Australian
Competition &
Consumer
Commission

Mobile Services Review
Mobile Terminating Access Service

Final Decision **on whether or not the Commission should extend, vary or revoke its existing declaration of the mobile terminating access service**

June 2004

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Executive Summary

Introduction

In March 2003, the Australian Competition and Consumer Commission (the Commission) announced that it would conduct a wide-ranging review of a number of issues associated with the regulation of the mobile services industry.

One aspect of this inquiry concerns whether or not the Commission should extend the expiry date for the declaration of the Domestic Global System for Mobiles (GSM) and Code Division Multiple Access (CDMA) terminating access service, or to allow this declaration to expire.[1] The expiry date for this declaration is 30 June 2004. This aspect of the inquiry also concerns whether or not this declaration should be varied or revoked or replaced by new declarations. The Commission is conducting this aspect of the inquiry pursuant to section 152ALA of the *Trade Practices Act 1974* (the Act) and Part 25 of the *Telecommunications Act 1997*.

Further, the Commission indicated that the review would also consider what form of regulation – and, in particular, what form of pricing principle – would be most appropriate for this service should it find that continued or varied declaration of a mobile terminating access service (MTAS) was appropriate.

In order to advance and inform this and other aspects of the review, and in accordance with Division 3 of Part 25 of the *Telecommunications Act 1997*, the Commission released a Discussion Paper on 24 April 2003.

In response to the Discussion Paper, the Commission received 27 submissions from interested parties. A list of these parties is contained in Appendix B of this report.

As part of this process, the Commission also held two public forums to aid consideration of the central issues in this review. These were held in Melbourne on 29 August 2003 and in Sydney on 11 September 2003.

On 26 March 2004, the Commission released draft decisions on the MTAS. In response to these draft decisions, the Commission has received 28 submissions from (or on behalf of) 15 interested parties. A full list of all submissions following release of the Draft Decision is contained in Appendix C of this report.

The Mobile Terminating Access Service

The MTAS is a wholesale input, used by providers of calls from fixed-line and mobile networks, in order to complete calls to mobile subscribers connected to other networks.[2]

When a mobile call is made between consumers (or end-users), it will involve two essential elements – origination and termination. Origination refers to the carriage of

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1 GSM and CDMA are alternative second generation/digital mobile network technologies.

2 A full service description for the mobile termination service for the purposes of this inquiry can be found at Appendix A of this report.

a call from the end-user who makes, or originates, the call over the network to which this end-user is connected. Termination refers to the carriage of the call to the person receiving the call over the network on which the person receiving the call is connected. Where the person making the call and the person receiving the call are on different networks, a point of interconnection (POI) between these two networks will exist. Origination, termination and the POI for a call between end-users on two separate mobile networks are illustrated in Figure 1 below.

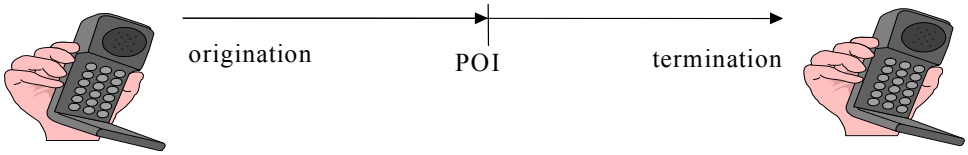

Figure 1 – Termination, origination and the POI

Under current commercial arrangements between network owners, the network owner that originates the call will, generally, purchase terminating access from the network owner that completes the call. The originating network owner will recover these costs, and the costs it incurs from originating the call, through the retail price it charges its directly connected end-user for providing the call. This commercial arrangement is sometimes referred to as the 'calling party pays' (CPP) model or the 'termination' model.

An example of how the MTAS is used in the provision of a fixed-to-mobile (FTM) call is depicted in Figure 2 below. In this example, Telstra purchases access to Optus' MTAS in order to provide a call from a Telstra fixed-line end-user to an Optus mobile end-user. Telstra would then bill its directly-connected consumer for providing a FTM call service.

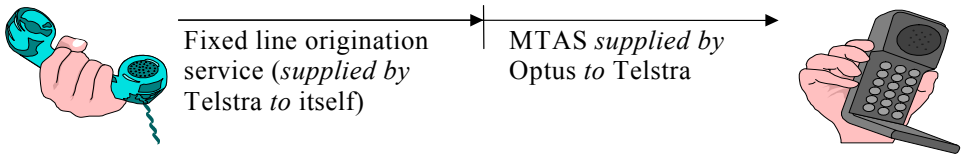

Figure 2 - Use of the MTAS to supply a fixed-to-mobile call

The MTAS is therefore an essential input into the provision of calls to mobile phone users where the mobile phone user is on a separate network to the individual who originates the call. This is the case irrespective of whether the call terminates on a

second generation (2G) GSM or CDMA network. It is also a key element in the provision of calls that terminate on 2.5G and third generation (3G) mobile networks.[3]

Declaration

Under the Act, declaration of a service creates a requirement for those carriers supplying the service (known as 'access providers') to provide the service, upon request, to other service providers (known as 'access seekers').[4] In doing so, the access provider must take all reasonable steps to ensure that the technical and operational quality of the service is equivalent to that which the access provider provides to itself.[5]

Declaration ensures service providers have access to the inputs they need to supply competitive communications services to end-users. The terms and conditions of supply for a declared service can be agreed through commercial negotiations. If the access provider or access seeker cannot agree on the terms and conditions of supply, either party can seek Commission arbitration of disputes over access terms and conditions for the service. Where a relevant access undertaking (approved by the Commission) exists, an arbitration determination made by the Commission must not be inconsistent with that undertaking.

The Commission's approach to regulating this service to date

In 1997, the GSM terminating access service was deemed to be declared under section 39 of the *Telecommunications Act 1997* and Part XIC of the Act. At that time, the Commission considered that the GSM terminating access service should be deemed for the purpose of achieving any-to-any connectivity between end-users of a GSM network and end-users of any other telephony network.[6]

In subsequent years, a number of access disputes over the terms and conditions of access to the GSM terminating access service were notified to the Commission under Part XIC of the Act. As a consequence of its arbitration of these disputes, the Commission developed pricing principles for the GSM terminating access service which it released in July 2001. The Commission determined that it would adopt a retail benchmarking pricing methodology in its arbitration of access disputes in relation to the service. Details of this particular pricing principle are contained in Chapter Eight of this report. After the release of this pricing principle, all remaining GSM access disputes were withdrawn. While the Commission was not required to apply its pricing principles to resolve any of these disputes, the Commission believes the issuing of pricing principles served a useful purpose in helping parties resolve disputes in relation to the MTAS.

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3 2G protocols use digital encoding and include GSM and CDMA. 2G networks support high bit rate voice and limited data communications. They are capable of offering auxiliary services such as data, facsimile and the short messaging service (SMS). 2.5G protocols extend 2G systems to provide additional features, such as packet-switched connection and enhanced data rates. 3G protocols support much higher data rates, measured in megabits per second, intended for applications such as full-motion video, video conferencing and full Internet access.

4 *Trade Practices Act 1974* (Cth) (the Act) para. 152AR(3)(a).

5 Act para. 152AR(3)(b).

6 ACCC, *Deeming of Telecommunications Services*. 30 June 1997, p. 19.

Due to the unique and novel nature of this pricing principle, the Commission indicated at the time of its release that it would monitor the success of the methodology in achieving its intended goals, and conduct a review of the pricing principle after an initial two-year implementation period.

In March 2002, the Commission made a decision to vary the GSM terminating access service declaration to make it technology-neutral, resulting in the definition of the service being varied to include terminating access on CDMA mobile networks.

As a result of the variation to the service declaration, the Commission released a report, in September 2002, setting out its pricing methodology for the varied GSM and CDMA MTAS. The Commission concluded that the retail benchmarking approach was still the most appropriate pricing methodology for use in arbitrating disputes in relation to the varied service description.

This current review fulfils the commitment made by the Commission in its July 2001 report on the pricing principle for the GSM terminating access service to review the success of the pricing principle after two years. Separately, following changes made to the Act in December 2002, the GSM and CDMA terminating access service declaration is due to expire at the end of June 2004. This Report fulfils the Commission's obligation under section 152ALA of the Act to consider:

- whether to extend or further extend the expiry date of the declaration;
- whether to revoke the declaration;
- whether to vary the declaration;
- whether to allow the declaration to expire without making a new declaration under section 152AL; and
- whether to allow the declaration to expire and then to make a new declaration under section 152AL.

In order to address these questions, the Commission has considered three general issues:

1. Whether declaration of a MTAS would continue to be in the long-term interests of end-users (LTIE);
2. If so, does the current service declaration need to be varied; and
3. What particular pricing principle would be most appropriate for a declared MTAS?

An overview of the Commission's key findings on each of these issues is outlined below.

Would declaration of a mobile terminating access service continue to be in the LTIE?

Section 152AL of the Act provides that the Commission may declare an eligible service if it is satisfied that the making of the declaration will promote the LTIE of carriage services or services provided by means of carriage services. In turn, section 152AB of the Act provides that, in determining whether declaration promotes the LTIE, regard must be had only to the extent to which declaration is likely to result in the achievement of the following objectives:

- promoting competition in markets for listed services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

The impact of declaration on each of the three subsidiary LTIE objectives is addressed in turn below.

Will continued declaration promote competition?

Chapter Four of the Report considers in detail the Commission's analysis of whether declaration of the MTAS will promote competition in the markets for listed telecommunications services.

The source of market power

Chapter Four outlines the Commission's view that providers of the MTAS have 'bottleneck' control over access to an essential input in the provision of FTM and mobile-to-mobile (MTM) calls. Further, the Commission finds that mobile network operators (MNOs) are not constrained in their pricing decisions for the MTAS and have both the ability and incentive to raise the price of this service above its underlying cost of production. The Commission considers that providers of the MTAS are not constrained by the existence of alternative substitutes for the service. Further, the Commission finds that the MTAS is a wholesale service sold to consumers directly connected to other service providers. Hence, it is not sold as part of a bundle (or cluster) of retail mobile services such that provision of the MTAS is not constrained by competition for the provision of retail mobile services.

More specifically, the Commission finds that the termination services of individual MNOs are not substitutable for each other. This is the case irrespective of the size of individual mobile operators, or the type of network technology they employ. If an individual chooses to subscribe to Optus' GSM mobile phone network, other carriers whose subscribers want to call this individual on their mobile phone ultimately have no option but to seek interconnection with Optus' mobile network. That is, carriers cannot seek to have an alternative MNO (such as Vodafone) ultimately terminate calls

to consumers on Optus' network.[7] All calls to the Optus mobile subscriber must ultimately be terminated on Optus' mobile network.

The Commission has also considered whether other substitutable means of contacting a mobile phone user (such as calls to a fixed-line network, SMS messages, e-mail messages or calls using voice over Internet protocol technology (VoIP)) might be effective in acting as a constraint on the pricing decisions of providers of MTASs. In all cases, the Commission finds these potential substitutes to be lacking in that they either do not replicate the mobility characteristic key to the convenience of calling someone on a mobile phone (in the case of contacting mobile phone users on fixed-line, VoIP or e-mail technologies), and/or do not provide for sufficiently substitutable real time communications (in the case of e-mail and SMS communications). Hence, the Commission concludes that these alternative forms of communication are not sufficiently substitutable to constrain providers of MTASs.

The Commission has also considered whether mobile phone users might be able to constrain the pricing decisions of MNOs. In this regard, some parties to this inquiry have argued that competition for mobile subscribers constrains mobile operators' pricing decisions for the MTAS. The Commission believes, however, that mobile phone users do not have sufficient incentive to base their subscription decisions on which mobile network charges the lowest prices for MTASs. This is because mobile phone users do not pay for calls made to them, and therefore do not pay for the MTAS. That is, under current retail billing arrangements, it is the 'calling party' who pays for most calls to mobile phone users. This billing arrangement is reflected at the wholesale level where it is the carrier whose consumer initiates a call that pays for termination of calls to mobile phone users. Hence, receivers of mobile phone calls do not have to pay for calls made to them, and do not need to pay for the MTAS. Accordingly, mobile phone users generally have no incentive to insist that the mobile network they subscribe to sets lower charges for the MTAS.[8] The Commission therefore believes MNOs are unlikely to be constrained in their pricing decisions for the MTAS by potential subscribers to their network.

Accordingly, the Commission finds that all mobile operators – irrespective of their size – have market power when it comes to terminating calls on their network. In turn, the Commission believes this gives mobile operators the ability to raise the price of the MTAS above its underlying cost of production. This conclusion is consistent with that made by regulators in a number of overseas jurisdictions.

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7 While the Commission acknowledges Vodafone could, via a transit arrangement, provide termination for carriers seeking to interconnect with Optus' GSM mobile telephony network, Vodafone would still, ultimately, need to seek termination of the call from Optus. Accordingly, the Commission believes that such transit arrangements do not overcome the control providers of MTASs have over access to essential infrastructure.

8 The Commission notes exceptions to this can exist where individuals purchase mobile phones for close family members. The Commission expects this segment of the market is not, however, significant enough to constrain mobile operators' pricing of the MTAS. The Commission also believes that mobile operators are able to segment this portion of the market effectively through the use of 'on-net' call plans.

Pricing structures likely to emerge in markets for mobile terminating access and retail mobile services

Not only do MNOs have the ability to raise the price of the MTAS above its underlying cost[9] of production, the Commission believes they also have an incentive to raise prices above cost (inclusive of a normal profit on infrastructure investments). By doing so, mobile operators generate greater-than-normal (or so-called 'economic') profits from providing the MTAS.

Each mobile subscriber therefore brings with it a source of economic profits as it enables the mobile operator to charge above-cost prices for calls made to him/her. As a result of this, the Commission believes that mobile operators may, depending on the level of competition they face when attracting subscribers to their network, seek to attract more subscribers to their networks by subsidising the prices they offer potential mobile subscribers for retail mobile services. This suggests mobile operators may have an incentive to transfer part of the economic profits from pricing the MTAS above cost to retail mobile subscribers in the form of subsidised prices for retail mobile services (e.g. handset subsidies, free access plans etc.). The greater is the level of competition for retail mobile services, the greater will be the incentive to transfer economic profits earned from the MTAS to retail mobile subscribers. The Commission believes, therefore, that mobile operators may determine a cross-subsidised structure of prices with higher-than-cost prices for MTASs and below-cost prices for some retail mobile services.

These expectations are supported by market observations that mobile operators appear to be setting charges for the MTAS that are likely to be at least double the underlying cost of providing this service.[10] Further, in retail markets for mobile services, mobile subscribers are often offered free handsets, or subsidised subscription charges, although there is no evidence that mobile retail pricing as a whole produces insufficient revenue to cover costs.

Impact on the state of competition in the market within which FTM services are provided

One implication of this pricing structure is that above-cost prices for MTASs increase the costs of an essential input for providers of FTM calls. That is, in order for providers of FTM calls to provide this service to their consumers, they need – because of the CPP billing arrangement referred to above – to pay a fee to mobile operators to terminate FTM calls. By raising the price of MTASs above cost, mobile operators increase the cost to providers of FTM calls above the underlying cost of production for this service. In turn, this raises the price of FTM calls.

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[9] References to cost in this report refer to the total service long-run incremental cost (TSLRIC), that is inclusive of a normal return on investment. Where also inclusive of a mark-up to account for some contribution to common organisational-level costs, this measure is sometimes referred to as 'TSLRIC+'.

[10] This is based on observations that the average price charged for the MTAS is 22.5 cents per minute, while estimates of the underlying cost of the service range between approximately 5 and 12 cents per minute. Full specification of the basis for this range of cost estimates can be found in Annexure of this report.

In addition to this, setting above-cost prices for MTASs allows vertically-integrated fixed and mobile network operators to raise the cost of rival FTM service providers that only operate fixed line networks above that which the vertically-integrated operators face for calls that terminate their own networks. That is, fixed-line only operators (such as AAPT, Primus, MCI, PowerTel, MCT etc.), must pay above-cost prices to terminate *all* FTM calls. Vertically-integrated carriers such as Telstra and Optus, however, will only need to pay above-cost prices for calls that terminate on other mobile carriers' networks. For all FTM calls that terminate on a vertically-integrated carrier's own mobile network, the vertically-integrated carrier will only face the actual cost of terminating these calls.

This raising of costs for fixed-line only operators creates a number of effects in the downstream market within which FTM calls are provided:

1. It eases pressures on vertically-integrated carriers to find lower-cost and more efficient ways of providing FTM call services in order to better compete with rival providers of FTM services. This reduces the extent to which future price reductions, quality improvements and a greater range of service offerings would be expected to be made available to consumers of FTM call services;

2. It provides suppliers of FTM services with the ability to maintain prices for this service well in excess of its underlying cost of production;

3. It gives rise to allegations of anti-competitive conduct against some vertically-integrated carriers operating in the corporate segment of the market, where it has been alleged by a number of parties that vertically-integrated carriers are offering FTM calls to corporate consumers at prices below the price they charge their competitors for terminating FTM calls on their mobile networks; and

4. It gives rise to concerns from some smaller mobile operators that vertically-integrated carriers are bundling together FTM call offers to corporate customers with retail mobile service offers in a way that mobile-only operators cannot compete with.

Overall, evidence collected by the Commission shows that the average price of FTM calls also appears to be at least double their underlying cost of production. That is, while the average price of FTM calls is around 38.5 cents per minute, the average underlying cost is likely to be in the order of 10-17 cents per minute (depending on assumptions regarding the cost of the MTAS).[11]

The disparity between average price and underlying cost for FTM calls (using a mid-point estimate of the cost of the MTAS in the order of around 9 cents per minute) is illustrated in Figure 3 below.

[11] This figure is based on a range of estimates of TSLRIC+ of providing the MTAS in the range of roughly 5 to 12 cents per minute (see note 9). The Commission notes that this range is consistent with estimates of the TSLRIC+ of providing the MTAS based on data collected by the Commission as part of its Regulatory Accounting framework (RAF). In addition to this, the Commission has conservatively estimated that the TSLRIC+ of providing the other elements of a FTM call are likely to be in the order of 5 cents per minute.

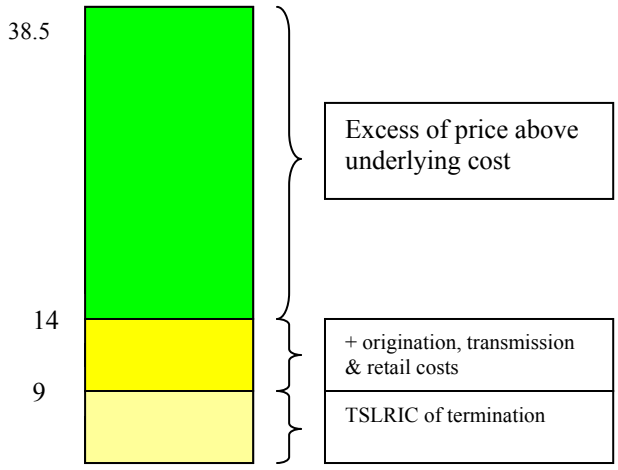

Figure 3 – The excess of the average price for FTM calls above underlying cost

In addition to this, observations coming out of past annual reports prepared by the Commission on price changes for telecommunications services in Australia (the Division 12 Reports) show that the price of FTM calls has declined more slowly than that of other fixed-line services over recent years (despite significant increases in volume and hence expected cost savings due to economies of scale).[12] These observations emerge even more starkly in the recently released Division 12 report for the 2002-03 financial year, which shows the average price of FTM calls fell by less in real terms across all consumer groups during 2002-03 than in previous years. Further, the results show the average price paid by residential consumers for FTM calls increased in real terms over this period by 5.0 per cent.

Overall, the analysis in Chapter Four leads the Commission to believe that the market within which FTM calls is provided is far from effectively competitive. This is leading to higher-than-cost prices for FTM calls and, consequently, substantial losses in consumer welfare. Relative to a competitive market where the price of FTM calls would be expected to more closely resemble a conservatively estimated underlying cost of around 14 cents per minute, the Commission estimates that the current average price of 38.5 cents per minute is reducing consumption of FTM calls by around 2.2 billion minutes per annum.

[12] For instance, in previous years, the average price paid for FTM services declined by 7.9 per cent in 1999-00, 6.2 per cent in 2000-01, 3.2 per cent in 2001-02 and 2.4 per cent in 2002-03. This compares with the average price paid for national long distance (NLD) calls which fell by 9.5 per cent, 6.3 per cent, 8.7 per cent and 4.7 per cent over the same periods. Telstra's Annual Report for 2002-03 also showed that while revenue from FTM calls is now greater than that for NLD calls, the number of FTM call minutes was less than half that for NLD services. This implies a yield for FTM call minutes more than double that of NLD calls.

By continuing to declare a MTAS, the Commission believes competition in the market within which FTM services are provided can be improved. This would be the case if a pricing principle can be devised for the MTAS that ensures a closer association of the price of the service with its underlying cost of production. In doing so, the ability of vertically-integrated fixed and mobile carriers to raise the costs of rival providers of FTM services that do not operate mobile networks would be eroded, and consequent reductions in the price of the FTM service could be expected. Removing the ability of vertically-integrated fixed and MNOs to raise rivals costs could also help to remove their ability to leverage their market power in the market within which FTM services are provided into the retail mobile services market.

Further, setting the price of the MTAS above its underlying cost of provision gives vertically-integrated operators a 'cushion' that enables them to withstand the competitive threat that a more efficient operator in downstream markets could present. Declaration, combined with a pricing principle that ensures the price of the MTAS reduces towards its underlying cost of provision, can ensure equally or more efficient carriage service providers can place competitive pressure on vertically-integrated providers of FTM services to improve their own efficiency and reduce prices paid by consumers of FTM (and possibly other fixed-line services supplied in combination with FTM services such as national long distance and international long distance call) services. Hence, the Commission considers that regulated MTAS charges would provide a stimulus for increased competition from existing FTM providers, and possibly from new entrants. This increased competition can manifest itself in many ways, including reduced prices and improvements in the quality and range of product offerings made available by providers of fixed-line services.

While some parties are currently concerned that reductions in mobile termination rates may not be 'passed-through' to FTM consumers in the form of lower prices for FTM services, the Commission expects that increased competition in the market within which FTM services are provided would create pressures on all providers of this service to pass-through reductions in the price of the MTAS to end-users. If a provider of FTM services chooses not to pass-through reductions in the price of the MTAS, it runs the risk of losing market share to competitors who do. The Commission notes, however, that such pass-through may come in many forms other than simply reductions in the price of FTM call services. For instance, it could also come in the form of reductions in the per call prices of other services sold in the same pre-selected bundle of fixed-line services that also includes national long-distance and international long-distance calls. Further, pass-through may not be uniform across all classes of consumers.

Finally, observations of incomplete pass-through do not necessarily mean that competition has not been improved. As indicated above, improvements in competition can manifest themselves in many forms other than simply full pass-through of price reductions to FTM services.

Impact of declaration in the market within which retail mobile services are provided

As indicated in Chapter Four, the Commission believes that, while the retail mobile services market is exhibiting more encouraging market outcomes than the markets for fixed-line telecommunications services, it is unlikely to be effectively competitive as yet. This is because there continues to be a high level of concentration at the carrier network level (where the combined share of Telstra, Optus and Vodafone is greater than 97 per cent of the market); barriers to effective entry into the market (associated with national coverage and sunk costs) remain high; and established mobile operators (and in particular Telstra and Optus) appear to be earning profits well in excess of those the Commission would expect in competitive markets for these services. In addition to this, the Commission notes that reductions in the prices paid for retail mobile services appear to have slowed in recent years, with some indication that prices increased, on average, during the 2002-03 financial year.[13]

Despite this, the Commission expects the greatest competitive benefit from continued declaration of the service is likely to occur in the market within which FTM services are provided. That said, the Commission expects that declaration has the potential to help promote competition in the retail mobile services market to the extent it serves to overcome the ability established mobile operators might have to frustrate new entrants interconnecting with established networks on reasonable terms and conditions. This issue is discussed in more detail in Chapter Five. The Commission also believes that declaration of the MTAS will lead to a more efficient use of and investment in the infrastructure used to provide retail mobile services. This is discussed in detail in Chapters Six and Seven.

Whilst declaration may be expected to put in place pre-conditions that help to promote competition in the retail mobile services market, the Commission recognises that declaration is likely to affect different mobile operators in different ways. In this regard, the Commission has considered arguments from some mobile service providers that substantial reductions in the price of the MTAS might weaken their competitive position as compared to vertically-integrated fixed and mobile operators. This is because these parties believe there is no imperative on fixed carriers to 'pass-through' lower prices for the MTAS to consumers of FTM services. Accordingly, these parties are concerned that if mobile network operators are required to lower mobile termination rates, their vertically-integrated competitors who operate in the market for FTM services will experience lower input costs without having to reduce the prices they charge for FTM services to the same extent. Further, these parties believe a reduction in the MTAS prices will reduce the revenues of mobile operators more generally, such that they are less able to invest in and deliver new services and keep the retail mobile market competitive.

In general, and as indicated above, the Commission believes that all mobile operators have the ability to raise the price of the MTAS above its underlying cost of production, and that this enables them to earn economic profits when providing this service. Accordingly, all mobile operators are likely to experience reduced economic

[13] That said, the Commission does not believe this necessarily implies it would be appropriate for there to be regulation of retail mobile services at this point in time.

profit from the provision of MTASs if a pricing principle is established that generates a closer association of prices and costs for the MTAS.

Whether or not particular mobile operators will suffer a proportionately larger reduction in overall revenues is, however, less clear. On the one hand, the Commission believes that mobile-only operators may, in the short-term, experience a relatively larger proportionate reduction in revenues from MTASs than vertically-integrated operators will experience across the combination of mobile termination and FTM services if FTM pass-through is incomplete. On the other hand, however, the Commission notes that declaration of the MTAS should, by improving the state of competition in the market within which FTM services are provided, help to ensure the level of FTM pass-through increases over time. Further, as competition in the market within which FTM services are provided improves, it is possible that reductions in the price of the MTAS could lead to even greater absolute reductions in the price of FTM (and other fixed-line services) call minutes. That is, at present, the extent of the absolute divergence between price and underlying cost is greater for FTM call minutes than it is for mobile termination call minutes. Hence, as competition in the market within which FTM services are provided becomes more intense, it is possible that reductions in the price of the MTAS could lead to even greater reductions in the price of FTM call minutes than that flowing from pass-through *per se*. Such an outcome would lead to the combined mobile termination and FTM revenues of vertically-integrated operators reducing by relatively more than the mobile termination revenues of mobile-only operators. Accordingly, the relative impact of continued declaration on mobile-only and vertically-integrated fixed and mobile operators is uncertain and heavily dependent on the extent of FTM pass-through and the enhancement of competition in the retail FTM market. As indicated above, the Commission expects that this decision will promote competition in the market within which FTM services are provided and that this will generate pressures for a greater level of pass-through.

More importantly, the Commission notes that, while the MTAS continues to be priced above its underlying cost of production (as it will continue to be for some time under the Commission's pricing principle outlined in Chapters Eight and Nine of this report), the service should continue to be a source of economic profit for mobile operators. This is especially the case given reductions in the price of the MTAS should lead to an increase in demand for the service and a consequent reduction in the unit costs of providing the service as economies of scale are generated.

Further, the overall profitability of mobile operators is affected by a number of factors other than simply the revenue they receive from the MTAS. Accordingly, the profitability of mobile network operators will depend on a number of factors in addition to regulation of the MTAS, including:

- the extent to which reductions in the price of the MTAS are offset by changes to the price of retail mobile services;[14] and

- the growth of other sources of revenue for mobile network operators, such as data, messaging and international roaming services.

The Commission notes that whilst revenue from termination of voice services on mobile networks is a significant component of the overall revenue of mobile network operators, its importance is expected to gradually decline into the future. This is supported by recent observations that the revenue growth of data, messaging and other value-added services for mobile operators appears to be exceeding that from MTASs. For example, Telstra's annual reports indicate that revenues from these sources grew by 94 per cent from $339 million to $657 million over the two years from 2000-01 to 2002-03, while the Commission's Regulatory Accounting Framework (RAF) data indicate revenues from termination and origination increased by a substantially smaller amount over the same period. The Commission also notes that the revenue Telstra earns from data and other value-added services is now substantially greater than that which it earns from the MTAS and mobile originating access services. While the Commission does not have access to comparable figures for Vodafone, information available to it suggests that, although Vodafone is more heavily reliant on wholesale revenues than Telstra, a similar pattern of revenue change would have occurred**.**

Finally, the Commission notes concerns raised by mobile operators during the course of this inquiry that reductions in the price of the MTAS will force it to seek to recover lost revenue from other parts of its business. These parties argue this is most likely to be through increased prices for mobile subscription services. As a result, these parties argue mobile subscription levels will fall steeply as a result of the Commission's decision. While reduced termination charges may lead to some increase in the prices for retail mobile services, the Commission does not believe this will result in significant (if any) reductions in mobile subscription levels. This has not been the case to date in either Australia or the UK, where past reductions in the price of the MTAS have not been followed by reductions in mobile penetration rates. In this regard, the Commission notes that reductions in the price of the MTAS in Australian and the UK over the last five years have actually been accompanied by large overall increases in mobile penetration levels. More recently, mobile penetration levels in the

[14] That is, mobile operators may, depending on the state of competition in the retail mobile services market, seek to recover some of these lost profits by raising the price of some retail mobile services. The Commission notes, however, that market inquiries reveal this has not, to date, been the general response of UK mobile operators to the first round of regulated reductions in the price of MTAS in 2003. Indeed, market inquiries indicate that the introduction of 3G mobile services in the UK has created competitive pressures that have led 2G mobile operators to absorb decreases in mobile termination service prices without consequent increases in the price of retail mobile services. It remains to be seen whether mobile operators in the UK continue with this practice as additional scheduled reductions in the price of the MTAS are implemented.

UK have remained steady following regulated reductions in the price of the MTAS in July last year.

In this regard**,** the Commission notes that references to UK observations made by one consultant on behalf of an interested party during the course of this inquiry are incomplete in nature.[15] Specifically:

- Observations of reduced overall mobile penetration rates from 75 per cent to 73 per cent between May and August 2003 following the introduction of lower termination prices in the UK are qualified by Oftel (now Ofcom), which notes that 'the apparent fall in the proportion that personally own or use a mobile is within the survey's error margins, [and] hence has remained stable for 9 months';[16]

- A more recent report released by Ofcom (on 28 April this year) shows penetration rates *increased* in the following period from August to November 2003, with the overall mobile penetration rate returning to 75 per cent;[17]

- Ofcom's April report also notes there has been a 'combination of growing usage, growing penetration and yet (recently) relatively flat prices …[resulting]… in a steady increase in consumer spend on mobile;[18] and

- Finally, mobile termination rates have been steadily declining in the UK since Oftel began regulating this service in 1998. Since this time, however, mobile penetration rates have increased steadily from slightly greater than 40 per cent in January 2000 to recent observations of 75 per cent in November 2003.[19]

Will continued declaration promote any-to-any connectivity?

The Commission believes that any-to-any connectivity can be promoted through declaration of the MTAS. New entrants to the mobile services market rely on their ability to interconnect with all mobile network operators so that they can provide a full end-to-end service to consumers that subscribe to their network. That is, Hutchison would find it very difficult to market its new third generation (3G) mobile network products to consumers if it was unable to interconnect with existing mobile networks for the provision of traditional voice services. Consumers would not be satisfied if they could not make voice calls to (and receive voice calls from) other consumers on other mobile networks.

Having control over access to all consumers directly connected to their networks gives established mobile operators the ability to frustrate a new entrant's ability to offer a full end-to-end service to its subscribers. Without declaration, there may be an incentive for established operators to frustrate the ability of new entrants to

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15 See Charles River Associates, *The Use of Benchmarking in Regulating Mobile Termination Rates*, report for Optus, 28 May 2004, p. 5.
16 Oftel, *Consumers' Use of Mobile Telephony Q14 August 2003*, October 2003, p. 6.
17 Ofcom, *Strategic Review of Telecommunications Phase 1 Consultation, Annex H*, 28 April 2004, see Figure 16.
18 *Ibid*, paragraph H.33.
19 *Ibid*, Figure 16.

interconnect with their networks as this would reduce the competitive threat posed by new entrants. Declaration can help overcome this potential threat by giving new entrants a right of access to mobile termination on existing carriers' networks, and the ability to seek Commission arbitration of the terms and conditions of this access if needed. It is chiefly for this reason that the MTAS was originally deemed to be declared in July 1997. It is also a key reason why the Commission believes the MTAS should be defined to apply to termination of both FTM and MTM calls.

Will declaration promote efficient use of, and investment in, infrastructure?

Overall, the Commission believes that continued declaration of a MTAS would be likely to encourage economically efficient use of the infrastructure used to provide telecommunications services.

As indicated above, the Commission believes a pricing structure is likely to emerge across mobile terminating access, FTM and retail mobile services that involves:

- above-cost (inclusive of normal profit) pricing of the MTAS;
- consequent above-cost pricing of retail FTM services; and
- subsidised prices of 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 turn, this pricing structure is likely to generate direct efficiency losses in the markets within which FTM and retail mobile services are provided. With regard to the market within which FTM services are provided, this is likely to be in the form of less than efficient consumption of retail FTM services. Based on plausible assumptions relating to the elasticity of demand for FTM calls and the starting quantities, prices and cost for FTM calls, the Commission estimates this direct efficiency loss could be as high as $282 million per annum. Fuller specification of the basis of this estimate is outlined in Chapter Six. Further, the Commission expects this pricing structure will generate greater than efficient consumption of retail mobile subscription services, and a consequent efficiency loss in the market for retail mobile services.

