Pricing mobile call termination in Romania

Revised Executive Summary for the ANRC following public consultation

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1   Introduction

In September 2004 Ovum was commissioned by the ANRC to develop an independent model to evaluate the efficient costs of providing mobile call termination services. The ANRC requirement was for a bottom-up long run incremental cost model (i.e. a model built using generic mobile network design parameters) calibrated to the Romanian environment on the basis of information supplied by Orange and Mobifon[1]. It was intended that the bottom-up model would then be reconciled with top-down long run incremental cost models (i.e. models derived from the operator's financial accounts) prepared by Orange and Mobifon and that a hybrid model would be produced. The principle objective of the study is to assist the ANRC in regulating mobile termination rates during the period 2005-2009.

The cost modelling assignment has been delayed for a number of reasons, in particular because of:

- the slow delivery of data from the mobile operators

- the fact that neither operator produced a top-down model and thus the reconciliation process could not be undertaken as planned

- the need for an alternative process of optimizing bottom-up model, in which the operators commented upon the draft bottom-up model and provided additional data to support their requests for alterations to be made to the model.

On April 6th 2006, the long run incremental cost (LRIC) model has been submitted to public consultation along with supporting documentation.. Each of the operators has been given a complete version of the model which contains data and assumptions pertinent to its network and operations. However, in the public version of the model, all commercially sensitive data has been removed, so that only the generic data and the modelling approach can be seen. Copies of the published model and the model documentation can be obtained from the ANRC webpage.

2   Outputs from the cost model

Figure 1 indicates the costs of the mobile call termination service as derived form the optimized bottom-up LRIC model. A number of points need to be noted about these results:

- The costs apply to the voice call termination service

- The model is based on asset volumes and prices as at the end of 2003 but costs have been adjusted year-on-year to current prices based on modern equivalent asset price trends and opex to capex ratios.

- The costs are averaged between Mobifon and Orange. The cost model indicates that there is little difference in the actual costs of the operators (<5% variation), and currently the call termination prices are the same on either network. Given this situation, and given the rough equivalence of the operators in the key indicators of market power (e.g. number of

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[1] Currently Vodafone Romania

subscribers, access to spectrum), Ovum believes that the cost model should be used to set a single call termination price that will apply to both operators.

- The costs of calls in the model include unsuccessful calls by using radio network traffic, therefore an extra charge for call set-up is not necessary, being included in the cost of call termination.

To confirm the accuracy of the bottom-up model, we have compared its outcomes against information provided by the mobile operators. Subscriber numbers, traffic volumes, asset lives and asset values have been reconciled against the data provided by operators. On this basis it appears that the bottom-up model provides a reasonably accurate representation of the mobile operators' costs. The same conclusion is confirmed by the analysis of the operators' financial statements for 2004 and 2005 that reconciles the asset values and operating expenditure against the outputs of the bottom-up model. The model fairly reconciles the costs of 2005 against asset GBV values from 2005, submitted by one operator.

Figure 1: Results of the LRIC model for mobile call termination
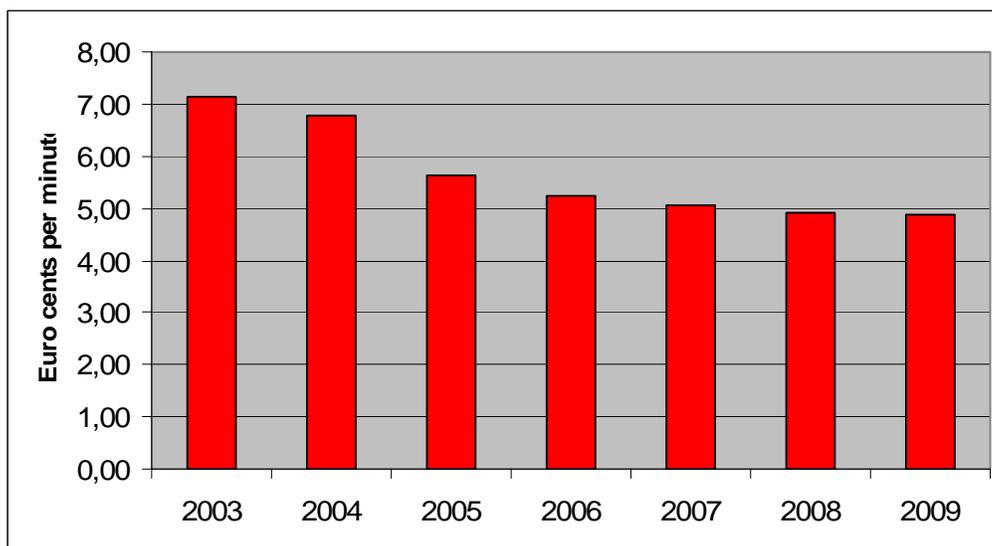
3 Setting cost-based prices

