Market Definition Issues in the ACCC's Mobile Service Review 2003

Report prepared for Vodafone

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Frontier Economics Network

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1. Introduction

In April 2003, the Australian Competition & Consumer Commission ("ACCC") released a discussion paper, titled Mobile Service Review 2003 ("the Discussion Paper"), as part of its review of the regulation of mobile telephony services under Part XIC of the *Trade Practices Act 1974* ("the Act") and Section 39 of the *Telecommunications Act 1997.*

The Discussion Paper seeks comments on a range of issues to inform the ACCC's view on whether it is appropriate to regulate these mobile telephony services under the Act and, if so, the form that regulation should take.

Vodafone has asked Frontier Economics to consider the following three questions raised by the ACCC as part of its review:

1. In which market(s) is the mobile termination service supplied? Does a 'single operator' market definition apply to this service? What are the relevant downstream markets?

2. In which market(s) is the mobile originating service supplied? Does a 'single operator' market definition apply to this service? What are the relevant downstream markets?

3. What is the appropriate service definition for 3G mobile services?

This paper responds to that request. The discussion is structured as follows:

- Section 2 outlines, by way of background, the definitions of mobile termination and mobile originating services applied by the ACCC at present.

- Section 3 outlines some relevant principles that should be applied in defining these markets, and the manner in which these principles have been applied in competition and regulatory matters in Australia.

- Section 4 describes the appropriate definition of the market(s) in which the mobile termination and origination services are supplied, outlines why a 'single operator' definition is not appropriate, and considers the downstream markets.

- Section 5 considers the appropriate service definition for 3G mobile services.

- Our conclusions are summarised in section 6

2. Background

2.1. Mobile termination service

The mobile termination service is an essential input to a call to a mobile phone made by an end-user on a different network. This includes mobile-to-mobile calls and fixed-to-mobile calls. The mobile termination service is the carriage of a call from the point of interconnection to the end user who is receiving the phone call.

The ACCC defines the mobile termination access service as: [1]

> …an Access Service for the carriage of telephone calls (i.e. voice, data over the voice band) from a POI to B-parties assigned numbers from the GSM and CDMA number ranges of the Australian Numbering Plan and directly connected to the Access Provider's network.

The originating operator pays a fee to the terminating operator to have the call connected to the called party. The originating operator recovers the cost of a network's termination charge from it's originating customer, typically through the prices set for calls originating on its network.

At present the regulatory focus is only on mobile termination services for fixed-to-mobile calls, not mobile termination services for mobile-to-mobile calls.

2.2. Mobile originating services

As is the case with mobile termination services, a mobile origination service is an essential input into mobile phone calls between end-users on different networks, for both mobile-to-mobile and mobile-to-fixed calls. The mobile origination service is essentially the carriage of a call from the mobile end-user who originates the call to the point of interconnection with the network on which the called party is connected.

The declared mobile origination service (for both GSM and CDMA) only applies to calls made to 13/1300, and 1800 numbers.

The ACCC defines the mobile origination service for calls to 13/1300 and 1800 numbers as: [2]

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[1] *Mobile Services Review 2003*, An ACCC Discussion Paper, April 2003, page 41. Refers to *Variation to make the GSM Service Declarations Technology-Neutral, Final Report*, Australian Competition and Consumer Commission, March 2002, P58.

[2] Ibid, page 56. Refers to *Variation to make the GSM Service Declarations Technology-Neutral, Final Report*, Australian Competition and Consumer Commission, March 2002, P54.

> …an Access Service for the carriage of telephone calls (i.e. voice, data over the voice band) to a POI from the end customers assigned numbers from the GSM or CDMA mobile service number ranges of the Telecommunications Numbering Plan 1997 and directly connected to the access provider's GSM or CDMA network.

The ACCC states that the terminating service provider that provides the network ability for party with the 13/1300 or 1800 number purchases the mobile originating access service from the mobile network carrier to enable the mobile (originating) subscriber to make the call.

We understand that neither Vodafone nor Telstra concur with ACCC's interpretation of the originating access service. We understand that in the ACCC's 2002 review, Telstra argued that the mobile carriers acquire a termination service from the 13 service provider rather than the terminating 13 service provider acquiring an origination service from the mobile network carrier.[3] If this is so, the terminating 13 service provider should be looked upon as supplying an input to the business of the originating mobile carrier. This is the standard use of the term 'supplier' in analysis of a value chain.

