

# Countervailing buyer power and mobile termination

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Different countries have different practices with regard to charging for calls to mobile subscribers.

- In some countries, including: Canada, China, Hong Kong, Russia, Singapore and the United States, mobile network operators (MNOs) charge their subscribers airtime on calls that they receive. This regime is known as mobile party pays or MPP.
- In most of the rest of the world, however, mobile subscribers are not charged for incoming calls. Instead, the MNO levies a mobile-termination charge on other network operators for terminating calls. The originating network operator generally passes the mobile termination charge on to its subscriber who made the call. The regime is therefore known as calling party pays (CPP).

This paper discusses the analysis required to support public policies regarding mobile termination.<sup>1</sup>

The analytical issues include:

- specification of the relevant product market
- determination of market power
- assessment of countervailing buyer power
- regulatory intervention
- regulatory restraint

## **1 Policies of the European Union**

We focus largely on the regulatory policies of the European Union (EU). Those policies are important in their own right, since they are applied throughout all of Europe. In addition, many other countries have adopted the EU policy framework.

The general policy of the EU is that telecommunications charges should be regulated if, but only if, the operator that sets the charge has significant market power (SMP) in the relevant market. This

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<sup>1</sup> The economic issues associated with setting mobile termination rates are discussed from a somewhat different perspective in chapter 3 of 'Handbook of Telecommunications Economics, Volume 2' by Jeffrey Rohlfs (author) and M. Cave et al (eds)

general policy has been applied to mobile-termination charges (as well as to other telecommunications charges).<sup>2</sup>

In most European countries, several competitive operators supply mobile services. For that reason, MNOs have usually been found *not* to have SMP in retail markets. Hence, retail mobile prices are usually not regulated.

In contrast, mobile termination rates are generally subject to regulation (though the precise scope of regulation varies somewhat from country to country). This policy generally follows a finding that MNOs have SMP *in the market for mobile termination*. The logic underlying this finding is described in the following sections.

## 1.1 Specification of the relevant product market

Relevant product markets are specified solely with respect to conditions on the demand side of the market. A relevant product market includes the product itself (in this case, mobile termination) and other products that are sufficiently close substitutes.<sup>3</sup>

Mobile termination is purchased by a telecommunications operator that wishes to complete a call from one of its subscribers to a mobile subscriber (on another network). Regulators within the EU have generally reasoned that there is no good substitute to purchasing mobile termination from the MNO that serves the called party. It follows that the relevant product market consists solely of mobile termination supplied by a particular MNO. It further follows that each MNO has a monopoly in the market for its mobile termination; i.e., the “terminating-access monopoly.”<sup>4</sup>

The above finding must be qualified to some extent. Suppose that Mobile Network A had extremely high charges for mobile termination. Those charges would be passed on from Mobile Network A to other mobile operators, then on to callers in other networks in the form of higher call prices. Those callers would likely respond by declining to make calls to subscribers of Mobile Network A, except in emergencies. The subscribers to Mobile Network A might well find

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<sup>2</sup> Directive (2002/19/EC) on Access and interconnection, Articles 8 and 13 in particular.

<sup>3</sup> Office of Fair Trading document OFT403 ‘**Market Definition, Understanding competition law**’ (December 2004) - paragraph 2.5, 2.6

<sup>4</sup> For further discussion of the terminating-access monopoly, see ‘**Competition in Telecommunications**’ by Laffont and Tirole, (March 2001)

this outcome unsatisfactory and switch to another mobile network. In this example, the demand for termination on Mobile Network A does depend on demand conditions on other mobile networks.

Relevant product markets are not, however, usually specified with regard to extremely large price increases. The usual practice is to include substitutes that would be used if there were a small, but significant, non-transitory increase in price (SSNIP).<sup>5</sup>

Empirical evidence has demonstrated that the cross-elasticities of demand for retail mobile services with respect to the price of mobile termination are quite small – both in absolute terms and relative to the magnitudes of other mobile cross-elasticities.<sup>6</sup> A simple (perhaps simplistic) explanation for this finding is that subscribers care more about charges that they pay themselves than about charges that subscribers to other networks pay. It follows from the finding that, although a MNO faces some competitive discipline with respect to setting mobile-termination rates, that discipline is quite weak. In the absence of regulatory constraints, mobile termination rates could be unacceptably high. Indeed, in the past, where mobile termination rates in many countries were not regulated, the rates were often quite high.