A number of arguments have been advanced by interested parties that attempt to defend the efficiency of this pricing structure. These include justifications based on fixed-line network externality, mobile externality and Ramsey pricing arguments.[20]

[20] The fixed-line network externality is the benefit fixed-line consumers enjoy from greater subscriptions to mobile phone networks. That is, the greater the number of mobile subscribers, the greater the benefit for fixed-line consumers of FTM calls from having a greater number of mobile subscribers they can reach with FTM calls. The existence of such an externality has been argued by Optus (and, latterly, its consultant n/e/r/a) to justify higher than cost FTM termination charges. Mobile network externalities refer to the benefits existing mobile subscribers receive from additional mobile subscribers. That is, it is often argued in economics that the value of a network is enhanced by additional subscribers to it. This is because it increases the potential number of mobile phone users existing mobile subscribers can contact using their mobile phone. Some parties have

As outlined in detail in Chapter Six, the Commission believes none of these arguments justify revocation of the existing declaration of the MTAS. In particular, no party has provided any evidence to suggest mobile operators have sufficient incentive, in the absence of declaration of the MTAS, to efficiently internalise any such externalities or that the current configuration of prices for retail mobile and mobile termination services is Ramsey efficient.

The Commission is also concerned that the cross-subsidised pricing structure that exists with respect to the mobile terminating access, FTM and retail mobile services is likely to be creating distortions to efficient investment decisions by vertically-integrated, mobile and fixed-line only operators. In particular, the Commission is concerned that:

- above cost pricing of the MTAS is reducing demand for mobile terminating access (and therefore FTM) services. In turn, this is likely to distort investment decisions by encouraging operators to under-invest in the mobile and fixed network capacity needed to provided FTM calls; and

- subsidised pricing of retail mobile services is likely to be encouraging excessive investment in the infrastructure used to provide retail mobile services. For instance, subsidised handset prices (such as free handset offers) are likely to have encouraged greater than efficient turn-over of mobile handsets by consumers. Further, it is likely to have led to excessive investment in the infrastructure used to develop new handsets.

Whilst some parties have argued that regulation of the MTAS will reduce mobile operators' incentives to invest in 3G mobile technologies, this has not been the case in the UK where regulation of the service has not prevented mobile operators such as Vodafone committing to developing 3G mobile networks. In Australia, investment in the infrastructure used to provide mobile telephony services has been strong in recent years, despite declaration of this service. The Commission also notes that Vodafone has confirmed earlier announcements of its intention to invest in the development of a network capable of providing 3G mobile services by 2005 since the Commission released its Draft Decision indicating it intends to continue declaration of a MTAS.[21]

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argued the existence of such externalities justifies a cross-subsidised pricing structure for mobile termination and retail mobile services. Ramsey pricing concepts address situations where a number of services share common costs of production. Hence, if all these services were priced only at their attributable costs, these common costs would fail to be recovered. Ramsey pricing concepts therefore deal with finding a configuration of prices that would ensure that these common costs are recovered in the least distortionary way. Under a Ramsey configuration, the structure of prices across a collection of services sharing common costs would ensure higher proportionate mark-ups above attributable costs for those services with relatively inelastic demands (i.e. relatively lower demand responsiveness to changes in price), according to the inverse-elasticity or 'Ramsey-Boiteux' rule. Some parties have argued the MTAS should be priced well in excess of cost due to assertions of its relatively inelastic own-price elasticity of demand.

[21] 'Vodafone 3G Launch a Strategy Reversal', *Communications Day*, 16 February 2004, www.commsday.com.au .

Overall, therefore, the Commission believes continued declaration of the MTAS can help to:

- promote competition in markets for listed services;
- achieve any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encourage the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

Accordingly, the Commission believes continued declaration of the MTAS is in the LTIE.

Should the service description be varied?

Throughout the course of this inquiry, the Commission has considered whether the MTAS description needs to be varied to include termination of:

- voice services on 2.5G and 3G networks; and
- data services on mobile telephony networks.

The Commission believes that many of the market power concerns raised in relation to the termination of voice services on GSM and CDMA networks identified above are likely to exist with regard to the provision of voice termination services on more advanced 2.5G and 3G networks. The Commission also considers that the termination of voice services on mobile networks is a sufficiently mature service such that it should be regulated irrespective of the network type over which it is provided.

The Commission is not convinced, however, that the provision of data services – and especially those provided on 2.5G and 3G networks – is sufficiently mature such that the Commission should seek to regulate termination of these services at this point in time. However, the Commission does believe that many of the market power concerns that currently exist with regard to the termination of voice services on mobile networks may arise with regard to the provision of termination of data services on mobile networks in the future. Accordingly, the Commission will undertake its normal processes of observing market developments in relation to the supply of data termination services in order to allow it to intervene in a timely manner to promote the LTIE where necessary.

Appropriate pricing principles for the MTAS

When the Commission released its GSM terminating access pricing principles in July 2001, it identified concerns that the existing prices of GSM MTASs were likely to be well in excess of costs, and that this was generating outcomes in a number of markets that were not in the LTIE. However, the Commission considered, at the time, that adoption of a cost-based pricing principle – such as the total service long run incremental cost (TSLRIC) methodology that it uses for determining access prices for other declared services – was not appropriate in this instance. Rather, the Commission sought to develop a relatively light-handed pricing principle that would ensure a gradual reduction in the price of the MTAS towards costs over time.

In particular, the Commission determined that a retail benchmarking pricing principle was most appropriate for the GSM terminating access service. Under this approach, the price of GSM terminating access services for each carrier would be required to decrease in line with reductions in its average price of a bundle of retail mobile services. At the time it released this pricing principle, however, the Commission noted its success would depend, to a large extent, on expected reductions in the average price of the bundle of retail mobile services. Without this, there would be no pressure on providers of MTASs to reduce the price of their service towards cost. In order to measure the success of this pricing principle, the Commission indicated it would monitor changes in the retail price of a bundle of GSM services over an initial two-year implementation period, with a view to reviewing the suitability of the pricing principle in two years time.

The final results of the Commission's retail benchmarking monitoring program are outlined in Chapter Eight of the Report. In summary, the results indicate that the retail price of the bundle of GSM mobile services has not declined as much as the Commission initially expected. Indeed, in some periods, the average price of the bundle of retail GSM services for some carriers has increased. In short, this implies the pricing principle would not, had it been applied in an arbitral setting, be guaranteed to have led to significant reductions (if any) in the price of MTASs towards cost.

Accordingly, the Commission's monitoring of the retail benchmarking pricing principle has led it to believe that a more direct mechanism is needed to generate a closer association of the price of the MTAS with its underlying cost of production. In this regard, the Commission believes that total service long-run incremental cost (TSLRIC) – adjusted for a mark-up to include contributions to common organisational-level costs and set at a level that allows mobile operators a normal return on efficient investments (such mark-ups are sometimes referred to as TSLRIC+) – is the appropriate measure of costs towards which the price of the MTAS should trend.

The Commission has not, however, modelled the TSLRIC+ of providing the MTAS in Australia. It believes such a modelling process would be time consuming and costly to implement. Rather, it has sought to estimate TSLRIC+ using reasonable cost estimates available to it. These include consideration of cost models developed in overseas jurisdictions and TSLRIC+ proxies based on the data provided to it by mobile operators using the RAF. The Commission has also been assisted in this

regard by a report it has commissioned from the consulting firm Analysys. Analysys was responsible for modelling the long-run incremental cost of providing the MTAS for the UK regulator Ofcom (previously Oftel) and has undertaken similar work for regulators in Sweden, Greece and South Korea. Based on its consideration of all these sources of information, the Commission believes the TSLRIC+ of providing the MTAS lies in the range of 5 to 12 cents per minute. Full details of the Commission's investigation into the cost of providing the MTAS in Australia are outlined in The Annexure to this report.

Given the Commission has not formally modelled TSLRIC+ for the MTAS, however, the Commission believes that, for the purposes of its current pricing principles, the price of the MTAS should only trend towards the top of the range of reasonable estimates of TSLRIC+ available to it. Hence, the Commission believes the LTIE would be promoted by the price of the MTAS trending towards 12 cents per minute.

The Commission is concerned, however, that if the price of the MTAS were to fall to 12 cents per minute immediately, this would generate significant and potentially harmful disruption to the operations and planning of a number of telecommunications carriers.

As a result of these concerns, the Commission has determined that this target price should be approached gradually over a succession of periods. Based on market inquiries, the Commission understands the lowest available price in the market for MTAS is 21 cents per minute. However, the Commission understands that some access seekers may be paying as high as c-i-c cents per minute for this service. The Commission believes an appropriate starting point for its gradual reduction in the price of the MTAS should be the lowest available price in the market. Starting from an initial price of 21 cents per minute on 1 July 2004, the Commission believes a steady 3 cents per minute reduction in the price of the MTAS should follow on 1 January in each of the next three years. This would ensure the target price of 12 cents per minute for the MTAS is reached gradually by January 2007. Details of this pricing principle can be found in Chapters Eight and Nine of this report. A full specification of the Commission's pricing principle determination can be found at Appendix D to this report.

The Commission notes, however, that the pricing principle and the price related terms and conditions are indicative only. The pricing principle determined by the Commission is not binding in the event of consideration by the Commission of an access undertaking or arbitration of access dispute. Were the Commission required to make an arbitral determination, or consider an undertaking provided to it in relation to the MTAS, a party may argue against the application of the pricing principles and the indicative price related terms and conditions (including by making submissions in relation to the consultancy report prepared for the Commission by Analysys).

Decision

The Commission has formed a view that declaration of a varied MTAS would be in the LTIE, and is therefore appropriate under Part XIC of the Act. More specifically, the Commission believes the existing declaration of the MTAS should be varied to include voice services terminating on 3G mobile networks. Accordingly, the

Commission has determined under section 152ALA of the Act that the existing GSM and CDMA terminating access service description should:

- not be extended;
- not be revoked;
- be allowed to expire;
- be replaced by a new declaration made under section 152AL of the Act; and
- the new declaration should include termination of voice calls on 2.5G and 3G mobile networks.

The full varied service description can be found at Appendix A of this report. The declaration will expire on 30 June 2009.

Further, the Commission has reached a decision that its pricing principles for the MTAS should also be amended. In particular, the Commission believes a new pricing principle should be adopted for the three year period commencing on 1 July 2004. The pricing principle would require the price of the MTAS to gradually decrease towards a conservative TSLRIC+ target price of 12 cents per minute over a staged adjustment period commencing on 1 July 2004 and concluding on 1 January 2007. The first stage would involve immediate reduction of the price of the MTAS to 21 cents per minute on 1 July 2004. This would then be followed by three further annual reductions in the price of the service of 3 cents per minute each on 1 January in each of the three successive years, such that the price of the MTAS reaches 12 cents per minute by 1 January 2007.

1. Introduction

In March 2003, the Australian Competition and Consumer Commission (the Commission) announced that it would conduct a wide ranging review of a number of issues associated with the regulation of the mobile services industry.

One aspect of this inquiry concerns whether or not the Commission should extend the expiry date for the declaration of the Domestic Global Systems for Mobiles (GSM) and Code Division Multiple Access (CDMA) terminating access service, or to allow this declaration to expire.[22] The expiry date for this declaration is 30 June 2004. This aspect of the inquiry also concerns whether or not this declaration should be varied or revoked or replaced by new declarations. The Commission has conducted this aspect of the inquiry pursuant to section 152ALA of the *Trade Practices Act 1974* (the Act) and Part 25 of the *Telecommunications Act 1997.*

Further, the Commission indicated that the review would also consider what form of regulation – and, in particular, what form of pricing principle – would be most appropriate for this service should it find that continued or varied declaration of a mobile terminating access service (MTAS) was appropriate.

In order to advance and inform this and other aspects of the review, and in accordance with Division 3 of Part 25 of the *Telecommunications Act 1997*, the Commission released a Discussion Paper on 24 April 2003.

In response to the Discussion Paper, the Commission received 27 submissions from 20 interested parties. A list of all submissions received following the Discussion Paper is contained in Appendix B of this report.

As part of this process, the Commission also held two public forums to aid consideration of the central issues in this review. These were held in Melbourne on 29 August 2003 and in Sydney on 11 September 2003.

On 26 March 2004, the Commission released a Draft Decision in this inquiry. In response to the Draft Decision, the Commission received 28 submissions from (or on behalf of) 15 interested parties. A list of all submissions following the Draft Report is contained in Appendix C of this report.

Based on its investigations in this inquiry, the Commission has formed a view that declaration of a varied MTAS would be in the LTIE, and is therefore appropriate under Part XIC of the Act. More specifically, the Commission believes the existing declaration of the MTAS should be varied to include voice services terminating on 3G mobile networks. Accordingly, the Commission has determined under section 152ALA of the Act that the existing GSM and CDMA terminating access service description should:

- not be extended;

[22] GSM and CDMA are alternative second generation/digital mobile network technologies.

- not be revoked;
- be allowed to expire;
- be replaced by a new declaration made under section 152AL of the Act; and
- the new declaration should include termination of voice calls on 2.5G and 3G mobile networks.

The full varied service description can be found at Appendix A of this report. The declaration will expire on 30 June 2009.

Further, the Commission has reached a decision that its pricing principles for the MTAS should also be amended. In particular, the Commission believes a new pricing principle should be adopted for the three year period commencing on 1 July 2004. The pricing principle would require the price of the MTAS to follow an adjustment path such that there is a closer association of the price and underlying cost (i.e. TSLRIC+) of the service.

The pricing principle also specifies that the adjustment path should have the following characteristics:

- the starting price should be set at the lowest point at which the service is being supplied;
- the end price should be set at the upper end of the range of reasonable estimates of TSLRIC+ of supplying the service that are currently available;
- the adjustment path should commence on 1 July 2004 and conclude on 1 January 2007;
- decrements should initially be made on a six monthly basis then, as prices become more proximate to TSLRIC+, be made on an annual basis; and
- each decrement between the start price and end price should be of equal amount.

The Commission's pricing principle also specifies indicative price related terms and conditions relating to access to the MTAS based on the best information available to the Commission at this point in time. The indicative price related terms and conditions are outlined in Table 1.1 below.

	Adjustment Path
1 July 2004	21 cpm
1 January 2005	18 cpm
1 January 2006	15 cpm
1 January 2007	12 cpm

Table 1.1 – Adjustment path for the pricing principle

The pricing principle determination is provided at Appendix D to this report.

1.1 Background

1.1.1 The mobile terminating access service

The mobile terminating access service (MTAS) is a wholesale input, used by providers of calls from fixed-line and mobile networks, in order to complete calls to mobile subscribers connected to other networks.[23]

When a mobile call is made between consumers (or end-users), it will involve two essential elements – origination and termination. Origination refers to the carriage of a call from the end-user who makes, or originates, the call over the network to which this end-user is connected. Termination refers to the carriage of the call to the person receiving the call over the network on which the person receiving the call is connected. Where the person making the call and the person receiving the call are on different networks, a point of interconnection (POI) between these two networks will exist. Origination, termination and the POI are illustrated in Figure 1.1 below.

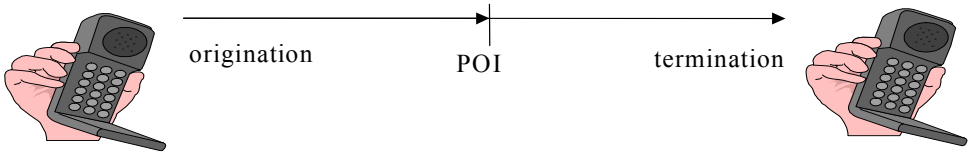

Figure 1.1 - Use of the MTAS to supply a mobile-to-mobile call

Under current commercial arrangements between network owners, the network owner that originates a call to a mobile network will, generally, purchase termination from the network owner that completes the call. The originating network owner will recover these costs, and the costs it incurs from originating the call, through the retail

[23] A full service description for the MTAS for the purposes of this inquiry can be found at Appendix A of this report.

price it charges its directly connected end-user for providing the call. This commercial arrangement is sometimes referred to as the 'calling party pays' (CPP) model or the 'termination' model.

An example of how the MTAS is used in the provision of a fixed-to-mobile (FTM) call is depicted in Figure 1.2 below. In this example, Telstra purchases access to Optus' MTAS in order to provide a call from a Telstra fixed-line end-user to an Optus mobile end-user. Telstra would then bill its directly-connected consumer for providing a FTM call service.

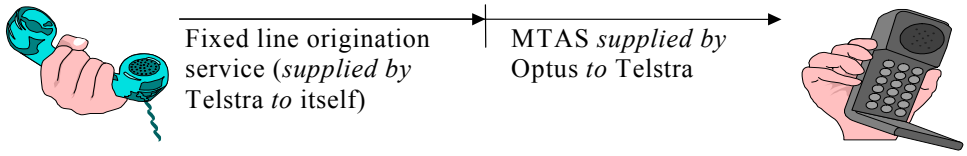

Figure 1.2 - Use of the MTAS to supply a fixed-to-mobile call

The MTAS is therefore an essential input into the provision of calls to mobile phone users where the mobile phone user is on a separate network to the individual who originates the call. This is the case irrespective of whether the call terminates on a second generation (2G) GSM or CDMA network. It is also a key element in the provision of calls that terminate on 2.5G and third generation (3G) mobile networks.[24]

1.1.2 Declaration

Under the Act, declaration of a service creates a requirement for those carriers supplying the service (known as "access providers") to provide the service, upon request, to other service providers (known as "access seekers").[25] In doing so, the access provider must take all reasonable steps to ensure that the technical and operational quality of the service is equivalent to that which the access provider provides to itself.[26]

Declaration ensures service providers have access to the inputs they need to supply competitive communications services to end-users. The terms and conditions of supply for a declared service can be agreed through commercial negotiations. If the access provider or access seeker cannot agree on the terms and conditions of supply, either party can seek Commission arbitration of disputes over access terms and

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[24] 2G protocols use digital encoding and include GSM and CDMA. 2G networks support high bit rate voice and limited data communications. They are capable of offering auxiliary services such as data, fax and the short messaging service (SMS). 2.5G protocols extend 2G systems to provide additional features, such as packet-switched connection and enhanced data rates. 3G protocols support much higher data rates, measured in megabits per second, intended for applications such as full-motion video, video conferencing and full Internet access.

[25] Act para. 152AR(3)(a).

[26] Act para. 152AR(3)(b).

conditions for the service. Where a relevant access undertaking (approved by the Commission) exists, an arbitration determination made by the Commission must not be inconsistent with that undertaking.

1.1.3 The Commission's approach to regulating this service to date

In 1997, the GSM[27] terminating access service was deemed to be declared under section 39 of the *Telecommunications Act 1997* and Part XIC of the Act. At that time, the Commission considered that the GSM terminating access service should be deemed for the purpose of achieving any-to-any connectivity between end-users of a GSM network and end-users of any other telephony network.[28]

In subsequent years, a number of disputes over the terms and conditions of access to the GSM terminating access service were notified to the Commission under Part XIC of the Act. As a consequence of its arbitration of these disputes, the Commission developed pricing principles for the GSM terminating access service which it released in July 2001. The Commission determined that it would adopt a retail benchmarking pricing methodology in its arbitration of access disputes in relation to the service. Details of this particular pricing principle are outlined in Chapter Eight of this report. After the release of this pricing principle, all remaining GSM access disputes were withdrawn. While the Commission was not required to apply its pricing principles to resolve any of these disputes, the Commission believes the issuing of pricing principles served a useful purpose in helping parties resolve disputes in relation to the MTAS. The Commission indicated at the time it released these pricing principles that it would review the success of the methodology after two years.

In March 2002, the Commission released a report examining a proposed variation to the GSM terminating access service declaration to make it technology neutral. The report resulted in the definition of the service being varied to include terminating access on Code Division Multiple Access (CDMA)[29] mobile networks.

As a result of the variation to the service declaration, the Commission released a report, in September 2002, setting out its pricing methodology for the varied GSM and CDMA mobile terminating access service. The Commission concluded that the retail benchmarking approach was still the most appropriate pricing methodology for use in arbitrating disputes in relation to the varied MTAS.

This review fulfils the commitment made by the Commission in its July 2001 report on the pricing principle for the GSM termination service to review the success of the mobile termination pricing principle after two years. Separately, following changes made to the Act in December 2002, the MTAS is due to expire at the end of June 2004. This Report fulfils the Commission's obligation under section 152ALA of the Act to consider:

- whether to extend or further extend the expiry date of the declaration;

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27 The first European digital standard developed to establish cellular compatibility throughout Europe. GSM operates at the 900 and 1800 MHz band.

28 ACCC, *Deeming of Telecommunications Services*, 30 June 1997, p. 19.

29 A digital wireless telephony transmission technique, CDMA allows multiple frequencies to be used simultaneously (spread spectrum) and operates in the 800 MHz band.

- whether to revoke the declaration;
- whether to vary the declaration;
- whether to allow the declaration to expire without making a new declaration under section 152AL; and
- whether to allow the declaration to expire and then to make a new declaration under section 152AL.

1.2 Structure of this report

The remainder of this report is structured as follows:

- Chapter Two discusses the relevant legislative framework for the inquiry;
- Chapter Three discusses the service description;
- Chapter Four discusses whether continued declaration would promote competition in telecommunications markets;
- Chapter Five discusses whether continued declaration will promote any-to-any connectivity between end-users;
- Chapter Six discusses whether continued declaration will promote economically efficient use of infrastructure;
- Chapter Seven discusses whether continued declaration will promote economically efficient investment in infrastructure;
- Chapter Eight discusses pricing principles;
- Chapter Nine outlines indicative price related terms and conditions for the MTAS that result from the implementation of the Commission's preferred pricing principle based on the best information the Commission has available to it at this point in time;
- The Annexure outlines in detail information relating to the best cost estimates of TSLRIC+ that the Commission has available to it at this point in time;
- Appendix A provides the varied mobile termination service description;
- Appendix B contains a list of those interested parties who provided submissions in response to the Discussion Paper;
- Appendix C contains a list of those interested parties who provided submissions in response to the Draft Decision; and

- Appendix D comprises the indicative pricing determination made by the Commission under section 152AQA of the Act.

2. Legislative background

2.1 The access regime

Part XIC of the Act sets out a telecommunications access regime. The Commission may determine that particular carriage services and related services are declared services. Once a service is declared, carriage service providers (CSPs) are required to comply with standard access obligations in relation to any such service that they supply. The standard access obligations facilitate the provision of access to declared services by service providers in order that service providers can provide carriage services and/or content services. In addition to its standard access obligations, a carrier, CSP or related body must not prevent or hinder access to a declared service.

2.2 Maintaining, varying or revoking an existing declaration

Section 152ALA of the *Trade Practices Act 1974* ('the Act') requires the Commission to review each declaration within the year preceding its expiry date.

The purpose of the review, as set out in section 152ALA(7) of the Act, is to determine whether or not the expiry date for the declaration should be extended, whether the declaration should be allowed to expire, whether or not the declaration should be varied or revoked or if a new declaration should be made. An extension to an expiry date, or the expiry date for a new declaration, may not be for a period exceeding five years.

Pursuant to section 152ALA of the Act, the Commission must:

- hold a public inquiry in accordance with Part 25 of the *Telecommunications Act 1997* on whether to extend the expiry date for the declaration, vary or revoke the declaration, or allow the declaration to expire (with or without a new declaration being made); and,

- prepare and publish a report setting out the Commission's findings.

The Commission's powers to extend the expiry date for a declaration, vary or revoke a declaration, or allow a declaration to expire (with or without a new declaration being made), are set out in sections 152AL, 152ALA and 152AO of the Act. In exercising these powers, the Commission is required to consider the effect on the LTIE of carriage services and services provided by means of carriage services.

2.3 The Commission's approach to the LTIE test

The Commission must decide whether declaring the service would promote the LTIE of carriage services, or of services supplied using carriage services ('listed services'). Section 152AB of the Act provides that, in determining whether declaration promotes the LTIE, regard must be had only to the extent to which declaration is likely to result in the achievement of the following objectives.

- promoting competition in markets for listed services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

Section 152AB also provides further guidance in interpreting these objectives. The three objectives are discussed below.

Promoting competition

Subsections 152AB(4) and (5) provide that, in interpreting this objective, regard must be had to, but is not limited to, the extent to which the arrangements will remove obstacles to end-users gaining access to listed services. The Explanatory Memorandum to Part XIC of the Act states that:

> ...it is intended that particular regard be had to the extent to which the...[declaration]... would enable end-users to gain access to an increased range or choice of services.[30]

Any-to-any connectivity

Subsection 152AB(8) provides that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, or a similar service, with other end-users whether or not they are connected to the same network.

Efficient use of, and investment in, infrastructure

Subsections 152AB(6) and (7) provide that, in interpreting this objective, regard must be had to, but not limited to, the following:

- whether it is technically feasible for the services to be supplied and charged for, having regard to:

[30] *Trade Practices Amendment (Telecommunications) Act 1997* (Cth) Explanatory Memorandum.

- the technology that is in use or available;

- whether the costs that would be involved in supplying, and charging for, the services are reasonable; and

- the effects, or likely effects, that supplying, and charging for, the services would have on the operation or performance of telecommunications networks;

- the legitimate commercial interests of the supplier or suppliers of the service, including the ability of the supplier or suppliers to exploit economies of scale and scope; and

- the incentives for investment in the infrastructure by which the services are supplied.

These matters are interrelated. In many cases, the LTIE may be promoted through the achievement of two or all of these criteria simultaneously. In other cases, the achievement of one of these criteria may involve some trade-off in terms of another of the criteria, and the Commission will need to weigh up the different effects to determine whether declaration promotes the LTIE. In this regard, the Commission will interpret long-term to mean the period of time necessary for the substantive effects of declaration to unfold.

2.3.1 Promoting competition

The first criterion requires the Commission to make an assessment of whether or not declaration would be likely to promote competition in the markets for listed services. The concept of competition is of fundamental importance to the Act and has been discussed many times in connection with the operation of Part IIIA, Part IV, Part XIB and Part XIC of the Act.

In general terms, competition is the process of rivalry between firms, where each market participant is constrained in its price and output decisions by the activity of other market participants. The Trade Practices Tribunal (now the Australian Competition Tribunal) stated that:

> In our view effective competition requires both that prices should be flexible, reflecting the forces of demand and supply, and that there should be independent rivalry in all dimensions of the price-product-service packages offered to consumers and customers.
>
> Competition is a process rather than a situation. Nevertheless, whether firms compete is very much a matter of the structure of the markets in which they operate.[31]

Competition can provide benefits to end-users including lower prices, better quality and a better range of services over time. Competition may be inhibited where the structure of the market gives rise to market power. Market power is the ability of a firm or firms profitably to constrain or manipulate the supply of products from the

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[31] *Re Queensland Co-operative Milling Association Ltd; Re Defiance Holdings Ltd* (1976) ATPR 40-012, 17,245.

levels and quality that would be observed in a competitive market for a significant period of time.
The establishment of a right for third parties to negotiate access to certain services on reasonable terms and conditions can operate to constrain the use of market power that could be derived from the control of these services. Accordingly, an access regime such as Part IIIA or Part XIC addresses the *structure* of a market, to limit or reduce the sources of market power and consequent anti-competitive conduct, rather than directly regulating conduct which may flow from its use, which is the role of Part IV and Part XIB of the Act. Nonetheless, in any given challenge to competition, both Parts XIB (or IV) and XIC may be necessary to address anti-competitive behaviour. To assist in determining the impact of potential declaration on downstream markets, the Commission will first need to identify the relevant market(s) and assess the likely effect of declaration on competition in each market.

Section 4E of the Act provides that the term 'market' includes a market for the goods or services under consideration and any other goods or services that are substitutable for, or otherwise competitive with, those goods or services. The Commission's approach to market definition is discussed in its *Merger Guidelines*, June 1999 and is also canvassed in its information paper, *Anti-competitive conduct in telecommunications markets,* August 1999.

The second step is to assess the likely effect of declaration on competition in each relevant market. As noted above, subsection 152AB(4) requires that regard must be had to the extent to which declaration will remove obstacles to end-users gaining access to listed services.

The Commission considers that denial to service providers of access to necessary upstream services on reasonable terms is a significant obstacle to end users gaining access to services. In this regard, declaration can remove such obstacles by facilitating entry by service providers, thereby providing end users with additional services from which to choose. For example, access to a mobile termination service may enable more service providers to provide fixed to mobile calls to end-users. This gives end-users more choice of service providers.

Where existing market conditions already provide for the competitive supply of services, the access regime should not impose regulated access.[32] This recognises the costs of providing access, such as administration and compliance, as well as potential disincentives to investment. Regulation will only be desirable where it leads to benefits in terms of lower prices, better services or improved service quality for end-users that outweigh any costs of regulation.

In the context of considering whether declaration will promote competition, it is therefore appropriate to examine the impact of the proposed service description on each relevant market, and compare the state of competition in that market with and without declaration. In examining the market structure, the Commission considers that competition is promoted when market structures are altered such that the exercise of market power becomes more difficult; for example, because barriers to entry have been lowered (permitting more efficient competitors to enter a market and thereby

[32] *Trade Practices Amendment (Telecommunications) Act 1997* (Cth) Explanatory Memorandum.

constrain the pricing behaviour of the incumbents) or because the ability of firms to raise rivals' costs is restricted.[33]

2.3.2 Any-to-any connectivity

The objective of 'any-to-any' connectivity is achieved if, and only if, each end-user of a service that involves communication between end-users is able to communicate, by means of that service or a similar service, with every other end-user even where they are connected to different telecommunications networks.[34] The reference to 'similar' services in the Act enables this objective to apply to services with analogous, but not identical, functional characteristics, such as fixed and mobile voice telephony services or Internet services which may have differing characteristics.

The any-to-any connectivity requirement is particularly relevant when considering services that involve communications between end-users.[35] When considering other types of services (such as carriage services that are inputs to an end-to-end service or distribution services such as the carriage of pay television), the Commission considers that this criterion will be given less weight compared to the other two criteria.

2.3.3 Efficient use of, and investment in, infrastructure

The third objective under section 152AB is to encourage the economically efficient use of, and economically efficient investment in, the infrastructure used for the supply of carriage services.

Economic efficiency has three components.

- Productive efficiency refers to the efficient use of resources within each firm such that all goods and services are produced using the least cost combination of inputs.

- Allocative efficiency refers to the efficient allocation of resources across the economy such that the goods and services that are produced in the economy are the ones most valued by consumers. It also refers to the distribution of production costs amongst firms within an industry to minimise industry-wide costs.

- Dynamic efficiency refers to the efficient deployment of resources between present and future uses such that the welfare of society is maximised over time. Dynamic efficiency incorporates efficiencies flowing from innovation leading to the development of new services, or improvements in production techniques.

The Commission will need to ensure that the access regime does not discourage investment in networks or network elements where such investment is efficient. However, where it is inefficient to duplicate investment in existing networks or

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[33] See also *Re Sydney International Airport* [2000] ACompT 1 at paragraph 106 for discussion on when competition is promoted.

[34] Act s. 152(AB)(8).

[35] *Trade Practices (Telecommunications) Amendment Act 1997* (Cth) Explanatory Memorandum.

network elements, the access regime may play an important role in ensuring that existing infrastructure is used efficiently.

Paragraph 152AB(6)(a) requires the Commission to have regard to a number of specific matters in examining whether declaration will lead to achievement of this objective. Some of these are considered below.

The technical feasibility of supplying and charging for particular services

This incorporates a number of elements, including the technology that is in use or available, the costs of supplying, and charging for, the services and the effects on the operation of telecommunications networks.

In many cases, the technical feasibility of supplying and charging for particular services given the current state of technology may be clear, particularly where there is a history of providing access. The question will be more difficult where there is no prior access, or where conditions have changed. Experience in other jurisdictions, taking account of relevant differences in technology or network configuration, will be helpful. Generally the Commission will look to an access provider to demonstrate that supply is not technically feasible.

Most of the issues under this criterion are discussed in Chapter Three, which considers the service description and technical feasibility of providing access to a mobile termination service.

The legitimate commercial interests of the supplier or suppliers, including the ability of the supplier to exploit economies of scale and scope

A supplier's legitimate commercial interests encompass its obligations to the owners of the firm, including the need to recover the cost of providing services and to earn a normal commercial return on the investment in infrastructure. The Commission considers that allowing for a normal commercial return on investment will provide an appropriate incentive for the access provider to maintain, improve and invest in the efficient provision of the service.

A significant issue relates to whether or not capacity should be made available to an access seeker. Where there is spare capacity within the network, not assigned to current or planned services, allocative efficiency would be promoted by obliging the owner to release capacity for competitors.

Paragraph 152AB(6)(b) also requires the Commission to have regard to whether the access arrangement may affect the owner's ability to realise economies of scale or scope. Economies of scale arise from a production process in which the average (or per unit) cost of production decreases as the firm's output increases. Economies of scope arise from a production process in which it is less costly in total for one firm to produce two (or more) products than it is for two (or more) firms to each separately produce each of the products.

Potential effects from access on economies of scope are likely to be greater than on economies of scale. A limit in the capacity available to the owner may constrain the

number of services that the owner is able to provide using the infrastructure and thus prevent the realisation of economies of scope associated with the production of multiple services. In contrast, economies of scale may simply result from the use of the capacity of the network and be able to be realised regardless of whether that capacity is being used by the owner or by other carriers and service providers. Nonetheless, the Commission will assess the effects of the supplier's ability to exploit both economies of scale and scope on a case-by-case basis.

The impact on incentives for investment in infrastructure

Firms should have the incentive to invest efficiently in infrastructure. Various aspects of efficiency have been discussed already. It is also important to note that while access regulation may have the potential to diminish incentives for some businesses to invest in infrastructure, it also ensures that investment is efficient and reduces the barriers to entry for other (competing) businesses or the barriers to expansion by competing businesses.

