

EXISTENCE AND EXERCISE OF MARKET POWER IN MOBILE TERMINATION

A Report for Optus

Prepared by NERA

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Project Team:
Tom Hird

n/e/r/a

National Economic Research Associates
Economic Consultants

Level 6, 50 Bridge Street
Sydney NSW 2000
Australia

Tel: (+61) 2 8272 6500
Fax: (+61) 2 8272 6549
Web: <http://www.nera.com>

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TABLE OF CONTENTS

1	INTRODUCTION AND OVERVIEW	1
2	WHAT IS THE APPROPRIATE MARKET DEFINITION?	2
2.1	Summary	2
2.2	More Detailed Discussion	3
2.2.1	Economics of Market Definition	3
2.3	The ACCC's Market Definition	4
2.3.1	ACCC's section 5 analysis	4
2.3.2	ACCC Market Definition Incorrect	5
3	IF MARKET POWER EXISTS, WHO EXERCISES THIS POWER?	8
4	DOES SUBSTANTIAL MARKET POWER EXIST?	11
5	IS THE EXERCISE OF SUBSTANTIAL MARKET POWER WELFARE REDUCING?	13
5.1.1	Do Subscription Benefits Exist and What is their Magnitude?	13
5.1.2	Do Market Forces Allow Efficient Reflection of Subscription Benefits in Retail Prices?	15
5.1.3	Distortions to the level of FTM calls?	17

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1 INTRODUCTION AND OVERVIEW

Optus has asked NERA to provide a critique of the ACCC's draft decision on whether or not the Commission should extend, vary or revoke its existing declaration of the mobile terminating access service (the draft decision). In particular, this report focuses on the ACCC's findings that:

- a. the relevant markets for its analysis 'are the markets for the wholesale mobile termination services on each mobile network operator's network';¹
- b. each MNO has substantial market power and is exercising that market power "*to extract monopoly rents and enjoy economic profits from the provision of wholesale mobile termination services*";² and
- c. restricting MNO's ability to exercise market power provides justification for regulation of mobile termination pricing.³

Our report focuses on whether the ACCC's findings are consistent with its analysis. In particular we ask the following questions:

- does the ACCC analysis support its conclusion that the relevant markets are those markets for termination of calls on each MNO's network?;
- if the ACCC's analysis supports a finding that substantial market power exists, is it appropriate to conclude (as the ACCC has done) that MNO's hold that market power? Or is it more appropriate to conclude that individual mobile subscribers hold such market power?;
- does the ACCC's analysis support a finding that substantial market power exists over the provision of termination services?;
- if such market power exists and is being exercised, does it follow that, all other things constant, the exercise of this market power results in a loss of economic efficiency? That is, does it follow that a reduction of the exercise of such power is in the long-term interests of end users?

The remainder of the report is broken into four chapters which each of which provides a detailed analysis of the above four questions.

¹ Pg 56 of the draft decision

² Pg 59 of the draft decision.

³ Pg 104 of the draft decision.

2 WHAT IS THE APPROPRIATE MARKET DEFINITION?

2.1 Summary

The ACCC defines the relevant markets for its analysis as the markets for call terminating on each MNO network. That is,

“...the markets for the wholesale mobile termination services on each mobile network operator’s network.” (Page 56.)

We believe that the ACCC’s substitutability analysis could support an alternative market definition. Standard market definition analysis requires that all services included in the market are, or have the capacity to become, substitutes in consumption. The ACCC’s market definition requires that calling parties regard calls to all customers on that MNO’s network as substitutes but calls terminating on other MNOs’ networks as non-substitutes. This would seem to imply that calling parties expressed preferences along the following lines “I don’t care who I call as long as I call an Optus mobile customer”.

This appears counter-intuitive and is in contrast with the ACCC’s substitutability analysis. The ACCC substitutability analysis suggests that, *once a subscriber has subscribed to a particular network* there is no good substitute to contacting *that subscriber* other than via termination of calls on that network. However, the market definition corresponding to this substitutability analysis is *the market for termination of calls to that subscriber irrespective of which network they are connected to*. An alternative conclusion, which would be supported by the ACCC’s substitutability analysis, is that the relevant markets are *the markets for termination of calls to each mobile subscriber*.

In other words, rather than there being four relevant markets (ie, the number of MNOs), using this analysis there would actually be several million markets (ie, the number of mobile subscribers).

The ACCC notes the potential for customer “lock in” and that MNOs control access to the individual subscriber for the duration of their contracts. However, an alternative view would give greater weight to the relatively low transaction costs associated with switching network (particularly with number porting). Further, any contract or lock in would make any market power in the hands of the MNO transitory and hence difficult to exploit (assuming no collusive behaviour amongst MNOs).