Nalebuff and Brandenburger define customers and suppliers as follows: [4]

> Along the vertical dimension of the Value Net are the company's *customers* and *suppliers.* Resources such as raw materials and labor flow from the suppliers to the company, and products and services flow from the company to its customers. Money flows in the reverse direction, from customers to the company and from the company to suppliers.

The rule that Nalebuff and Brandenberger propose for identifying suppliers is to "follow the money". If money flows from the mobile network carrier providing the originating service to the firm providing the terminating service for the 13 number, then the terminating service provider is supplying an input to the mobile network carrier.

Vodafones advises us that, in practice, the originating caller's mobile network carrier sets the retail prices for calls to 13/1300 and 1800 numbers and bills its customers who originate calls to numbers in these number ranges. The mobile carrier and the terminating network providing access to the 13/1300 and 1800 numbers negotiate an interconnection payment for carrying the call. This description of the commercial process is consistent with the fact that the origination service provided by the mobile carrier and the termination service provided by the 13/1300 and 1800 service provider are complements in the value

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[3] *Variation to make GSM Service Declarations Technology Neutral An ACCC report examining a proposed variation to make the Domestic GSM Originating and Terminating Access Service technology neutral with respect to technologies currently in use,* ACCC, March 2002, page 12.

[4] Barry J Nalebuff and Adam M Brandenburger, *Co-opetition*, Harper Collins, 1997, pages 15-16.

chain. Both parties require the service from the other party in order to create a service that is valued by the customer. To quote Nalebuff and Brandenburger again:[5]

> A player is your complementor if customers value your product more when they have the other players product than when they have your product alone.

Where products are complements, revenue may flow in both directions, or a net payment could be agreed that recognises the complementary nature of the services but still results in payments flowing in only one direction.

[5] Ibid, page 16.

3. Market definition: Relevant principles

Before discussing the definition of the market(s) in which mobile termination and originating services are supplied, it is useful to set out some of the principles that guide our consideration of the appropriate market definition.

An overarching principle is that markets should be defined with a clear view as to purpose of the definition, and the question the market concept is intended to assist to answer. To quote Maureen Brunt:[6]

> As is often said, the market concept is an instrumental concept, designed to assist in the analysis of processes of competition and sources of market power.

Economic literature and the body of competition case law and analysis that has developed in Australia have clarified some of the parameters that should be applied to the problem of market definition. The widely accepted starting point is the position taken in QCMA.[7]

> A market is the 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 the bounds of one product and another, and between one source of supply and another, in response to changing prices. So a market is the field of actual and potential transactions between buyers and sellers amongst whom there can be strong substitution, at least in the long run, if given a sufficient price incentive…. Whether such substitution is feasible or likely depends ultimately on customer attitudes, technology, distance, and cost and price incentives.

In defining the market or the 'field of rivalry' in this case it is important to consider:

- issues relating to cluster markets, and specifically the fact that mobile termination and originating services are part of a collection of services that together comprise mobile telephony services; and
- whether examining if an industry participant can impose a small but significant and non-transitory increase in price (SSNIP) for mobile termination or origination services will yield useful information about the appropriate market definition.

Principles that should guide the ACCC's analysis in relation to each of these points are outlined below.

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[6] Maureen Brunt "Market Definition Issues in Australian and New Zealand Trade Practices Litigation", *Australian Law Business Review*, Vol 18, 1990, page 93.

[7] Re Queensland Co-operative Miling Association Ltd, v Defiance Holdings Limited (proposed merges with Barnes Milling Limited) (1976) ATPR 40-012 page 17, 247.

3.1. Cluster markets

A key point about mobile termination and origination services is that they involve issues of what are generally known as cluster markets. That is, these services will be included in the same market, but not because they are regarded as close substitutes for each other. Rather, they may be included in the same market because complementarities in demand or production mean that firms will only be able to compete by producing both types of services. Mobile termination and originating access services are complements in production and demand such that a firm is required, or best able, to compete by offering both types of services rather than by specialising in one to the exclusion of the other.