In summary, the finding that the relevant product market is mobile termination of a particular MNO is reasonable – notwithstanding the weak cross-elasticities with other mobile markets.

## 1.2 Determination of market power

The determination of market power might seem to be a trivial exercise. Each MNO has a monopoly in the market for its mobile termination. Regardless of the precise criteria for determining how much market power is significant, a monopoly would seem to qualify as having SMP.

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<sup>5</sup> For example see OFT403 'Market Definition, Understanding competition law' by the Office of Fair Trading (December 2004) - paragraph 2.7, 2.10

<sup>6</sup> For example, Ofel found that the cross-elasticity was so small that it could reasonably be disregarded. See 'A Model of prices and costs of mobile network operators' by Jeffrey Rohfs, on behalf of Ofel in May 2002, referenced in paragraph A19.15 of Ofcom's 'Mobile Call Termination' statement of March 2007

The official guidelines of the EU are, however, more sophisticated. They recognise that market power of sellers is diminished to the extent that buyers have countervailing buyer power (CBP).<sup>7</sup>

Historically, CBP was not a major consideration in regulatory decisions whether to regulate mobile termination. Recently, however, the issue has become more prominent, as discussed below.

In the broader economy (apart from telecommunications), CBP usually arises where there is concentration on the buyers' side of the market; i.e., monopsony or oligopsony. In that case, buyers may be able to obtain outcomes that are satisfactory to them, notwithstanding SMP on the sellers' side of the market. Indeed, the buyers may have the upper hand.

Significant CBP is an inherent aspect of telecommunications markets. To be sure, each MNO has a terminating-access monopoly. At the same time, however, the originating operator, whether fixed or mobile, has an 'originating-access monopoly'. That is, if a MNO wants its subscribers to be able to receive calls from another operator, it must use the originating services of that operator.

The originating-access monopoly always limits the market power of firms that have a terminating-access monopoly. It must be considered for a proper determination of whether the terminating operator has SMP.

Binmore and Harbord made this point in arguing for regulatory restraint with regard to the setting of mobile-termination rates.<sup>8</sup> Hutchinson, a small MNO, used the Binmore-Harbord article to appeal SMP findings in the UK and Ireland. It argued that the network operators to whom it sells mobile termination possess relatively great CBP.<sup>9</sup> Vodafone has made a related point in numerous filings that describe mobile termination as a "two-sided market."

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<sup>7</sup> Directive (2002/19/EC) on Access and interconnection, Annex II

<sup>8</sup> Ken Binmore and David Harbord, 'Bargaining over Fixed-to-Mobile Termination rates: Countervailing Buyer Power as a Constraint on Monopoly Power,' *Journal of Competition Law and Economics* 1 (3), pp. 449–472 (September 2005).

<sup>9</sup> See Competition Arbitration Tribunal (CAT) Case No: 1047/3/3/04 November 2005 judgement paragraph 35 and 'Assessment of whether H3G holds a position of SMP in the market for wholesale mobile voice call termination on its network' - Ofcom statement March 2007

## **2 Exercise of CBP**

In order to assess the importance of CBP, we must consider the various ways that it might be exercised. Some important possibilities are described in the following sections.

### **2.1 Refusal to interconnect**

Buyers of mobile termination are operators of other networks, either mobile or fixed. One way for such a buyer to exercise CBP is to threaten not to interconnect unless the price is “reasonable.” If an MNO insists on a price that the buyer regards as too high, the buyer could threaten to block calls to that operator’s network. The MNO’s subscribers would then be unable to receive calls from the buyer’s network.

After bandying threats back and forth, the originating and terminating operators may reach an agreement. Of course, the details of any agreement made in the absence of regulation would depend substantially on the magnitude of the buyer’s CBP.

Another possibility is that the buyer and seller do not reach an agreement. In this case, calls from one network to the other will be blocked – absent regulatory intervention. As a result subscribers of one network will not be able to call subscribers of the other network. That outcome is harmful to the subscribers of both networks.

The outcome may additionally be harmful to both network operators, because the value that they can deliver to their subscribers is much reduced. They cannot complete calls from one network to the other.