Defining the market as termination to an individual (whatever network they are connected to) provides the flexibility to deal with the real world fact that mobile customers switch between networks. This raises the following question:

*When mobile customers switch between networks do they take market power with them?
That is, if it is true that there are no good substitutes to calling an individual on his*

mobile, does any corresponding market power over the calling party rest with the individual or with the MNO?”

2.2 More Detailed Discussion

The remainder of this section examines the standard economic principles applied when defining a market. We then expand on why we believe the ACCC’s substitutability analysis could lead to a different market definition.

2.2.1 Economics of Market Definition

Section 4E of the TPA 1974 defines a market as:

“... a market in Australia, and, when used in relation to any goods or services, includes a market for those goods or services that are substitutable for, or otherwise competitive with, the first-mentioned goods or services.”

The concept of substitution is important in the analysis of the relevant market, and has been discussed at length by the courts. The role of substitution in defining the relevant market was discussed in *Queensland Co-operative Milling Association Ltd and Defiance Holding Ltd*:⁴

“A market is an area of close competition between firms, or putting it a little differently, the field of rivalry between them... Within the bounds of a market there is substitution – substitution between one product and another, and between one source and another, in response to changing prices...”

It is the possibility of such substitution which set the limits upon a firm’s ability to ‘give less and charge more’. Accordingly, in determining the outer boundaries of the market we ask a quite simple but fundamental question: if the firm were to ‘give less and charge more’ would there be, to put the matter colloquially, much of a reaction?”

The substitution possibilities within a market can take one of two forms: that through actions taken by consumers (the demand side), or through actions taken by producers (the supply side). Demand side substitution occurs when consumers switch to a substitute product in response to an increase in the price of the product in question. The willingness of consumers to switch to some alternative or substitute products implies that those products compete in the same market. Similarly, supply side substitution occurs when suppliers switch from some other activity so as to supply a substitute for the product in question in response to an increase in the price of that product. The ability and willingness of suppliers to alter production delineates whether or not the relevant products (and so suppliers) operate in the same market as the firm in question.

⁴ *Queensland Co-operative Milling Association Ltd and Defiance Holdings Ltd* [1976] ATPR 40-012, at 17,247.

In Australia (and other jurisdictions, including the US, Canada and New Zealand), the market is commonly defined using the SSNIP test. To quote the ACCC's Merger Guidelines (June 1999):

“The process of market definition can be viewed as establishing the smallest area of product, functional and geographic space within which a hypothetical current and future monopolist would impose a small but significant and non-transitory increase in price (SSNIP) above the level that would prevail absent the merger. More generally, the market can be defined as the smallest area over which a hypothetical monopolist (or monopsonist) could exercise a significant degree of market power. This would only be possible if all sources and potential sources of close substitutes for the merged firm's products have been included in the definition of the market.”⁵

In order to determine the boundaries of the relevant market, competition authorities generally consider four market dimensions: the nature of the product, the geographic area over which transactions take place, the functional level at which the product is bought or sold and the relevant time period.⁶

The ACCC Merger Guidelines also state that the appropriate time period for consideration is that which it would reasonably take for either demand or supply side substitution to occur. Competition authorities, including the ACCC, generally focus on substitution possibilities that may occur over the long term, provided this is within the foreseeable future.⁷

In the European Union the following market definition has been put forward:

“[a market] consists of products which are close substitutes in consumers' eyes in conditions of effective competition.”⁸

2.3 The ACCC's Market Definition

2.3.1 ACCC's section 5 analysis

The ACCC defines the relevant market to be the markets for termination services on each mobile operator's network:

⁵ Merger Guidelines (June 1999), para 5.44, p33

⁶ The process of market definition generally starts with an examination of the products that consumers believe to be close substitutes to the relevant firms' products and which geographic sources of supply they consider to be substitutable. If a firm were to increase its prices significantly and consumers were to switch to alternative products, thereby defeating a price rise imposed by a hypothetical monopolist, then those products and sources of supply should be included in the relevant market.

⁷ Ibid, para 5.71, p40

⁸ Competition Law Issues In The Computer Industry: An Economic Perspective, Cento G Veljanovski, [2003] QUTLJ 2 (this defines a “relevant product market”, in the EU context)

“...the Commission's draft view is that the relevant markets for the eligible service for the purposes of this inquiry are the markets for the wholesale mobile termination services on each individual mobile network operator's network”⁹

In section 5, it is argued that each mobile operator has market power over termination services on its own network. The apparent source of market power is the fact that, once an operator (eg Optus) has a customer signed to its network, then anyone wishing to call *that individual* has no close substitute other than to call the individual on Optus' network.