There is also a need to consider the effects of any expected disincentive to investment with any anticipated increases in competition to determine the overall effect of declaration on the LTIE. The Commission will be careful to ensure that services are not declared where there is a risk that incentives to invest may be dampened, such that there is little subsequent benefit to end-users from the access arrangements.

2.4 Pricing principles for declared services

As a result of changes to the telecommunications provisions of the Act in September 2001, the Commission is now obliged to determine pricing principles (PP) relating to services that it declares.[36] The PPs must be in writing and must be made at the same time as, or as soon as practicable after, the Commission declares a service or varies a declared service.

The PPs may also contain price-related terms and conditions relating to access to the declared service. 'Price related terms and conditions' is defined to mean terms and conditions relating to price or a method of ascertaining price.

Before developing PPs, the Commission must publish a draft version, invite public submissions on the draft, and consider any submissions received. Accordingly, the Commission published a draft version of the PPs on 26 March 2004. The Commission must then publish the PPs (in such manner it thinks appropriate). The Commission must have regard to the PPs if there is an arbitration in respect of the declared service.

The practical effect of these changes for the Commission is that the Commission should either call for submissions on PPs as part of a public discussion paper on a proposed declared service or conduct a separate public consultation on PPs as soon as possible after a service is declared. Although the Commission is not bound to follow the PPs in any arbitration, in practice it would unless there was good reason not to.

[36] Act s. 152AQA.

3. Service description

A fundamental step in determining whether a given service should be declared is to establish how the service in question should be described. This gives interested parties a basis point from which to discuss whether the service should be declared, and gives parties a firm idea of the service that access providers would be required to supply were the service to be declared. It also assists the Commission by giving it a field within which it can meaningfully analyse whether declaration of the service, so defined, would promote the LTIE.

As the note to sub-section 152AL(3) states:

> Eligible services may be specified by name, by inclusion in a specified class or in any other way.[37]

The Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 adds:

> In making a declaration of an eligible service, 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).[38]

3.1 Principles for developing a service description

When developing the description of an eligible service, the Commission is guided by the object of Part XIC of the Act, which is to promote the LTIE. To this end, the Commission utilises the following principles:

- In most cases, some degree of technical specification is required. However, the Commission's preference is to describe the service in terms which are as functional as possible. In such a situation, the declaration will leave the access provider with flexibility to determine the most efficient way of supplying the service. This also provides more flexibility to the access seeker in the type of service that can be provided within the ambit of the declared service and avoids distorting technological or innovative developments. Technical terms may, however, be appropriate where a functional description would provide scope for ambiguity which could be exploited by the access provider in a manner that hinders access.

- The eligible service should be described in a manner which provides sufficient clarity for application of the standard access obligations.

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[37] See *Acts Interpretation Act 1901* (Cth) s. 46(2).

[38] Trade Practices (Telecommunications) Amendment Bill (1996) Explanatory Memorandum, item 6, proposed s. 152AL.

- The service should be one for which it is technically feasible to supply and charge. In addition, the service should be one that a potential access provider is supplying to itself or others.

3.2 Background

When the GSM termination service was deemed to be declared in 1997, it was described as:

> … 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 number ranges of the Australian Numbering Plan and directly connected to the AP's network.[39]

As a result of the Commission's inquiry into making GSM service declarations technology neutral, the service description was broadened to include termination services supplied on CDMA networks, in March 2002. The declared GSM and CDMA termination service is now described as:

> … 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 Telecommunications Numbering Plan 1997 and directly connected to the AP's GSM or CDMA network.[40]

The Commission noted in its 2003 Mobile Services Review Discussion Paper (the Discussion Paper) that it would assess whether the service description should be varied in any way. In particular, it indicated it is important to consider whether the service description should be expanded to include termination of services on 3G mobile networks. The Commission also noted, however, that the service declaration was varied only twelve months earlier, in March 2002.

3.3 Views of interested parties

3.3.1 Responses to the Discussion Paper

In response to the Discussion Paper, interested parties expressed a range of views on the most appropriate description for the MTAS.

The mobile network operators (MNOs) with significant market shares (namely, Telstra, Optus and Vodafone) argue against extending the service description to include termination of any 3G mobile services. These parties argue that as 3G mobile networks and services are nascent in character, any access regulation at this stage would be premature.

Telstra argues that premature regulation of 3G services will undermine incentives for investment in 3G,[41] whilst Vodafone argues that carriers will be unable to set rates for termination on 3G networks at markedly different levels to those charged for

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[39] ACCC, *Deeming of Telecommunication Services*, 30 June 1997, p. 47.
[40] ACCC, *Variation to make the GSM Service Declarations Technology-Neutral*, March 2002, p. 58.
[41] Telstra, *Telstra's Supplementary Response to the Discussion Paper of the ACCC*, July 2003, p. 7.

termination on 2G networks. Vodafone also argues that regulation should not be imposed until access problems in relation to these services arise.[42]

Although agreeing that 3G services are nascent in character, Optus also comments that to the extent that 3G networks are used in the supply of voice and basic data services, there should be no differentiation between the regulatory treatment of 2G and 3G mobile services.[43]

Hutchison supports changing the service description so that it is technology neutral with regard to terminating voice calls on mobile networks. It argues that the case for regulating a service terminating voice calls on a network using 3G technology is the same as that for regulating the current MTAS.[44] This approach is also favoured by Mr Adam Lucas Johns.[45]

AAPT expresses the view that the current service description is technology neutral and therefore encompasses 2G, 2.5G and 3G technology.[46]

Other industry and consumer telecommunications bodies and groups commenting on the issues (that is, the Australian Telecommunications Users Group (ATUG),[47] the Small Enterprise Telecommunications Centre Limited (SETEL)[48] and the Competitive Carriers Coalition (CCC))[49] favour not extending the service description to encompass services supplied using 3G networks, at this point in time. These parties suggest, instead, that the Commission should maintain a 'watching brief' on the development of 3G services, including data services. This position is also supported by the fixed-line only operator, MCI.[50]

With respect to content services provided on 3G networks, Hutchison and AAPT express concern that given content is likely to be a significant input to 3G data services, there is a strong possibility that control over premium content will become a tool for restricting competition in the 3G data services sub-market.[51]

Vodafone, however, suggests that there are benefits to be gained from the vertical integration of network services, user applications and content development. It also considers that concerns relating to the integration of content and other services would be more appropriately dealt with through the competition provisions of the Act.[52]

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42 Vodafone, *Submission to the ACCC Mobile Services Review 2003*, 13 July 2003, p. 11.
43 Optus, *Submission to the ACCC on Mobile Services*, June 2003, p. 59.
44 Hutchison 3G Australia, *Submission to the ACCC Mobile Services Review 2003 (public version)*, 16 June 2003, p. 7.
45 Adam Lucas Johns, *Submission for ACCC Mobile Services Review 2003*, 13 June 2003, p. 3.
46 AAPT, *Mobile Services Review 2003 Submission by AAPT Limited*, 13 June 2003, pp. 5-6;
47 ATUG, *ATUG's Submission to the ACCC Mobile Services Review 2003 Discussion Paper*, p. 11.
48 SETEL, *Submission by the Small Enterprise Telecommunciations Centre Limited*, June 2003, p. 5.
49 CCC, *Submission to the ACCC Mobile Services Review 2003*, p. 14.
50 MCI, *Comments of MCI Regarding the ACCC Discussion Paper on Mobile Services Review 2003*, 13 June 2003, pp. 15-16.
51 Hutchison 3G Australia, *Submission to the ACCC Mobile Services Review 2003 (public version)*, 16 June 2003, pp. 32-33; AAPT, *Mobile Services Review 2003 Submission by AAPT Limited*, 13 June 2003, p. 20.
52 Vodafone, *Supplementary Submission to the ACCC Mobile Services Review 2003*, 2 July 2003, p. 13.

3.3.2 Response to the Draft Report

In the Draft Report, the Commission proposed to vary the service description to be technology-neutral, such that it encompasses termination of voice services on all digital mobile networks, including 2.5G and 3G networks, regardless of whether a call is made to a mobile phone from a fixed-line or mobile phone. The Commission did not propose to include the termination of any data services (including SMS services) or content services on any digital mobile networks.

Hutchison, ATUG and SPAN express support for the variation of the service description, although ATUG stated its support is dependent upon the Commission monitoring the supply of mobile data services.[53]

The remaining MNOs (Telstra, Optus and Vodafone) argue that regulation of 3G voice termination services would inhibit marginal investment in the new 3G technologies. Optus states that it could affect investments 'at the margin' by limiting the scope of roll-out, the timing of investment and/or the amount of investment made.[54]

Vodafone makes the most detailed criticisms of the proposed service description. Whilst Vodafone recognises that a basic voice call will be similar irrespective of the network upon which it is provided, Vodafone argues that 3G network services should not be regulated like those provided on 2G networks because:

- investment at the margin will be stifled as regulation of 3G services is 'heavy-handed' and beyond any regulation imposed in other jurisdictions;
- any consumer benefit that the Commission has identified as arising from regulation of the MTAS is likely to be minimal or negligible in the case of termination of voice calls on 3G networks, given the small number of 3G subscribers;
- the Commission does not know (and, given the nascent nature of 3G services, cannot know) the costs of terminating voice calls on 3G networks. Vodafone also points out that Hutchison '3' in the UK charges significantly more for termination on its 3G network than the regulated price for termination on its 2G network and that this

[53] See Hutchison, *Response to the ACCC's Draft Decision on Mobile Terminating Access*, 30 April 2004; ATUG, *Comments on the Draft Decision on Mobile Terminating Access Services*, May 2004; and SPAN, *Submission by the SPAN to the ACCC in Respect of the Mobile Services Review Mobile Terminating Access Service Draft Decision*, 2 June 2004.

[54] See Telstra, *Response to the Draft Decision on the Mobile Terminating Access Service*, June 2004; Optus, *Optus Submission to ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004; Vodafone, *Response to ACCC Draft Decision Mobile Termination Access Services*, 30 April 2004; and Vodafone, *Supplementary Submission to the ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004.

difference is reflective of the relative cost structures for these types of networks.[55]

Vodafone is also critical of the Commission's intention to regulate termination for mobile-to-mobile calls (arguing that symmetry of traffic means regulation will not promote competition or any-to-any connectivity). Vodafone also raises concerns with regard to the statement made by the Commission of its intention to monitor the supply of mobile data services to see if regulatory intervention becomes necessary as these services develop.[56]

Most of the issues raised with respect to the inclusion of voice termination services on 3G networks in the service description in response to the Draft Report are addressed below. However, some issues are more appropriately addressed in other chapters to this report and, as such, appear in those chapters – for example, the issue of the effects of declaration on investment in 3G infrastructure is discussed in Chapter Six.

3.4 Commission view

The Commission has identified the following main issues emerging out of the submissions and market inquiries in respect of the service description:

- whether the existing service description should be extended from termination of services on 2G mobile networks to include termination of services of services on 2.5G and 3G networks; and

- whether the service description should apply to FTM and MTM termination services, or only to termination of FTM calls.

Each of these issues is addressed in turn below.

3.4.1 Extension of service description from termination of services on 2G mobile networks to include termination of services on 2.5G and 3G networks

In determining whether the current service description for the mobile termination service should be extended to include services that can be supplied on the new 2.5G and 3G mobile technologies, the Commission will examine the following aspects of mobile services:

- the technical differences between 2G, 2.5G and 3G services;

- the delivery of voice and data services on each type of network; and

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[55] Vodafone, *Response to ACCC Draft Decision Mobile Termination Access Services*, 30 April 2004, pp. 8-13; Vodafone, *Supplementary Submission to the ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004, pp. 3-4.

[56] Vodafone, *Response to ACCC Draft Decision Mobile Termination Access Services*, 30 April 2004, p. 14; Vodafone, *Supplementary Submission to the ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004, pp. 3-4.

- the extent of take-up of the different types of mobile services available using each technology and the scope for bottlenecks in the supply of each type of service.

Differences between 2G, 2.5G and 3G services

2G and 2.5G mobile services are provided on GSM and CDMA networks in Australia. Telstra provides services nationally on both types of networks, whilst Optus and Vodafone provide services nationally on their own GSM networks. Hutchison provides 2G services in Melbourne and Sydney using its CDMA network under the 'Orange' brand name, with a roaming agreement with Telstra allowing for Orange customers to roam onto Telstra's CDMA network in other areas in Australia.

Hutchison also provides mobile services on its 3G network, '3', in Sydney, Melbourne, Perth, Adelaide, Brisbane and the Gold Coast. It roams onto Vodafone's GSM network in all other areas.

2G mobile services are narrowband services which are typically regarded as providing voice services and basic data services such as SMS.

3G mobile services, by way of contrast, provide for wideband communications capable of conveying multimedia, video and other capacity-demanding applications.[57] This widening of the bandwidth enables greater volumes of data to flow to mobile receivers allowing full broadband services such as full colour screens, video conferencing and Internet access.

A key characteristic of 3G traffic is that it does not solely originate from traditional circuit-switched networks, but includes content sourced from the Internet and other packet-based networks. 3G devices are capable of transmitting text, digitised voice, video and multimedia.

3G network development has been based on the International Mobile Telecommunications 2000 Standard. This standard was developed by the International Telecommunications Union (ITU) to ensure interoperability with existing mobile technology standards including GSM and CDMA. As such, it has always been recognised that 3G networks will terminate 2G services and vice versa with respect to common services.

3G services are supplied using the CDMA 2000 technology (based on the original CDMA technology) and W-CDMA technology, which is based on GSM technology.

In between 2G and 3G technologies is what is referred to as 2.5G services. These services tend to provide greater functionality through higher data rates. These technologies use the same spectrum as 2G networks and therefore are considered to be upgrades to the 2G GSM and CDMA networks. The 2.5G technologies use 1×RTT, GPRS and EDGE technologies. Whilst these technologies allow for services similar to those supplied using 3G technologies to be provided on the '2G spectrum',

[57] Australian Communications Authority, *Telecommunications Performance Report 2002-03,* December 2003*,* p. 86.

services that require high data transmission rates, such as video calls, are not possible. For example, full Internet graphics may not be available to the end-user of 2.5G services but a simpler set of graphics may be possible.

Essentially, 2.5G and 3G networks allow for the introduction of new mobile services that, due to transmission capacity limitations, are not able to be offered using 2G GSM and CDMA networks. They are also, however, able to provide a range of existing mobile services that are provided on 2G networks, specifically, voice and SMS. Therefore, from a consumer's or end-user's point of view, 2.5G and 3G services are likely to appear as 'add-on' services to existing mobile services, rather than as entirely new communications services.

Is there a distinction between the delivery of voice and data services on each type of network?

Mobile services are typically divided into two categories: voice services and data services.

The introduction of 3G technologies has the potential to blur these categories from a technical perspective.

All current mobile technologies (2G, 2.5G and 3G) transport traffic in the core network as digital packets. Accordingly, voice could be considered to be a data service in this context.

However, a distinction has been made to date by virtue of the use of reserved capacity to handle voice traffic. The packet routing for all mobile services is controlled by circuit switching technology which ensures that the order and route of each packet is the same and is determined by the network.

For 2G services, once packets reach the Mobile Switching Centre (MSC), the data packets are reassembled and forwarded to the mobile handset as a normal voice call. In contrast, packets of data (including voice) are reassembled at the handset on 2.5G and 3G networks (that is, on GPRS, EDGE, 1×RTT and the 3G technologies).

However, the Commission considers that the distinction between voice services and data services remains important from a consumer perspective, at this point in time.

Hence, while the Commission believes a distinction can be made between voice and data services at this time, the introduction of 2.5G and 3G services may blur the distinction between voice and data services in the future. Should this occur, the Commission may need to reconsider the suitability of a service description that focuses only on termination of voice calls on mobile networks.

The extent of consumer take-up of the different types of services available for each technology and the scope for bottlenecks

The level of consumer acceptance of the different services supplied using mobile technologies varies greatly between the services. For some services, such as voice

calls, the market is relatively mature, whereas others such as video-calls are very much in their infancy.

The Commission believes that an examination of the:

- extent of take-up of each service; and
- scope for bottlenecks in the supply of each of these services;

will assist in determining the appropriate form any service description should take. This exercise may also assist in avoiding excessively broad regulation of mobile services.

These issues are considered for each of voice services, SMS and other data services below.

Voice services

The provision of voice services appears to be relatively mature. Recent data shows that average revenue per user (ARPU) for voice for each MNO has been decreasing since 1998, suggesting that the provision of the service has already reached a level of maturity.[58] The minutes of use (MOU) per subscriber per month for Telstra, declined from the first quarter of the 2000/01 financial year to the third quarter of the 2001/02 financial year, prior to stabilising in 2002/03.[59] In this regard, a comparison of Telstra's half-year financial reports indicates MOU per subscriber per month has remained relatively stable in recent years, with 70.9 MOU per subscriber per month for the half year ended 31 December 2002 and 71.8 MOU per subscriber per month for the half year ended 31 December 2003. This too supports the conclusion that the voice market has largely matured. The high penetration rate for mobile subscriptions (71.9 – 73.0 per cent of the population),[60] coupled with the fact that voice services were the first major services provided on mobile networks, tends to suggest that there is a strong level of consumer acceptance of the services and that they are beyond the developmental stage.

The Commission considers that, in the absence of evidence to the contrary, the nature of the supply of 3G voice services is largely the same as the supply of 2G voice services. In both cases, the CPP model is used, where the network owner that originates the call will purchase termination from the network owner that completes the call. The originating network owner will recover these costs, and the costs it incurs from originating the call, through the price it charges its directly connected end-user for providing the call.

Accordingly, if the Commission finds the market for the supply of 2G voice termination services is an essential service with bottleneck characteristics, it follows that the same reasonably applies to 2.5G and 3G voice services.

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58 ABN AMRO, *Australian Telecommunications Services 2004*, 20 November 2003, p. 31.
59 JB Were, *Australian Telecommunications Sector Review 2003*, May 2003, p. 22.
60 ABN AMRO, *Australian Telecommunications Services 2004*, p. 31; Australian Communications Authority, *Telecommunications Performance Report 2002-03,* December 2003*,* p. 85.

A declaration of voice termination services that applies only to 2G networks will allow the operators of 2.5G and 3G networks to price their voice termination services without the regulatory constraint imposed on operators of 2G networks. For reasons discussed in Chapters Four-to-Seven below, this is unlikely to be in the LTIE.

Further, the Commission notes that in response to the Draft Report, no party has attempted to argue that voice services on 2G networks are different, to any noticeable extent, from voice services on 2.5G or 3G networks. Indeed, Vodafone has conceded this point in its written response to the Draft Decision[61] and in meetings with Commission representatives.

The Commission, therefore, remains of the view that due to the similarity in the nature of consumption and supply of voice services on 2G, 2.5G and 3G networks, any consideration of whether declaration of 2G voice termination services would be likely to be equally applicable to 2.5G and 3G voice services. Hence, for the purposes of this inquiry, the Commission believes it is appropriate to broaden the eligible service to include termination of voice services on 2.5G and 3G mobile networks. An examination of whether declaration of the MTAS (including an MTAS on 3G networks) is in the LTIE appears in Chapters Four to Six.

The Commission notes Vodafone's argument that the Commission is the first regulator in the world to propose regulation of 3G voice services and is engaging in 'heavy-handed' regulation.[62] However, the Commission considers that this argument of itself is not persuasive. The Commission is obliged to declare a service under section 152AL of the Act when it is satisfied that to do so would be in the LTIE, regardless of what regulatory action has been taken in relation to the service in other jurisdictions. Reluctance to acquire 'first mover' status is an insufficient reason for refraining from regulatory intervention where it is otherwise appropriate. Further, the Commission notes that the Swedish regulator, the Swedish National Post and Telecom Agency (PTS), has proposed an obligation on the 3G MNO, Hi3G, to set fair and reasonable prices for voice termination on its network.[63]

Irrespective of the decisions of other regulators, the Commission does not resile from its decision to consider whether or not it is appropriate to declare termination of voice services on all mobile networks.

Short Messaging Services (SMSs)

SMS is the first of a growing range of data services that may be terminated on mobile networks. Data services are generally characterised by asymmetric traffic flows, which may provide an incentive for mobile operators to use control over termination of these services to increase revenue (through data termination prices). As mobile data services mature (including SMSs), the number of complaints in relation to interconnection with mobile networks terminating data services may increase.

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61 Vodafone, *Response to ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p 8

62 *Ibid.*

63 Post and Telestyrelsen, *Summary of PTS' Decisions concerning Voice Call Termination on Individual Mobile Telephone Networks*, 10 May 2004.

These services were first introduced in 1997 but did not become popular until 2000. Since then, the total number of SMS messages, the number of short messages per user per annum and the ARPU per month for this service for each carrier have all increased significantly.[64]

The Commission considers it is unclear whether SMS is fully mature at this point in time. This is based on the continued growth being seen in this market. The Commission also notes the absence of any pattern of complaints to it regarding interconnection with mobile networks in order to provide termination of SMS services, to date.

The Commission favours a light-handed regulatory approach with respect to the regulation of immature services. Accordingly, the Commission considers that declaration of a MTAS that includes the termination of SMS services is unlikely to result in a benefit that is in the LTIE at this time.

Therefore, the Commission's view is that any service description of a MTAS should not include termination of SMSs on mobile networks.

Other data services

Other data services such as videoconferencing and multimedia message services (MMSs) that are starting to become available with the commencement of operation of 2.5G and 3G networks are generally regarded as immature services.

Although there have been no complaints to the Commission to date regarding access to termination services for 3G data services, there is a risk, as noted above, that asymmetric traffic flows may provide an incentive for mobile operators to use their control over termination to increase revenue in the future.

One aspect of the new data services supplied on 3G networks that has been identified in a number of submissions as a possible bottleneck for the future has been the content supplied to end-users as the primary component (from a consumer perspective) of the new data services.[65]

The Commission considers that the potential for content to become a bottleneck depends upon the ability of one operator to gain exclusive control of premium content. This suggests that a necessary characteristic of such premium content is that it must be available from only one source, and that that source is willing to supply the content through only one distributor (or to only one operator).

Whilst this problem has been seen, to some extent, in the Australian Pay TV industry, the use of content to prevent a loss of consumers to competitors has been largely unsuccessful in the Internet Service Provider (ISP) industry to this time.

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[64] Australian Communications Authority, *Telecommunications Performance Report 2002-03,* December 2003, p. 89*;* ABN AMRO, *Australian Telecommunications Services (2004)*, p. 31.

[65] Hutchison 3G Australia, *Submission to the ACCC Mobile Services Review 2003 (public version)*, 16 June 2003, p. 25; AAPT, *Mobile Services Review 2003 Submission by AAPT Limited*, 13 June 2003, p. 20.

In the Australian Pay TV industry, Foxtel had control over premium content such as movies and sports which made the subscription packages offered by its rivals relatively unattractive to consumers. It is arguable this tended to limit competition in the Pay TV market and that this gave Foxtel an opportunity to use its control over content to restrict competition in the industry. However, private agreements between Pay TV providers, and the Commission's acceptance of undertakings by Foxtel pursuant to section 87B of the Act, to provide for access to this premium content by competitors, have addressed this problem to some degree.

In contrast, the lack of success of the 'walled garden'[66] approach by ISPs can be attributed to the difficulty in developing content that is sufficiently unique and popular to make other content available to subscribers of competing ISPs unmarketable, and the sheer range of content applications and information on the Internet with which the walled garden must compete. Walled garden content represents a miniscule fraction of all Internet content and most subscribers appear unwilling to forgo that wealth of information by spending their online time in 'the garden'. However, the Commission notes that Telstra's recent announcement that online AFL content will be exclusive to BigPond subscribers (without limiting the other online content available to subscribers) may presage greater use by ISPs of control over premium content to compete in the provision of Internet services.

The Commission considers that it is unclear at this point in time what direction 2.5G and 3G content applications will take. Whilst 3G technology is likely to allow a greater range of Internet applications and content to become available to mobile subscribers, it may also be the case that what is regarded as 'broadcast content' today (such as sports and movie content) will prove a significant driver of 3G development. In this regard, the Commission agrees with the CCC's characterisation of 3G data services as 'developing'.

In any event, the possible solutions to addressing problems of market power in relation to 2.5G and 3G content do not appear to include declaration at this point in time. Declaration can only be made in relation to an eligible carriage service and it is unlikely that access to content could be considered to be a carriage service.

That said, the Commission considers it appropriate in these circumstances to note that it will continue to observe market developments in relation to the supply of data services, in order to allow the Commission to intervene in a timely manner, if necessary, to ensure the LTIE is promoted. However, the Commission will not undertake a specific or separate monitoring program for mobile data services at this point in time.

In signalling its intention to continue observing market developments in relation to data services the Commission notes views expressed by Vodafone in its written submission in response to the Draft Report and in meetings with Commission

[66] A 'walled garden' refers to the development of content by an ISP specifically for subscribers to the ISP. The theory behind walled gardens is that if the content in the walled garden is sufficiently compelling subscribers will seek to only subscribe to the ISP with control of that content and competition from other ISPs is thereby avoided.

representatives, that such signalling increases uncertainty for MNOs and shareholders regarding the likelihood of future regulation.[67]

The Commission believes, however, that such a statement is unlikely to significantly increase uncertainty for investors in data carriage services. This is because the Commission has always observed the development of data carriage services in relation to mobile networks, and would be remiss in its duties under Part XIC of the Act if it discontinued doing so in relation to these services in the future. In this regard, the Commission draws to the attention of interested parties paragraph 152AM(2)(b) of the Act, under which the Commission may, on its own initiative, hold an inquiry into whether a service should be declared under Part XIC of the Act. It is therefore appropriate, if not necessary, for the Commission to observe market developments in order to identify services for which such an inquiry should be held, so as to fulfil its statutory obligations.

3.4.2 Differences between FTM and MTM termination services

To date, complaints about the consequences of high termination rates have largely come from non-integrated providers of FTM voice services, as well as consumers of these services. Few complaints have not been made in relation to termination services for MTM services. The Commission has, therefore, considered whether it is appropriate for the MTAS declaration to apply to all calls to mobile networks, irrespective of the type of network they originate on, or whether it is appropriate for the declaration only to apply in relation to FTM services.

When two market operators enter interconnection agreements for the termination of mobile services on each other's network, it is possible that the termination charges paid by each operator to the other cancel out. That is, an examination of probability theory might suggest that net call minutes between mobile networks are likely to be zero (or close to zero).[68] This 'cancelling out' is also quite possible within the market as a whole, where all operators are interconnected. Accordingly, some parties have argued during the course of this inquiry that there is no need for the Commission to declare termination of MTM voice calls as MNOs have no incentive to raise the price of MTM termination services above their underlying cost of production. That is, any increase in the price of MTM termination services is likely to be matched by their rival MNOs such that no net benefit would be gained from such a price increase. In this regard, Vodafone argues in its response to the Draft Report that because of traffic symmetry and the scope for transit arrangements to overcome possible any-to-any connectivity problems, declaration of MTM termination services is unnecessary.[69]

In respect of traffic symmetry, mobile terminating access interconnection arrangements are not in the public domain. However, information made available to the Commission in response to the Draft Report indicates that this is not the case for

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[67] Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p.14.

[68] AUSTEL, *Interconnection Model: Multi-Service Deliverer Environment – Final Report*, March 1995.

[69] Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p. 13; Vodafone, *Supplementary submission to the ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004, p. 4.

more than one MNO.[70] It would appear this is due to the different calling patterns and subscription preferences for different user groups, and the business plans of the mobile service providers that appear to be geared towards attracting certain groups of mobile subscribers that receive disproportionately large volumes of calls relative to those they make.

Call traffic symmetry is even more unlikely to be the case with regard to FTM services where fixed only, mobile only and integrated network operators interconnect with each mobile operator. In this situation, it is unlikely that traffic flows between each operator will be equal, due to differing market shares of the various operators and differing levels of demand for FTM and mobile-to-fixed (MTF) services. The differences in the retail prices of FTM and MTF calls are also likely to contribute to different demand elasticities and therefore traffic flows.

Further, even if traffic flows between fixed and mobile networks were symmetrical, settlement arrangements would still not cancel each other out, as fixed (or PSTN) termination rates are regulated at a little over 1 cent per minute, in contrast to FTM termination, which the Commission understands is currently charged at more than 20 cents per minute. Under these conditions, call minutes from a fixed network operator to a MNO would need to be about one twentieth of the call minutes from a MNO to a fixed network operator before the fixed operator could recover its mobile termination costs. Accordingly, the Commission believes the presence of asymmetric traffic flows between mobile operators indicates there may still be an incentive for MNOs to raise the price they charge each other for termination of voice calls above their underlying cost of production – irrespective of whether this is for the completion of FTM or MTM calls. Where this incentive exists, the Commission believes it appropriate that the service description apply to termination of FTM and MTM calls.

Further, as discussed previously in the context of the level of consumer acceptance of voice services, the Commission considers that the supply of termination on mobile networks for calls originating on fixed lines is fundamentally the same as the supply of termination on mobile networks for calls originating on mobiles. Therefore, if the Commission finds the supply of either mobile termination services for fixed-line originating calls or the supply of mobile termination services for mobile-originating calls is an essential input with potential bottleneck characteristics, then it follows that the supply of the other is also an essential input with potential bottleneck characteristics. To specify a service description for the MTAS which depends on the nature of the line on which a call originates would be to ignore the structure of the market for this service and the nature of its supply.

Finally, for reasons outlined in Chapter Five below, inclusion of mobile termination services for voice calls originating on mobile networks is also likely to promote the achievement of any-to-any connectivity. While concerns regarding any-to-any connectivity might be overcome by the presence of transit arrangements, such arrangements are unlikely to be in the LTIE as they lead to an inefficient use of network infrastructure and raise the costs of providing MTM services.

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[70] Virgin Mobile Australia, *Non-confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, pp. 3-4.

Accordingly, the Commission considers that any service description for a MTAS should provide for access to termination of calls originating on both fixed-line and mobile networks.

3.5 Conclusion

The Commission's decision is that the service description should include FTM and MTM voice termination services regardless of the technology used, but will not include data termination services.

The full text of the Commission's proposed service description is set out in Appendix A to this Report.

For the sake of clarity, the Commission notes that it does not intend the service description of the domestic MTAS to include services that are supplied pursuant to international or domestic roaming agreements. The service description set out in Appendix A applies to voice calls that are received by end-users (B-parties) that are directly connected to the digital mobile network of an Australian terminating carrier (the access provider).

4. Will declaration promote competition in telecommunications markets?

As indicated in Chapter Two, section 152AB of the Act provides that, in determining whether declaration promotes the LTIE, regard must be had only to the extent to which declaration is likely to result in the achievement of the following objectives:

- promoting competition in markets for listed services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied.

Chapters Four-to-Seven address each of these objectives in turn.

4.1. The Commission's approach to determining whether declaration will promote competition in telecommunications markets

The Commission believes that declaration can help promote competition in telecommunications markets under a range of different circumstances. A commonly recognised way is where specific market characteristics mean it is more efficient for there to be only one provider of a given telecommunications service. In these circumstances, however, it may be that there is scope for competition to occur in downstream and/or vertically related markets. Without access to the vertically related service, however, carriers in vertically related markets will be unable to provide a final service to end-users. Further, to the extent that access seekers will compete with vertically-integrated access providers in downstream markets, the terms and conditions of such access can impact on the ability of access seekers to compete in these markets. In these circumstances, declaration can help promote competition in relevant markets by ensuring service providers in these markets can gain access at appropriate prices to essential 'natural monopoly' inputs.

The Commission notes, however, that declaration can also help promote competition in situations where there may be a number of potential access providers. This can be the case for interconnected telecommunications networks where consumers choose to be directly connected to the network of a given access provider. In these circumstances, service providers may have no choice but to seek access to the network(s) that end-users whom their customers choose to call are connected to. Hence, even though there may be a number of networks that provide access to their own networks, a given access provider may still have control over access to an essential facility. This can be the case if other service providers' customers seek to make calls to end-users subscribed to the access provider's network.

Where access providers have control over access to essential facilities, a key question for the Commission is whether or not unregulated market forces would generate

outcomes that would be likely to promote competition. This is particularly an issue in vertically related markets where the ability to acquire access, and the terms and conditions under which this access is provided, can have marked effects on the state of competition in downstream markets.

Under the Act, declaration of a service can promote competition for the provision of listed services by mandating access to those services that are supplied in vertically related markets. Further, under certain circumstances, the Act enables the Commission to set terms and conditions for access to these services. In turn, this can help ensure that outcomes in one market (the market in which the "eligible service" is supplied) do not prevent the development of competition in other related markets.

In most cases, the markets most likely to be affected by declaration are the market(s) for downstream services rather than the market in which the eligible service is supplied (where these markets are separate). This reflects a key rationale for access to essential infrastructure – that of promoting more competitive downstream markets by achieving a supply of essential inputs at reasonable terms and conditions of access. In this regard, the aim of promoting the LTIE guides the Commission to be particularly mindful of the impact of declaration on the supply of services at the retail level.

In order to determine whether or not declaration is likely to promote competition in telecommunications markets, it is important for the Commission to first understand the existing state of competition in the market within which the eligible service is provided and all other related markets. To assess this, it is necessary in the first instance to assess the boundaries of the markets in which the eligible service and other related services are supplied.

Once the boundaries of the relevant markets have been identified, the Commission can then consider whether the state of competition in these markets will be enhanced by declaration of the eligible service. In this regard, a useful tool for the Commission to use when assessing whether declaration will promote each of the LTIE objectives is the future 'with or without test'. Under this approach, the Commission considers whether competition in identified markets would be likely to be further promoted with declaration as opposed to a structure where the service was not declared. Only by understanding market dynamics and the current state of competition in these markets can a meaningful vision of the likely future state of competition be understood.