Before examining the extent of substitutability in demand or supply for a given product and seeking to draw conclusions about the market definition based on actual or potential substitution possibilities, it is important to consider the question of how substitution and the process of competition actually operates.

In some cases, the answer to this question may be that to examine the process of competition it is appropriate to consider substitution for a single product, in other cases, the answer may that it is appropriate to consider substitution for a cluster of goods or services.

As noted by Henry Ergas:[8]

> A cluster market arises when the economies of scope are such as to require firms to compete not on individual items but rather on a set of items taken jointly. These economies may operate at a range of levels: in production, with joint production (say, of wool and lamb) being an extreme case; in distribution, as in the optimal assortment of goods sold in retail stores; and in consumption, as in the likelihood of consumers purchasing razors and blades from the same supplier. Examples of clusters (which are merely provided as illustrations and may be controversial in specific instances) include aggregates such as 'in-patient services', which reflects the economies of scope hospitals can derive from providing a full set of the relevant medical equipment, staff and services; 'transactions banking services', which groups together the range of functions for which a branch network is required; and 'grocery stores', which will generally have a core assortment of frequently-purchased 'convenience' goods.
>
> Thus, to say that good A and good B form a cluster is to imply that a firm selling only A or only B would not be able to compete with one selling both A and B – either because the supply cost of producing A and B jointly is substantially below that of producing them separately, and/or because consumers incur additional costs when they purchase A and/or B separately as against purchasing them jointly. This, in turn, implies that a cartel which – out of an initially competitive market – grouped all firms which jointly produced A and B, but excluded those which produced only A or B, could profitably increase the

[8] Henry Ergas, *Cluster Markets: What they are and How to test for them*, Working Paper, The Centre for Research in Network Economics and Communications, School of Business and Economics, The University of Auckland, page 3.

joint price of A and B, and hold that price above the competitive level for so long as entry into full-line supply did not occur. It is consequently the cluster of A and B which meets the 'ideal collusive group' test that underpins modern approaches to market definition.

3.2. Application of the SSNIP test

In competition and regulatory matters in Australia and internationally, when defining markets, consideration is often given to whether a supplier could maintain a SSNIP. This has been considered a useful test of the extent of substitutability in supply or demand (and therefore useful in considering market definition) and useful in determining whether or not a firm has market power in the relevant market.

For example, in the 2002/2003 review of mobile call termination charges in the United Kingdom, Oftel and the Competition Commission appear to have given considerable weight to the ability of mobile network operators (MNOs) to impose a SSNIP.[9] Their view that it was possible for each MNO to impose a SSNIP in relation to terminating access charges was influential in decision that "the correct market definition was that for termination on each individual network".[10]

We consider this is an inappropriate way to determine how to define the market in which termination and origination services are supplied for two reasons:

- First, as outlined above, these services are part of a cluster market. A firm's ability to maintain a SSNIP on an individual product supplied as part of a cluster of goods or services yields no useful information about the appropriate market definition. This is supported by the approach adopted by the Australian Competition Tribunal and the Courts in Australia as discussed in section 3.2.1 below.

- A second and related reason is that for multi-product firms with substantial common costs, the extent to which the price of a given product exceeds its fully allocated cost will not yield any useful information about market definition or market power. This is discussed further in section 3.2.2.

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[9] *Vodafone, O_2, Orange and T- Mobile: reports on references under section 13 of the Telecommunication Act 1984 on the charges made by Vodafone, O_2, Orange and T- Mobile for terminating calls from fixed to mobile networks,* Competition Commission, December 2003.

[10] *Director General's statement on the Competitions Commission's report on mobile termination charges* Oftel, Januay2003, page 2.

3.2.1. Cluster markets and reliance on the SSNIP test

If mobile termination and originating access services are part of a cluster of services that together comprise mobile telephony services, the market definition cannot be informed by considering the ability of a firm to maintain a SSNIP for either the mobile termination or origination services.

To assert that the SSNIP test will inform the appropriate market definition is analogous to arguing that the ability of a supermarket to maintain a SSNIP on a specific product will yield information about the market in which supermarkets compete.