“The Commission continues to believe that, from the perspective of the A-party making a call to a mobile subscriber [the B-party], it would appear substitution possibilities between different networks are unlikely. To the extent an A-party wants to call a particular individual on a mobile phone, the A-party has little option but to initiate a call that will ultimately terminate on the B-party's chosen network.”¹⁰

It is argued that this confers market power *on Optus* which enables it to charge ‘above cost’ for termination.

Note that in the ACCC's analysis, the service being demanded is not “to call *that network*”, but “to call *a particular individual*”.¹¹ That is, implicitly, the ACCC could be seen as analysing the market for termination of mobile calls *to a particular individual* mobile user.¹² We believe that this alternative market definition is more appropriate.

2.3.2 ACCC Market Definition Incorrect

According to the ACCC's Merger Guidelines, a market is:

“... the smallest area of product, functional and geographic space within which a hypothetical current and future monopolist would impose a small but significant and non-transitory increase in price (SSNIP)...”¹³

The ACCC defines the market as that for termination of mobile calls on a particular network. However the definition above refers to “the smallest area...” Application of the market definition process would, therefore, begin by analysing an area smaller than termination of calls on *a particular network*, if possible. A more appropriate definition with which to begin is the service that callers are actually demanding: termination of calls to *a particular individual*

⁹ ACCC “Mobile Services Review” March 2004, Section 5.3.2, p56

¹⁰ ACCC “Mobile Services Review” March 2004, Section 5.3.2, p42

¹¹ ACCC Mobile Services Review March 2004, Section 5.2.2, p42

¹² This is, in fact, the service actually demanded by callers. Ie, the demand for termination of calls on *a particular network* is *derived from* the demand for termination of calls to *a particular individual* (who has chosen to subscribe to that network)..

¹³ ACCC: Merger Guidelines (June 1999), para 5.44, p33

mobile user. Only if a SSNIP was impossible in the case of calls to a particular individual, would it be necessary to consider a wider market definition.

Could a hypothetical monopolist successfully increase the price of termination of mobile calls to a particular individual? Following the process in the merger guidelines, we must consider whether substitution would constrain the hypothetical monopolist's pricing decision, both on the demand-side and the supply-side.

On the demand-side, the ACCC notes that from the perspective of a retail consumer who wants to contact a particular individual mobile user, alternative technologies (such as a fixed-line network or e-mail) are insufficiently substitutable, since they lack desirable characteristics such as mobility and/or simultaneity.

“In all cases, therefore, the Commission finds that these alternatives are not sufficiently substitutable for calls to mobile networks.”¹⁴

Further, the termination of the call to some other individual mobile user is not viewed as substitutable, because the retail consumer wishes to speak to a particular individual.

“To the extent an A-party wants to call a particular individual on a mobile phone, the A-party has little option but to initiate a call that will ultimately terminate on the B-party's chosen network.”¹⁵

The ACCC concludes that demand-side substitution is unlikely to constrain the hypothetical monopolist's pricing decision.

On the supply-side, we must consider whether other firms could enter the market after a price increase, and take over the market from the hypothetical monopolist by charging lower termination rates. According to the ACCC this is unlikely, because mobile users do not care about the price paid by people calling them:

“... it could be argued that mobile phone users can exert a constraint on mobile phone network operators' pricing of mobile termination if mobile phone users were to change operators in response to their mobile operator increasing termination prices. For this to happen, however, mobile phone users would need to (a) care more about those calling them than they would care about themselves; and (b) be aware of differences in mobile termination rates between carriers... the Commission believes that mobile phone users have neither the incentive nor the awareness of differences in mobile termination rates, to enable them to choose between networks according to the different mobile termination rates charge[d] by mobile operators.”¹⁶

¹⁴ ACCC: Merger Guidelines (June 1999), p41

¹⁵ ACCC “Mobile Services Review” March 2004, Section 5.3.2, p42

¹⁶ ACCC “Mobile Services Review” March 2004, Section 5.3.2, p45

In support of this conclusion, the Commission adduces evidence from UK studies that:

“Nearly three quarters of respondents said that the cost to other people of calling them on their mobile phone was an unimportant factor when they decided which mobile network to join...”¹⁷

The ACCC concludes that supply-side substitution could not constrain the hypothetical monopolist’s pricing decision. A successful SSNIP, then, is possible. The process of market definition should stop at this point. It is not clear why any wider market, such as the market for termination of mobile calls *on a particular network*, should be considered, and such a wider market definition would not appear to be entirely consistent with the Merger Guidelines.