In assessing whether declaration of a MTAS is likely to promote competition, therefore, the Commission undertakes a three-stage analysis:

- first, those markets relevant to determining whether declaration will promote competition are identified;
- secondly, the current state of competition and the dynamics that operate within these markets is assessed; and
- thirdly, if the current state of competition in any of these markets is found to be less than effective, an assessment is made regarding the extent to which competition would be promoted, or be likely to be promoted, in the future by declaration of the eligible service.

Each of these stages is undertaken in turn below for the market(s) in which the eligible service and related services are provided.

4.2 What are the relevant markets?

4.2.1 The Commission's approach to defining relevant markets

The process of market definition involves identifying the sellers and buyers that effectively constrain the price and output decisions of firms supplying the service(s) under consideration.[71]

To begin the process of market definition for the eligible service, the Commission defines the service under consideration and the firm(s) supplying that service. In general, this involves identifying the access provider(s) and their supply of the eligible service. For related markets, the market definition process starts with the access seekers and providers and the related services that they would supply using the eligible service.

Once the relevant service and source(s) of supply have been identified, the market boundaries are then extended to include all other sources and potential sources of close substitutes with which the firm supplying the service would compete. In terms of section 4E of the Act:

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

As noted by the High Court:

> This process of defining a market by substitution involves both including products which compete with the defendant's and excluding those which because of differentiating characteristics do not compete.[72]

The availability of close substitutes (on both the demand and supply sides) constrains the ability of suppliers to profitably divert prices or quality of service from competitive levels.

As the Tribunal commented in *QCMA*:

> 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 one product and another, and between one source of supply and another, in response to changing prices....it is the possibilities of such substitution which set the limits upon a firm's ability to 'give less and charge more'.[73]

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[71] See ACCC, *Anti-competitive Conduct in Telecommunications Markets – An Information Paper*, and ACCC, *Mergers Guidelines,* June 1999*,* for more detail on how the Commission undertakes the process of market definition.

[72] *Queensland Wire Industries Pty Ltd v. BHP Ltd* [1989] ATPR 40-925, 50008 (Mason CJ and Wilson J).

[73] *Re Queensland Co-operative Milling Association Ltd; Re Defiance Holdings Ltd (1976)* ATPR 40-012, 17,247.

Generally, a greater range of substitutes points to a broader market in which individual firms have less power, and consequently competition is more effective. Substitutability may be thought of in terms of a price elevation test: what would be the response on the demand side and the supply side to a relatively small percentage increase in the price of a firm's product?

> … 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?[74]

Where the relevant market should be delineated is a question of degree. The Tribunal stated in *Tooth & Tooheys*:

> ... all competition or substitution does not cease at the outer boundaries of the market; the economy as a whole is a network of substitution possibilities in consumption and production; competition is a matter of degree.[75]

Markets can be delineated in terms of their product, geographic, functional and temporal boundaries.

In identifying relevant markets, Part XIC of the Act does not require the Commission to take a definitive or determinative stance on market definition as may be the case in a Part IV or Part XIB case.[76] The Federal Court also endorsed this approach in its decision to uphold the validity of certain broadcasting access declarations by the Commission.[77]

Furthermore, over time, declaration itself might affect the dimensions of these markets, particularly in relation to the functional dimension. Accordingly, market analysis under Part XIC should be seen in the context of providing an analytical framework to examine how declaration would promote competition rather than in the context of developing 'all purpose' market definitions.

4.2.2 Defining the market in which the eligible service is supplied

Views of interested parties

Throughout the inquiry, interested parties have presented a broad range of views regarding the appropriate definition of the markets within which the eligible service and other related services are provided. With regard to the market(s) within which the eligible service is provided, the Commission finds it useful to distinguish between the views provided by interested parties on the following issues:

- What is the relevant product;
- What demand and supply-side substitutes exist for the relevant product;

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74 *Ibid.,* 17,247.
75 *Re Tooth & Co. Ltd.; re Tooheys Ltd.* (1979) ATPR 40–113, 18,196–18,197.
76 See ACCC, *Telecommunications Services – Declaration Provisions*, July 1999.
77 *Foxtel Management Pty Ltd v Australian Competition & Consumer Commission* [2000] FCA 589.

- What are the functional dimensions of the market;
- What are the geographic dimensions of the market; and
- What are the temporal dimensions of the market?

Some of the views of interested parties on each of these issues are set out in turn below.

What is the relevant product?

A key step in defining the product dimensions of the market is to first determine what the product itself is. In this regard, a number of parties are divided on the question of whether termination on a given mobile network should be considered as the relevant product from which to begin an assessment of the relevant product space for the market in which the eligible service is provided. While some parties subscribe to this view, others argue that the MTAS is provided as part of a broader bundle (or cluster) of services that also includes retail mobile services. In turn, these parties argue this broader mobile services bundle should be considered as the relevant product from which the Commission should begin its market definition analysis.

For instance, in its submission to the Discussion Paper, Frontier Economics (on behalf of Vodafone), argues that the MTAS is part of a cluster of mobile services because complementarities in demand and supply mean that mobile operators are only able to compete by providing the whole bundle of services.[78] Frontier Economics comments that:

> Customers do not purchase only mobile termination or origination 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.[79]

In reaching this view, Frontier Economics quotes Henry Ergas, who argues:

> 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 … 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.[80]

Similarly, in its submission to the Discussion Paper, Optus contends that the MTAS is more properly described as an 'element' of a mobile call. As a result of this, Optus believes it would be inappropriate for the Commission to conduct its market analysis by focusing on the MTAS in isolation of the broader inter-relationships between this and other mobile services. Optus considers such an approach would be far removed

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78 Frontier Economics, *Market Definition Issues in the ACCC's Mobile Service Review 2003*, report for Vodafone, June 2003, p. 6.

79 *Ibid.*, p. 10.

80 H. Ergas, *Cluster Markets: What are they and How to Test for Them*, Centre for Research in Network Economics and Communications, University of Auckland, 1985, p. 3 quoted in *Ibid.,* p. 6.

from the Commission's previous analysis of the mobile services market where it found the MTAS and retail mobile services represented interdependent revenue streams from bundled services. Optus argues that:

> Because of the interdependencies of the mobile revenue streams, Optus believes it would be inappropriate for the ACCC to consider that termination operates in its own market … Failure to consider the interdependencies will result in the inefficient pricing of mobile services generally … Furthermore, the value customers receive from mobile telephony cannot be assessed against the prices charged for the individual services.[81]

In contrast, however, some parties argue in their submissions to the Discussion Paper that the MTAS should not be considered as being provided as part of a bundle that includes retail mobile services because the MTAS is a wholesale service not paid for by mobile subscribers. That is, the MTAS is a wholesale service paid for by other telecommunications carriers who pass this cost on to their customers when they seek to make calls to a mobile subscriber. Hence, while mobile subscribers pay for a number of retail mobile services – such as subscription and calls originating on mobile networks – they do not pay for MTASs. In this regard, MCI contends that:

> … a bundled product market can only exist when buyers purchase the products together and when there is a close functional correlation between these products.[82]

Similarly, AAPT argues that:

> To begin with a mobile call, and to consider what may be substitutable with this service, as the Commission did in its 2001 Report, is to fail to reflect the actual situation in which mobile termination services are bought and sold in the market. Mobile termination is essentially a wholesale product – individual callers do not separately negotiate with mobile service operators for termination services; instead they rely upon their fixed-line or mobile service provider to negotiate for termination services. Mobile calls, on the other hand, are essentially a retail product – they are consumed by individual retail consumers.[83]

Accordingly, these parties argue in their submissions to the Discussion Paper that the relevant product should be termination on each individual mobile carrier's network.

In the Draft Report, the Commission concluded that, for the purposes of this inquiry, the relevant product should not be defined more broadly than the MTAS.

In submissions to the Draft Report, Telstra argues that the Commission's conclusions regarding whether or not the MTAS lies in a separate market from other mobile services is incorrectly limited to consideration of whether the products are sold as a bundle. In this regard, Telstra argues that:

> … two products can be sold separately (that is 'unbundled') but still be in the same market and conversely, some firms may bundle some products that are from separate markets.[84]

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81 Optus, *Submission to the Australian Competition and Consumer Commission on Mobile Services,* June 2003*,* p. 56.

82 MCI, *Comments of MCI Regarding the ACCC Discussion Paper on Mobile Services Review 2003*, June 2003, p. 8.

83 AAPT, *Mobile Services Review 2003, Submission by AAPT Limited*, 13 June 2003, p. 9.

84 Telstra, *Response to Draft Decision on the Mobile Terminating Access Service (public version)*, June 2004, p. 7

Telstra also argues that:

> … a key characteristic of mobile service supply is that, not only are there strong economies of scope in supplying termination and retail services, termination is simply not separable from other mobile services.[85]

Further, Telstra argues that given every call to and from mobile networks provides benefits to both the calling party and the receiving party, the MTAS should be defined as being part of a broader 'two-sided' market. On this basis, Telstra encourages the Commission to adopt:

> … a market definition that takes explicitly into account the two sides of the network, that is, retail services such as subscription services ***and*** the termination of inbound calls.[86]

In a submission to the Draft Report, Frontier Economics (on behalf of Vodafone) reiterates its view that the MTAS is provided as part of a broader cluster market that also includes retail mobile services, arguing that it is possible to define services in the same cluster market irrespective of whether or not the services are sold to the same groups of consumers. In this regard, Frontier Economics draws attention to *ACCC v Rural Press*, where it argues:

> … the ACCC pleaded a publication market that embraced both advertising services and news information, where the advertising was sold to advertisers and the news information was sold to purchasers of the paper.[87]

In its initial submission to the Draft Report, Vodafone reasserts the views of its consultant (Frontier Economics) that:

> … the strong complementarities of supply and demand that exist between mobile termination, subscription, and outgoing call services means that it is appropriate to define the market as a broader cluster market for mobile services.[88]

What demand and supply side substitutes exist for the relevant product?

Once the relevant product is determined for the purposes of market definition analysis, the product dimensions of the market can then be expanded to include all other products or services that act as demand or supply-side substitutes for the relevant product. Clearly, parties' views on the relevant product influences their views on the demand and supply-side substitutes for this product.

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85 *Ibid.*

86 *Ibid.*, p. 8.

87 Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, p. 5.

88 Vodafone, *Response to ACCC Draft Decision, Mobile Terminating Access Service*, 30 April 2004, p. 14.

Those parties that argue that the relevant product should be the MTAS provided on each individual mobile operator's network tend to argue there are no demand- or supply-side substitutes for this product. For instance, with regard to the existence of supply-side substitutes for the MTAS on a given network, AAPT argues in its submission to the Discussion Paper that:

> … supply-side substitution would require that calls to a mobile customer could be terminated on a network other than the network to which the customer is subscribed for the purposes of making outbound calls. This does not and cannot, occur. [89]

Similarly, MCI argues in its submission to the Discussion Paper:

> …that there are no supply side substitutes for mobile termination services by a given mobile operator. It is impossible to substitute call termination on one network, because calls to a particular mobile network must be terminated on the network to which that user has subscribed.[90]

Further, in its submission to the Draft Report, AT&T argued that:

> There is no effective supply-side substitute, which would require a competing operator to have access to the details of the end user's SIM card, and the mobile operator can simply refuse to share this information with other operators.[91]

With regard to demand-side substitutes, some parties considered what substitution options exist for a network operator seeking to purchase termination of calls to a particular mobile network. For such 'wholesale' transactions, MCI argues that:

> An operator wishing to allow its customers to call users of any particular network has no alternative but to purchase termination services from that network. The termination services of other networks cannot be considered a substitute.[92]

Similarly, AAPT argues in its submission to the Discussion Paper that:

> In order to offer a viable service in any relevant retail telephony market, it is necessary to purchase termination services from each mobile service provider. The termination service of one mobile service provider will not prove an adequate substitute for the termination services of another; nor will any telephony service provide the necessary any-to-any connectivity.[93]

AAPT argues further, however, that consideration of demand-side substitutability is complicated by the need to recognise that demand for the MTAS is derived from retail consumers of calls to mobile subscribers. Accordingly, AAPT argues demand-side substitutability also needs to be considered from the perspective of two groups of retail consumers:

1. Those end-users seeking to make calls to mobile networks (the 'A-party' in calls to mobile networks); and

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89 AAPT, *op. cit*., p. 10.
90 MCI, *op. cit.*, pp. 8-9.
91 AT&T, *Mobile Services Review – Mobile Terminating Access Service*, 30 April 2004, p. 3.
92 *Ibid.,* p. 8.
93 AAPT*, op cit.,* p. 14.

2. Those end-users choosing which mobile network to subscribe to (the 'B-party' in calls to mobile networks).

In this regard, AAPT argues that:

> At the retail level, demand side substitution fails to provide a constraint on the pricing of termination services. Neither the A-party making the call nor the B-party receiving the call will constrain the price of termination services. For the A-Party, substitution possibilities are limited – while there are a number of different ways that a person can be contacted, it is nevertheless the case that other technologies do not provide significant substitution for mobile phones.[94]

Similarly, AT&T argues in its submission to the Draft Report that:

> There is no effective demand-side substitute for the calling party or the called party, because the potential substitutes (*e.g.*, placing calls to fixed rather than mobile lines, and sending short text messages rather than voice calls, or utilizing call-back) are clearly imperfect and also would undermine the quality and convenience factors that create demand in the broader mobile market.[95]

Further, AAPT argues that not only are A-parties unable to substitute between calls to mobiles and other types of services in response to high prices for calls to mobile networks, A-parties are also unable to switch between different B-parties on the basis of higher termination charges. That is, AAPT argues that:

> … even if the A-party is trying to call any B-party from a particular class – for instance, any plumber – the A-party is still unable to call the B-party whose network offers the lowest termination charge. This ignorance has only increased with the advent of mobile number portability, which removes the ability of A-parties to determine the mobile network on which their call is being terminated.[96]

Similarly, CoRE Research (on behalf of Hutchison) argues that consumers are generally unaware of the specific network to which their calls to mobile networks are going to be terminated on. In turn, this limits consumers' ability to substitute away from calls to a particular mobile network if it chooses to raise the price of termination of calls on its network:

> This effect, where a customer calling a mobile number cannot ex ante identify exactly which mobile network is associated with a particular mobile number, and so cannot identify the network that they are 'buying from,' is referred to as customer ignorance. Its implications are profound: even if fixed line networks passed through termination rates to fixed line customers, differential termination rates cannot be used as a locus of competition. In the end, customer ignorance will tend to drive the use of uniform charges for calls to mobiles as a differential charge will be of limited use to a consumer in choosing which network to make calls to.[97]

With regard to the ability of mobile subscribers to constrain the pricing of termination

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94 *Ibid.*, p. 11.
95 AT&T, *op. cit.,* p.3.
96 AAPT, *op. cit.,* pp. 12-13.
97 J. Gans and S. King, *Price Regulation of Mobile Termination: Promoting Competition and Investment in Telecommunications*, report by CoRE Research for Hutchison Telecommunications, 26 June 2003, p. 12.

on mobile carriers' networks, AAPT argues that:

> For the B-party, termination charges do not affect the purchasing decision, or do so only to a limited extent. The reason is that B-parties do not pay the termination charges. The limited exception to this is for closed user groups, where subscribers are as concerned about termination rates as they are about the price of making a phone call. However, as the Commission itself has recognised in its 2001 Report, the ability of mobile service providers to discriminate between closed user groups and other consumers by offering different prices for on-net and off-net termination reduces the effect of this possible source of substitution…[98]

Similarly, in its submission to the Draft Report, ATUG argues that:

> Users buying mobile phones from an operator are not informed of the cost to other users to call them and do not have sufficient incentive to take this into account when buying mobile services.[99]

On the basis of these views regarding the relevant product, and the absence of demand and supply-side substitutes for it, AAPT and MCI argue in their submissions to the Discussion Paper that termination on each mobile network represents an individual market of its own. In other words, AAPT and MCI subscribe to a 'single operator' market definition for the MTAS. In this regard, AAPT argues that:

> Following the Commission's recommended approach to market definition, and accepting the Commission's previous findings regarding the lack of substitution for the mobile termination services of a particular network, leads to the conclusion that the relevant market is a market for termination services on each individual network.[100]

More generally, in its submission to the Draft Report, AT&T quotes an Ovum report that indicates:

> … in markets where the calling party pays for making calls to a mobile phone, mobile termination rates take on the characteristics of a 'bottleneck' service … By this we mean a service for which the normal disciplines of the competitive market are narrowed to such an extent that they no longer constrain the behaviour of the service provider.[101]

In its submission to the discussion paper, ATUG included the paper which the International Telecommunications Users Group (INTUG) submitted to the UK Competition Commission's 2002 review on references under section 13 of the UK *Telecommunications Act 1984***.** In its paper, INTUG supports the 'single operator' market definition applied by Oftel and the Competition Directorate-General of the European Commission in their considerations of the relevant market within which the mobile termination service is provided.

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98 AAPT, *op. cit*., p. 13.
99 ATUG, *Comments on the Draft Decision on Mobile Terminating Access Services*, May 2004.
100 *Ibid.*, p. 14.
101 AT&T, *op. cit.,* p. 4.

However, in its submission to the Draft Report, PowerTel disagrees with the view that routing calls through other fixed line networks (i.e. transit arrangements) are an effective substitute in the event of a MNO setting high prices for termination of calls to its network:

> … fixed network providers, like PowerTel are captured by the 'Bottleneck' nature of termination. Even if Fixed-line Network Operators (FNOs) were to utilise mobile terminating transit services of a 3rd party provider, all calls to a particular mobile subscriber will eventually be terminated by the mobile subscriber's network operator.[102]

The CCC submitted that the 'single operator' market definition has merit and should be considered by the Commission. However, it also noted that it does not necessarily advocate that the mobile termination market be defined separately for each MNO. The CCC considers that a 'single market' for mobile termination could be defined and an analysis of this market could then be undertaken to determine the extent of market power of each MNO.[103]

The CCC considers that a 'broad mobiles market' definition would risk diverting the Commission's attention from the 'core' issue of mobile termination.[104]

The CCC also commented that it:

> … recognises that, under Part XIC, service declaration does not require the determination of a definitive market definition as is required for a Part XIB case. However, market definition is a useful tool in being able to assess the LTIE criteria.[105]

In contrast with these comments, however, some parties have argued during this inquiry that there are a number of substitution possibilities that can act to constrain mobile operators' pricing of the MTAS. For instance, with regard to the demand-side substitution possibilities available to carriers seeking to purchase MTASs on behalf of their end-users, Optus argues that transit agreements exist which provide an alternative means for fixed line operators to interconnect with mobile networks. In this regard, Optus argues that:

> In the mobile services market, the wholesale level is characterised by the operation of transit arrangements. Transit arrangements are an aspect of the market that removes the ability of mobile operators to exercise market power in the setting of termination charges.[106]

Further, with regard to FTM calls, Optus argues that:

> … a number of options are available at the wholesale level for fixed telephony operators if a mobile operator charges a relatively high price for elements such as terminating access. With carrier pre-selection, the fixed operator has the option of routing calls through to another fixed line operator. That second fixed operator will be chosen by the

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[102] PowerTel, *Draft Decision on Mobile Terminating Access Service, Submission by PowerTel*, April 2004, p. 2.
[103] Competitive Carriers Coalition, *Submission to the ACCC Mobile Services Review 2003*, June 2003, p. 15.
[104] *Ibid.*, p. 15.
[105] *Ibid.*, p. 16.
[106] Optus, *Optus Submission to Australian Competition and Consumer Commission on Mobile Services*, June 2003, p. 47.

> pre-selected carrier on the basis that it has negotiated a better terminating access charge with the relevant mobile operator.[107]

With regard to the demand-side substitutes available to end-users at the retail level, Optus and Vodafone both argue there is growing awareness amongst A-party consumers regarding the mobile networks they are calling when they make MTM and FTM calls. For instance, Vodafone points to the existence of 'closed user groups' which refers to groups of consumers who choose to subscribe to the same mobile network in order that calls made between them may be charged at a lower 'on-net' rate.[108] The existence of closed user groups was presented by Vodafone as evidence that end-users are aware of the mobile networks which they call and that consequently mobile operators are constrained when setting mobile termination prices. Vodafone commented that:

> … an on-net/off-net pricing differential is a common pricing feature offered by both mobile and fixed carriers (including integrated carriers). Given that the commercial rationale for such a pricing structure is based on the assumption that consumers are aware of the network called, it seems difficult to sustain a view that consumer ignorance exists across the market. If consumer ignorance did exist, then there would be no commercial benefit from offering a differential prices for on-net and off-net calls.[109]

Furthermore, Optus also argued that research commissioned by itself, Telstra, Hutchison and Vodafone indicates that consumers are 'generally aware' of the mobile networks on which their calls to mobiles terminate.[110] Optus contends that the survey results, combined with its own billing data, demonstrate that for at least 42 per cent of all FTM calls, callers know on which mobile network their calls terminate.[111]

In its submission to the Discussion Paper, Optus also argues that mobile operators are constrained in their pricing of the MTAS by a range of demand-side substitutes. Optus argues that:

> Mobile carriers do not compete only with other mobile carriers, but also against a range of substitutes to mobile telephony. Examples of these substitutes include fixed telephony, email, facsimile, and paging services. The existence of these substitutes provides additional pressure on prices particularly for…highly price sensitive customers.[112]

Further, in its submission to the Draft Report, Telstra argues that even if alternative options available to A-party consumers:

> ... are not considered to be sufficiently substitutable for fixed to mobile calls so as to fall into the same market, there will be at least some constraining effect on termination charges as a result.[113]

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[107] *Ibid.,* p. 47.

[108] Calls between consumers on the same network are often referred to as 'on-net' calls as the call remains on the one network throughout its duration. Calls made between consumers on different networks are sometimes referred to as 'off-net' calls.

[109] Vodafone, *Submission to the ACCC Mobile Services Review 2003*, 13 June 2003, p. 13.

[110] Amrinteractive, *Fixed to Mobile Research*, June 2003.

[111] Optus, Letter to the Commission, 29 August 2003.

[112] Optus, *op. cit.*, p. 12.

[113] Telstra, *op. cit.,* p. 8.

With regard to whether or not B-party consumers can constrain the price of the MTAS, Telstra argues that:

> … the frequency and length of incoming calls is decreasing in the price that the calling party pays: if the calling party pays more, then sooner or later they will find out about it from the bill and will call the same receiving party less often and keep the conversation shorter.[114]

Finally, Telstra argues that:

> … different networks are in the long-run substitutes for making and terminating calls. This is because consumers chose to subscribe or not subscribe to a network.[115]

More broadly, those parties that argue the MTAS is provided as part of a bundle or cluster of mobile telephony services argue that the service is provided in a broader 'cluster' market. For instance, Frontier Economics argues that:

> 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.[116]

Further, those in favour of a cluster market definition argue that the presence of at least four main providers of the mobile services bundle place a competitive constraint on the pricing of the bundle as a whole.

In response to the Draft Report, n/e/r/a (on behalf of Optus) presented a new argument suggesting that rather than defining a separate product market for termination of voice calls on each mobile operator's network, application of the Commission's approach to defining markets should lead to specification of the relevant markets as:

> … the markets for termination of calls to each mobile subscriber.
>
> In other words, rather than there being four relevant markets (i.e., the number of MNOs), using this analysis there would actually be several million markets (i.e., the number of mobile subscribers).[117]

This is based on a view that the Commission's approach to product market definition starts with the relevant product, and then expands the market to include all other potential sources of demand or supply that constrain pricing of the relevant product. In this context, n/e/r/a argues that:

> A more appropriate definition with which to begin is the service that callers are actually demanding: termination of calls to *a particular individual* mobile user.[118]

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[114] *Ibid*., p. 10.
[115] *Ibid.,* p. 10.
[116] Frontier Economics, *Market Definition Issues in the ACCC's Mobile Services Review 2003: Report prepared for Vodafone*, June 2003, p. 10.
[117] n/e/r/a, *Existence and Exercise of Market Power in Mobile Termination*, May 2004, p. 2.
[118] *Ibid.,* pp. 5-6.

If a SSNIP of termination for termination of calls to this individual is possible, n/e/r/a argues that:

> 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 [Commission's} Merger Guidelines.[119]

Based on this approach to market definition, n/e/r/a suggests it may be more appropriate to consider that it is the individual subscriber rather than the MNO to which s/he subscribes that has market power with regard to MTASs. n/e/r/a also suggest that the test for determining whether it is the MNO or the individual mobile subscriber that has market power 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.[120]

What is the functional dimension of the market in which the eligible service is provided?

With regard to defining the functional dimensions of the market in which the eligible service is provided, interested parties are again influenced by their assessment of whether or not the mobile termination service should be considered as part of a bundle of mobile services which includes retail mobile services. For instance, those parties that believe the mobile termination service is provided in a series of 'single operator' markets implicitly are arguing these are wholesale markets that do not have retail functional levels. That is, mobile termination is sold in a series of wholesale markets to carriers and service providers that use the service to provide FTM and MTM services to end-users in a series of separate retail markets.

Those parties who believe in a broader product market definition, however, argue that while the mobile termination and retail mobile services are provided in the same market, there are different retail and wholesale functional levels within this market. That is, whilst retail mobile services are provided at the retail level, the mobile termination service is provided at the wholesale level of the market.

Within this broader market definition framework, Frontier Economics argues that the relevant market contains both wholesale and retail functional components and includes the mobile access service, outgoing call services to other networks (including fixed networks), mobile termination services and mobile origination services.[121]

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[119] *Ibid.,* p. 7.
[120] n/e/r/a, *op. cit.,* p. 8.
[121] Frontier Economics*, op. cit.,* p. 10.

What are the geographic dimensions of the market in which the eligible service is provided?

With regard to the geographic dimension, submitters who commented on this issue agreed with the Commission's previous view that the market in which the mobile termination is provided is national. For instance, Optus comments that:

> The ACCC has previously taken the view that the geographic dimension of the market in which mobile calls are supplied is a national one. That is, the wholesale and retail elements of a mobile call are currently supplied nationally by mobile carriers to other carriers, service providers, and to end-users.
>
> Optus' believes that this view that there is a single geographic market must be maintained. Optus notes that the Productivity Commission did not endorse submissions that called for the recognition of "regional" markets. This informed the Productivity Commission's view that:[122]
>
> *"…there is unlikely to be a strong case for the declaration of mobile roaming in regional areas."*[123]

What are the temporal dimensions of the market within which the eligible service is provided?

With regard to the temporal dimension of the market, Optus submits that:

> … the temporal dimensions of both the mobile market and the fixed-to-mobile market demonstrate increasing substitutability in the product and functional dimensions. The development and uptake of new technologies therefore has a strong bearing on potential substitutes in the content of convergence…Optus therefore submits that time will continue to play a pivotal role as new technologies develop and their uptake becomes more widespread within the mobile market and fixed-to-mobile market.[124]

In response to the Draft Report, Telstra notes that:

> … the Commission … proposes some pricing principles over the next three years (and possibly beyond). Therefore, it would be logical to assume that what the Commission has in mind is a temporal dimension of at least three years. In this case, Telstra contends that the Commission's analysis of substitution analysis of substitution possibilities, at best, is unsupported by any evidence, and more likely will become outdated within the regulatory timeframe.[125]

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[122] Optus, *Optus Submission to Australian Competition and Consumer Commission on Mobile Services,* June 2003, p. 48.
[123] Productivity Commission, *Telecommunications Competition Regulation*, Report No. 16, December 2001, p. 507.
[124] Optus, *op. cit*., p. 49.
[125] Telstra, *op. cit.,* p. 11.

Recent regulatory decisions in Australia and other jurisdictions

Under the European Union's (EU) new telecommunications regulatory framework agreed upon in March 2002, national telecommunications regulators in EU member countries were required to assess competition in the market for mobile termination services. As a result, a number of overseas telecommunications regulators have recently assessed the market for mobile termination services.

The Commission also understands that in their analysis of the relevant market for the MTAS, France, Germany, Italy and the United Kingdom have all identified a separate wholesale mobile product market for call termination on mobile networks.[126] The Italian and UK regulators further specified a single operator market approach. However, the German regulator did not take a definitive position on the issue.[127]

The UK regulator responsible for telecommunications, Ofcom (previously Oftel), analysed the market for mobile termination in work that it commenced in July 2000 on a new price control regime. In its December 2001 report, Oftel proposed that all four UK 2G operators should be subject to price regulation and a price cap of RPI - 12 per-cent until 2006.[128]

Oftel's proposals were reviewed by the UK Competition Commission after being challenged by the four mobile operators. In its January 2003 report, the UK Competition Commission also proposed that the four mobile operators implement significant RPI-X price reductions. Vodafone, Optus and T-Mobile then took the matter to Judicial Review, whose decision of 27 June 2003 supported Oftel and the UK Competition Commission.[129]

In accordance with the new EU telecommunications regulatory framework, Oftel reviewed the market for mobile wholesale voice termination in the UK and released a discussion paper in May 2003. It subsequently released a draft report in December 2003 in which it repeats its earlier view that the mobile termination service should not be considered as part of a bundle of mobile services.

> …the CPP (calling party pays) arrangement means that the decision to purchase a fixed-to-mobile or mobile-to-mobile call (involving the wholesale supply of a termination service to the originating operator) is not made by the consumer that purchases the bundle of access and outgoing call services. Consequently, the wholesale termination service cannot be considered to be part of the retail bundle unless consumers take into account the wholesale charges levied (i.e. for calls received by them) in their purchasing decisions. The Director does not believe that the evidence on consumers' behaviour discussed in Annex A supports this and maintains his view that termination services are therefore not linked by a cluster market analysis in the same way as the provision of origination services. Oftel has previously addressed the issue in more detail and its view was

[126] Squire, Sanders and Dempsey, *Market Definition for Regulatory Obligations in Communications Markets*, November 2003, p. 258.
[127] *Ibid.*, p. 259.
[128] Citigroup Smith Barney, *European Telecoms, a New Regulatory Era*, 24 July 2003, p. 33.
[129] *Ibid.*, p. 33.

supported by the Competition Commission at paragraph 2.109 of the CC report, based on its own survey evidence.[130]

In its July 2001 final report on the pricing methodology for the GSM terminating access service, the Commission concluded that the relevant product for the purposes of delineating the relevant product market was a GSM mobile call. In the 2001 GSM Final Report, the Commission determined that the provision of GSM mobile calls is made up of four key elements:

- the GSM origination service (which differs from the declared GSM origination service in that it allows a mobile subscriber to call other mobile and fixed line networks and not just 13/1300 and 1800 number services offered by fixed line networks);
- the GSM termination service (which allows a mobile subscriber to receive a mobile call);
- the mobile access (subscription) service including connection, a handset and monthly access; and
- outgoing call services, which use a combination of GSM origination services, possibly GSM termination services or PSTN termination services (depending on whether the call is made to a mobile or fixed line), and mobile access services.

At this time, the Commission found that without the interaction of all of these elements, a GSM mobile call could not be provided.

Further, the Commission found that the revenue streams flowing from these elements are interdependent. In this regard, the Commission observed that the revenue sources associated with the provision of these joint services were:

- access prices for GSM termination services, from fixed network and mobile network carriers;
- charges for mobile access services from mobile subscribers; and
- charges for outgoing call services from mobile subscribers.

In essence, therefore, the Commission found that the relevant product for consideration was broader than simply the MTAS alone.

Commission view

As indicated above, the process of market definition for the eligible service begins by defining the service in question and the firm(s) supplying the service. With regard to

[130] Oftel, *Wholesale Mobile Voice Call Termination, Proposals for the Identification and Analysis of Markets, Determination of Market Power and Setting of SMP Conditions, Explanatory Statement and Notification*, 19 December 2003, pp. 19-20.

defining the relevant service, this process has already been discussed in Chapter Three.

With regard to who are the potential suppliers of this service, the Commission understands that within Australia, there are four providers of MTASs on six mobile networks. More specifically, Optus and Vodafone both operate 2G GSM networks; Hutchison Telecommunications operates a 2G CDMA network and a 3G W-CDMA network; and Telstra operates a 2G GSM and a 2G CDMA network.

What is the relevant product?

In determining the relevant product for the purposes of this inquiry, the Commission believes that, at the retail level, mobile operators sell a bundle of services to end-users that includes a range of subscription services and the ability to make outgoing calls. Accordingly, the Commission believes it is appropriate to consider these retail services as being supplied within the same 'cluster' market.

The Commission does not believe, however, that the MTAS should be considered as being supplied as part of the same cluster of retail mobile services for the purposes of this inquiry. While the Commission agrees there are some complementarities in demand and supply with regard to the MTAS and retail mobile services, the Commission considers that the MTAS (as opposed to the ability to receive calls) is not being *sold* in the same bundle as other mobile services sold at the retail level to mobile subscribers. This is because the MTAS is clearly a wholesale service sold to other network operators, while retail mobile services are sold directly to a different group of end-users. That is, while the mobile subscriber pays for outgoing calls and subscription, under a CPP model, it is the party originating MTM and FTM calls that pays (indirectly) for termination services when its carrier purchases terminating access services in order to provide FTM and MTM calls. While the provision of a MTAS provides benefits to both the maker and receiver of a call (and is therefore jointly consumed), it is not paid for by both consumers and is not sold to retail mobile consumers. On this basis, the Commission believes that the relevant product for the purposes of this inquiry is not a retail bundle (or cluster) of mobile telephony services. Rather, it is merely the MTAS alone.

The Commission agrees with Telstra that the MTAS is 'two-sided' in nature, in that it provides benefits to both mobile subscribers and those individuals that chose to make calls to them. However, just because the service is two-sided in nature doesn't mean that it should be defined to be provided in the same bundle (or cluster) as retail mobile services. Further, it should not imply that MNOs are constrained by mobile subscribers when setting the price of the MTAS, or that the provision of retail mobile services provides a constraint on pricing of this service. These issues are discussed in more detail below. That said, the two-sided nature of the MTAS does imply that the Commission should consider the inter-relationships between the MTAS and retail mobile services when considering what factors influence the pricing structures MNOs chose across the MTAS and retail mobile services. This is considered in detail below and in other parts of this report.