It is not necessarily the case that cost-based prices should be set directly on the basis of LRIC. There are two main issues here:

- Externalities
- Ramsey pricing

3.1 Externalities

The term "externality" refers to benefits (or costs) that are not taken into account by users when deciding whether to subscribe to, call or use a mobile service. The main externality is normally called a "network externality" or sometimes an "option externality". This refers to the benefits which existing fixed line and mobile subscribers gain when a new subscriber joins a mobile network. Existing subscribers can then contact the new subscriber at times and in places where contact was previously impossible. This benefit is partly captured by the extra calls that are made as a result of subscription and partly through the (much more intangible) knowledge that it is possible to contact the new subscriber.

The theoretical case for including a network externality in termination rates is quite widely accepted by operators and regulators alike. However, there are two reasons why in practice few regulators have adopted this approach:

- The externality is difficult to measure with any degree of confidence. In the UK Ofcom and the Competition Commission made strenuous efforts to assess the externality. Their analysis is extensive, but it is not exhaustive and there remain many grounds on which it can be criticised. The base research seems less than robust, relies on parameters[2] which are unreliable and for which there is little empirical basis, and there has been no attempt to consider how the externality may vary over time particularly as the mobile market reaches saturation and handset subsidies are reduced or removed.

- The scale of the externality. There is disagreement amongst economists and regulators as to whether the externality is of a significant scale. The UK Competition Commission estimated it as 0.45 pence per minute, but the Swedish regulator, PTS, concluded that the externality is so negligible that it may reasonably be ignored. It is clear that the scale of the externality reduces the nearer the mobile market is to saturation, but it is not clear at what point it becomes negligible.

There are two reasons why we believe that the ANRC should not take account of externalities in pricing mobile call termination in Romania. Firstly, while the public statements ANRC has made in the past have put the burden of proof for the existence and scale of externality in the operators' hands, no evidence and calculation methodology has been submitted as such, the request for externality and especially the proposed mark-up being solely based on UK practice. No indication of how the extra 10% mark-up for externality will be used for the benefit of end users (i.e. proving that the entire amount of benefit has been passed on to end users, and not retained as extra profits or used to subsidise other services).Secondly, as proposed in Section 4 below, prices for mobile call termination will not fall to LRIC levels in Romania until 2009. In effect, the residual difference between the proposed prices and LRIC may be seen in lieu of an externality mark-up, and it would therefore be inappropriate to add a further, explicit externality mark-up until 2009 at the earliest. Finally, considering the overall competitive and regulatory environment in Romania, OVUM believes that the anticompetitive effects of an externality surcharge are clearly more significant that any possible welfare benefits generated by a mobile access subsidy.

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[2] Such as the Rohlfs-Griffin factor, equal to the ratio of total benefits (private and public) to the private benefit created by a customer's decision to join a network

3.2   Ramsey pricing

Ramsey pricing refers to the way in which common costs are allocated to services. In the bottom-up LRIC model that Ovum has developed for the ANRC, common costs are allocated in proportion to the LRICs of the services that share these costs. Equi-proportionate mark-ups is the standard treatment in virtually every cost model and regulatory decision that we are aware of. Nevertheless, economists sometimes criticise the use of equi-proportionate mark-ups as being arbitrary and inefficient. They argue that mark-ups should be set so as to recover common costs by setting higher prices for those services to which consumers are price insensitive, or less sensitive, balanced by lower prices for services where consumers are more price sensitive. This system of pricing is known as Ramsey pricing.