Moreover, the ACCC’s market definition (ie, termination of calls to an MNO) leads to the conclusion that MNOs have market power over termination. However, the alternative market definition (ie, termination of calls to an individual subscriber) immediately raises the question whether any market power rests with the MNO or the subscriber? The ACCC Merger Guidelines state that market definitions generally focus on substitution possibilities that may occur over the long term, provided this is within the foreseeable future. If customers can ‘take the market with them’ when they switch MNO then one might expect that the customer not the MNO holds and benefits from any market power – after all the market power derives from the uniqueness of the customer not the MNO. We discuss precisely this question in the next section.

In any case, there would appear to be some intuitive difficulties with a market defined as termination of mobile calls on a particular network. A market “consists of products which are close substitutes in consumers’ eyes in conditions of effective competition.”¹⁸ If the definition “the market for termination of mobile calls on a particular network” was being used, then the argument would run “anyone wanting to call *that network* must terminate a call on that network, thus that network has market power.” This implies that a call to any subscriber to a particular network is a substitute for a call to any other subscriber to that network; eg “I want to call an Optus subscriber, and I don’t care who it is, so long as they are an Optus subscriber” – which would seem unlikely.

¹⁷ ACCC “[Mobile Services Review](#)” March 2004, Section 5.3.2, p45

¹⁸ [Competition Law Issues In The Computer Industry: An Economic Perspective](#), Cento G Veljanovski, [2003] QUTLJ 2 (this defines a “relevant product market”, in the EU context)

3 IF MARKET POWER EXISTS, WHO EXERCISES THIS POWER?

While the alternative market definition discussed in the previous section dramatically increases the number of markets, it does not automatically invalidate any of the ACCC remaining analysis. It is still possible that the lack of substitutes, as identified by the ACCC, means that the MNOs hold and exercise market power in each of those (now much multiplied) markets. However, there is also the possibility that individual subscribers hold and exercise this ‘market power’, and this possibility may now be analysed..

We believe the answer to this is quite simple. If the individual mobile subscriber has little ability to switch between MNOs (or if the MNOs can successfully collude on subscription charges) then any market power over the calling party resulting from lack of substitutability rests with that customer’s MNO. By contrast, if MNOs compete for subscribers then any market power over the calling party resulting from lack of substitutability must rest with the individual mobile subscriber.

To see this, let us accept the proposition that a lack of substitutes for calling an individual creates ‘market power’ over people wishing to call that individual. Further, imagine that initially all MNOs price termination such that this market power is *not* being ‘exercised’ (putting aside how ‘exercise’ should be measured in practice). Also assume that subscription prices are set at the maximum level that competition amongst MNOs will allow. Self-interested¹⁹ mobile subscribers will actively desire that MNOs raise termination prices and pass on the additional revenues received in the form of lower subscription charges. If there is competition for subscribers then any MNO that fails to deliver on this desire (ie, using higher termination charges to finance lower subscription charges) is likely to lose customers to other MNOs. In this situation, any exploitation of ‘market power’ is by the individual customer rather than by the MNO – the MNO appears simply an intermediary, forced by competition to do the subscriber’s bidding.

By contrast, if there is little competition for subscribers (eg, because of collusion or substantial switching costs) then the MNO will be able to increase termination prices without being forced to reduce subscription prices. The beneficiary of the exploitation of market power will be the MNO rather than the mobile subscriber. Of course, this conclusion

¹⁹ The ACCC assumes that mobile subscribers do not place a material weight on the welfare costs to calling parties from high termination prices – see page 44 and 45 of the draft decision and the following quote from page 44

“...in order for the B-party mobile subscriber to exert a constraint on the price of the mobile termination service (paid for, indirectly, by the A-party), s/he would need to be prepared to pay a higher price for the retail mobile services s/he purchases.

Hence, for a mobile subscriber to choose those carriers with lower termination charges, the Commission believes that the subscriber would need to be so highly altruistic as to place a higher value on a dollar of benefits to those people calling him or her than retaining that dollar for him or her self.⁹⁶ There is no evidence of such strong altruistic tendencies amongst mobile telephone subscribers.”