Consider the following example. Suppose a supermarket introduces a 10 per cent increase in the price of caviar. It is highly likely that the supermarket will be able to sustain this price increase. However, this will not provide information about actual or potential substitution possibilities in the market in which the supermarket operates, or facilitate an understanding of the process of competition. The supermarket is competing in the market for supermarket services which is based on a range of factors such as location, product range, and price for key product items. A supermarket's pricing of any given product will reflect factors such as its views about the relative price elasticity of demand for that product. That is, as the Commission, Tribunal and Court has found consistently over the past decade, the market in which a supermarket competes is not the retail caviar market (as would be suggested by the application of the SSNIP test to a particular product line) but, rather, the grocery distribution market.

> In the *Queensland Independent Wholesalers* authorisation case, the Tribunal noted complementarities that linked the range of products sold within a supermarket. And they noted that these complementarities are changing over time: The capacity of a supermarket or grocery store to sell a wide variety of items depends on its trading area. Grocery retailers of all sizes sell a range of dry groceries and some other foods (such as eggs and packaged milk), and increase and diversify their product range according to the size of the store….. This retailing formula, where a large supermarket offers a comprehensive range of "fresh foods" around a core-product range of conventional dry groceries, is described as the "food emporium" concept, and has proven very popular in recent years. The trend to this design of supermarket has been led by Woolworths Ltd., and is accepted in the industry as the likely future pattern of commercially successful food retailing..[11]

The definition of the market in cases of this kind does not, of course, disregard the SSNIP test. Rather it examines complementarities in demand or supply before it applies the SSNIP test. That is, before it examines substitutability, it attempts to define an appropriate group of products to which the SSNIP test can then be applied.

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[11] *Re Queensland Independent Wholesalers Limited* (1995) ATPR 41-438 at 40,936.

3.2.2. Multi-product firms

For a single product firm with market power, prices will exceed fully allocated average costs. This follows directly from the proposition that a single product monopolist's revenue will exceed the fully allocated costs of an efficient producer.

This standard rule for single product firms is often taken to suggest that the extent to which prices exceed efficient costs can provide an indication of the ability of a firm to profitably maintain a SSNIP, and therefore an indication of market definition and market power.

In the case of multi-product firms with substantial common costs, one cannot compare the price of a given service to its fully allocated common costs to obtain information about market definition. Ramsey pricing principles dictate that it will be optimal for a multi-product firm with common costs to charge relatively higher prices (and recover more of its common costs) for less price elastic products.

To examine the extent to which a multi-product firm is charging monopoly prices, it is necessary to compare the firm's aggregate revenue with its aggregate costs, summing revenue and costs over all the firm's products. However this will not inform an analysis of the extent of actual or potential substitution possibilities for one of the products supplied by that firm.

Mobile termination and originating services are produced as part of a multi-product offering, and their production involves substantial common costs. In these circumstances, the SSNIP test will not provide useful information about the market definition or extent of market power of any given firm in the provision of the mobile termination or origination service.

4. Mobile termination and originating services

4.1. In which market(s) are the mobile termination service and the mobile origination service supplied?

Frontier Economics considers that the market in which the mobile termination and origination services are supplied is best defined as the market for mobile telephony services. It is a national market, with both wholesale and retail functional components that at present, includes the following services:

- mobile access (including access to a handset, connection to a network, and usage of that network);
- outgoing call services to other networks (including on-net and off-net calls to mobile networks and fixed line PSTN networks);
- mobile termination services; and
- mobile originating services.

The various elements of the mobile telephony service are jointly produced and consumed. The revenue streams are interdependent and, subject to regulatory restrictions and competitive pressures, firms would be expected to charge a set of prices that maximises profits across this set of services.

As outlined in section 3 above, where two services are complements in production and demand such that a firm is effectively required to compete by offering both types of services, the market is best defined as the market for the cluster of services rather than the market for an individual service.

The mobile termination service and mobile origination service are two of a number of services which taken together comprise mobile telephony services. Complementarities in production and demand mean it is inappropriate to define the relevant market as the wholesale market for either mobile termination services, or mobile originating services alone.

Customers do not purchase only mobile termination or originating services, and nor do mobile network carriers sell only mobile termination or originating services as individual products at either a retail or a wholesale level. In both cases these services are produced and consumed jointly as part of a cluster of mobile telephony services both in wholesale and retail trades.

