impact of lowering mobile termination rates”, July 2008, is publicly available at [www.frontier-economics.com](http://www.frontier-economics.com)*
- 3 *See Genakos and Valletti (2008), “Testing the ‘Waterbed’ Effect in Mobile Telephony”, CEIS Tor Vergata, Research Paper Series, Vol.6, Issue 2, No. 110*
- 4 *Results from Teligen T-Basket, August 2008. Copyright Teligen, UK*

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