Note that the ACCC analyses the question – ‘will subscribers prevent MNOs raising termination prices’. Another, more accurate, way of asking this question is ‘will subscribers force MNOs to raise termination prices’

follows from the fact that if the MNOs as a group can operate as a monopolist they will charge monopoly prices – *for both subscription and termination.*

The ACCC has concluded that, due to the inherent lack of substitutes, mobile termination requires regulation. It would appear that this conclusion must, logically, have been based on a view that the individual subscribers are exploiting market power. In the first instance, a lack of substitutes for calling an individual confers ‘market power’ on that individual being called. Only if MNOs can collude can MNOs effectively appropriate that market power. However, if collusion is the source of market power then all MNOs’ customers would deserve regulatory protection: both subscribers and those calling subscribers. If collusion is not the source of concern then there may be a prima facie case for regulating termination alone, however, that prima facie case must rely on subscribers rather than MNOs holding market power.

This conclusion is supported by the fact that the ACCC states:

“...the Commission finds that all mobile operators – irrespective of their size – have market power when it comes to terminating calls on their network.”²⁰

This clearly demonstrates that the source of market power identified by the ACCC is independent of the number of MNOs and the extent of competition between them. Taking this to its extreme, imagine each mobile subscriber owned his or her own network. Using the ACCC’s argument, logically, one would conclude that they would still have market power over people calling them. In this scenario it is unambiguous that the subscriber, not the MNO, exercises market power because the subscriber has full control over the MNO.

Our conclusion is further supported by the following thought experiment. Imagine if MNOs went to the expense of arranging their systems to allow a subscriber to explicitly set the charge for calls terminating to him/herself. Further imagine that MNOs contract with subscribers and specify a single set of subscription charges, but also are required to separately pay subscribers all termination revenues above a given level (either directly or by deducting this from their monthly subscription costs). In this situation subscribers will opt to maximise termination revenues (assuming they do not care about the welfare of the calling party or the impact of higher termination charges on the number of calls received). If you accept, as the ACCC appears to, that this does describe subscribers’ preferences, then it would appear you should also accept that it is subscribers who hold and exercise market power, not MNOs.

Indeed, the ACCC draft decision does recognise that there is competition between MNOs for subscribers and that, consequently, at least some part of any ‘exploitative’ termination charges is acquired by subscribers rather than by MNOs.

²⁰ Page vi of the draft decision

Depending on the state of competition in the mobile services market, the Commission believes mobile operators will transfer varying amounts of the economic profit from pricing mobile termination services above cost to subsidise the price of the bundle of retail mobile services. The more intense is the level of competition in the retail mobile services market, the greater will be the amount of economic profit flowing from mobile termination services used to subsidise subscription to mobile networks. Overall, therefore, the Commission believes a pricing structure is likely to emerge that involves:

- ***Above-cost pricing of the mobile termination service;***
- ***Consequent above-cost pricing of retail FTM services; and***
- ***Subsidised prices for at least some retail mobile services.***

The Commission believes the broadly cross-subsidised nature of this pricing structure is likely to emerge irrespective of the effectiveness of competition in the retail mobile services market.

In other words, the ACCC implicitly appears to accept that, to the extent that market power exists and is being exercised, this is at least partly being driven by individual subscribers rather than by MNOs.

4 DOES SUBSTANTIAL MARKET POWER EXIST?

The above analysis has not questioned the ACCC's substitutability analysis and the consequent finding that market power exists. All that has been done to date is to argue that, if that market power exists then it would appear to be subscribers, not MNOs, who are responsible for its exercise. However, the above analysis does throw into stark relief the following question:

Is it appropriate to regard 'market power' that is being exercised at the level of the individual as 'substantial' market power justifying regulation?

The analysis of the previous sections suggests that an alternative way to understand the market forces setting mobile termination prices is to think of each subscriber as consuming a service (ie, subscription services) and selling a service (ie, termination which gives third parties the right to call them on the subscriber's mobile phone²¹). The price at which the subscriber sells termination can be thought of as having two components: i) the cost of the chosen MNO providing the termination service; and ii) any margin above cost which creates a 'profit' to the MNO which is then passed back to the subscriber in lower subscription charges. Competition between MNOs ensures that i) they set the margin on termination at the level demanded by subscribers; and ii) they pass any 'profits' back to subscribers in the form of lower subscription charges.

Of course, the above process happens implicitly rather than explicitly in that subscribers do not set their own termination charges but rather leave this to the MNOs and choose their MNO largely on the basis of subscription charges offered. However, if the process was made explicit then it appears to be agreed by all sides that the same outcomes would result. That is, if subscribers were given a menu of options combining low subscription with high termination charges and vice versa, they would continue to choose options with low subscriptions.