We do consider, however, that within the mobile telephony services business, wholesale and retail services are distinct functional levels. This distinction is evidenced by the existence of carrier service providers that purchase wholesale

services from the mobile network carriers and offer retail services to the public. As noted, in the Discussion Paper, in 2001/02, carrier service providers accounted for approximately 10 percent of the services billed.[12]

In its September 2002 review[13] that is mentioned in the Discussion Paper, the ACCC elected to treat the retail and wholesale levels as separate levels within the one market. [14]

> … the Commission determined that mobile terminations should not be classified as a "separate markets" due to interdependencies between the wholesale and retail elements necessary to provide a mobile call.

There is much to be said for this view. The issue depends on the degree and nature of the complementarities between the wholesale the retail services. Whether one wishes to define these as separate markets will depend largely on the issue that needs to be analysed. In this particular case, it seems preferable to treat them as different levels within a single overall market.

4.2. Does a 'single operator' definition apply?

The single operator market definition adopted in countries such as the UK and the Netherlands for mobile call termination services effectively means that each mobile network carrier is considered the sole supplier of termination services in the market.

We do not consider it is appropriate to adopt a 'single operator' definition of the market. Frontier would regard this as an extremely narrow definition of the relevant market that distorts rather than assists the analysis of the process of competition and the sources of market power.

It appears that the Competition Commission in the UK disregarded complementarities in the supply of, and demand for, the mobile termination service and other services that make up mobile telephony services. The Competition Commission focused its attention on the ability of each mobile network operator to maintain a SSNIP in relation to mobile termination services, and the fact that "..there are currently no practical technological means of

[12] *Mobile Services Review 2003*, An ACCC Discussion Paper, April 2003, page 9.

[13] *Pricing Methodology for the GSM and CDMA termination service* , ACCC, September 2002.

[14] *Mobile Services Review 2003*, An ACCC Discussion Paper, April 2003, page 31.

terminating a call other than on the network of the mobile network operator to which the called party subscribes…"[15]

As outlined in section 3.2, the SSNIP test will not provide a useful indication of substitutability or market power if applied to a single product that is supplied and consumed as part of a cluster of products. The lack of termination options, once a caller has dialled a party on another mobile network is also of little relevance to the process of competition in the market for mobile telephony services.

Mobile network carriers compete aggressively for customers and offer a menu of prices designed to enable consumers to choose a package that best reflects their willingness to pay. These packages incorporate different levels of fixed and variable charges for different service offerings.

In the presence of substantial common costs, Ramsey pricing principles suggest that this type of pricing is likely to be the optimal approach, and may also approach an economically efficient outcome if the multi-product firms are operating in a competitive market. The lack of a direct contractual relationship between the mobile operator and the party initiating the call from a fixed line does not destroy mobile network carriers' incentives to develop the optimal set of prices across all its services including termination access services.

In summary, Frontier considers that adopting a single operator definition of the market for the mobile termination service will inhibit a proper analysis of the drivers of competition.

4.3. What are the relevant downstream markets?

The 'relevant downstream markets' are essentially the markets that are affected by the extent of competition in the provision of the mobile termination and origination services. We consider this for each service in turn.

4.3.1. The termination access service: downstream markets

The ACCC notes that two key downstream services associated with the mobile termination service are the fixed-to-mobile telephony service and the mobile-mobile telephony service.

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[15] *Vodafone, O_2, Orange and T- Mobile: reports on references under section 13 of the Telecommunication Act 1984 on the charges made by Vodafone, O_2, Orange and T- Mobile for terminating calls from fixed to mobile networks,* Competition Commission, December 2003, page 4.

As outlined above, we consider that the mobile termination service is supplied in the mobile telephony services market. This market also includes mobile-to-mobile services.

Following from this market definition, the relevant downstream market for termination access services is the market in which fixed-to-mobile telephony services are supplied. The question then is, in what market are fixed-to-mobile telephony services provided?