Some mobile operators have attempted to argue that mobile termination rates significantly in excess of LRIC are justified by Ramsey pricing. They argue that under Ramsey pricing termination should attract much higher mark-ups because of the low price elasticity of the service. However, this low price elasticity is a result of the bottleneck characteristic of the mobile termination service - callers to mobiles have no choice as to which operator terminates the call so, if they wish to make the call, they are bound to accept whatever price the mobile operator sets. It is important to note that this situation does not mean that consumers (in this case callers to mobiles) are price insensitive; it merely indicates that they have no competitive choices.

Properly constituted Ramsey pricing would need to compare the price sensitivity of callers to mobiles (to changes in the level of termination rates) with the price sensitivity of mobile customers (to changes in the prices of retail mobile calls). Such data is notoriously difficult to obtain, particularly given the complexity and dynamism of mobile pricing plans, thus making application of this method practically unfeasible. Intuitively, it would seem likely that these two price elasticities would be similar. If anything, it may be that callers to mobiles are *more* price sensitive because the price of calls to mobiles is much greater than for the average call price paid by a fixed network customer.

In short, the application of Ramsey pricing may be theoretically attractive, but in practice such a behaviour is difficult to demonstrate, while its application by the SMP operators could be detrimental to competition (which is likely to develop in higher elasticity services) and could therefore lead to market distortions that offset any potential welfare gains.

Ovum therefore believes that it is quite sufficient for termination rates to be set using equi-proportionate mark-ups.

4   Pricing proposals

Currently the price of mobile call termination on both the Orange and the Mobifon networks stands at 10 US cents (8.31 Euro cents) per minute. This maximum price was set by the ANRC in March 2003 to apply from 1 January 2004 until "the date when the interconnection tariffs are determined based on a long run incremental costs calculation model approved by ANRC"[3].

The ANRC is aware that to move directly from a price of 10 US cents per minute to the cost based price implied by the long run incremental cost model (5.23 Euro cents per minute in

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[3] ANRC Decision 123/124, 24 March 2003, Article 7.3(b).

2006) could destabilise the financial situation of the mobile operators, and threaten future investment in the mobile networks. It therefore intends to bring the mobile termination prices in line with long run incremental cost through a "glide path". The advantages of the glide path approach are that it:

- enables a smooth transition to LRIC rates,

- provides regulatory certainty over a period of years

- involves no significant regulatory burden for the industry during that period.

Ovum proposes that an effective 2.5-year glide path should be established. This glide path should start from mid 2006, when the ANRC decision will be adopted, and run through to beginning of 2009. Thereafter Ovum proposes that the prices for mobile call termination fall in line with long run incremental costs. Given the fact that costs are decreasing over the years and that the model produces average yearly results, Ovum believes that, in order to avoid over recovery, the adjustments following the first one should be applied beginning of each year.

Operators have argued during public consultation that they should be allowed to apply different rates depending on the time of day, should they wish to explore such possibilities. Ovum agrees that a compromise between predictability of tariffs and flexibility of the operators to reflect the effects of the peak and off peak traffic loads over the interconnect rates should be made in theory provided that the 24 hours daily average rate, as resulted form the model, is not exceeded. Although the flat rates are the only practical solution in the short term, ANRC may wish to explore ways of allowing the operators more flexibility to set different peak and off peak termination rates.

- The 24h average price for mobile call termination should be no greater that 7.28 euro cents per minute from 1 September 2006

- The 24h average price for mobile call termination should be no greater that 6.37 euro cents per minute from 1 January 2007

- The 24h average price for mobile call termination should be no greater that 5.58 euro cents per minute from 1 January 2008

- The 24h average price for mobile call termination should be no greater that 4.88 euro cents per minute from 1 January 2009

Figure 2 illustrates how these price proposals will bring the price of mobile call termination in Romania into line with long run incremental costs.

Figure 2: Proposed mobile termination prices in Romania