The important question then becomes:

Is it appropriate to describe the conduct of mobile subscribers in shopping around for the lowest priced mobile subscription as exercise of market power over calling parties?

The recognition that it is individuals who hold and exercise market power does not necessarily mean that regulation is inappropriate. We would not normally make the case that several million individuals selling a differentiated service each have substantial market power. This is because it is difficult to conceive of a situation where there is no substitution between several million service providers. However, despite there being several million individuals selling 'mobile conversation time' it is conceivable that each individual has an

²¹ Another way of thinking about this is that the subscriber is simply selling conversation time.

element of market power over those wishing to call him/her. Even if the exercise of this market power by one individual could be regarded as trivial it is still conceivable that the aggregate effect of such actions is substantial and could warrant regulation.

The above notwithstanding, it is equally reasonable to argue that a very strong burden of proof exists to justify regulation in such circumstances. As the exercise of 'market power' becomes more disaggregated it is very difficult to distinguish between what is 'abuse of monopoly power' and what is 'reasonable collection of rents available to economic agents'.

For example, let us accept for a moment that regulation is required to prevent the exercise of market power by an individual over people wishing to call them for a conversation on their mobile. Why would we not also accept that regulation is required to prevent that same person setting up a stall in a local market and charging people who wish to have a conversation with them? The service that is being provided is largely the same, it is just that the intermediary is different – rather than using/paying an MNO to bring customers to them the seller uses/pays the owner of market.

It is unlikely that anyone would seriously consider regulating individuals selling conversation time in this manner. If the opposite is true of individuals selling mobile phone conversation time then a case should be made for what is special about that exercise of individual market power. Presumably, this case would relate to the relative costs of implementing such regulation, as it would be very difficult to enforce regulation of prices charged for conversations in market stalls etc. Nonetheless, if this is the reason then it would appear reasonable to make this explicit. That is, if the individual exercise of market power is to be regulated, then a case should be made for doing so.

By way of additional example, if someone were to establish a 1900 number they could charge whatever price they liked to people who called them for a conversation – without ever attracting regulatory attention for the 'exploitation of market power'. This is true even if it could be shown that callers did not believe that there were any good substitutes for conversations with the person who set up the 1900 number.

In any event, the capacity of an individual to charge above cost for mobile termination may not be *substantial* because at the margin there may be substitutes for calling them on their mobile (eg, I might wait to see them in person), and the mobile subscriber has an expected value in being called.

5 IS THE EXERCISE OF SUBSTANTIAL MARKET POWER WELFARE REDUCING?

For the purpose of this section let us accept that individual subscribers have substantial market power over those calling them. This allows us to examine whether the exercise of that market power is detrimental to the welfare of end users. In doing so we raise some very important issues that were not considered in detail in submissions to the ACCC or in the ACCC's draft decision.

In its draft decision the ACCC felt compelled to give little weight to 'subscription externality'²² arguments used to justify 'cross-subsidisation' of subscription services by termination services. The reason given was that no party had provided evidence on the size of such externalities nor on why market forces would act to internalise such an externality.²³

"More importantly, however, no party has provided evidence that mobile operators have sufficient incentives to set a structure of prices for mobile termination and retail mobile services that would efficiently internalise any relevant mobile network externalities. In the usual case, the existence of externalities is seen as a cause of market failure and hence a rationale for intervention in a particular market. This is because neither consumers nor firms have an incentive to efficiently internalise the existence of externalities in their consumption and production decisions. In this instance, no party has provided the Commission with any evidence or analysis to suggest that the profit-maximising incentive the Commission expects would drive pricing decisions for mobile termination and retail mobile services would drive mobile operators to set a structure of prices that would conform with an efficient use of telecommunications infrastructure. Accordingly, the Commission does not believe it has been presented with any compelling arguments with regard to mobile network externalities that suggest declaration would not promote an efficient use of the infrastructure used to provide telecommunications services."²⁴

A close reading of the evidence, however, reveals evidence of the existence of subscription 'externalities' and of market forces that attempt to internalise these and reflect them in retail prices. There are essentially two issues under consideration: whether the act of mobile subscription create benefits for end-users other than the mobile subscriber; and, if so, whether market forces result in these being reflected in lower subscription charges.

5.1.1 Do Subscription Benefits Exist and What is their Magnitude?

Let us examine the first issue, namely whether such third party benefits exist. No party to the ACCC's consultation process appears to dispute that, by taking out a mobile

²² We prefer to use the term subscription externality than network externality as it is more precise.