The Commission also agrees with Telstra that services not sold as a bundle can be defined in the same market for purposes of competition analysis in certain

circumstances. However, the Commission does not agree it would be appropriate to do so in this instance. Further, the Commission disagrees with Telstra that its consideration of whether the MTAS and retail mobile services are in the same market is based solely on whether the services are sold in a bundle. The Commission's discussion below regarding whether B-party receivers of calls to mobile networks (i.e. mobile network subscribers) are willing and/or able to constrain MNO's pricing of the MTAS clearly considers questions of product market definition from a broader perspective than simply considering whether retail mobile and the MTAS are sold in the same bundle. The Commission's consideration of whether or not the MTAS is sold as part of the same bundle of retail mobile services merely informs the Commission decision as to what is the relevant product from which to being product market definition for the purposes of this inquiry.

With regard to Frontier Economics' concerns that the services can be sold in a cluster market even if they are not sold as part of a bundle, the Commission believes there are inter-relationships between retail mobile services and the MTAS. However, the Commission does not believe that these inter-relationships should necessitate consideration of the MTAS as if it is provided in the same market as retail mobile services.

On balance, therefore, the Commission does not believe that the relevant product for the purposes of market definition analysis in this inquiry should be defined more broadly than the MTAS. This is not to say, however, that the MTAS and retail mobile services don't have complementarities in supply. Further, this should not preclude the Commission from analysing the inter-relationships between retail and wholesale services when considering what constrains, and provides incentives for, MNO's pricing decisions across the full range of retail and wholesale mobile telephony services. These incentives, and the impacts they have on the likely pricing structure for the MTAS and retail mobile services in the absence of declaration, are discussed in more detail throughout the course of this report.

What are the product dimensions of the market?

In considering the product dimensions of the market, the Commission finds it useful to address three key questions:

1. Are there any substitute services that might constrain mobile operators pricing of the MTAS;

2. To what extent are termination services on different mobile networks substitutable with each other from the perspective of A-party consumers making calls to mobile networks; and

3. To what extent are B-party consumers receiving calls to mobile networks likely to be willing and able to constrain mobile operators pricing of the MTAS?

Each of these questions is addressed in turn below.

Are there any substitute services that could constrain pricing of the MTAS?

With regard to the substitution possibilities available to retail consumers considering calls to mobile networks, the Commission has examined the substitution possibilities available to A-party consumers presented by a range of options, including:

- calling a mobile subscriber on a fixed-line network;
- sending a mobile subscriber an e-mail message;
- sending a subscriber an SMS message;
- calling a mobile subscriber using voice over Internet protocol (VoIP) technology; and
- utilising call-back arrangements.

The Commission concluded in its July 2001 report on GSM pricing principles that although there is likely to be some substitution of fixed services for mobile services, such services were unlikely to constrain the prices charged for mobile calls to such a degree that they would be considered in the same market.[131] In relation to substitution between FTF and FTM calls, the UK Competition Commission, in its December 2002 Reports on references under section 13 of the *Telecommunications Act 1984 (UK),* contended that calling a fixed-line phone instead of a mobile phone is clearly a possibility if the calling party knows that the mobile subscriber is located near a fixed line phone and knows that fixed phone's number. However, it concluded that fixed and mobile telephone calls clearly have 'fundamentally different characteristics" such that a call to a fixed line will 'rarely' be a wholly satisfactory substitute for locating someone on a mobile telephone.[132] Consistent with this view, the Commission considers that due to the mobility characteristic of mobile telephony, the degree of substitutability between a call to a fixed-line phone and a call to a mobile phone is limited. A call to a fixed-line phone should therefore not be included in the same market as FTM calls on these grounds.

Mobility is also a feature not commonly present in e-mail and VoIP services. In addition, e-mail does not allow simultaneous communication. The Commission therefore considers that, at this time, the extent of substitutability between these services and a voice call terminating on a mobile network also appears to be limited.

Likewise, the Commission considers that the extent of substitution between SMS messaging and a voice call which terminates on a mobile network appears to be limited. The Commission is of the view that at this stage, the extent of substitution of SMS (and web-based SMS) for FTM would be relatively limited. SMS messaging is a truncated form of communication that is not simultaneous. In the event of an increase in the price of the MTAS (and therefore FTM calls), the Commission believes that the extent of substitution towards SMS messaging would be small.

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[131] ACCC, *Pricing Methodology for the GSM Termination Service*, July 2001, p. 28.

[132] UK Competition Commission, *Vodafone, O2, Orange and T-Mobile*, *Reports on References under s. 13 of the Telecommunications Act 1984 on the Charges made by Vodafone, O2, Orange and T-Mobile for Terminating Calls from Fixed and Mobile Networks*, December 2002, p. 35.

The Commission considers that 'call back' is a strategy to reduce the amount paid for calls and therefore is not a genuine alternative to calling a mobile phone. This view is also consistent with the view formed by the UK Competition Commission in its December 2002 report.

In all cases, therefore, the Commission finds that these alternatives are not sufficiently substitutable for calls to mobile networks. Accordingly, the Commission believes none of these alternative services should be included in the same product market as the MTAS.

In reaching this conclusion, the Commission has had regard to the findings of the Consumer Awareness Survey conducted by the four mobile carriers in 2003. Whilst the survey does indicate consumers use a wide variety of communications methods (such as fixed-line calls, mobile calls, e-mail, SMS and faxes), and that cost is an important factor for consumers when choosing to use alternative means of contacting people other than by calls to mobile networks, the Commission notes that the survey does not indicate the degree of substitutability between these services. In other words, the survey does not indicate the extent to which consumers would substitute away from making calls to mobile networks if an increase in the price of the MTAS (and hence, by assumption the retail price of calls to mobile networks) were to occur. Accordingly, the Commission is not convinced that the survey indicates these other services are sufficiently substitutable to constrain the price of the MTAS.

Whilst the Commission expects that mobile operators would experience some decrease in demand for calls to their networks if they chose to increase the price of the MTAS, the Commission does not believe this would be because of any significant switch by consumers to any of the alternative service offerings considered above. That is, a decrease in consumer demand when a firm increases prices does not necessarily indicate an absence of market power. For example, a monopolist will still face a decrease in demand when it increases prices above cost to profit-maximising levels. Hence, evidence of less demand for FTM calls in response to an increase in mobile termination rates alone would not be evidence of a lack of market power.

To what extent are termination services on different mobile networks substitutable with each other?

Whether or not the MTAS on each individual network should be considered in a product market of its own depends on the extent to which termination on different carriers' networks are substitutable with each other. In other words, to what extent are calls to different mobile networks substitutable with each other?

In its July 2001 Final Report on the pricing methodology for the GSM termination service, the Commission concluded that mobile operators have control over access to all calls that are made to end-users subscribing to their network. That is, if an individual subscriber to another telephony network (fixed, mobile or otherwise) seeks to make a call to an end-user subscribing to a particular mobile network, the first individual's network operator has no option but to seek terminating access on the mobile subscriber's network in order for the call to be completed. As a result of this, the Commission concluded that there is no possibility of substitution, and that this

means that all mobile carriers – irrespective of their size – have control over access to termination of calls to end-users subscribed to their network.

The Commission continues to believe that, from the perspective of the A-party making a call to a mobile subscriber, it would appear substitution possibilities between different mobile 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. That is, if the B-party chooses to subscribe to a particular network, the A-party would not be able to call the B-party by placing a call through to an alternative network.

In this regard, the Commission notes statements by Laffont and Tirole that all network operators have market power, irrespective of their size. Indeed, Laffont and Tirole argue that the smaller is a network operator's market share (in terms of subscribers), the greater is its market power:

> It is worth recording here the *common fallacy that small players do not have market power and should therefore face no constraint on their termination charges.* This fallacy results from a misunderstanding of the definition of a market. A network operator may have a small market share in terms of subscribers; yet it is still a monopolist on the calls received by its subscribers. Indeed, under the assumption that retail prices do not discriminate according to where the calls terminate, *the network has more market power, the smaller its market share:* whereas a big operator must account for the impact of its wholesale price on its call inflow through the sensitivity of rivals' final prices to its wholesale price, a small network faces a very inelastic demand for termination and thus can impose higher mark-ups above the marginal cost of terminating calls.[133]

Further, the Commission notes that this concept of market power exists irrespective of the choice of relevant product chosen for the purposes of this inquiry. That is, even if the Commission were to adopt the cluster market view proposed by Frontier Economics in its submissions to this inquiry, the Commission still believes MNOs have control over access to termination of calls on their networks, and that this control over access will not be constrained by the presence of any alternative substitute services.

In this regard, the Commission also notes the findings of Wright that:

> In most countries, the fixed-line network collects the proceeds from … [a FTM] ... call, but pays the cellular firm a termination charge for completing the call. This gives the cellular firms a kind of bottleneck over terminating calls.[134]

The Commission notes n/e/r/a's alternate product market definition whereby it argues that calls to individual subscribers are not substitutable with each other, such that the appropriate product market definition is a more narrow market for calls to each individual mobile subscriber. The Commission believes such a market definition would be inappropriate in this case where the relevant product is sale of a MTAS by a mobile operator to another carrier seeking to provide calls to the MNO's subscriber. However, the Commission notes that n/e/r/a's alternative market definition supports

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[133] J-J. Laffont and J. Tirole, *Competition in Telecommunications*, The MIT Press Cambridge, Massachusetts, 2000, p. 186.

[134] J. Wright, 'Access Pricing Under Competition: an Application to Cellular Networks', *The Journal of Industrial Economics*, Volume L, No. 3, September 2002, pp. 289-290.

the conclusions in this inquiry that the price of the MTAS will be pushed above its underlying cost of production and that some portion of (or in the case of n/e/r/a's approach, all of) the economic profit earned from this will be transferred to mobile subscribers in the form of lower prices for retail mobile services. It is this structure of prices that generates the Commission's competition, efficiency in use and investment concerns regarding an unregulated price for the MTAS outlined later in this report.

The Commission has also had regard to arguments that A-parties could choose amongst different B-party end-users from a general class of end-user – such as plumbers – based on differences in mobile termination charges under certain circumstances. That is, some parties have argued that to the extent that differences in mobile termination prices were reflected in different prices for calls to mobile networks, A-parties might choose to substitute between different B-parties within a given class of end-user based on the network to which they are subscribed. However, in order for such substitution to be possible, the A-party would have to be aware of:

- which particular network all individual end-users of a particular class are connected to; and

- the difference in the price of calling different mobile networks.

In general, the Commission believes it is highly unlikely A-parties will be aware of this information. With regard to the first point, the Commission believes the evidence presented by the four mobile carriers is not compelling in terms of indicating consumers have widespread awareness of the mobile networks to which they call. While the Consumer Awareness Survey indicates end-users have some knowledge of the network to which the person they call most is connected, the level of awareness appears to tail off substantially once the end-user considers the fourth and fifth most often called mobile subscriber. This is particularly the case for FTM calls. Overall, the Commission considers that, whilst there is likely to be some awareness when calling close friends and family members, consumer knowledge is likely to be incomplete. Consumers are unlikely to be aware of which networks other mobile users (such as tradespeople, business contacts, etc) are connected to. This is further complicated by the presence of mobile number portability meaning the calling party can not determine the mobile network of the receiving party by looking at the first four digits of the mobile telephone number.

With regard to the second point, the Commission considers that, even if consumers are aware of the mobile networks that the people they call are connected to, there does not appear to be any current pricing mechanism that can convey a change in the price a mobile carrier sets for mobile termination on its network. This is because FTM service providers appear to charge the same rate for FTM calls to other carrier's networks irrespective of the mobile network to which the call recipient is connected. Hence, any change in mobile termination rates by one mobile carrier is not indicated to consumers of FTM or MTM calls.

Whilst some mobile operators do differentiate between on-net and off-net calls for MTM services, this does not appear to reflect any difference in the mobile termination rates charged amongst the different mobile operators. That is, all off-net MTM calls seem to be charged at the same rate irrespective of the mobile network being called by

an A-party consumer. Finally, to the extent that any differences in termination were reflected in final prices for FTM calls, it is likely consumers will find the amount of information regarding the price their fixed network pays for termination on mobile networks both confusing and overwhelming.

With regard to the use of transit agreements as an alternative to seeking direct interconnection with a given mobile operator, the Commission has not been provided with evidence during this inquiry to suggest these arrangements have been effective in constraining the pricing decisions of providers of the MTAS. In the first instance, the Commission has not been provided with evidence to suggest transit arrangements are widely used by mobile carriers in order to provide MTM calls. With regard to FTM calls, the Commission has previously indicated it understands that transit arrangements currently in place exist because of the relative cost of installing switches and switch ports rather than because of an attempt by fixed-line operators to avoid the high prices mobile operators set for direct MTASs. That is, fixed-line carriers are motivated to seek transit arrangements in order to overcome the cost of setting up switches to directly terminate low numbers of calls to particular mobile networks. The Commission also understands that the price of transiting calls is the same, or more, than the (above-cost) access price for directly purchasing MTASs. This supports the view that the effect of transit is to reduce differences in access prices between carriers, and not to drive access prices towards cost. Therefore, the Commission continues to believe that transit arrangements do not mitigate control over access to MTASs.

<u>To what extent will B-party consumers be willing and able to constrain pricing of the MTAS?</u>

From the perspective of the B-party receiving calls on mobile phones, it could be argued that mobile phone users can exert a constraint on MNOs' pricing of mobile termination if mobile phone users were to change operators in response to their mobile operator increasing termination prices. For this to occur, 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.

With regard to (a), those operators that set lower termination charges may, in some cases, chose to recover the lost revenue from termination through higher prices for retail mobile services. This would especially be the case if, as some assert, mobile operators are earning zero economic profits across the whole of their business. Hence, in order for the B-party mobile subscriber to exert a constraint on the price of the MTAS (paid for, indirectly, by the A-party), s/he may 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.[135] There is no evidence of such strong altruistic tendencies amongst mobile telephone subscribers. Indeed, evidence from studies conducted by overseas mobile operators (O_2 in the UK) found that:

> … it was the cost of making calls from their mobile phone and the overall value for money of the packages available that were more important to respondents than the cost to others of calling them. 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. Under one-fifth said it was important.[136]

Whilst some mobile subscribers may countenance lower termination charges in circumstances where they may be purchasing a mobile phone for other family members in order to be able to call them more easily or if they are a business wanting to encourage potential clients to call them, this is self-interested behaviour. Further, the Commission does not believe this customer profile represents the dominant scenario in mobile telephony markets.

Secondly, with regard to (b), as indicated above, consumers have no knowledge of differences in termination rates between mobile operators. Whilst they may realise it is cheaper to call someone on the same network they are connected to, there appears to be no mechanism in the market to indicate differences in termination rates to other mobile networks as all off-net calls are charged at the same rate irrespective of the network on which a call terminates.

In response to claims by Telstra that B-party consumers may be punished by high termination rates if it leads to less (or shorter) calls being made to them on their mobile phones, the Commission believes Telstra has failed to show how this would be likely to constrain MNOs pricing decisions with regard to the MTAS. In the first instance, given mobile operators do not tend to disclose their mobile termination rates to potential subscribers, it is hard to understand how a mobile subscriber will know which network to churn to in order to reduce the termination rates charged (indirectly) to A-party consumers wishing to call them. Secondly, even if mobile subscribers did change network in response to low call volumes or shorter calls being made to them, A-parties seeking to call them would be unlikely in many cases to face a different/lower charge for calling them on their new network. This is because fixed-line network operators and MNOs do not appear to differentiate the prices they set for off-net calls to mobile networks. In other words, it is unlikely mobile subscribers would receive greater (or longer) calls by changing MNOs in response to differential MTAS charges as other networks don't tend to offer differential call prices to mobile networks based on differential rates for MTASs. Finally, as indicated above, in the general case it may not be in the B-parties interest to seek an MNO that sets lower prices for the MTAS as it may lead to the mobile subscriber having to pay

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[135] This would suggest that mobile subscribers should be willing to make *voluntary* cash transfers to those wanting to call them.

[136] UK Competition Commission, *Vodafone, O_2, Orange and T-Mobile Reports on References under s. 13 of the Telecommunications Act 1984 on the Changes made by Vodafone, O_2, Orange and T-Mobile for Terminating Calls from Fixed Mobile Networks*, December 2002, Volume 1, p. 42.

correspondingly higher prices for retail mobile charges to compensate the MNO for lower MTAS charges.

Overall, therefore, 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 charges by mobile operators.

Summary on product market definition

As indicated above, the Commission does not need to be as determinative in its choice of product market definition (or any other aspect of market definition) for the purposes of a declaration inquiry under Part XIC of the Act as it needs to be for a matter considered under Part IV or Part XIB of the Act. That said, an understanding of relevant market boundaries and the forces that constrain the pricing of the eligible service are important for the Commission's consideration of whether declaration will promote competition in telecommunications markets.

It is the Commission's view that MNOs have control over access to termination of calls to subscribers on their network. As a result of this, the Commission does not believe that MTASs provided on different mobile networks are substitutable for each other – calls to a consumer connected to one mobile carrier's network cannot be terminated on another carrier's network. Further, there are no adequate demand- or supply-side substitutes that will constrain mobile network operators in their pricing decisions for the mobile termination service. These factors, combined with a lack of consumer awareness (on the part of both the A- and B-party consumers) and the incentives that arise from the CPP principle that governs calls to mobile networks, fails to mitigate the control over access mobile operators have with regard to calls terminating on their networks.

Accordingly, the Commission believes all mobile operators are unlikely to be constrained in their pricing decisions for the MTAS. Crucially, however, this is not to imply that the revenue streams from retail mobile and MTASs are not inter-related. The Commission continues to believe they are and that these inter-relationships are a key factor in its assessment of the extent to which declaration of a MTAS would (or would not) be likely to promote competition in telecommunications markets.

What are the functional dimensions of the market?

Delineation of the relevant functional market requires identification of the vertical stages of production and/or distribution which comprise the relevant arena of competition. In the case of mobile termination, given it involves an access provider selling access to an access seeker, and not directly to an end-user, the service is considered to operate at the wholesale stage of production. The service is an input, used by telecommunications service providers, to provide retail FTM and MTM services.

As indicated above, the Commission believes that the revenue streams mobile operators generate from the provision of the mobile termination service and retail mobile services are inter-related. The Commission does not, however, believe that

the retail stage of production is able to constrain the pricing of the MTAS. Accordingly, it is the Commission's view that retail mobile services should be considered to be in a separate market to the wholesale MTAS.

What are the geographic dimensions of the market?

In delineating the geographic dimensions of telecommunications markets, factors such as the area over which major suppliers operate are considered to ensure that the relevant arena of competition is described.

In its July 2001 report on GSM pricing principles, the Commission considered the geographic market in which mobile calls are supplied to be a national one. The Commission's current analysis of the geographic dimension of the relevant market leads it to the same conclusion. That is, the Commission continues to believe that the geographic boundary of the relevant market is national.

Although Hutchison's network only operates in distinct geographical locations, the Commission understands that it provides a national mobile service. This is made possible through roaming agreements with other mobile carriers. As noted below, the existence of national coverage (whether or not by utilising roaming agreements) is considered essential to compete.

What are the temporal dimensions of the market?

The temporal dimension of the market refers to the timeframe over which substitute services could potentially exert a competitive constraint on the pricing and output behaviour of a provider of the eligible service. A timeframe that is too short may exclude alternatives on the demand or supply side that are actually constraining conduct in the market in question. Whereas, one that is too long risks including those services which are not effectively constraining behaviour currently or for the foreseeable future.

At this stage, the Commission does not foresee any developments in mobile telecommunications technology, or in other communications technology, that will produce any substitute services for the MTAS in the short-to-medium term other than those considered under the product market discussion above.

With regard to Telstra's argument that the temporal dimensions of the market should be aligned with the proposed adjustment period outlined in its pricing principle for the MTAS, the Commission believes it is important to distinguish its choice of timeframe for its pricing principle with the temporal dimensions of the market. The Commission's choice of timeframe for its pricing principle is designed, in order to meet the statutory criteria under subsection 152AH(1) of the Act, to minimise possible disruptions that would harm the legitimate business interests of mobile operators providing the MTAS. It is not designed with regard to any belief that substitute services might emerge that would constrain MNO's ability and incentive to raise the price of the MTAS above its underlying cost of production within this period. Accordingly, the Commission does not believe it is appropriate to align its temporal market dimension with the adjustment period outlined in its pricing principle for the MTAS.

4.2.3 Defining other markets in which declaration may promote competition

Often the markets in which competition is likely to be promoted as a result of declaration of the eligible service are downstream markets. In general, the Commission will be interested in identifying only those markets in which declaration of the eligible service is likely to have a material effect. Where there are several markets that could be affected by declaration, it may be sufficient for the Commission to focus its attention only on the main or major markets in which declaration may promote competition.

Views of interested parties

All submitters who presented a view on the markets in which continued declaration of the MTAS may affect competition identified the market within which FTM services is provided as a relevant downstream market. Some parties also identified the market in which MTM calls are made as a relevant downstream market and some parties identified the mobile services market as a downstream market.

Frontier Economics**,** on behalf of Vodafone, considers the relevant downstream market is the market within which FTM telephony services are supplied. In turn, Frontier Economics considers that FTM telephony services are part of the service offering of a fixed-line telecommunications service provider. Frontier Economics argues that:

> 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.[137]

Similarly, Optus considers the 'retail FTM market' to be a relevant downstream market. However, it argues that competition in this market is not affected by termination rates. In this regard, Optus contends that:

> Retail fixed-to-mobile services are important to this review and are certainly of relevance because they are a downstream service of mobile termination. [138]

In its submission to the Discussion Paper, Hutchison also identified the market within which FTM services is provided as a relevant downstream market. In addition, it also identified the market in which MTM services are provided as a relevant downstream market.

In its submission to the Draft Report, Hutchison also agreed that:

> The market in which F2M calls are supplied is a national market for the provision of the pre-selected bundle of F2M calls, national long distance and international calls at the retail level. These services are considered to be part of the same bundle because of

[137] Frontier Economics, *ACCC Mobile Services Review 2003: Market Definition Issues*, report for Vodafone, June 2003, p. 13.

[138] Optus, *Optus Submission to the Australian Competition and Consumer Commission on Mobile Services,* June 2003, p. 6.

> complementarities in their provision and because they are offered as a bundle in pre-selected offerings by carriers.[139]

In its submission to the Discussion Paper, the CCC argues that if the market for the MTAS is defined as it was by regulators in the UK or the Netherlands, then the downstream markets would be the FTM and MTM markets. The CCC also considers that these services each form part of other separate telephony markets. In this regard the CCC commented that:

> Recognising that the M2M market could be considered as part of the broader mobiles market, then such consideration would extend to this downstream market. This was the approach adopted in the UKCC Report. For the same reasons, because competition issues in F2M impact upon competition in the full suite of pre-selected services, then consideration should also be extended to this broader downstream market.[140]

Similarly, AAPT also considers that the relevant downstream markets in which competition may be promoted are the markets for FTM and MTM call services.[141]

PowerTel did not explicitly identify markets in which it considers competition may be affected by continued declaration but it suggested that the Commission assess the residential and corporate/business FTM retail markets when considering the question of FTM pass-through.[142]

Likewise, the Australian Consumers' Association's (ACA) submission did not specifically identify markets in which it considers competition may be affected by declaration. However, its discussion of the FTM services market clearly indicates that it considers this to be a market in which competition may be affected.[143]

INTUG also does not specifically identify downstream markets but it discusses the retail MTM and FTM markets in its consideration of the interests of end-users.

The Commission also notes comments by Unwired in its submission to the Draft Report that it will seek to acquire the MTAS in order to provide calls to its customers over its wireless broadband network. Wireless also notes that its 'business is built on the economics of a fully integrated high speed service delivering both internet & voice services.'[144]

Commission View

The following downstream markets are identified as those being most relevant to the inquiry:

- the market within which FTM services are provided; and

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[139] Hutchison, *Response to the Australian Competition and Consumer Commission's Draft Decision on Mobile Terminating Access*, 30 April 2004, p. 3.
[140] CCC, *Submission to the ACCC Mobile Services Review 2003*, p. 15.
[141] AAPT, *Submission by AAPT Limited, 13 June 2003*, p. 7.
[142] PowerTel, *Submission by PowerTel Limited*, 18 August 2003, p. 5.
[143] Australian Consumers' Association, *Response to ACCC Discussion Paper*, p. 2.
[144] Unwired, *Response to the Commission's Draft Report – Mobile Terminating Access Service*, 4 June 2004, p. 1.

- the market for retail mobile services.

Market within which FTM services are provided

The Commission follows the same market definition processes for defining relevant downstream markets as it does when defining the market in which the eligible services are provided. Therefore, in order to define the market within which FTM calls are provided, the Commission will first consider the relevant product and then consider the product, functional, geographic and temporal dimensions of the market.

The Commission's assessment of the relevant product has led it to consider 'cluster market' concepts and issues surrounding the pre-selection determination.

As indicated by Frontier Economics, a literature has emerged in recent years that suggests that services provided in a bundle should be considered to be supplied in the same 'cluster' market.[145] The essence of the cluster market concept is that complementarities in demand or production mean that a firm will, under certain circumstances, only be able to compete by producing a bundle (or cluster) of services rather than simply by providing individual elements of the bundle in isolation. Where this is the case, it is argued that producers in a relevant market compete to supply the cluster of services jointly. When conducting market analysis, the cluster should be considered as being provided in the relevant market, and analysis undertaken to determine whether providers of the bundle (or cluster) of services have market power over the provision of the bundle.

In previous discussions on this issue when determining pricing principles for the GSM termination service, the Commission concluded that:

> While the Commission is not of the view that long-distance and international calls are in the same market as fixed-to-mobile calls, it notes that the competitive forces on long-distance and international calls may have some impact on the provision of fixed-to-mobile calls. Essentially, the pre-selection determination means new entrants are likely to consider their competitiveness and profitability in the provision of all three call types and not just fixed-to-mobile calls.[146]

[145] See for example H. Ergas, *Cluster Markets: What are they and How to Test for Them*, Centre for Research in Network Economics and Communications, University of Auckland, 1985, p. 2.

[146] ACCC, *Pricing Methodology for the GSM Termination Service – Final Report*, July 2001, p. 44.

However, in the local telecommunications services inquiry undertaken by the Commission in July 1999, it indicated it did treat national long-distance and international calls as being supplied in the same market. This view was reached based on an analysis of the services in terms of the bundles or clusters within which they are supplied. In this regard, the Commission noted that:

> With current pre-selection arrangements end-users must choose a single service provider for both national long distance and international calls (known as 'single basket preselection'). Over-ride codes do, however, enable end-users to use different service providers for national and international long-distance calls on a call-by-call basis. On balance, for the purposes of examining the impact declaration is likely to have on competition, the Commission did not believe it necessary to form a definitive view. It decided to treat national long distance and international long distance calls as being supplied in the same market.[147]

Since that time, the Commission notes that FTM calls have been added to the single basket of pre-selected services. Accordingly, under current preselection arrangements, end-users must choose a single service provider for all of national long-distance, international and FTM calls. Whilst over-ride codes continue to enable end-users to choose different service providers for each of these services on a call-by-call basis, the Commission understands that such over-ride codes are not widely known by end-users and not frequently used.

On balance, the Commission continues to agree with its assessment of July 2001 that competitive forces on long-distance and international calls may have some impact on the provision of FTM calls. Accordingly, it is important to consider the inter-relationships between these services when considering the impact of declaration on the provision of FTM calls. While the Commission is not required to form a definitive view on the boundaries of the market within which FTM calls are provided for the purposes of this declaration inquiry, it has decided to treat FTM calls as if they were being provided in the same market as national long-distance and international calls in this instance.

It is important to note, however, that these services are not considered to be part of the same bundle due to substitutability between them. Rather, they are considered to be part of the same bundle of services because of complementarities in their provision and because they are offered as a bundle in pre-selection offerings by carriers.

The Commission also notes that Unwired's comments indicate that the pre-selected bundle of fixed-line telephony services is increasingly being bundled with Internet services in some retail product offers. However, such bundling is still in its infancy, and as such the Commission has chosen not to include Internet services in the same market as the pre-selected bundle of services for the purposes of this inquiry. That said, Unwired's submission indicates that the provision of the MTAS is likely to have some impact on the ability of wireless network (and other new and emerging alternative delivery platform) operators to compete with providers of FTM call services in the future.

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[147] ACCC, *Declaration of Local Telecommunications Services – A Report on the Declaration of an Unconditioned Local Loop Service, Local PSTN Originating and Terminating Services, and a Local Carriage Service under Part XIC of the Trade Practices Act 1974*, July 1999, p. 38.

In assessing the product dimension of the market, the Commission seeks to identify demand-side and supply-side substitutes for the relevant product. The Commission considers there is a range of services which may potentially be considered substitutes for the bundle of services containing FTM services, national long distance and international calls. In particular, the Commission believes it is relevant to consider the potential substitutability offered by FTF calls, MTM calls and SMS services.

As discussed in the section on the product dimensions of the market within which the eligible service is provided, however, the Commission considers none of these alternatives to be a fully effective substitute for FTM calls. Accordingly, with the exception of national long distance and international long distance calls (which are, due to preselection, sold as part of the same bundle as FTM calls), the Commission does not believe they should be included in the same market as FTM call services.

The Commission considers that the relevant functional level of the market within which FTM calls are provided is the retail level. The Commission is of the view that while FTM calls are provided using the wholesale PSTN originating and mobile terminating access services, competition at the retail level for FTM calls would not constrain the access prices for these services. In support of this conclusion, it is noted that PSTN origination is regulated and that the Commission has elsewhere expressed its view that there are particular features of the MTAS which mean that the competitive forces in place are weak, allowing mobile carriers to set access prices above cost. The Commission, therefore, considers that FTM calls are provided at a retail level and that the wholesale PSTN originating and mobile terminating access services are part of separate markets.

The Commission considers there to be a national market for the provision of FTM calls. The Commission notes that all providers of FTM services offer a national product, with the only limitation being the geographic coverage of the mobile network being called.

Overall, therefore, the Commission considers the relevant market within which FTM calls are provided is likely to be a national market for the provision of the pre-selected bundle of FTM, national long distance and international calls at the retail level. It is noted that the FTM service is provided in a downstream market of the MTAS markets, and is likely to be provided in the same market as national long-distance and international calls.

Retail mobile services market

As with the market within which FTM services are provided, in order to identify the market in which mobile services are provided, the Commission first starts by identifying the relevant product. The Commission considers the relevant product in this instance is a retail mobile service. The provision of a retail mobile service consists of the following elements:

- the mobile access (subscription) service including connection, a handset and monthly access; and

- outgoing call services.

In establishing the boundaries of the product market, the Commission has considered whether 2.5G services, 3G services, fixed line services and SMS services are substitutes for a mobile call made on a GSM or CDMA network.

3G

When the Commission published its GSM pricing principles in July 2001, 3G services were not yet available and there was some uncertainty about how 3G technology would be applied and what services would be utilised. Since the introduction of 3G services by Hutchison in April 2003, however, it has become clear that voice call services provided on 3G networks compete with voice call services provided on 2G and 2.5G networks. Consequently, the Commission now considers that mobile calls utilising 2G, 2.5G and 3G technologies are sufficiently substitutable to be considered as part of the same mobile services market.

Fixed line

As discussed previously in this section, the Commission considers that due to the lack of mobility associated with fixed-line telephony services, the ability for a fixed-line service to substitute mobile services is limited. A call which originates and terminates on a fixed-line network should therefore not be included in the same market as the market for retail mobile services.

SMS

Similarly, SMS does not provide the same basic characteristics present in a mobile call. SMS offers a comparatively truncated form of communication which does not allow end users to communicate simultaneously. Consequently, the Commission believes that in the event of an increase in the price of mobile calls, the extent of substitution to SMS would be small. That said, the Commission understands that SMS services are sold as part of the same bundle of retail mobile services alluded to above. Accordingly, the Commission believes SMS services are provided in the same market as other retail mobile services.

In relation to the functional dimension of the market, the Commission believes these services are provided at the retail level.

Overall, therefore, the Commission's view is the relevant market is that in which retail mobile services are supplied. This is a national market operating at a retail functional level. It includes retail mobile services provided on 2G, 2.5G and 3G networks and SMS services, but does not include fixed-line services.

4.3 State of competition in the relevant markets

Having established the relevant markets for consideration, this section now seeks to determine the state of competition in these markets. This gives the Commission an insight into the likely effectiveness of competition in the future if the service ceased to be declared. Further, it can also provide some insights into the likely impact of declaration of the eligible service. That is, if competition in the relevant markets is

already effective, then declaration of the eligible service may not significantly promote further competition. That said, consideration of the likely state of competition in relevant markets is complicated in this instance, as the MTAS is already a declared service. Accordingly, analysing the current state of competition in relevant markets provides an indication of the state of competition under current forms of regulation as much as it provides an insight into the state of competition that would be likely to exist in the absence of declaration of the eligible service.

It is important to also note that assessing the effectiveness of competition is not a static analysis limited to a description of current conditions and behaviour. Rather, it is a dynamic analysis concerned with features affecting the competitive supply of services in the future. Nevertheless, current conditions will, in general, provide a solid starting point from which to consider the future effectiveness of competition.

When assessing the effectiveness of competition in a particular market, the Commission examines a range of both structural and behavioural characteristics. From a structural perspective, the Commission considers the linkage between supply of the eligible service and the supply of related services, barriers to entry, concentration levels, and the bargaining power of suppliers and buyers of the relevant services. From a behavioural perspective, the Commission may consider a range of market outcomes, including the level of price competition in the provision of a given service, the price-cost margins available to suppliers of a service, price changes over time, service differentiation, and comparisons with similar services provided in overseas jurisdictions.