Another possibility, however, is that a large operator who declines to interconnect may reap competitive gains at the expense of a small operator. The subscribers of the large operator will be able to complete most of their calls, even if there is no interconnection to the small operator. In contrast, the small operator’s service may be wholly unsatisfactory if its subscribers cannot complete calls to the large operator. The large operator in this case has much greater CBP than the small operator.

Regulatory intervention is quite likely to occur in this instance. Such intervention can ameliorate the harms to subscribers deriving from lack of interconnection. It can also prevent the lessening of competition where a large operator declines to interconnect with a small one. In Europe and in many other countries, operators are required to interconnect. Regulatory intervention can therefore be expected in the event that networks do not interconnect.

Regulatory intervention is discussed in a later section of this paper. The prospect of regulatory intervention obviously affects all aspects of the bargaining between the two operators.

## **2.2 Raising termination rates on the buyer's network**

Another way for a buyer of mobile termination to exercise CBP is to threaten to raise its own mobile termination rates. One possibility is for MNOs simply to insist on symmetrical rates with each other. Much more onerous threats, however, are also possible. For example, a buyer could threaten to charge extremely high rates for mobile termination on its own network unless the (other) MNO agrees to a sufficiently low rate for mobile termination.

In order for this exercise of CBP to be really effective, the buyer must be able to threaten to charge different termination rates to different network operators. For that reason, and without regulatory restraint, one would expect that an operator would charge significantly different termination rates to different operators (although the costs are generally virtually the same).

## **2.3 Raising retail prices**

Another way for a buyer to exercise CBP is to raise retail prices for calls to another operator's network. It would, of course, not be unexpected for an operator to pass on mobile-termination charges to its subscribers. Much more onerous threats are, however, also possible. An operator could threaten to charge extremely high retail prices for calls to a particular network, unless that network's charge for mobile termination is sufficiently low.

In order for this exercise of CBP to be really effective, the buyer must be able to charge different retail prices for calls to different networks. The price would depend on the identity of the

terminating operator – not simply on whether the call is off-net. Prices would differ, even though unit costs are virtually the same.

## **2.4 Withholding payment for mobile termination**

Finally, the buyer may exercise CBP by withholding payment for mobile termination. Withholding payment does not fit into the neat confines of economic theory, where one generally assumes that buyers pay for the goods and services that they consume. Nevertheless, this tactic has frequently been used by buyers of interconnections (and access) services.

In the broader economy, apart from telecommunications, a seller generally (eventually) responds to non-payment by discontinuing supply of the product (in addition to pursuing legal remedies). In telecommunications, discontinuing supply is the same as declining to interconnect, as discussed above. A small operator may find it impractical to decline to interconnect with a large network, because it would then be offering wholly unsatisfactory service to its subscribers.

In addition, sellers of mobile termination can, and do seek legal and/or regulatory redress. Doing so, however, generally involves substantial legal costs and long delays before the money is actually collected.

## **3 Regulatory intervention**

It will not have escaped the reader that the tactics described in the previous section for exercising CBP, especially the most severe tactics, are rarely seen in the real world. The reason is not, of course, that the operators are too stupid to think of the tactics or too kind and gentle to exercise them. Rather, the reason is that regulators substantially restrict the exercise of CBP.

We have already mentioned that regulatory mandates to interconnect prevent the exercise of CBP by declining to interconnect. At the same time, anti-discrimination rules prevent the buyer's exercise of CBP through:

- raising its own mobile termination rate for calls from a particular network whose mobile termination rate is too high; or

- raising retail prices for calls to a particular network whose mobile termination rate is too high.

Regulators also typically exert pressure on operators to make payments for mobile termination (though the payments may nevertheless be received after long delays).

For these reasons, regulators in many countries, especially those in Europe, have argued that MNOs have SMP in the market for mobile termination on their network – notwithstanding CBP. The reason, they argue, is that buyers are not permitted to exercise their CBP. CBP cannot act as a check on the terminating-access monopoly unless the buyer is permitted to exercise it. It follows that regulation is needed to prevent abuse of the terminating-access monopoly.

Nevertheless, that argument does raise the issue of whether regulatory restraint with regard to setting mobile termination rates would be efficacious, if combined with regulatory restraint with regard to the exercise of CBP. This issue is addressed in the next section.