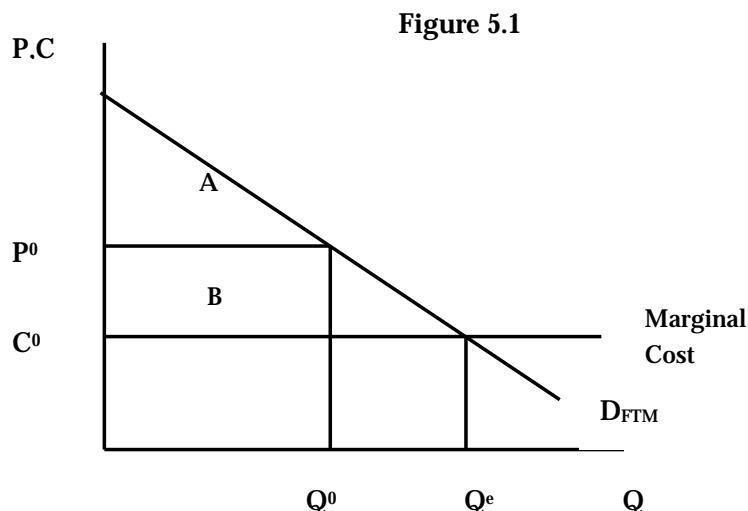
²³

²⁴ Page 137 of draft decision.

subscription the subscriber creates potential benefits for all those other end-users (fixed and mobile) who now have the option of contacting that subscriber on a mobile phone. Such an observation appears self-evidently true as if there were no benefit to other end-users then there would be no demand for termination. The mere existence of a positive demand for termination of calls to an individual mobile subscriber is clear evidence that other end-users derive a benefit as a result of that individual taking out a mobile subscription.

As to the magnitude of these benefits to the calling party, for any given level of prices charged to calling parties, the gross benefit must be at least as great as the prices they currently pay. For example, if calling parties are currently willing to pay \$20 per month to call a particular mobile subscriber then the gross benefits to them of having that individual as a mobile subscriber must be at least \$20. The true gross benefit to them is likely to be much more than \$20 given the fact that it is likely that they value at least some of the calls made at more than the price they pay.

The existence of FTM surpluses per subscriber can be shown in relation to the demand for FTM calls to an individual subscriber.



The above demand curve represents the willingness of fixed line customers to call a particular subscriber. If prices are set above marginal cost (C^0) at P^0 the social surplus associated with FTM calls to that subscriber is equal to $A+B$. This amount of social surplus will be lost if the subscriber ceases to remain a subscriber.

It is also true that considerable benefits are derived by some end-users as a result of the mobile subscription even on occasions when they don't call the mobile subscriber. For example, if the end-user places a positive value on the option of being able to call the subscriber even if this option does not get acted on. Such option value is likely to be a very large value and probably accounts for a great deal of the total value created by a mobile subscriber.

5.1.2 Do Market Forces Allow Efficient Reflection of Subscription Benefits in Retail Prices?

We have been careful not to talk about mobile subscription benefits to the calling party as ‘externality’ benefits. This is because a benefit to a third party is only an externality if the creator of that benefit can not force the third party to pay its full value (ie, its full value to the third party). Using the classic example of pollution, a negative externality only exists as a result of pollution if incomplete property rights mean that the polluting party is not required to pay those affected by her pollution.²⁵

In the context of mobile subscriptions, the relevant decision maker is the person deciding whether or not to become/stay a mobile subscriber. In order for that person to face the efficient incentive to become a mobile subscriber they must be able to capture all the net benefits that accrue as a result of their action. This includes the entire surplus that would otherwise accrue to calling parties. Thus, efficiency in mobile subscription actually requires that mobile subscribers not only ‘monopoly price’ but that they are able to do this perfectly.²⁶ It is only to the extent that mobile subscribers are unable to capture the full value they have created for calling parties that an ‘externality’ exists.

To make the above analysis concrete consider a simple example as set out in the following table.

Gross benefits		Gross Costs			Net Benefits
Mobile subscriber's gross valuation attached to benefits of subscription	Fixed line callers' gross valuation attached to the ability to call the mobile subscriber	MNO costs 'associated' with the mobile subscriber's calls	MNO costs 'associated' with the fixed line callers' calls to that subscriber.	Fixed network costs associated with the fixed line callers' calls to that subscriber	
A	B	C	D	E	A+B-C-D-E

If MNO's prices for each service to be set in line with the ‘associated’²⁷ costs, the mobile subscriber would receive net benefits from her subscription of A-C while those fixed line customers wishing to call her would receive benefits equal to B-D-E (assuming the fixed line operator priced equal to ‘cost’). Thus, the mobile subscriber would only capture a potentially small proportion of the total net benefits that accrue as a result of her decision to become a mobile customer.