Other features the Commission may consider include the regulatory environment and dynamic characteristics of the market (including growth, innovation and product differentiation).

The Commission's assessment of the state of competition in relevant markets begins by outlining the views of interested parties to this inquiry. It then considers the state of competition in each of the three market types outlined in section 4.2 above – the individual markets for the MTAS; the retail mobile services market and the market within which the FTM service is provided.

4.3.1 Views of interested parties

Responses to the Discussion paper

A range of views are expressed by interested parties in relation to the current state of competition in the markets relevant to this inquiry. Telstra, Optus and Vodafone submit that the mobile services market (which they define to include both mobile termination and retail mobile services) is highly competitive, while AAPT, PowerTel, Hutchison, the CCC, CoRE Research, SETEL and ATUG express concerns about the level of competition in any or all of the retail mobile services market and the market within which FTM services are provided.

Telstra argues that the mobile services market is highly competitive. Telstra contends that this assessment accords with the views expressed by the Commission in earlier

inquiries into mobiles services and that competition has probably intensified since these views were expressed by the Commission.[148]

Likewise, Optus considers the mobile services market is 'subject to fierce competition' at both the wholesale and retail levels, and that this is demonstrated by:

- the number of mobile networks and the number of mobile service providers in the market;
- the fact that, in its view, there is no dominant player with the ability to raise prices above cost without losing market share;
- MTM call pricing that is subject to 'intense competition';
- FTM call prices which reflect a 'very competitive' market; and
- product differentiation which is occurring in the mobiles market.[149]

Vodafone argues that the mobile services market is 'effectively competitive' and that it delivers cost-reflective prices. It argues that there are a large number of mobile service providers competing to provide mobile services and notes that, since 1997, market penetration has increased and there has been a substantial increase in call volumes on mobile networks.[150]

Vodafone argues that the 'FTM retail market' is a market in transition. It considers that 'substantial margins' are currently being earned by FTM carriers, especially in the residential sector, but that these will be competed away over time.[151]

Contrary to some of these views, AAPT considers that recent increases in prices for retail mobile services would suggest that the retail mobile services market is 'not effectively competitive'.[152] AAPT notes that FTM prices have generally decreased in line with lower termination rates, but that the trend is inconsistent across different customer classes. This is because prices for residential and small business consumers have increased while prices offered to large corporations have reduced.[153]

PowerTel considers that competition in the market within which FTM services are provided is inhibited by the ability of integrated carriers to use above-normal profits from mobile termination to cross-subsidise retail FTM prices.

> In the current market place the distortion of bottleneck pricing and cross-subsidisation has in some instances, led to the corporate customer achieving lower access prices than interconnecting carriers. PowerTel believes that there are corporate customers offered retail fixed-to-mobile calls (i.e. end-to-end call) at rates 25 per cent lower

[148] Telstra, *Telstra's Initial Response to the Discussion Paper of the Australian Competition and Consumer Commission*, April 2003, p. 3.
[149] Optus, *Optus Submission to ACCC on Mobile Services*, June 2003, pp. 9, 11 and 13.
[150] Vodafone, *Submission to the ACCC Mobile Services Review Discussion Paper 2003*, 13 June 2003, pp. 5, 8 and 9.
[151] *Ibid*., p. 16.
[152] AAPT, *Submission by AAPT Limited*, 13 June 2003, p. 27.
[153] *Ibid*., p.25.

> than what PowerTel is charged for wholesale mobile termination (i.e. Point of Interconnect (POI)-to-mobile).[154]

PowerTel believes that, in contrast to these reductions in corporate FTM charges, residential FTM charges have decreased by a smaller amount – or even increased.[155]

Hutchison argues that competition in the mobile services market has been adversely affected by the introduction of the retail benchmarking pricing principles. Hutchison believes that:

> …retail charges for mobile services have to some extent increased by reason of the retail benchmarking pricing principles adopted by the Commission. It is difficult however to be precise due to the variety of call plans available. Other examples of reduced competition are Vodafone's removal of handset subsidies, and Telstra's reduction in the level of its handset subsidies.[156]

Hutchison considers the 'FTM market' to be uncompetitive, as demonstrated by its estimates that Telstra has over 80 per cent market share in the provision of basic access and local calls; 80-90 per cent market share in the 'FTM market'; and 48 per cent of mobile subscribers.[157]

Further, CoRE Research argues (on behalf of Hutchison) that analysis by Macquarie Research Equities and Hutchison suggests that competition between carriers for the provision of FTM calls to residential and SME end-users 'may be relatively weak'. However, it notes that competition for the provision of FTM calls to larger corporate customers may be 'significantly greater'.[158]

The CCC expresses concern about the size of Telstra's and Optus' combined market share and argues that the behaviour of Telstra, Optus and Vodafone in commercial negotiations on FTM terminating access is 'inconsistent with what ought to apply in a competitive market'. The CCC considers that the scarcity of mobile spectrum means that there are high barriers to entry to the market.[159]

SETEL considers that competition in the mobile services market has 'developed over the past few years' but that there is still 'scope for further improvements' in relation to call charges and the 'transparency of differential pricing offerings'. SETEL argues that competition in relation to 'long distance mobile services' is not well developed and is unlikely to develop further in the foreseeable future.[160]

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[154] PowerTel, *Submission by PowerTel Limited*, 18 August 2003, p. 5.
[155] *Ibid*.
[156] Hutchison, *Submission to the ACCC Mobile Services Review Discussion Paper 2003*, 13 June 2003, p. 16.
[157] *Ibid*., p.12.
[158] CoRE Research, *Price Regulation of Mobile Termination: Promoting Competition and Investment in Telecommunications*, 26 June 2003, p. 6.
[159] CCC, *Submission to the ACCC Mobile Services Review 2003*, pp. 4, 5.
[160] SETEL, *Submission by the Small Enterprise Telecommunications Centre Limited*, June 2003, p. 3.

Based on its own research into pricing for telecommunications services, including mobile and FTM services, ATUG argues that the 'Australian telecommunications industry' is not internationally competitive.

> This information suggests that however much progress may have been achieved through competition over the last decade in Australia, we still have progress to make to achieve our objective of international competitiveness in the Australian telecommunications industry.[161]

Responses to the Draft Report

In its Draft Report released in March 2004, the Commission concluded that:

- the market for mobile termination services is not effectively competitive;
- the retail mobile services market is not effectively competitive (despite showing more encouraging outcomes than fixed-line markets); and
- the market within which FTM services are supplied is not effectively competitive.

Most responses to the Draft Report that discuss the Commission's assessment of the state of competition in the relevant markets are critical of certain aspects of the Commission's competition analysis. Those parties who have made submissions to the Discussion Paper which are consistent with the conclusions reached in the Draft Report did not provide additional comments.

However, the Commission does note that Hutchison, ATUG, the CCC, AAPT and AT&T express support for the Commission's approach to assessing the state of competition in the relevant markets.[162]

In relation to the Commission's assessment of the state of competition in the MTAS markets, Telstra, Vodafone and Frontier (on behalf of Vodafone) suggest that the Commission's conclusion that the market is not competitive can be explained solely by the Commission's incorrect and narrow definition of the market for MTASs.[163] These same parties also argue that prices for MTASs have decreased significantly over time and that this is inconsistent with the Commission's finding that MNOs have an incentive to price mobile termination services above their underlying cost of production.[164]

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[161] ATUG, *ATUG's Submission to the ACCC Mobile Services Review Discussion Paper*, p. 8.

[162] Hutchison, *Response to the ACCC's Draft Decision on Mobile Terminating Access*, 30 April 2004; ATUG, *Comments on the Draft Decision on Mobile Terminating Access Services*, May 2004; CCC, *Response to the ACCC Mobile Services Review – Draft Decision on Mobile Terminating Access Service Regulation*, April 2004; AAPT, *Submission by AAPT in Response to the ACCC's Draft Decision on the Mobile Services Review: Mobile Terminating Access Service*, 30 April 2004; AT&T, *Mobile Services Review – Mobile Terminating Access Service*, 30 April 2004.

[163] See Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp.12-13; Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p.17; Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, p. 9-11.

[164] See Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp.12-13; Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30

Comments on the Draft Report with respect to the Commission's finding that the retail mobile services market is not effectively competitive were largely confined to the MNOs with the largest market shares. Telstra, Optus, Vodafone and Frontier (on behalf of Vodafone) argue that:

- the Commission's use of carrier market share data was misleading as it failed to account for the market shares of mobile virtual network operators (MVNOs) and resellers;[165]

- barriers to entry are low, with the Commission's discussion of spectrum availability inconsistent with its conclusion that spectrum availability was a potential barrier to entry, and the availability of network assets and the incentive to compete for roaming agreements overcoming apparent high sunk costs;[166]

- the Commission has understated the potential for growth in the market from the introduction of 3G-related services;[167]

- prices of mobile services have been declining over time and therefore do not support the Commission's conclusion that the market is not effectively competitive;[168] and

- the Commission's assessment of profitability is inadequate as it should analyse results over a longer period of time, should not be based on accounting data and analyst reports and that MNOs' levels of profitability should not be considered as a group when there are large differences in their levels.[169]

April 2004, p.17; Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, p. 11-12.

[165] Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp.14-15; Optus, *Optus Submission to the ACCC on Efficient Use of Mobile Infrastructure and Investment*, May 2004, p.5; Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p.21; Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, p. 14

[166] Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp. 15-16; Optus, *Optus Submission to the ACCC on Efficient Use of Mobile Infrastructure and Investment*, May 2004, p.5; Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, p. 14.

[167] Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, p. 16; Optus, *Optus Submission to the ACCC on Efficient Use of Mobile Infrastructure and Investment*, May 2004, pp. 4-5; Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, pp. 14-15.

[168] Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp.16-17; Optus, *Optus Submission to the ACCC on Efficient Use of Mobile Infrastructure and Investment*, May 2004, p.5; Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p. 20

[169] Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp.17-19; Optus, *Optus Submission to the ACCC on Efficient Use of Mobile Infrastructure and Investment*, May 2004, pp.5-6; Optus, *Optus Submission to the ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004, pp. 20-22; Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p.22-26; Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, pp. 13, 15-16.

Virgin Mobile Australia (Virgin Mobile) also submitted that it was highly influential in the retail pricing decisions of the MNOs. Allphones Retail (Allphones) argued that competition can be determined according to the level of distribution of retail mobile services, there was no evidence to suggest that reductions in average retail prices for mobile services appear to have slowed in recent years and also expressed doubt that MNOs are earning excess profits.[170]

In relation to the market within which FTM calls are provided, Hutchison has suggested that the high cost of FTM calls and the reason that the market is not effectively competitive is because of the vertical integration of operators such as Telstra and Optus who have an incentive to price-squeeze.[171] However, Optus argued that competition in this market is ineffective due to Telstra's historic incumbency, ubiquity, control over natural monopoly infrastructure and partial government ownership. It argues, all of these factors give rise to strong downstream benefits such as strong economies of scale and scope, high market share and consumer inertia and established brand recognition and first mover advantage which mute price and non-price competitive influences in the market.[172]

Both Optus and Telstra argue that price-squeeze behaviour in the market within which FTM calls are provided is not rational for vertically-integrated operators due to the low barriers to entry into the downstream market for FTM calls.[173] These parties also argue that it is inappropriate to compare prices for, or consider as a single market, FTM, national long distance (NLD) and international long distance (IDD) calls.

4.3.2 Mobile terminating access service markets

As discussed in section 4.2, the Commission's view is that the relevant markets for the eligible service for the purposes of this inquiry are the markets for the wholesale MTAS provided on each individual MNO's network.

An examination of the structural and behavioural characteristics of these markets, in order to determine the state of competition in the markets, need not be as extensive as that set out in sections 4.3.3 and 4.3.4 of this chapter for the retail mobile services market and the FTM services market, due largely to the definition of the MTAS market. As the appropriateness of this market definition is already considered in detail in section 4.2, the Commission considers that the arguments that its conclusion that the markets for the MTAS are not competitive, due to the nature of the market definition, have already been addressed.

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[170] Virgin Mobile, *Non-Confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, p. 3; Allphones, *ACCC Draft Ruling on Terminating Access Allphones Submission*, pp. 6,7 and 9-13.

[171] Hutchison, *Response to the ACCC's Draft Decision on Mobile Terminating Access*, 30 April 2004, p. 3.

[172] Optus, *Optus Submission to the ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004, pp. 14-15.

[173] Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, pp.20-21; Optus, *Optus Submission to the ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004, pp. 10-12.

Market concentration

The level of market concentration is one indicator of the (likely) degree of competition within a market. The more suppliers within a market, the less likely it is that any one has sufficient market share so as to influence the prices paid by consumers.

Given the MTAS provided on each individual mobile network is defined to be provided in its own individual product market, it follows that each network operator has a monopoly over the provision of the MTAS on its own network. Therefore, each MNO can heavily influence the prices paid for the supply of termination services on its network, and in doing so has the ability set termination charges well above the underlying cost of providing the service.

Barriers to entry

When assessing the state of competition in a market, the Commission also considers whether the threat of new entry will act to constrain the behaviour of existing market participants. Even if the number of participants in a market is low, their ability to extract economic profits from this market may be constrained by the threat of potential entry by new suppliers. Where barriers to entry into a market are significant, however, the threat of entry is likely to be low and is unlikely to act as a constraint on the behaviour of existing market participants.

As discussed above in section 4.2, the Commission does not believe there are practical substitutes available for termination services on a particular operator's network. Since a calling party will only want and expect to call a particular person on a specific mobile phone number, the calling party's carrier will have no choice but to acquire a termination service from the receiving party's mobile carrier under a CPP billing model. Therefore, an absolute barrier to entry into the market exists, as another operator is unable to provide termination services on any other operator's network.

Pricing Conduct

In principle, prices are said to be at competitive levels when they are close to or at cost, allowing for a (risk-adjusted) normal rate of return. In examining price conduct of market participants for the purposes of this inquiry, the Commission looks at changes in prices of services over time and the profitability of participants over time.

Changes in prices over time

In a competitive market, where the number of units consumed increases over time, it is expected that each of a fixed number of providers will experience economies of scale. This reduced cost per unit is then expected to be reflected in a lower price per unit for the service supplied.

Information available to the Commission, through submissions to this inquiry, carriers' financial reports and from data collected as part of the GSM retail benchmarking monitoring program, indicate that the number of call minutes on

mobile networks has seen significant growth over time.[174] In contrast, however, the price of the MTAS does not appear to have decreased significantly in recent periods. While mobile termination prices have declined during the last six years, the Commission notes that the reduction has occurred during a period when the MTAS has been declared and subject to regulation under Part XIC of the Act. Absent declaration, the Commission believes the incentives for mobile carriers to lower access prices are minimal and significant reductions should not be expected. Further, whilst the prices for the MTAS are significantly lower than those observed in 1996, the vast bulk of this reduction appears to have occurred during the period prior to January 2001, by which time the price Optus paid Telstra for mobile termination had already fallen to around c-i-c cents per minute, and the average price Vodafone paid for mobile termination had fallen to a similar level. In the last two-and-a-half years, however, price falls have slowed significantly, with average prices now in the order of 22.5 cents per minute. Market inquiries indicate that price falls for the MTAS have largely stalled during the last 13 months while the Commission has considered appropriate pricing principles for this service.

Whilst MNOs' responses to the Draft Report assert that termination prices have been decreasing over time, consistent with competitive outcomes, emphasis has been placed on a claimed inconsistency in the statement by the Commission that termination prices are 'significantly lower than those observed in 1996' and the Commission's observation that prices do not appear to have 'decreased significantly in recent times'. The Commission does not accept that these statements are contradictory – whilst mobile termination prices did show noticeable price decreases over the 1996 to January 2001 period (contributing significantly to the overall change in mobile termination prices from 1996 to 2003), recent years have not seen significant decreases in the prices for the MTAS. In this regard, the Commission notes in its July 2001 Final Report on the Pricing Principle for the GSM MTAS that the average price of the MTAS was around 24.5 cents per minute.[175] Hence, it would appear that the average price of the MTAS has fallen by only 2 cents per minute in the last three years – an average decrease, in nominal terms, of around 2.1 cents per annum. Further, as indicated below, the commission notes that the price of the MTAS continues to be well in excess of its underlying cost of production. The claims by the MNOs that price reductions for mobile termination services have been occurring since 1996 have therefore not dissuaded the Commission from its initial view.

Profitability

Information submitted by a number of interested parties to this inquiry suggest that the average wholesale mobile termination rates charged by MNOs currently lie at around 22.5 cents per minute.

Based on its review of evidence relating to the underlying cost of the MTAS in Chapter Nine of this report, the Commission believes the underlying cost of the MTAS lies between 5 and 12 cents per minute. This range is based on information provided by interested parties in their submissions to this inquiry, an assessment of

[174] Optus, *Optus Submission to the ACCC on Mobile Services*, June 2003, p. 19; Telstra, *Half-year Report for the Half-year Ended 31 December 2003*, February 2004.
[175] ACCC, *Pricing Methodology for the GSM Termination Service Final Report*, July 2001, p. 89.

cost studies conducted in overseas jurisdictions, data provided by Telstra and Optus under the Regulatory Accounting Framework (RAF) and other corroborative sources.

Accordingly, the Commission believes mobile operators are, on average, setting prices for the MTAS at levels almost double the upper end of the range of reliable cost estimate the Commission has available to it at this point in time. The Commission, therefore, believes most operators are earning considerable economic profits from the provision of the MTAS.

Conclusion

Small reductions in the average price of the MTAS over recent years (while mobile termination volumes increase), the apparent stalling of reductions during the course of this inquiry, and evidence indicating that the average price of the MTAS is significantly higher than its underlying cost of production, strongly suggest that MNOs are enjoying above-normal profits for the supply of mobile termination services.

Overall conclusion about the state of competition in each individual wholesale mobile termination market

Whilst the mere existence of a monopoly does not automatically imply that prices will be set at a level inconsistent with that expected in competitive markets, the Commission considers that both the structural and behavioural characteristics evident in the MTAS markets indicate that MNOs are using their market power in their individual markets to extract monopoly rents and earn economic profits from the provision of the wholesale MTAS. Accordingly, the Commission considers that the state of competition in each of the wholesale MTAS markets is not competitive.

4.3.3 Retail mobile services market

For the purposes of this inquiry, the Commission believes the following structural and behavioural measures are of most relevance for assessing the state of competition in the retail mobile services market:

- measures of market concentration;
- barriers to entry;
- market growth; and
- price conduct.

Market concentration

As noted in section 4.3.2, the level of market concentration is one indicator of the (likely) degree of competition within a market. The more suppliers within a market, the less likely it is that any one has sufficient market share so as to influence the prices paid by consumers. That said, there may be markets that at first instance appear to be highly competitive due to the number of suppliers within each market.

However, upon closer inspection, it may actually be that one or two of these suppliers control a large proportion of the market such that they are able to influence the prices paid by consumers in ways not expected in competitive markets.

The main types of market participants in the retail mobile services industry can be classified as:

- mobile network carriers (or operators) – in the Australian mobile services industry there are currently four national mobile network carriers (Telstra, SingTel (Optus), Vodafone and Hutchison Telecommunications). Between them, these carriers own and operate six mobile networks; and

- carriage service providers (CSPs) – these competitors retail and resell services to the public that are carried on the mobile network carriers' networks.[176]

It is noted that CSPs can be further categorised into resellers and mobile virtual network operators (MVNOs). While there is some debate as to what constitutes an MVNO, some of the general characteristics of this type of competitor are that it:

- brings an existing well-known consumer brand to a mobile retail operation;

- uses the network of an existing mobile network carrier, but sets up a technical support layer that replicates the mobile network carrier's mobile switching centre; and

- has control over the disposition of its customer base.

These characteristics, particularly the greater control an MVNO has over its retailing operation and therefore its greater capacity to provide different service offerings and prices, differentiates it from a pure reseller.[177] An example of an MVNO is Virgin Mobile, which was the first MVNO to launch services in Australia in late 2000.[178]

The Australian Communications Authority reports that in the 2001-02 financial year, the mobile industry consisted of 13 mobile CSPs, four of which are also the mobile network carriers mentioned above.[179] In 2002-03, the Australian Communications Authority indicated that there had been a continuing expansion in the retail distribution of mobile phones, noting that while the main carriers and CSPs still maintain their own branded retail outlets, mobile phones are just as likely to be purchased from major electronics or department stores, and even from supermarkets, post offices, petrol stations and convenience stores.[180] However, it is important to note that sales of mobile phones from retailers such as department stores and petrol stations can be typically regarded as a form of agency. That is, whilst the customer

[176] For example, SIMplus Mobile Pty Ltd resells Optus' GSM services.
[177] See also P. Knott and D. Wilkins, *3G, MVNOs & Acquisitions: Opportunities for Entering New Markets,* 2000, http://www.analysys.com/ for further details on the differences between MVNOs and resellers.
[178] Virgin purchases wholesale mobile capacity from Optus.
[179] Australian Communications Authority, *Telecommunications Performance Report 2001-02*, November 2001, p. 161.
[180] Australian Communications Authority, *Telecommunications Performance Report 2002-03,* December 2003, p. 88.

may purchase a handset and enter into a contract for mobile services 'over the counter', in most instances the contract for carriage of mobile telephony services will be between the relevant CSP and the customer, not between the retailer (for example, the petrol station) and the customer.

Unfortunately, there is little reliable information available regarding the market shares of CSPs, resellers and MVNOs. However, the Commission does emphasise that resellers accounted for only 10 per cent of mobile services in 2001-02[181] and that the percentage may well have decreased since that time.[182] It should also be noted that although the MNOs do provide wholesale mobile services, they can also be considered CSPs in the provision of retail mobile carriage services to end-users. As carriage on a mobile network is an essential input to any retail subscription package, an examination of the market shares of the mobile network carriers is a useful indicator of the degree of market concentration in the overall retail mobile services market.

Of the six networks referred to above, five of the existing networks currently employ 2G digital technologies using either GSM or CDMA standards. Two of these networks are operated by Telstra, which launched its GSM network in 1993. Telstra also has a nationwide CDMA network. Its CDMA network was launched following the closure of its analogue Advanced Mobile Phone System (AMPS) network in 2000.[183] Telstra has been the incumbent at the wholesale level since the first mobile network launch in 1987, while both Optus and Vodafone entered with GSM networks when the mobile market was partially opened up to competition in 1993. Hutchison entered the market in 1995 as a reseller for Optus GSM, and launched its own CDMA network in Sydney and Melbourne in July 2000. It ceased GSM reselling in October 2001.[184]

The remaining mobile telephony network is a 3G network operated by Hutchison. This network was launched on 15 April 2003 and uses the Wideband CDMA (W-CDMA) standard. At that stage, the network enabled Hutchison to provide 3G telephony services to end-users in Sydney and Melbourne.[185] Hutchison expanded its 3G network to Perth, Adelaide, Brisbane and the Gold Coast in July 2003.

The Commission notes that another network, owned by One.Tel and based on the GSM standard, was closed in mid-2001 after One.Tel's exit from the telecommunications industry. The spectrum used by One.Tel for its network remains under the control of its administrator and negotiations regarding its purchase are yet to be resolved.[186]

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[181] Australian Communications Authority, *Telecommunications Performance Report 2001-02*, November 2001, p.161.

[182] For example, Telstra's submission in response to the Draft Report seems to suggest this percentage is now below ten per cent. See Telstra, *Response to the Draft Decision on the Mobile Terminating Access Services*, June 2004, p. 15.

[183] AMPS is a first-generation analogue solution, which was initially introduced into Australia in 1987 by Telecom Australia (Telstra).

[184] 'Hutchison Telecoms and Optus in Mobile and Fibre Deals', Optus Press Release, 30 October 2001, www.optus.com.au

[185] 'Hutchison launches 3', Hutchison Press Release, 15 April 2003.

[186] Steven Sherman and Peter Walker, *One.Tel Ltd (In Liquidation), 2nd Annual Report pursuant to s. 508 Corporations Act*, 6 August 2003, pp. 6-7.

Table 4.1 Mobile networks in Australia and carrier market shares

Carrier	Network	Launch	Coverage (% of population)	Market Shares*				
				FY2000	FY2001	FY2002	FY2003	FY2004[#]
Telstra**	GSM	1993	96%	48.2% (45.8%)	46% (45.2%)	47.4% (43.5%)	45.8% (46.7%)	45.7% (46.1%)
	CDMA	2000	98%					
Optus	GSM	1993	94%	33.4% (30.8%)	34% (32.6%)	33.8% (32.6%)	34.0% (33.2%)	35.4% (33.5%)
Vodafone	GSM	1993	92%	18.3% (18.2%)	18.8% (16%)	16.9% (18.3%)	18.1% (17.3%)	15.8% (16.5%)
Hutchison	CDMA	2000	Melb. & Syd.***	0.1% (5.7%)	1.1% (6.2%)	1.9% (5.6%)	2.1% (2.8%)* ****	3.1% (3.9%)
	W-CDMA	2003	Melb., Syd., Perth, Adel., Bris. & Gold Coast****					

Source: BIS Shrapnel (2001), ACA report (2000-01), ACA Telecommunications Performance Report 2002-2003), ABN AMRO Telecommunications Services (2003), Macquarie (2002), mobile network carriers' annual reports; Macquarie Research Equities, Australia Mobile Market Update: Calm on the surface, turbulence beneath, 16 June 2004, Goldman Sachs JBWere, Telecommunications Sector Commentary: Disappointing Vodafone numbers confirm TLS and HTA as the big winners in March, 25 May 2004.

Notes: in addition to these six terrestrial networks, there are three satellite networks that Telstra, Optus and Vodafone use for mobile coverage.[187]

**The market share estimates not contained within parentheses are based on subscriber numbers of the individual carriers in relation to overall numbers. The market share estimates in parentheses are based on the mobile carrier's revenue figures.*

*** Market share estimates for Telstra show the estimated total market share of both its GSM and CDMA services.*

**** Hutchison's customers roam onto Telstra's CDMA network when outside Hutchison's coverage area.*

***** Hutchison's '3' customers roam onto Vodafone's GSM network when outside Hutchison's coverage area.*

****** The ACA reported 20,000 subscribers for Hutchison's W-CDMA network '3', in its Telecommunications Performance Report 2002-2003. The market share shown for Hutchison from the 2002-03 financial year is the total market share for both Hutchison's 2G network and its 3G network.*

[#] *Data shown for FY2004 is for the year ending March 2004.*

[187] Telstra uses the Inmarsat geostationary satellite network, which is similar to Optus' MobileSat. Vodafone's Globalstar is a Low Earth Orbit (LEO) satellite system. See Australian Communications Authority, *Telecommunications Performance Report 2000-01*, November 2001, pp. 78-79. This paper does not include a discussion on satellite mobile services in its analysis.

Table 4.1 details the ownership, launch date, coverage and market shares of the current owners of mobile networks in Australia.

Two types of market share estimates are provided in Table 4.1 – one based on subscriber numbers and the other on revenue figures. Most analysts base their market share figures on subscriber numbers. However, subscriber numbers can be distorted by competitors introducing new strategies such as changing their mobile plans to increase the longevity of their customer base. In addition, the greater uptake of pre-paid services can also distort measures of subscriber growth, as each SIM card counts as a separate subscriber. Accordingly, market share estimates based on revenues of the mobile network carriers are also provided.

The Commission notes that although there is some variation between market share estimates using subscriber numbers and market share estimates based on revenue, these two forms of market share for each carrier are not significantly different.

The estimates in Table 4.1 indicate that Telstra has continued to maintain the largest market share over the years, followed by Optus, Vodafone and Hutchison.

These estimates also indicate that the three largest mobile carriers, Telstra, Optus and Vodafone, account for approximately 97 per cent of the retail mobile services market, in terms of subscribers. The Commission does note, however, that this has decreased from the 99 per cent level it was in July 2001.[188]

The Commission notes that the relative market shares of the mobile carriers have generally been stable since the 2000-2001 financial year, although the Commission also notes that with the entry of '3' into the market there have been some changes in market shares, particularly amongst the smaller two carriers.

Using the market share estimates provided in Table 4.1, the Herfindahl Index shows a measure of concentration of between 0.35 and 0.36 for 2003-04 (using market share based on both subscriber numbers and revenue).[189] This indicates a level of concentration in the market greater than that of three equal sized triopolists (0.333).

Even adjusting Table 4.1 to account for Virgin Mobile's share of the retail mobile services market (using an optimistic estimate of 435,000 customers), has little effect

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[188] See ACCC, *Pricing Methodology for the GSM Termination Service, Final Report*, July 2001, p. 32.

[189] There are several ways of measuring market power and the strength of competition. The Herfindahl Index is the most sophisticated of the concentration measures and is calculated by summing the square of the proportionate market share of each firm in the industry. A complete monopoly therefore has a score of 1, while a textbook perfectly competitive market has a score approaching zero. Hence, the closer the score is to zero the less the concentration of firms within the market. This is because the squaring of market shares effectively places a greater weight on producers with a greater market share. Duopolists with equal market share get a score of 0.5, but if one has 0.75 of the market the score is 0.65 (i.e. 0.752 + 0.252 = 0.625). A triopoly evenly dividing the market scores 0.333, while a triopoly where one firm 'dominates' will have a score between 0.333 and 1 – i.e. it will be more concentrated. See, for example J. Black, *Oxford Dictionary of Economics*, Oxford University Press, Oxford and New York, 1997, pp. 209-10.

on market shares, reducing Optus's market share down to 32.6 per cent and showing a 2.8% market share for Virgin Mobile itself.[190]

Bearing in mind the likelihood that resellers account for ten per cent or less of the retail mobile services market, the Commission considers that despite a number of competitors and the variations in service offering in the retail mobile services market, the market is highly concentrated in favour of the larger MNOs.

Barriers to entry

As noted already in section 4.3.2, the Commission considers whether the threat of new entry will act to constrain the behaviour of existing market participants when assessing the state of competition in a market.

The Commission considers the following to be potential barriers to entry to the mobile services market:

- the need to obtain spectrum;
- the importance of achieving wide geographic coverage; and
- sunk costs.

The need to obtain spectrum

The electromagnetic spectrum is the total span of radiofrequencies and corresponding wavelengths. The spectrum is used for delivering a wide variety of communications services to Australians.[191]

All mobile telecommunications systems need to utilise radiofrequency spectrum. Therefore, the need to acquire spectrum and the process by which it is acquired limit the extent to which the threat of entry can constrain the behaviour of the major mobile carriers. Without a process to allocate spectrum, or in the absence of a secondary market for trading rights to use spectrum, a prospective new mobile carrier cannot enter the retail mobile services market. [192]

The market for spectrum is complicated by its heterogeneous nature. Useable spectrum covers a large range of frequencies, but some frequencies are better suited to particular purposes than others. Even where the technical characteristics of different

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[190] Adjustment figure of 435,000 pre-paid customers (mainly Virgin Mobile) that Macquarie estimates were included in Optus' wholesale post-paid subscriber numbers. (See Macquarie Research Equities, *Australia Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 3). This does not diverge significantly from the 410,000 mobile subscribers Virgin Mobile reported on 31 December 2003. (See Virgin Mobile Press Release, *Virgin Ranked Third for Net Connections*, 15 February 2004).

[191] ACA Fact Sheet, *About the ACA*, http://www.aca.gov.au/aca_home/about_aca/aca_law/aboutaca.htm

[192] The Commission notes that frequencies for mobile telephony services are licensed by spectrum licences and the licences are allocated by public auctions conducted by the ACA. See ACA Fact Sheet, *op. cit.*

frequencies are similar, substitution possibilities are constrained by both planning rigidities and equipment availability.[193]

At present, the ACA manages access to the radiofrequency spectrum through spectrum planning and licensing. To make sure that spectrum is used efficiently, and to minimise the risk of interference between services, the Australian Communications Authority has a comprehensive system for licensing spectrum use. The Australian Communications Authority uses spectrum auctions for price-based allocation of certain frequencies.[194]

The spectrum used for the transmission of GSM signals between base stations and mobile stations or handsets was initially limited to the 900 MHz band. All three GSM carriers operate in the 900 MHz band. In 1998 and 2000, further spectrum in the 1800 MHz band was made available through a spectrum auction conducted by the Government. In addition to the existing three GSM carriers, several other operators purchased 1800 MHz spectrum. However, none of these other carriers is using the spectrum to provide mobile services at present.[195] Hutchison and Telstra use 800 MHz band spectrum to provide 2G and 2.5G CDMA services.

In March 2001, the Government auctioned 3G mobile spectrum licences in the 2GHz band. The release of this new spectrum provided an opportunity for new entrants to the retail mobile services market. Table 4.2 below outlines the successful bidders, spectrum bought, geographic coverage and the cost of the spectrum licence. In this regard, the Commission notes that Hutchison's 3G W-CDMA services use spectrum in the 2 GHz band that it acquired through the Government's auction of 3G mobile spectrum licences.

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[193] Productivity Commission, *Radiocommunications Inquiry Report*, Report Number 22, 1 July 2002, p. XXXII.

[194] ACA Fact Sheet, *About the ACA*, http://www.aca.gov.au/aca_home/about_aca/aca_law/aboutaca.htm .

[195] Australian Communications Authority, *Telecommunications Performance Report 2002-03*, December 2003, p. 88.