## **4 Regulatory restraint**

Let us suppose, for purposes of argument, that the buyers of mobile termination do, indeed, have substantial CBP. Let us further suppose that regulators (counterfactually) give the buyers full scope to exercise their CBP. What would be the market outcomes?

The outcomes depend on the ways in which CBP is exercised, as previously discussed:

### **4.1 Refusal to interconnect**

We have previously noted that subscribers of both networks are harmed if network operators decline to interconnect. Those harms can be quite serious, because telecommunications is such an important part of the modern economy. Telecommunications is additionally relied upon for use in emergencies. Furthermore, as previously discussed, anti-competitive consequences can ensue if a large network operator declines to interconnect.

For these reasons, it is almost surely *not* in the public interest to allow buyers of interconnection services (including mobile termination) to exercise their CBP by declining to interconnect.

#### 4.2 Raising termination rates on the buyer's network

As previously noted, anti-discrimination rules generally prevent a network operator from charging different termination rates to different operators. But what if those rules were relaxed?

Raising termination rates charged to particular operators has much the same consequences as declining to interconnect. If the termination charge is very high, there will be little communication between the two networks. The same harms will occur as if the network operator declined to interconnect – albeit to a somewhat lesser extent.

Another discomfiting possibility is that two MNOs will reach an agreement whereby both charge high prices for call termination. Such an agreement can benefit both MNOs, allowing them to earn supra-competitive profits as shown below, even though retail markets are quite competitive.

The high termination rates will presumably be flowed through to subscribers. Each network will then have high charges, well above cost, for off-net calls. Under this regime, a subscriber will tend to choose a network on which he/she has a large community of interest in order to have a high percentage of on-net calls. The communities of interest give each MNO some degree of market power. That is, a subscriber will be reluctant to change operators even if another operator has lower prices. The lower price schedule will be balanced to a significant extent by the higher percentage of off-net calls, because the subscriber less community of interest on the other network.

One might presume that buyers will use their CBP to lower the prices that they pay. In the context of mobile telecommunications, the result would be lower call prices for subscribers, as the reduction in mobile-termination rates is flowed through.

In the above example, however, the outcome of the bilateral monopoly is that prices are *raised*, to the detriment of consumers.

### **4.3 Raising retail prices**

Raising termination rates on the buyer's network affects consumers, as the higher rates are flowed through in the form of higher call charges.

The effects on consumers are precisely the same if retail prices are raised directly. That is, the effects are the same as discussed in the preceding sub-section.

### **4.4 Withholding payment for mobile termination**

Markets work properly only when buyers pay for the goods and services that they purchase. Regulators cannot reasonably encourage or enable buyers to withhold payment for mobile termination.

### **4.5 Summary**

The combination of not regulating the price of mobile termination and allowing buyers full scope to exercise their CBP does not work well. Existing policies, under which mobile-termination rates are regulated and the exercise of CBP is restricted, lead to better outcomes.

## **5 Conclusions**

The EU policy is to regulate telecommunications charges if the network operator that sets the charge has significant market power (SMP). The relevant product market for mobile termination is specified to be that of a particular mobile network operator (MNO). That operator has a monopoly in the relevant market – the terminating access monopoly. Consequently, mobile-termination rates are generally regulated, in Europe and elsewhere, to be cost-oriented.

That policy has recently been challenged on the basis that buyers or mobile termination may have significant countervailing buyer power (CBP). In principle, CBP could be exercised in any or all of the following ways:

- refusing to interconnect
- raising termination rates on the buyer's network
- raising retail prices
- withholding payment for mobile termination

In practice, the exercise of CBP is restricted by regulatory mandates to interconnect, non-discrimination rules, and enforcement of the obligation to make payments for mobile termination. Since buyers are not permitted to exercise their CBP, it cannot ameliorate the terminating access monopoly.

Our analysis shows that unrestrained exercise of CBP would likely harm consumers. More generally, the bilateral monopoly between buyers and sellers of mobile termination would, if unregulated, lead to perverse results for consumers. We conclude that existing policies of regulating mobile-termination rates and restraining the exercise of CBP are beneficial. The alternative of deregulating mobile-termination rates and allowing full scope for exercise of CBP would be much worse for consumers.