²⁵ Or alternatively the polluting party is unable, say due to transaction costs, to extract payment from the affected parties in return for reducing pollution.

²⁶ That is, efficiency requires that mobile subscribers are able to perfectly price discriminate to extract the full value calling parties place on being able to contact them on their mobile phone.

²⁷ Leaving aside how this is actually measured.

It is precisely by setting termination prices higher than origination that mobile subscribers are able to capture some part of the benefits to others associated with mobile subscription (eg, some part of B-C-D in the above example). Indeed, this is the normal outcome in a competitive market. Wherever an economic agent creates a benefit for third parties that agent will attempt to extract some or all of the value created from those third parties. Such an outcome is generally regarded as perfectly fair as the agent is simply attempting to capture value which, but for her own actions, would not exist. Moreover, such an outcome is integral to the efficient operation of a market economy as if decision makers are prevented from capturing the benefits consequent on their actions they will not have the efficient incentive to undertake those actions in the first place.

If regulation (further) prevents mobile subscribers from pricing termination to capture some of the net value they have created for fixed line callers then there will be a consequent reduction in the incentive to become/stay mobile subscribers. The consequence of this will be an inefficiently low level of mobile subscriptions to the detriment of both mobile subscribers and those who otherwise would call mobile subscribers. The potential magnitude of this inefficiency is very large because there are good reasons to believe that current levels of mobile subscription are already at significantly sub-optimal (socially inefficient) levels. This is because mobile subscribers are unable, even in the absence of regulation, to extract the full value they create as a result of taking out a mobile subscription. (Not the least reason for this is that many potential callers derive a benefit from the mobile subscription even in situations when they do not call that person.) The existence of these net benefits to calling parties means that, even if a subscriber views her subscription as privately marginal, there may still be substantial social costs associated with them dropping that subscription.

In other words, because current market prices for termination do not extract the full economic value to calling parties then, even if this is fully used to lower mobile subscription prices, current market prices charged for mobile subscriptions are inefficiently high. Raising them even higher by forcing down the 'cross subsidy' from termination will worsen an already existing distortion. For these reasons it would appear that 'cross-subsidisation' has not been shown to result in inefficient over-investment in subscription as stated in the following quote:

Secondly, even if competition with regard to retail mobile services is fully effective such that there is a substantial or even complete transfer of economic profits from mobile termination in order to subsidise the price of retail mobile services, the resulting cross subsidisation would be likely to result in an inefficient allocation of investment funds across the different infrastructure used to provide mobile telephone services. In particular, the Commission expects the cross-subsidised pricing structure would encourage inefficient over-investment in the infrastructure used to service retail mobile consumers in order to attract greater numbers of subscribers (such as handsets) and

inefficient under-investment in the infrastructure used to provide termination and origination capacity.²⁸

This conclusion appears to follow from an implicit assumption that retail mobile customers should base their decision on whether to become a mobile subscriber purely on the benefits that they directly receive as a result of owning a mobile phone. This leads to the inference that if calling parties ‘subsidise’ subscription prices then there will be over-investment in subscription. An alternative interpretation of current investment in subscription is that it is inefficiently low not inefficiently high – precisely because the current level of ‘cross subsidy’ is inefficiently low. If the ACCC is concerned that the ‘form’ (ie, discounted handsets) as opposed to the ‘level’ of the cross subsidy is inefficient then a case should be made, explaining why the market delivers value to subscribers in inefficient ways. For example, it would be open to MNOs to pay a cash rebate to subscribers rather than discount handsets. The fact that they don’t suggests customers prefer discounted handsets.

5.1.3 Distortions to the level of FTM calls?

The above analysis does not address the ACCC’s concern that termination prices create an inefficient disincentive to call those individuals who actually do subscribe. To the extent that perfect price discrimination is impossible, it is likely that in the process of transferring value from calling parties to subscribers the MNOs’ termination pricing structure will also destroy some value – by artificially restricting the number of calls to mobile subscribers.

It now becomes a question of whether the benefits associated with correcting the distortion in the number of calls per subscriber exceed the costs in worsening the subscription distortion. This is essentially an empirical question. We provide at least a partial analysis of this question in our companion report “*Mobile Services as Jointly Produced Products: Concepts and Empirics*”. However, we can say that there is no *a priori* reason to expect it will be appropriate to regulate termination charges to be in the vicinity of origination charges.

²⁸ Page 145 of the draft decision