Table 4.2 Spectrum Holders of 3G licenses

Operator	Cost	Spectrum	Coverage
Telstra	$302 million	15MHz paired spectrum in all capital cities 10MHz paired spectrum in regional areas 5MHz unpaired spectrum in all capital cities	National
Optus	$248 million	10MHz paired spectrum in all capital cities 5MHz paired spectrum in regional areas 5MHz unpaired spectrum in 5 cities	National
Vodafone	$253 million	15MHz paired spectrum in all capital cities 5MHz paired spectrum in regional areas 5MHz unpaired spectrum in all capital cities	National
Hutchison	$196 million	15MHz paired spectrum in Sydney and Melbourne 10MHz paired spectrum in Brisbane, Adelaide and Perth	5 Major Cities (Sydney, Melbourne, Brisbane, Adelaide and Perth)
3G Investments (Qualcomm)	$153 million	10MHz paired spectrum in all capital cities	All capital cities
CKW Wireless (Arraycomm)	$9.5 million	5MHz unpaired spectrum in all capital cities	

Source: BIS Shrapnel (2001).

While the largest bidders were the incumbent MNOs (of whom, only one – Hutchison – has utilised the 3G mobile spectrum), the auction also saw the entry of two new entities into the Australian mobile market –3G Investments (now Qualcomm) and CKW Wireless (now Personal Broadband Australia, PBBA). 3G Investments (Qualcomm) paid $159 million for spectrum in all capital cities; and CKW Wireless (PBBA) paid $9 million for unpaired spectrum[196] in all capital cities.[197] However, while PBBA has launched its wireless broadband network in Sydney, with rollout to

[196] Paired spectrum allows for both the transmission and reception of information, with the same bandwidth upstream and downstream. This suits more symmetrical applications like voice. Unpaired spectrum allows for transmission only, generally with asymmetric bandwidth between upstream and downstream directions. This suits the asymmetric provision of data, particularly services such as the Internet.

[197] Productivity Commission, *Telecommunications Competition Regulation,* Report Number 16, 20 September 2001, p. 130.

occur in Melbourne, Canberra and Brisbane later in 2004 and national rollout in 2005, Qualcomm remains non-committal about its plans at this stage.[198]

The Commission notes that there have been no mobile spectrum auctions since 2001. Since this time, there has been a slowing of growth in the communications sector and the exit from the industry of a number of market participants, notably One.Tel, which closed its GSM network in mid-2001. The Commission notes that in addition to the spectrum used by One.Tel for its network, which remains unused, there are also other significant holdings of spectrum not currently being utilised, particularly in the 3G 2 GHz band.

The Commission also notes that in its *Forward Program of Spectrum Auctions and Conversions 2002-2004* report, the ACA identified the allocation of spectrum for mobile services as being of low priority, 'given expected demand'.[199]

Therefore, it appears that there is excess capacity with respect to mobile spectrum in the short to medium term.

The Commission also notes that as technology develops, it is possible that currently unusable radiofrequencies may become capable for use in the delivery of communications, including mobile telephony services. This has the potential to limit the extent to which access to spectrum represents a barrier to entry.

The importance of national geographic coverage

The Commission believes that national geographic coverage can represent an entry-level constraint to the retail mobile services market, as consumers are unlikely to subscribe to a mobile network which limits the regions they could make calls from or to – especially if other carriers offer national coverage for an equivalent price. Accordingly, the need for national coverage by a new entrant's network can be a significant barrier to entry into the retail mobile services market.

At present, the combined CDMA and GSM networks of Telstra, Optus and Vodafone cover over 98 per cent and 96 per cent of the population, respectively.[200] These carriers continue to increase the terrestrial coverage of their networks, with Telstra building an additional 419 CDMA base stations, Optus installing 400 new GSM base stations and Vodafone installing 129 base stations during the 2002-03 financial

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[198] CKW Wireless installation of its network was underway in December 2002 and successful trials completed in 2003. The network focuses on the provision of broadband access to laptops or Personal Digital Assistants (PDAs). Vodafone is one of the partners in the provision of this service. See R. Ramsey, *Whatever Happened to the 3G Dream*?, Australian Telecom, North Sydney, September 2002, p. 18; DCITA, *Australia Leads World in New Wireless Broadband Roll-out*, 19 December 2002, www.dcita.gov.au and, 'Personal Broadband's iBurst Officially Open for Business at 1Megabit per second', Personal Broadband Australia Press Release, 19 January 2004, http://www.iburst.com.au/site/news/news_media_releases.php.

[199] Australian Communications Authority, *Forward Program of Spectrum Auctions and Conversions 2002-2004*, May 2002, p. 14.

[200] Australian Communications Authority, *Telecommunications Performance Report 2002-03,* December 2003, p. 90.

year.[201] Optus reports that it installed 381 new base stations for the 2003-04 financial year.[202]

The Commission notes that it is possible for a new entrant to the retail mobile services market to achieve national geographic coverage by entering into a roaming agreement, or roaming agreements, with other carriers who have such coverage or by simply re-selling carriage services provided on the network of a carrier that has such coverage. However, due to the ability of incumbents to control a new entrant's access to networks necessary to achieve national geographic coverage, the extent to which such entry represents a threat to the incumbents is diminished. Given that only 10 per cent or less of all retail mobile services sold are sold by resellers,[203] and that those operators with less than full geographic coverage (such as Hutchison and Virgin) have very small market shares, the Commission believes that national geographic coverage is and remains a barrier to effective entry into the retail mobile services market.

An example of the importance of national coverage can be seen in the case of Hutchison. Full national coverage is achieved by Hutchison through roaming agreements with both Telstra and Vodafone, for its 2G and 3G services respectively. If Hutchison only offered mobile services in regions where it had installed its own networks (Melbourne and Sydney for 2G, and Melbourne, Sydney, Perth, Adelaide, Brisbane and the Gold Coast for 3G), it would find it difficult to attract mobile subscribers to its networks. This is particularly likely with respect to Hutchison's 2G CDMA network, where roaming in areas where GSM services are not available is likely to be a key factor for consumers in subscribing to CDMA services.

Sunk costs

As noted previously, in order to be able to compete effectively in the retail mobile services market, an entrant needs to ensure national geographic coverage of its network. The costs associated with establishing base stations and other mobile infrastructure to achieve national geographic coverage necessitates significant up-front investment costs by new entrants and can represent a significant barrier to effective entry into the retail mobile services market.

Table 4.3 details each mobile carrier's investment in infrastructure needed to provide mobile telephony services in Australia over the period 1998-99 to 2002-03.

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[201] *Ibid*.

[202] Optus Media Release, *The SingTel Group's Results for the Quarter and Year Ended 31 March 2004*.

[203] Australian Communications Authority, *Telecommunications Performance Report 2001-02*, November 2001, p.161.

Table 4.3 Carrier expenditure on the infrastructure needed to provide mobile telephony services

Financial year ($millions)					
	1998-99	***1999-00***	***2000-01***	***2001-02***	***2002-03***
Telstra	616	628	390	255	449
Optus	Not reported	396	405	411	278
Vodafone	253	349	700	250	Not reported
Hutchison	Not reported	745	660	411	362

Source: carriers' annual reports and press releases, various analysts' reports.

Notes: the accounting periods of the carriers vary. For instance, accounting year end for Telstra is 30 June, for Optus and Vodafone is 31 March and for Hutchison is 31 December.

Table 4.3 shows that all carriers have been investing heavily in infrastructure needed to provide mobile telephony services over recent years. The Commission believes fluctuations in investments over the years can largely be explained by the timing of the commencement and completion of major capital expenditure projects.

Whilst a mobile carrier can reduce commercial risk by setting up local networks and negotiating domestic roaming arrangements with other MNOs, the extent of any such reduction will depend on the terms and conditions of any roaming agreements. The Commission also notes that carriers may chose to overcome high sunk costs by entering into infrastructure sharing agreements with other mobile carriers.

A new market entrant may also choose to reduce commercial risk and avoid high sunk costs by becoming a MVNO. This may introduce some competition in the retail mobile services market but is unlikely to restrict the market power of the network owner who will still be able to influence the cost base of the new MVNO with respect to the network costs. For example, the Commission understands that under its agreement with Virgin Mobile, Optus collects termination revenue for calls carried to Virgin Mobile subscribers and remits a proportion of this collected revenue to Virgin Mobile.

The Commission notes that there have been no new entrants building their own 2G mobile telephony networks since Hutchison and One.Tel launched their networks in 2000. Further, the Productivity Commission's belief that there are significant difficulties faced by new entrants in gaining sufficient market share for their networks

in order for such investment to be viable in the mobile industry[204] suggests that sunk costs may be the most significant barrier to effective entry into the retail mobile services market.

The Commission notes that Hutchison announced the expansion of its 2G CDMA network capacity, which was to commence some time in March 2004.[205] However, it appears that Hutchison's roaming arrangement with Telstra, outside of Melbourne and Sydney, will continue, suggesting that sunk costs remain a significant barrier to full entry into the market.

Whilst 2003 has seen Hutchison implement its 3G mobile network in Melbourne, Sydney, Perth, Adelaide, Brisbane and the Gold Coast, the Commission notes that national coverage is achieved through a roaming agreement with Vodafone.

Further capital expenditure by the other incumbent carriers may also occur in the near future. Both Vodafone and Optus have announced their intentions to upgrade their networks to 3G technology. Optus has indicated its intention to spend c-i-c on capital investment in 3G technology in 2003-04, and c-i-c and c-i-c for the subsequent two financial years.[206] Analysts have also suggested that, if its main rivals move to 3G technology, then Telstra can be expected to bring forward its 3G network upgrade.[207] This is estimated to involve an increase of $500 million in capital expenditure by Telstra per financial year for 2004-05 and 2005-06.[208] Although PBBA has installed wireless broadband network facilities in Sydney (and indicated its intention to extend to Melbourne, Canberra and Brisbane later in 2004, with national installation in 2005) it is too early to assess whether it can compete effectively with the incumbent retail mobile services providers.[209]

Overall assessment of barriers to entry

The Commission considers there are certain barriers to entry to the mobile services market, including (to various degrees) the need to acquire spectrum, national geographic coverage and the sunk costs associated with a mobile network.

Access to spectrum for mobile telephony services represents a potential barrier to entry in the future. In the event that all spectrum identified for use for mobile telephony is utilised by incumbent carriers (that is, it has been both allocated and is not available for trading between carriers and potential carriers) and the ACA does not auction new spectrum to meet demand, then access to spectrum could be (but will

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[204] Productivity Commission, *Telecommunications Competition Regulation*, Report No. 16, September 2001 p. 128. However, it should be noted that One.Tel's financial difficulties also extended beyond the mobile division.

[205] 'Hutchison Expands Orange CDMA Network Capacity', Hutchison Press Release, 23 January 2004.

[206] Optus, *Optus Submission to ACCC on Mobile Termination Charge Glide Path*, May 2004, p. 10.

[207] Macquarie Research Equities, *Telstra Corporation 1H04 Result: Reconciling the Results with the Vision*, 13 February 2004, p. 16.

[208] *Ibid*.

[209] 'Personal Broadband's iBurst Officially Open for Business at 1Megabit per second', Personal Broadband Australia Press Release, 19 January 2004.

not necessarily be) a significant barrier to entry to the retail mobile services market.[210] The Commission does not accept arguments put to it in response to the Draft Report that a finding that access to spectrum is a *potential* barrier to entry is inconsistent with its finding there is excess capacity in the short to medium term.

The Commission recognises that the barriers of national geographic coverage and the sunk costs associated with a new network can be partially overcome through roaming arrangements with incumbent carriers that operate the relevant networks, infrastructure sharing arrangements or pure re-selling arrangements. However, the likelihood of new entrants using these arrangements to achieve national coverage and avoid high sunk costs can significantly reduce the threat such entry represents to incumbents. This is because the incumbents will maintain control over their networks and will be able to control (to at least some extent) the costs faced by such new entrants.

Accordingly, the Commission's view is that there remain substantial barriers to effective entry to the retail mobile services market, which prevent the threat of entry operating as a fully effective constraint on the behaviour of incumbents.

Market growth

Whether a market is growing, or declining, can have significant implications for the potential erosion of market power over time. Markets which are growing rapidly are more likely to see new entry, the erosion of market power and greater competition over time.

The Commission considers, for the purposes of this inquiry, the following to be useful indicators of the scope for growth in the retail mobile services market:

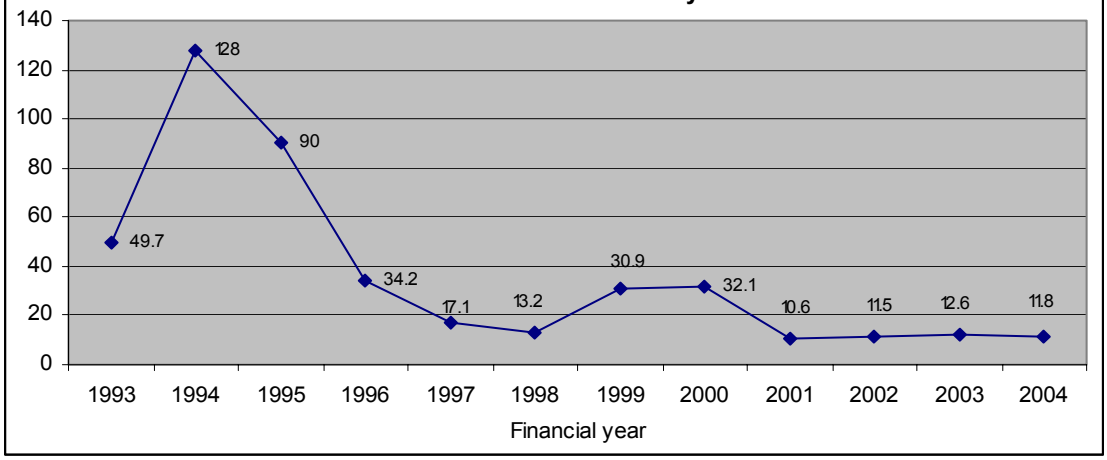
- subscriber growth and the level of penetration of mobile phones within the population;
- changes in average revenue per user (ARPU) and revenue growth versus cost growth; and
- technological developments for future services.

[210] The Australian Communications Authority has the ability to auction more spectrum as it is needed under the *Radiocommunications Act 1992*.

Subscriber growth and mobile penetration rates

The Australian retail mobile services industry experienced rapid growth in the ten year period from 1993 to 2003. However, from the 2000-01 financial year, growth in mobile subscriber numbers appears to have stabilised. Figure 4.1 provides an overview of growth rates in the Australian mobile subscriber base from the 1992-93 to 2002-03 financial years.

Figure 4.1 Percentage growth rates in subscriber numbers in Australia from 1993 to 2004 financial years



Source: BIS Shrapnel (2001), ACA (2002), ACA (2003), Macquarie Research Equities (2004).

As Figure 4.1 illustrates, from 1992-93 to 1993-94, mobile subscriptions increased by 128 per cent. Whilst this should not be entirely surprising given it was the period immediately after Optus and Vodafone commenced the provision of mobile telephony services in Australia, this period generated the highest growth rate in subscriber numbers, compared to all other periods. After this point, progressively declining growth rates were observed until 1998-99, where a growth rate in subscriber numbers of 30.9 per cent was achieved. For the next financial year the growth rate increased slightly to 32.1 percent. During the 2000-01 financial year subscriber numbers were still increasing at 10.6 per cent, but this was the lowest growth level for any period, to date. The 2001-02 financial year saw the subscriber growth rate increase slightly, to approximately 11.5 per cent. In the 2002-03 financial year the growth rate increased further to 12.6 per cent.

Industry reports suggest that high growth in the Australian retail mobile services market has largely been driven by subscriber growth, which is now moderating as the mobile services market reaches maturity.[211] Information available to the Commission suggests that the penetration rate for mobiles was likely to be between 71.9 per cent and 73 per cent at 30 June 2003.[212] However, Macquarie Research Equities estimates that the penetration rate grew by 11.8 per cent to 77.9 per cent for the year ending March 2004.[213]

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[211] ABN AMRO, *Australian Telecommunications 2004*, Sydney, 2003, p. 30.

[212] *Ibid.*, p. 29; Australian Communications Authority, *Telecommunications Performance Report 2002-03*, December 2003, p. 90.

[213] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p.2.

The relatively high penetration rate for mobile phones and the relatively stable rates of subscriber growth in recent years suggest that the market for mobiles is reaching maturity and that new entry on the basis of rapid expansion of the market is highly unlikely.

Revenue growth

The extent to which revenue is growing in a market can indicate whether demand in the market is such that economic profits are being achieved by incumbents. As demand increases, operators are often able to achieve economies of scale by producing more output to meet demand such that there is a reduction in the average cost per unit of output. This reduction in average costs often occurs while the average revenue per unit (ARPU) remains constant (or even rises), which allows the operators to enjoy economic profits. The presence of these economic profits can indicate that new entry into the market is likely, in response to the opportunity to capture these profits.

On this basis, the Commission looks at the changes in revenue, changes in the levels of growth in revenue and changes in ARPU, in order to assess whether a market is growing. If changes in these revenue measures suggest that a market is growing, this may indicate that new entrants might find it economic to start operating in the market, thereby increasing the level of competitive influence within that market.

Revenue figures quoted in this section from ABN AMRO's 2003 publication *Australian Telecommunications 2004* is calculated on a retail basis – that is excluding resale – and therefore does not include resale revenue from services provided for on-selling, such as mobile termination services. This is appropriate given the Commission is considering this for the purposes of assessing the state of competition in the retail mobile services market.

Levels of revenue growth

Over the last few years, the retail mobile services sector has experienced significant revenue growth. For the 2002-03 financial year, mobile revenue represented approximately 27.9 per cent of total service revenue of telecommunications companies.[214] According to ABN AMRO, mobile revenue growth has accounted for 42 per cent of the telecommunications market's overall growth since 1997-98,[215] making it the second largest source of revenue for the industry (second only to fixed-voice services but with far greater growth rates).[216]

Recent growth in mobile revenue reflects the trend of subscriber numbers – moderation of growth after rapid expansion. This is illustrated by Table 4.4, which shows that while the 1999-2000 financial year saw a significant growth rate of 20.7 per cent, this slowed to 19.3 per cent in 2000-01. In 2001-02, mobile revenue growth moderated to 11.0 per cent and slowed again in 2002-03, with growth in mobile revenue increasing by 8.4 per cent. Macquarie Research Equities estimates that total

[214] ABN AMRO, *op cit*, p. 13.
[215] *Ibid.*, p. 29.
[216] *Ibid.*, p. 13.

mobile revenues grew 11 per cent for the year ending March 2004, with handset sales accounting for approximately two per cent of that growth.[217]

Table 4.4 Trend in industry mobile growth

	FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03
Total revenue ($Am)	6,125	7,305	8,110	8,791
Growth (%)	20.7	19.3	11.0	8.4

Source: ABN AMRO, Australian Telecommunications 2004, 2003.

Given the apparent moderation in revenue growth, some commentators suggest that future growth in revenue will need to be driven by increased data usage by existing subscribers.[218] The majority of growth in data services has been provided by the SMS, which became available in 1993. The growth in this value-added service has been substantial. The ACA reported that the total number of SMS messages sent in 2002-03 increased by 44 per cent compared with the previous year. The ACA noted the importance of SMS to operators was increasing, with SMS accounting for an average of 9 per cent of revenue for all mobile operators in 2002-03.[219] With Optus, Vodafone and Telstra offering MMS on their GSM networks from August 2002, future revenue growth may come from the development of new services rather than growth in subscriber numbers.[220] The ACA notes that MMS is expected to grow significantly over the next 12 months, with a higher proportion of handsets being equipped with MMS capability and the finalisation of interoperability of agreements between carriers and the continued development of new applications.[221]

This expectation of new data services driving future revenue growth appears to be supported by Vodafone's 2003/2004 Business Plan, where Vodafone identifies future market actions to include:

- 'steal '3's thunder and grab the desired customer mind-space before they do';
- 'fight for status quo on voice and develop new models for media rich alternatives to interconnect charge in future';
- 'establish live! as a success; accelerate 3G roll-out if required; strong regional approach to content/apps';
- 'accelerate live!+ services, content, apps'; and

[217] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 8.
[218] See for example Macquarie Research Equities, *Australian Telecoms Sector*, August 2002.
[219] ACA, *Telecommunications Performance Report 2002-03*, December 2003, p. 89.
[220] *Ibid.*, p. 91.
[221] *Ibid.*, p. 92.

- 'ensure global partnering the major device players'.[222]

Revenue growth per user

The Commission also considers ARPU data to be a useful indicator of market growth. Table 4.5 shows that, overall, ARPU in the retail mobile services market has been decreasing over time, and that data revenue is increasingly being relied upon by mobile carriers to increase retail mobile services revenue levels. Whilst results for the half-year to December 2003 do show that Optus increased its ARPU, Macquarie Research Equities believes this to be the exception to the industry trend.[223]

Table 4.5 ARPU for mobiles by carrier and service ($/month)

Year	1998	1999	2000	2001	2002	2003
Telstra	67.96	71.75	70.86	63.69	59.54	54.69
Voice	64.25	67.47	64.08	54.83	52.66	50.18
Data	0.23	0.26	1.01	2.2	3.24	4.51
Optus	71.56	67.42	60.48	53.21	50.65	53.4
Voice	71.56	66.74	58.66	50.02	46.6	48.06
Data		0.67	1.81	3.19	4.05	5.34
Vodafone	62.38	63.25	60.74	58.44	56.65	48.88
Voice	62.38	62.62	58.92	54.94	52.11	43.99
Data		0.63	1.82	3.51	4.53	4.89
Hutchison				79.49	96.37	75.02
Voice				78.69	93.97	72.02
Data				0.79	2.41	3.00
Overall	65.66	65.03	59.59	54.11	53.74	51.13

Source: ABN AMRO, Australian Telecommunications 2004, 2003.

The decrease in ARPU over time is consistent with analysts' conclusions that the market is maturing and that future growth is likely to be much lower than has been the case to date.[224] Macquarie Research Equities observed that ARPU stabilised in the year to March 2004 after declines in 2003 and predicts pressure on ARPUs for the coming financial year will be offset by volume increases.[225]

Recent data show that new subscribers are likely to be relatively low-usage (and low revenue) pre-paid customers. Table 4.6 shows that whilst subscriber numbers grew by 13.9 per cent in the 2002-03 year, most of this increase can be attributed to the increase in the number of pre-paid customers, up 1.52 million, compared to an increase of just 244,000 post-paid subscribers.

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[222] Vodafone, *Vodafone Australia 2003/2004 Business Plan* as set out in JBWere, *Australian Telecommunications Sector Review 2003*, May 2003, p. 20.

[223] Macquarie Research Equities, *SingTel Strong Result, But Watch for the One-offs*, 6 February 2004, p. 9.

[224] For example, see JBWere, *Australian Telecommunications Sector Review 2003,* May 2003*,* p. 15.

[225] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 8.

Table 4.6 Subscribers by payment method

Year ending	1998	1999	2000	2001	2002	2003
Post paid (m)	5.145	5.951	7.292	8.286	8.497	8.741
Prepaid (m)	0.169	0.552	1.257	2.963	4.086	5.606

Source: ABN AMRO, Australian Telecommunications 2004, 2003.

Technological Developments

As discussed above, without the introduction of significant new products to stimulate consumer demand and revenues, it is unlikely that the retail mobile services market will see rapid growth in the future. Accordingly, the Commission also has regard to emerging technological developments when considering the level of growth in a market and the state of competition in that market.

While SMS has been a 'stunning success' for all mobile operators,[226] other mobile data services, such as Wireless Application Protocol (WAP)[227] have received muted consumer response. In 2001, less than 5 per cent of mobile users were using WAP applications.[228] Analysts have suggested that major inhibitors to the wide-spread consumer take-up may have been the limited content and applications, and the high cost of compatible handsets.[229]

JB Were has expressed the view that similar problems are affecting the take up of MMS. However, this view is in contrast to that of the ACA, which has stated that MMS is expected to grow significantly over the next 12 months, due to a higher proportion of handsets being equipped with MMS capability. The ACA also stated that finalisation of interoperability agreements between the carriers and the continued development of new applications that provide high definition pictures will encourage further growth.[230]

As has been noted elsewhere in this report, Hutchison launched its 3G network in April 2003, offering mobile services such as mobile video calling, MMS, text based content, video content, games and polyphonic ring tones.[231] Hutchison's pioneer move to provide 3G services in Australia appears to have had some impact in the

[226] JBWere, *Australian Telecommunications Sector Review 2003*, May 2003, p. 26.
[227] WAP is a free, unlicensed, protocol for wireless communications that makes it possible to create advanced telecommunications services and to access Internet pages from a mobile phone. It is an industry standard supported by a large number of suppliers. WAP supports most wireless network standards, including CDMA and GSM.
[228] Australian Communications Authority, *Telecommunications Performance Report 2000-01*, November 2001, p. 78.
[229] JP Morgan, *Australian Mobile Industry*, May 2001, p. 31; ABN AMRO, *Diverging Strategies on Data*, August 12, 2002, p. 1.
[230] Australian Communications Authority, *Telecommunications Performance Report 2002-03*, December 2003, p. 92.
[231] JBWere, *Australian Telecommunications Sector Review 2003*, May 2003, p. 27.

retail mobile services market, with Macquarie Research Equities suggesting it is winning share from both Vodafone and Optus retail post-paid customers.[232]

The other mobile operators have upgraded their networks to 2.5G, to provide services similar to those provided on a 3G network and also report some growth in subscriber numbers. For example, in February 2004, Vodafone reported it had over 100,000 subscribers to 'Vodafone live!', it's 2.5G multimedia offering that has been available since April 2003.[233] Further, the Commission notes that since '3' commenced operations, Vodafone has announced plans to launch a 3G network in 2005.[234] Vodafone confirmed its intention in May 2004, announcing a 3G infrastructure partnership with Nokia in Australia (and New Zealand).[235]

Some analysts have commented that they expect the take-up rate for 3G services will be slow. Macquarie Research Equities initially estimated a gradual take-up for 3G services in Australia, building from 21,000 by the end of 2002-03 financial year, to 829,000 (5.2 per cent of total subscriber base) in 2005, and 5.7 million (30 per cent of total subscriber base) by 2010.[236] ABN AMRO has estimated figures around the same magnitude, predicting a subscriber base for 3G services of 629,000 for the 2004-05 financial year, and 5.837 million subscribers for the 2007-08 financial year.[237] Macquarie Research Equities now suggests that Hutchison's 3G business is gaining momentum, estimating that '3' had 142,000 subscribers at the end of March 2004. This would imply that '3' is signing up 5000+ new subscribers per month. Macquarie Research Equities has also predicted that subscription to '3' is likely to grow further at the expense of other operators as the range and form of 3G handsets improves.[238] Whilst the tone of Macquarie Research Equities' recent analysis of the impact of 3G technologies in the market seems more upbeat than on previous occasions it is not apparent that Macquarie Research Equities' early prediction of 829,000 subscribers in 2005 is inconsistent with its current estimates of around 5000 new subscribers per month for '3'.

The Commission also notes that some market participants have suggested that new technologies such as 3G and MMS will be 'evolutionary rather than revolutionary' in their impact on the market.[239]

Conclusion

The Commission considers that without a significant change in the market (such as a highly valued new product) the moderating revenue growth and the decreasing (or

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[232] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 5.
[233] 'Vodafone live! Announces Over 100,000 Customers', Vodafone News Release, 16 February 2004.
[234] 'Vodafone to Go it Alone for First Phase of 3G', Vodafone News Release, 26 November 2003.
[235] 'Vodafone Announces 3G Vendor for Australia and New Zealand', Vodafone News Release, 10 May 2004.
[236] Macquarie Research Equities, *Australian Telecom Sector*, August 2002, p. 42.
[237] ABN AMRO, *Australian Telecommunications 2004*, 2003, p. 41.
[238] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 5.
[239] See for example Virgin Mobile, *Non-Confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, p. 5.

stabilising) ARPU may indicate the retail mobile services market will not experience rapid growth in the future.

The Commission believes that 2.5G and 3G services may drive some further growth in both subscriber numbers and revenue. However, with the mobile penetration rate at a relatively high level already, and the 'add-on' appearance of 2.5G and 3G services from a customer perspective, it may be that revenue from these services will 'cannibalise' revenues now attributed to 2G services, to some extent. Whilst there is considerable enthusiasm for the potential that 3G technologies and services represent for revenue and subscriber growth, on the part of MNOs, the Commission considers such growth is far from a given. Commentary from analysts remains mixed as to the emergence of a 'killer application' for 3G technologies[240] and the Commission notes the slow development of data services worldwide has meant that more of the 3G investment than originally planned is already supporting voice traffic.[241] Without evidence of a more compelling nature, the Commission maintains its view that 2.5G and 3G services may drive some further growth in the retail mobile services market.

Accordingly, the Commission considers that without significant further growth in the future, additional market participants may not have sufficient incentives to enter the mobile services market.

Price Conduct

A competitive market can be expected to deliver goods and services to consumers at minimum cost. In principle, prices are said to be at competitive levels when they are close to or at cost, allowing for a risk-adjusted normal rate of return.

In examining price conduct of market participants, the Commission looks at changes in prices of services over time, the profitability of participants over time and also the degree of product differentiation within the particular market.

Changes in prices of mobile services

The Commission can gain information in relation to retail mobile price movements from several sources. These include:

- information the Commission collects in order for it to perform its legislative functions with regard to assessing Telstra's compliance with the retail price control arrangements, under the *Telstra Carrier Charges – Price Control Arrangements, Notification and Disallowance Determination No.1 of 2002* (the Determination);

- information the Commission uses to measure changes in the prices paid by consumers of telecommunications services in order to meet its

[240] See references to ARC report, *Mobile Video: Worldwide Market Analysis and Strategic Outlook 2003-2008* and International Data Corp report, *Australian Business Mobile and Wireless usage and Preference, 2004: Are We There Yet?* in *Communications Day*, 31 May 2004 and 8 June 2004, respectively.

[241] David Rogerson, 'Mobile Termination Rates', Ovum 2004, p. 48.

annual reporting obligations under Division 12, Part XIB of the Act;[242] and

- information obtained for the purposes of implementing the retail benchmarking approach applied to the mobile termination service.

Each of these is discussed further below.

Telstra's price control report

Under the Determination, Telstra is required to provide an audited report to the Commission in relation to its compliance with the retail price control arrangements. The report is required to be provided to the Commission before the end of the three months after the end of the financial year in which the price cap applies. Under subclause 9(3) of the Determination, price movements are to be calculated according to a methodology the Commission establishes in consultation with Telstra. Table 4.7 details Telstra's reported price movements for mobile services over the 1999-2000 to 2001-02 financial years. However, as retail mobile services are no longer subject to retail price control obligations, information relating to price movements for mobile services for 2002-03 is not available using price caps data.

Table 4.7 Telstra's compliance with the price-cap for the first basket

	Price movements for each financial year(%)		
	1999-00	**2000-01**	**2001-02**
Mobile services	**-3.6**	**-14.2**	**-9.0**
Overall	**-6.7**	**-3.9**	**-2.7**

Source: Telstra's price control reports

The 'Division 12' (Retail Price Changes) Report

Under Division 12, Part XIB of the Act, the Commission is required to annually report to the Minister for Communications, Information Technology and the Arts in relation to changes in the prices paid by consumers for telecommunications services in Australia (the 'Division 12' Report). Mobile retail services and FTM services are included amongst the services reported by the Commission to the Minister.

To fulfil this reporting requirement, the Commission is provided with financial year information for fixed-line services by four major carriers – Telstra, Optus, AAPT, and Primus.[243] The Division 12 Report is able then to report on real retail price movements for a range of telephony services, and disaggregate these price movements

[242] Under Division 12, Part XIB of the Act, the Commission is required to report to the Minister for the Communications, Information Technology and the Arts each year on changes in the prices paid for telecommunications services by Australian consumers.

[243] One.Tel also provided data to the Commission for the purposes of this report, prior to its departure from the telecommunications industry in 2001.

by ‘residential’, ‘small business’ and ‘other business’ consumer groups for fixed-line PSTN services (including FTM services).

For retail mobile services, data are collected from the four largest mobile carriers – Telstra, Optus, Vodafone and Hutchison. The price indexes constructed from these data reflect the movement in the aggregate retail real prices paid by post-paid consumers of GSM services since 1997-98. The Commission notes that the 2001-02 Division 12 Report, also included, for the first time, a price index measuring the change in prices paid by pre-paid consumers of GSM mobile services. The Division 12 Report for 2001-02 also disaggregated the retail price movement for GSM post-paid and pre-paid consumers by different user groups. The plan types range from very low to very high user groups. In the Division 12 Report for 2002-03, the Commission measured price changes for CDMA retail mobile services for the first time. The Division 12 Report for 2002-03 disaggregates the retail price movements for CDMA post-paid and pre-paid consumers by different user groups.

A summary of the reported mobile retail price changes in the Division 12 Report from 1997-98 to 2002-03 is provided in Tables 4.8, 4.9 and 4.10 below.

Table 4.8 Year-on-year percentage changes in the retail prices paid for mobile services by consumers from 1997-98 to 2002-03

	1997-98 – 1998-99	**1998-99 – 1999-00**	**1999-00 – 2000-01**	**2000-01 – 2001-02**	**2001-02 – 2002-03**
MTM	-5.1	-13.2	-6.8	-2.0	+0.9
FTM	-5.3	-7.9	-6.2	-3.2	-2.4

Source: ACCC, ACCC Telecommunications Reports – Report 2. Changes in the Prices Paid for Telecommunications Services in Australia 1997-98 to 2002-03, June 2004.

**base year of the index is 1997-98 where the index equals 100.*

Table 4.9 Year-on-year percentage changes in the retail prices paid for post-paid and pre-paid GSM mobile services by consumers from 1997-98 to 2001-02

	1997-98 – 1998-99	1998-99 - 1999-00	1999-00 – 2000-01	2000-01 – 2001-02	2001-02 – 2002-03
Post-paid	-5.1	-13.4	-5.4	-0.9	2.2
Pre-paid	n/a	-10.4	-13.7	-5.1	-0.9
Weighted-average total GSM mobile	-5.1	-13.2	-6.8	-2.0	1.1

Source: ACCC, *ACCC Telecommunications Reports – Report 2. Changes in the Prices Paid for Telecommunications Services in Australia 1997-98 to 2002-03*, June 2004.
*base year of the index is 1997-98 where the index equals 100.