In 2001 the ACCC defined the market in which fixed-to-mobile services are supplied as the national retail market for the provision of fixed-to-mobile calls.[16] The ACCC's position was based on the arguments that:

- fixed line calls are not a close substitute for fixed-to-mobile calls because a fundamental aspect of the fixed-to-mobile service is access connection to the person (mobility) rather than access to a location;
- mobile telephony services provide some substitutes to fixed-to-mobile calls (e.g. mobile-to-fixed, or mobile-to-mobile) but the ACCC considered that at that point in time such substitution would not be widespread;
- SMS was, at that point in time, a new product and not a considered to be a close substitute because it did not allow for simultaneous communication; and
- despite the impact of competition in the provision of long distance and international calls and fixed-to-mobile calls, fixed-to-mobile calls were not in the same market as international- and long distance calls.

Frontier considers that fixed-to-mobile telephony services are part of the service offering of a fixed line telecommunications service provider. The fixed-to-mobile service is one of a number of complementary services that make up a fixed line service offering. It is, therefore, necessary to consider whether it is more appropriate to define the fixed-to-mobile service as being provided in a market(s) for fixed line telephony services, rather than in the fixed-to-mobile market.

Another question that should be explored further is whether the fixed-to-mobile service is supplied in a distinct, downstream market, or whether (demand) substitution possibilities mean it may be appropriate to consider it as part of the same market in which mobile telephony services are provided. There is considerable scope for substitution for fixed-to-mobile calls, particularly from mobile-to-fixed and, as mobile penetration increases, from mobile-to-mobile calls.

[16] *Pricing Methodology for the GSM Termination Service* , ACCC, July 2001 pages 43-45.

These substitutes may be sufficient to constrain the extent to which carriers can maintain a SSNIP for fixed-to-mobile. For example, if carriers imposed a significant increase in the price of fixed-to-mobile calls, we would expect to observe an increase in the number of end-users terminating the call before connection and using caller identification to reverse the direction of the call, or calling only to request the called party to return the call.

If the cross-elasticity of demand for fixed-to-mobile, mobile-to-mobile, and mobile to fixed is significant, the market in which fixed-to-mobile services are provided may converge with the market for mobile telephony services. Even if the cross elasticity of demand is low at present it may be only because at current prices the price elasticity of demand for fixed-to-mobile calls is low.

4.3.2. The originating access service

The originating access service is an input into the provision of mobile-to-fixed calls. As outlined in section 4.1, we consider that outgoing calls from mobiles to other networks (including PSTN) networks are also supplied in the market for mobile telephony services.

It is not clear that there is a distinct downstream (or otherwise dependent) market that is affected by the level of competition in the provision of the mobile origination service.

As outlined in section 2.2, if the mobile originating service is as described by Vodafone, the terminating service provided by 13/1300 and 1800 service providers is an input to the mobile carrier on whose network the call originates. At the same time, the mobile carrier on whose network the call originates is also supplying an input to the terminating 13/1300 and 1800 service provider. The services are complements, and the carriers will have a mutual interest in coming to an acceptable commercial agreement.

The downstream users of the mobile originating service are end-users originating the mobile call to the 13/1300 and 1800 numbers. It is unlikely therefore that there is downstream market in which competition is affected by the level of competition in the provision of the mobile originating service.

5. What is the appropriate service definition for 3G mobile services?

Third Generation (3G) is a new generation of mobile technologies designed to create a medium for providing mobile access to voice, data, (including internet access) and multimedia.

Of the six carriers that purchased spectrum for the supply of 3G services in Australia, only Hutchison has commenced rolling out its 3G network.

In the current review, the ACCC is seeking to determine whether the provision of 3G services is likely to require access regulation under Part X1C of the Act, and if so, what is the appropriate regulatory approach for a declared 3G mobile service.

5.1. The appropriate service definition

A 3G network is a platform that provides the means by which users can gain access to a range of mobile communications services. At this stage there is little convergence of views on how the 3G mobile service should be defined and whether it is appropriate to define it in terms of the network architecture or the services that will be provided using the underlying technology.

In considering the appropriate service definition for 3G mobile services, it is helpful to refer to the underlying objective and purpose of defining the service. As noted in the Discussion Paper, the principles that should guide the service definition are:[17]

> In making a declaration of the an eligible services the ACCC will have a high level of flexibility to describe the service, whether it be in functional or any other terms. This will enable, where appropriate, the ACCC to target the access obligations (which are triggered by a declaration) to specific areas of bottleneck market power by describing the service in some detail, or to more broadly describe a service which is generally important (such as services necessary for any-to –any connectivity).

Consistent with this, in defining 3G mobile services it is appropriate to consider the market(s) in which 3G services will be provided, and, given the competitive processes in these markets, the problem that any declaration would be seeking to address.

The services and content available to users on 3G networks are likely to evolve in the coming years, and as a result, the role of 3G technology in the

[17] *Mobile Services Review 2003*, An ACCC Discussion Paper, April 2003, page 81, referencing a quote from the Explanatory Memorandum to the *Trade Practices Amendment (Telecommunications) Bill 1996.*

telecommunications industry will change over time. The purpose of any declaration and the appropriate service definition may also change over time.

5.2. Short-term

We understand that, at least initially, 3G networks will achieve data rates from the handset to the base station (uplink) of 68kbps. As a result, the classes of services likely to be available on 3G networks may initially be limited to voice, and lower level data applications such as text (email and internet) and low-grade images.

In the short term therefore, there are a number of:

- demand side substitutes, namely:
    - mobile communications services provided by 2G network providers and 2.5G network providers;
    - fixed line communications services, although these services do not enable mobile connection which may limit the extent to which the services are considered close substitutes; and
- supply side substitutes, namely the continued use of 2G network technology and the deployment of 2.5G network technology.

The existence of the supply side and demand side substitutes, and the competitiveness of the markets in which the substitute services are provided, suggests 3G mobile services technology is unlikely to be a bottleneck in the short term, and any declaration should be based on a broad description of the service.

In the short term, therefore, it may be appropriate to define the 3G mobile services in terms of the services that will be provided over the 3G mobile networks.

5.3. Medium term

Over time the services and applications available to users on 3G networks are likely to expand considerably as the multimedia capabilities of these networks are exploited. As noted above high data rates will open up the possibilities of transmitting information using a multiplicity of media including voice, pictures, text, vide-clips, real time video and sound tracks…etc.

In the future, voice services are expected to constitute a diminishing percentage of mobile communications services. Although it may be somewhat optimistic, the UMTS Forum has predicted that simple voice services will constitute 27 percent

of total mobile revenues by 2010.[18] Services provided on 2G and 2.5G mobile technologies will become less substitutable for services provided on 3G mobile services.

It is possible, therefore, that in the future a hypothetical monopoly 3G network provider could increase prices above competitive levels. This will depend on a number of factors including the extent to which:

- fixed wireless networks develop as an effective substitute;
- competing 3G networks are rolled out; and
- the level of competition offered by alternative new technologies that may become available, such as 4G technology.

If, in the future, 3G mobile services have few close substitutes, and network providers enjoy significant monopoly power, it may be appropriate to redefine the service in terms of the 'areas of bottleneck market power'.

[18] *The UMTS Third Generation Market Study Update*, UMTS Forum August 2001, Report No. 17, page 5.

6. Conclusions

Frontier Economics was asked to advise on the definition of the markets(s) in which the mobile termination and origination services are provided, whether a 'single operator' market definition is appropriate, and the relevant downstream markets. We were also asked to advise on the appropriate service definition for 3G mobile services.

As outlined above, we consider that:

- The mobile termination and origination services are supplied in the market for mobile telephony services.
- A single operator definition of the market is inappropriate. It is a very narrow view of the market that would distort rather than facilitate analysis of the underlying processes of competition.
- The relevant downstream market for the mobile termination service is the market in which the fixed-to-mobile service is provided. Historically the ACCC has defined this as the fixed-to-mobile market. However, fixed-to-mobile service is one of a number of complementary services that make up a fixed line service offering, and it may be more appropriate to define the fixed-to-mobile service as being provided in a market(s) for fixed line telephony services. Further if mobile-to-fixed and mobile-to-mobile services are increasingly close substitutes, the market(s) in which fixed-to-mobile services are provided may converge with the market for mobile telephony service.
- It is highly unlikely that there is a distinct downstream (or otherwise dependent) market that is affected by the level of competition in the provision of the mobile origination service.
- The appropriate service definition for 3G mobile services will change over time as the role of 3G technology and service provision changes. In the short term, when we know there are a number of supply and demand side substitutes for the services that can be provided on 3G networks, any service definition should be cast broadly in terms of the services rather than the network architecture.