Table 4.10 Year-on-year percentage change for CDMA indexes

	2001-02 – 2002-03
Post-paid	-2.0
Pre-paid	-3.6
Weighted-average total CDMA mobile	-2.7

Source: ACCC, *ACCC Telecommunications Reports – Report 2. Changes in the Prices Paid for Telecommunications Services in Australia 1997-98 to 2002-03*, June 2004.

The overall index for mobile telephony services has trended downward since 1997-98 indicating that, on average, prices paid by consumers for mobile telephony services have, in real terms, declined by 24.1 per cent over this time. However, as shown in Table 4.8, the overall rate of decline slowed from 13.2 per cent in 1999-00 to 2.0 per cent in the 2001-02 financial year. Of concern, the overall index shows that prices paid by consumers for mobile telephony services, on average, increased in real terms by 0.9 per cent, for the first time since Division 12 Report data has been collected.

GSM retail benchmarking process

The retail benchmarking approach was determined by the Commission, in its final report, *Pricing Methodology for the GSM Termination Service*, to be the appropriate pricing approach in the event of an arbitration in relation to the provision of mobile services. Details on this pricing principle are provided in Chapter Eight below. In order to implement this approach, GSM mobile carriers provide relevant information to the Commission to calculate retail price movements for a basket of mobile telephony services.

The three GSM mobile carriers – Telstra, Optus and Vodafone – report to the Commission according to the same six-monthly timeframes as apply to the Regulatory Accounting Framework (RAF) reports carriers provide to the Commission, and also provide disaggregations of relevant RAF line items. The changes in retail prices for GSM mobile services, as measured under the GSM retail benchmarking monitoring program, show fluctuations between price increases and decreases from 2001 up to 2003, with considerable variation between the carriers.

Tables 4.11, 4.12 and 4.13 show the retail price movements for Telstra, Optus and Vodafone between 2001 and 2003.

Table 4.11 Telstra's retail price movements

	Jan–Jun 2001	Jul–Dec 2001	Jan–Jun 2002	Jul–Dec 2002	Jan – Jun 2003
Telstra	base period	-1.4%	+7.5%	-1.7%	-1.6%

Source: ACCC, *A Monitoring Report Associated with the Implementation of the Pricing Methodology for the GSM Termination Service*, August 2003 and carrier reports to the Commission.

Table 4.12 Optus' retail price movements

	Oct 2000–Mar 2001	Apr–Sep 2001	Oct 2001–Mar 2002	Apr–Sep 2002	Oct 2002 – Mar 2003
SingTel Optus	base period	+9.9%	+6.8%	-3.7%	0.0%

Source: ACCC, *A Monitoring Report Associated with the Implementation of the Pricing Methodology for the GSM Termination Service*, August 2003 and carrier reports to the Commission.

Table 4.13 Vodafone's retail price movements

	Jan–Jun 2001	Jul–Dec 2001	Jan–Jun 2002	Jul–Dec 2002	Jan – Jun 2003
Vodafone		base period	+3.6%	-9.0%	-1.9%

Source: ACCC, *A Monitoring Report Associated with the Implementation of the Pricing Methodology for the GSM Termination Service*, August 2003 and carrier reports to the Commission.

The Commission notes that differences in the pricing measures between price control reports, Division 12 Reports and retail benchmarking reports can be explained, to some degree, by:

- the different time periods used by different carriers for retail benchmarking measures;
- the examination of real price change under the price control measures and the Division 12 report, as opposed to the benchmarking measures which do not take account of CPI; and
- the use of 'yield' estimates to calculate price changes for the retail benchmarking estimate whilst the Division 12 Mobile Index uses a sampling method.[244]

Of the interested parties who responded to the Commission's Draft Report by arguing that prices for retail mobile services have been decreasing over time and do not support a conclusion that the retail mobile services is not competitive, only Telstra provided data to support this claim. However, it is unclear whether these data have been adjusted for inflation, as is the source of the yield information provided (which appears to differ greatly from the information provided to the Commission in relation to the GSM retail benchmarking monitoring program).

Regardless, in isolation, price decreases are not necessarily indicative of increased competition. They may reflect that the market has reached a certain level of maturity. Overall, the three Commission reports discussed above reveal a consistent story that the rate of decrease in the price of retail mobile services appears to have decreased in recent years, following substantial price decreases in the period preceding the 2001-02 financial year.

Profitability

In a competitive market, carriers would be constrained in the long-run to earning normal profits – that is, sufficient funds to both cover the costs of operating and capital expenditure plus a risk-adjusted return covering the opportunity costs of funds.

Optus claimed in its June 2003 submission that the:

> Australian mobile industry as a whole is not earning excess profits. While Telstra and Optus run profitable businesses in accounting terms, other players in the industry do not.[245]

However, this may be because Telstra and Optus are able to enjoy above-normal profits (that is, economic profits) due to their control of much of the market, to the detriment of their rivals. If this is the case, the Commission believes this would call

[244] Refer to the individual reports for details regarding individual price change measurement methodologies.

[245] Optus, *Optus Submission to the Australian Competition and Consumer Commission on Mobile Services*, June 2003, p. 18.

into question Optus' conclusion that 'the performance of industry is consistent with competitive outcomes'.[246]

An examination of financial information reported by the major mobile carriers suggests the mobile industry as a whole enjoys high profitability, as measured and estimated by industry analysts using EBIT returns on capital employed (ROCE) and gross margins (EBITDA[247]/total revenue).

Industry analysts indicate overall profitability with industry returns well in excess of weighted average cost of capital (WACC) and high margins. For example, JP Morgan estimated that the industry generated what is described as an 'exceptionally high' 24-25 per cent return on capital employed in 2000, with Telstra at 46 per cent and Optus at a 'high-teen' ROCE.[248] Vodafone fared less well.

Since 2000 retail mobile price decreases have stabilised (following the departure of One.Tel and the easing of price controls), new revenue sources (such as SMS) have grown rapidly and economies of scale have been realised by substantial increases in subscriber numbers and the volume of traffic on mobile networks. These changes all suggest that profitability is likely to have increased since 2000.

In this regard, some more recent estimates suggest that industry gross margins are very high, averaging (excluding Hutchison) over 40 per cent.[249] While it is difficult to detect the full profitability of Telstra's mobile operations due to Telstra's financial reporting excluding termination revenue from mobile revenues and associated measures, Macquarie estimated Telstra's EBITDA margin to be 50.9 per cent for the first half of the 2003-04 financial year when termination revenue is included.[250] Recent data from Macquarie show an EBITDA margin of 49.2 per cent for the 2002-03 financial year, with a prediction of an EBITDA margin 50.6 per cent for 2003-04.[251] The Commission is confident that the ROCE for Telstra is well in excess of 50 per cent.

Optus' ROCE is likely to have improved substantially since 2000 as, for the 2003-04 financial year, SingTel Optus announced that Optus Mobile in Australia delivered another quarter of profitable growth in net in March 2004. Optus Mobile reported an EBITDA margin of 38 per cent for the quarter, while subscriber numbers grew 18 per cent and mobile service revenues increased by 15 per cent.[252] Macquarie Equities reports an EBITDA margin of 36.4 per cent for Optus for the 2002-03 financial year and predicts similar levels for the next three financial years.[253] The Commission

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[246] *Ibid*., p. 19.
[247] EBITDA is earnings before interest, taxation, depreciation and amortisation.
[248] JP Morgan, *Australian Mobile Industry Return on Capital Analysis*, 2001, p. 4.
[249] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p.8; Macquarie Research Equities, *Another Tough Year Ahead for Telcos*, 17 January 2003, p. 8.
[250] Macquarie Research Equities, *Telstra Corporation 1H04 Result: Reconciling Results with the Vision,*, 13 February 2004, p. 14.
[251] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 10.
[252] 'The SingTel Group's Results for the Quarter and Year ended 31 March 2004', SingTel Optus News Release, 6 May 2004.
[253] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 12.

estimates that Optus' ROCE, for 2003-04 is 39.5 per cent.[254] Whilst Optus has criticised the Commission for its use of ROCE and EBITDA margins in assessing the level of profitability of the retail mobiles market, the Commission notes that Optus itself has not refrained from using similar data in seeking to inform the market. For example, on 8 May 2003 it announced:

> Optus Mobile's profitable growth continued … and EBITDA margins remaining strong at 36 per cent.[255]

In 2001, JP Morgan estimated Vodafone's ROCE in 1999-2000 at 6 per cent, and had forecast that Vodafone would be achieving a ROCE of 9 per cent in 2002-03.[256] Information provided to the Commission by Vodafone indicated it believed its EBIT divided by total net assets for the 2002-03 financial year was c-i-c per cent.

Vodafone announced on 27 May 2003 that it was 'embarking on a new era with increased profitability (and) improved free cash flow'.[257] For the 2002-03 financial year, Vodafone announced that it was achieving an EBITDA of $431 million, had reduced its customer acquisition costs by 63 per cent and was, importantly, cash flow positive.[258]

However, for the half-year ended 30 September 2003, Vodafone announced that although it has increased subscriber numbers and reduced capital and operating expenditure, its blended ARPU had declined from $633 in March 2003 to $587. Further c-i-c information provided to the Commission by Vodafone, in response to the Draft Report, indicates that c-i-c, and that its ROCE has been positive and rising for the last three financial years. Differing EBIT data provided by Vodafone to the Commission during the course of this review makes it difficult for the Commission to assess the true EBIT and relevant margins. However, the Commission does note that statements by Vodafone spokespersons give the impression of profitability:

> I am puzzled as to why anyone would think that [Vodafone would exit the Australian market]. This company makes money and has a good return to its shareholders. … I believe we are moving to a sweet spot with our products over the next couple of years.[259]

JP Morgan predicted a negative but improving ROCE for Hutchison up to (at least) 2004.[260] For the 2002-2003 financial year, Hutchison reported a positive EBITDA for Orange of $21.6 million, whilst it had –$306.1 million EBITDA for '3', in line with its aggressive early entry into the 3G market.[261] The Commission also notes that Macquarie Equities has adjusted initial loss expectations for Hutchison downwards

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[254] The Commission estimated Optus' ROCE having regard to JPMorgan, *Australian Mobile Industry Return on Capital Analysis*, Sydney, May 2001; Macquarie Research Equities, *Another Tough Year Ahead for Telcos*, 17 January 2003; and Singapore Telecommunications Limited and Subsidiary Companies, *Management Discussion and Analysis of Financial Condition and Results of Operations for the Fourth Quarter and Year Ended 31 March 2004*, 6 May 2004.

[255] 'The SingTel Group's Results for the Quarter and Year Ended 31 March 2003', News Release, 8 May 2003, p. 4.

[256] JP Morgan, *op. cit.*, p. 4.

[257] 'Vodafone's Annual Results Something to Shout About', Vodafone News Release, 27 May 2003.

[258] *Ibid*.

[259] Quoted in M. Sainsbury, 'Vodafone Terminates Exit Call', *Australian*, 31 March 2004.

[260] JP Morgan, *Australian Mobile Industry Return on Capital Analysis*, 2001, p. 4.

[261] Hutchison, *Half Yearly Report 2003*, 2003, p. 4.

for the 2003-04 and 2004-05 financial years from $485.3 million to $457.5 million and from $500.4 million to $437.7 million, respectively.[262]

A firm can be said to be earning a normal profit if its rate of return equals its WACC. Economic (or supernormal) profits occur when a firm earns a rate of return above its WACC. While the MNOs claim they face a WACC of around 15-16 per cent, the Commission notes that the WACC it usually employs when determining the TSLRIC of the PSTN originating and terminating access service is lower, and in the order of 11-12 per cent. For the purposes of this analysis, however, the Commission has compared ROCEs to the MNOs own estimates of WACC.

With regard to criticisms by Optus and Vodafone that the Commission has not assessed profitability in such a way that it takes account of returns earned over the lifetime of an investment, the Commission notes that whilst there is insufficient data to assess the financial return from mobile investments over their entire lives, the Commission does have estimates of ROCEs for the three larger carriers over a run of years. Telstra has had an estimated ROCE above its weighted average cost of capital (WACC) since at least 1997-98, while Optus's ROCE has been above its WACC since 1998-99. With Optus's ROCE at nearly 40 per cent and Telstra's at over 50 per cent (as set out above), it does not take a run of too many such years to 'pay-off' initial capital investments**.** As noted in the Draft Report, however, Vodafone has had less favourable results over the last 10 years**.**

As Telstra and Optus together constitute about 80 per cent of the retail mobiles market, the Commission believes that an emphasis on these MNOs as an indicator of overall profitability of the retail mobile services market is not (as suggested by Optus) inappropriate.

Virgin Mobile also reported an EBITDA profit in the December quarter of 2003 and forecasts that it will make a net profit in 2004.[263]

Accordingly, the Commission maintains its opinion that, on the basis of the estimated high ROCE for Telstra and Optus and the positive EBITDA enjoyed by all 2G mobile carriers, the mobile services industry is enjoying high levels of economic profit, overall.

Product differentiation

Economic theory suggests that markets with oligopolistic structures are less susceptible to coordinated conduct if there is a high degree of product differentiation.

As indicated above, the ACA estimated that in June 2003 there were over 700 different mobile service plans on offer from the numerous carriers and CSPs operating in the market. The ACA noted that with carriers seeking to maintain subscriber

[262] Macquarie Research Equities, *Australian Mobile Market Update: Calm on the Surface, Turbulence Beneath*, 16 June 2004, p. 13.

[263] 'Virgin Mobile Ranked Third for Net Connections', Virgin Mobile Press Release, 15 February 2004.

growth, there has been an increase in low-cost plans and deals providing consumers with periods of free calling time.[264]

Mobile contracts continue to provide good quality handsets with no up-front costs with the option of upgrading to a premium handset. Most post-paid plans have a standard contract length of 24 months, with carriers seeking to 'lock in' customers for the average life of a mobile phone handset.[265]

Since early to mid 2002, there has been an increase in the range of services available to mobile customers. For example, in August 2002, Optus, Vodafone and Telstra began offering MMS-capable handsets, which enable pictures to be sent with text messages and video messages to be sent to customers with similar handsets. Cameras, open platform software and entertainment services (such as broadcast radio and gaming) are increasingly being integrated into mobile handsets.[266] With mobile carriers moving to 2.5G and 3G technologies, video-based content services and video calling services are starting to become available. Carriers are also introducing a range of wireless solutions to enable customers to receive emails and connect to the Internet and local access networks (LANs).[267]

The Commission considers that there is considerable product differentiation in the retail mobile services market.

Overall assessment of price conduct

Whilst the fluctuations in prices for mobile services indicated by the GSM benchmarking monitoring program may suggest that prices in the retail mobile services sector are moving around an equilibrium level, it is not clear whether that equilibrium is consistent with that which would be expected in an effectively competitive market for these services.

Therefore, the Commission does not consider that it is clear from all the available data that prices for retail mobile services have been declining in a manner that is consistent with an effectively competitive market and is particularly concerned that prices for retail mobile services appear to have increased in real terms over the 2001-02 /2002-03 period.

When considered with the apparent high levels of profitability enjoyed by market participants, particularly those with large market shares, the Commission believes that price conduct in the retail mobile services market is not displaying outcomes one would generally expect in effectively competitive markets for these services, despite the considerable product differentiation observed.

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[264] ACA, *Telecommunications Performance Report 2002-03*, December 2003, p. 91.
[265] *Ibid.*
[266] *Ibid.*
[267] *Ibid.,* p. 92.

Overall Commission conclusion about the state of competition in the retail mobile services market

The Commission notes that the supply of new services on 2.5G and 3G networks may drive further growth and have a competitive impact in the industry in future periods. The Commission also notes the level of product differentiation in the market could indicate a relatively competitive market.

While the retail mobile services market is exhibiting more encouraging market outcomes than the markets for fixed-line telecommunications services, it is unlikely to be effectively competitive as yet. The relatively high level of market concentration in favour of the MNOs (carriers), the high barriers to effective entry into the market (associated with national geographic coverage and sunk costs), the apparently high levels of profitability of mobile carriers (particularly those with large market shares), combined with the relatively high penetration rate of mobile phones and decreasing (or stabilising) ARPUs, suggest the Commission should be cautious when assessing the level of effective competition in the market for retail mobile services.

On balance, the Commission considers that the structural and behavioural measures of competition do not clearly indicate that the retail mobile services market is effectively competitive at this point in time. That said, the Commission notes that its analysis of the retail mobile services market should not be taken as necessarily suggesting some form of regulation of the retail mobile services market is appropriate at this point in time.

4.3.4 The Fixed-to-Mobile services market

In determining the state of competition in the market within which FTM services are provided, for the purposes of this inquiry, the Commission believes the following structural and behavioural measures are of most relevance for this market:

- measures of market concentration;
- barriers to entry;
- price conduct;
- allegations of anti-competitive conduct in this market; and
- the impact of other fixed-line services in the pre-selection basket.

The Commission's consideration of each of these issues is set out in turn below.

Measures of market concentration

In the Commission's *Telecommunications Competition Safeguards Report for 2002-03* (the 2002-03 Division 11 Report), the Commission indicated it believed there were around ten carriers providing FTM services in Australia during the 2002-03 financial

year, including Telstra, Optus, AAPT and Primus.[268] The Commission also understands that MCI, MCT, PowerTel and others provide FTM calls to end-users in various parts of Australia.

There is little publicly available information regarding the market shares of the various carriers providing FTM calls. However, using public information about the number of FTM call minutes originating on a number of carriers' networks, the Commission has estimated market shares for Telstra, Optus and AAPT. These estimates are set out in Table 4.15 below.

Table 4.14 Retail Fixed-to-Mobile Minutes, 2002-03

	Minutes (millions)	Market Share (%)
Telstra	3944	65.3
Optus	931	15.4
AAPT	451	7.5
Other	711	11.8
Total	6037	100.0

Source: Telstra Corporation Limited, *Year-end Results and Operation Review, 2002-03*, Table 7; Macquarie Research Equities, *Mobile Termination Rates – The Regulator's Dilemma*, 7 April 2003, p. 7; David Havyatt, 'What Form of Regulation Would be Most Appropriate?', ACCC Mobile Services Review Public Forum, Sydney, 11 September 2003, slide 6.

It is also useful to consider the market share figures for NLD services as a proxy measure. This is because, as noted above, the pre-selection determination requires NLD and FTM call services (as well as IDD call services) to be taken as part of a bundle by consumers.[269] In this regard, the Commission's estimates of concentration levels with regard to providers of NLD services indicate that Telstra still retains a sizeable share of the supply of these services, followed by Optus, AAPT and Primus. In turn, this implies a measure of concentration using the Herfindahl Index of 0.467.[270] Such a measure indicates a level of concentration close to that of two equal-sized duopolists.

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[268] ACCC, *ACCC Telecommunications Reports – Report 1. Telecommunications Competitive Safeguards for the 2002-03 Financial Year*, June 2004, p. 20.

[269] It is more instructive to look at the long-distance call services market shares as opposed to international call service market shares, as there are a number of carriers that supply international calls outside of the pre-selection basket using override codes. These carriers do not provide national long distance or FTM calls. Hence, international call market shares would not be as effective a proxy measure for FTM market shares, as they are likely to bias concentration measures downwards.

[270] Commission estimate based on publicly-available information contained in Telstra's year-end results for 2002-03, analyst reports and information provided during the Commission's public forums for this inquiry.

Barriers to entry

The Commission considers that the high sunk costs associated with installing PSTN and mobile infrastructure represents a significant barrier to entry into the market within which FTM services are provided. However, due to the current declarations of these essential input services,[271] the Commission believes that these barriers to entry are substantially mitigated. This view appears to be supported by the large number of carriers currently providing FTM services.

As noted above, a decision to enter the market within which FTM services are provided also means that a CSP must also provide NLD and IDD calls (given the pre-selection determination). The Commission does not consider that this acts as a significant barrier to entry, however, as a CSP is able to purchase the relevant wholesale services to provide these call types, without needing to install significant additional infrastructure of its own.

The Commission does consider that a barrier to entry into the market within which FTM services are provided may exist where the mobile termination service is not declared, or access prices for such services are above cost. This is because CSPs purchasing wholesale inputs at above cost access prices may find it difficult to compete with integrated carriers who face lower internal transfer prices.

Price conduct

As discussed previously, the Commission generally expects that a more competitive market can be expected to deliver goods and services to consumers at minimum cost. In principle, prices are said to be at a competitive rate where they are close to or at cost, after allowing for a normal risk-adjusted rate of return.

In this regard, the Commission notes that the average price of retail FTM services seems to be well in excess of its cost – both in terms of underlying costs and those that result for 'off-net' FTM calls (where the price of the MTAS sold to FTM service providers is in excess of the underlying cost of providing the mobile termination service). For instance, data available from Telstra's 'Financial Results for the half-year ended 31 December 2003' indicate that the average revenue it receives for FTM calls is around 38.5 cents per minute (cpm).[272] Further, data available to the Commission for the purposes of its Division 12 Report indicate that the average yield received across Telstra, Optus, AAPT and Primus for FTM calls is in the order of c-i-c cents per minute.

In comparison, the Commission estimates that, based on a range of overseas measures and information it gathers from carriers under the RAF and other corroborative sources, the underlying cost of the mobile termination service is likely to be in the order of 5 to 12 cpm. Combined with a conservative estimate of the combined cost of originating, transmitting and retailing FTM calls of around 5 cpm, the underlying cost of providing a FTM call would appear to be somewhere in the order of 10 to 17 cpm.

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[271] The domestic PSTN originating service was deemed to be declared on 30 June 1997, and the mobile termination declaration, which encompasses termination on both GSM and CDMA networks, was varied in March 2002.

[272] Telstra Corporation Limited, *Financial Results for the Half Year Ended 31 June 2003*, p. 71.

Overall, therefore, if the Commission uses Telstra's average yield on FTM calls as a proxy for that of the market as a whole, the Commission estimates that the average retail price of FTM call minutes is likely to be at least double the underlying cost of providing these services. This is illustrated graphically in Figure 4.2 below, which shows the large gap that lies between the average retail prices of FTM calls and the upper-bound underlying cost of around 17 cents per minute. The Commission believes this is one factor which, taken in isolation, appears to indicate that the market within which FTM calls are provided is less than effectively competitive.

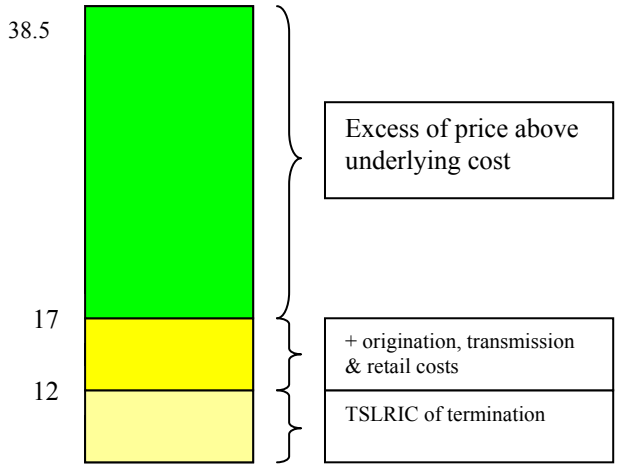

Figure 4.2 – The excess of the average price for FTM calls above underlying cost

That said, the Commission notes that a large proportion of FTM calls are provided 'off-net', involving situations where, in order to provide these calls, a fixed-line service provider will need to acquire a mobile termination service from a mobile carrier it is not vertically-integrated with.[273] In this instance, the ability of the FTM service provider to set prices close to underlying cost will be limited by the extent to which it can acquire mobile termination services at cost. In this regard, the Commission understands that the average price of the MTAS is likely to be around 22.5 cents per minute. Accordingly, the effective cost to a FTM service provider for an 'off-net' FTM call would be likely to be higher at around 27.5 cents per minute (using the same 5 cent estimate of the cost of origination, transmission and retailing costs outlined above). That said, the effective cost of an off-net FTM call is still well below the average yield FTM service providers appear to be earning from the provision of these services. This is illustrated in Figure 4.3 below.

[273] The Commission estimates that approximately 60 per cent of all FTM minutes are provided on an 'off-net' basis.

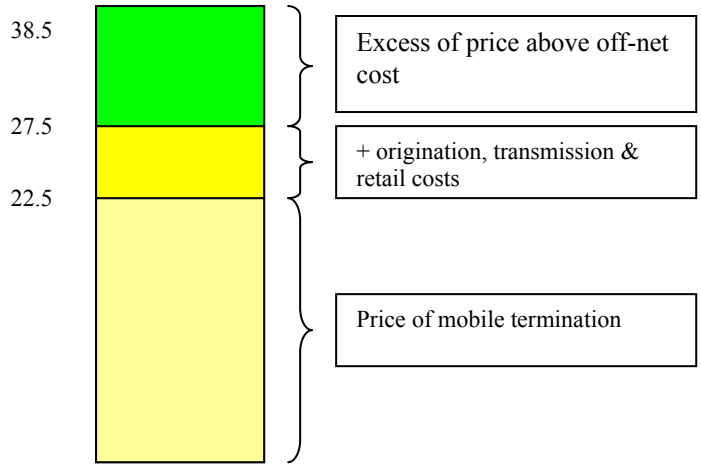

Figure 4.3 – The excess of the average price for an 'off-net' FTM call above underlying cost

In addition, and as outlined further below, the Commission understands there is a significant degree of price discrimination with regard to the price of FTM calls being offered to residential and business consumers. In this regard, data gathered by the Commission for the purposes of its annual Division 12 Reports show that the average yield for residential consumers of FTM calls is currently c-i-c cents per minute, while the average price paid by other (than small) business consumers is around c-i-c cents per minute. Whilst price discrimination is not necessarily indicative of a market that is not effectively competitive, this information does suggest there is likely to be an even greater gap between the average price paid by residential consumers and the underlying cost of providing a FTM call. For instance, the 2002-3 Division 12 Report indicates the average real price paid for FTM call minute by residential consumers rose by 5.0 per cent during 2002-03. In contrast, the average price paid by small business and other (than small) business consumers fell by 4.2 per cent and 10.9 per cent respectively, for the same period.[274]

In summary, the Commission believes the average per-minute revenue FTM service providers receive for FTM calls is likely to be well in excess of both the underlying cost of all FTM calls and the effective cost of providing 'off-net' FTM calls. In turn, this implies consumers could be incurring a loss in welfare of somewhere between $1.515 billion and $2.103 billion per annum compared with them being able to purchase FTM calls at the underlying cost of providing these FTM calls to them.[275] As indicated in Chapter Six, this is also likely to be associated with a substantial direct efficiency loss in the market within which FTM calls are provided.

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[274] ACCC, *ACCC Telecommunications Reports – Report 2. Changes in the Prices Paid for Telecommunications Services in Australia 1997-98 to 2002-03*, June 2004, p.64.

[275] Based on an estimate of 6,037 million FTM call minutes during the financial year, underlying costs of between 10 and 17 cents per call and an average yield on FTM calls of 38.5 cents per minute and an own-price elasticity of demand of –0.6.

Not only does the average price of FTM call minutes appear to be well in excess of the underlying average cost of producing a FTM call minute, the rate at which the price of FTM call minutes has decreased over recent years has been slower than that of other fixed-line PSTN services. In this regard, the Commission notes the results of the ACCC's 2002-03 Division 12 Report, which showed that the real price of FTM calls (as supplied by Telstra, Optus, AAPT and Primus) declined, on average, by 22.7 per cent over the period from 1997-98 to 2002-03. This compares with decreases of 59.3 per cent in the average real price of IDD calls, and 30.9 per cent in the average real price of NLD calls over the same period.[276]

Table 4.8 in section 4.3.3 shows that whilst the real price of FTM calls declined by 6.2 per cent in 2000-01 and by 7.9 per cent in 1999-00, it fell by only 3.2 per cent in 2001-02 and even less (2.4 per cent) during 2002-03.

Interestingly, the price decrease has been lower for other PSTN services. Further, it should be noted that the analysis in the Division 12 Report is based on real prices, such that actual nominal prices paid by consumers will not have decreased by quite as much.

In addition, the Commission also noted in the 2002-03 Division 11 Report that the rate of decrease in the average real price of FTM calls had slowed considerably in recent years. [277]

The Commission also notes concerns raised by some parties during the inquiry that decreases in the price of the MTAS in recent years have not been passed-through, in full, in the form of reductions in the price of FTM services. At the outset, the Commission believes it is difficult to accurately measure the extent of FTM pass-through in any given period, as the price of FTM calls can vary for reasons other than changes in the price of the MTAS. In particular, the Commission notes that changes in the price of other inputs, expansions in demand for the services and contract lags can all influence the price a FTM service provider will set for this service. Accordingly, it is difficult to isolate how much of a given change in the price of FTM services is due to changes in the price of the mobile termination service.

That said, the Commission has analysed whether pass-through has been occurring for the period 1997-98 to 2002-03 using a variety of data sources such as Telstra's Annual Reports, reports submitted to the Commission under the RAF requirements and the database for the Commission's Division 12 reports. Based on this analysis, the Commission has concluded that:

- partial pass-through has occurred when considered over the whole period under analysis. This appears to be in accord with economic theory which suggests that only partial pass-through is likely to occur where there is less than effective competition in downstream markets;

[276] ACCC, *ACCC Telecommunications Reports – Report 2. Changes in Prices Paid for Telecommunications Services in Australia 1997-98 to 2002-03*, June 2004, pp. 105-109.

[277] ACCC, *ACCC Telecommunications Reports – Report 1. Telecommunications Competitive Safeguards for the 2002-03 Financial Year*, June 2004, p. 20.

- FTM pass-through appears to have declined in the most recent period of analysis. However, this coincides with a period of only minor reductions in the price of the mobile termination service; and

- while Telstra's average per-minute retail price for FTM calls has partially decreased in line with reductions in termination charges, there is some evidence that not all categories of end-users have enjoyed the same extent of pass-through. In particular, price reductions have been more pronounced for on-net FTM calls in the corporate segment of the market.

Of growing concern are observations that the average yield on FTM calls seems to be around three times that which some carriers earn on NLD calls. For example, whilst Telstra's average yield on FTM calls was 38.5 cents per minute in its half-year report for the half-year ended 31 December 2003, its average yield on NLD calls was 13.31 cents per minute. Given the rate of decrease in the average real price of NLD calls has been greater than that for FTM calls, the price relativity of FTM to NLD calls is continuing to rise. This is despite the fact that the number of FTM call minutes has been growing in relative importance over recent years. For instance, Telstra's half-year report for the half-year ended 31 December 2003 showed that it derived more revenue from FTM calls than NLD calls – even though it carried more than double the number of NLD minutes than FTM minutes.[278]

Optus argues that the differences in price decreases FTM calls compared to those for NLD and IDD can be explained by the different price elasticities for demand for the different call types.[279] The Commission accepts that differing elasticities of demand may explain some of the divergence in price decreases for these different call types. However, given that the price Telstra charged for FTM calls appears not to have changed between the year ending 31 December 2002 and the year ending 31 December 2003,[280] the Commission considers there is not compelling evidence such differing elasticities fully account for the slow decreases in the average prices for FTM over time.

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[278] Telstra Corporation Limited and Controlled Entities, *Half-year Report for the Half Year Ended 31 June 2003*, Appendix 4D, p.12.

[279] Optus, *Optus Submission to ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004, p.13-14.

[280] See Telstra Corporation Limited, *Half-year Report for the Half Year Ended 31 June 2003*, Appendix 4D, p. 12

Allegations of anti-competitive conduct

The Commission is aware of several allegations of potential anti-competitive conduct in the market within which FTM calls are supplied. In particular, the Commission notes the concerns raised by operators about the existence of FTM offers available from vertically-integrated operators in the corporate sector of the market (as low as c-i-c cents per minute at certain times of the day) that are below the prices they are setting for terminating FTM calls on their networks (c-i-c cents per minute). Accordingly, some operators are arguing that the vertically-integrated operators are using their control over access to the MTAS to engage in price-squeeze behaviour in the market within which FTM calls are provided.

In support of this argument, the Commission notes that some carriers point to examples of FTM call price offers being made available by vertically-integrated carriers that fixed-line only operators are unable to match due to the high price of mobile termination. For instance, AAPT argues that integrated operators have been engaging in price-squeeze behaviour through a combination of high mobile termination rates and capped retail FTM pricing in a way that service providers such as AAPT cannot profitably match through their own retail prices.[281]

The Commission also notes that during separate discussions with a number of fixed-line only operators, further allegations of such anti-competitive conduct were made. In all cases, these parties allege that certain MNOs were offering FTM calls to corporate customers at rates below the prices they charged competitors for access to the MTAS. These parties allege that such behaviour could, under these circumstances, indicate either below-cost pricing by the MNOs, or that their cost for producing MTASs on their own networks are substantially below the prices being charged for the service.

In addition to raising concerns about the potential for price-squeeze behaviour that exists when the MTAS is not regulated at cost-based prices, a number of parties have raised concerns during the inquiry about other aspects of pricing behaviour by vertically-integrated carriers that have the potential for inhibiting competition in telecommunications markets. In this regard, Hutchison alleges that Telstra significantly cross-subsidises low pricing to corporate end-users with high rates for residential and small-to-medium enterprise (SME) customers.[282] Hutchison also alleges that in relation to Telstra's pricing:

> Telstra appears to be adopting a strategy of differentiating between "off-net" and "on-net" pricing to ensure customers acquire a bundle of services comprising fixed line and mobile services.[283]

At the outset, the Commission notes that price discrimination can be economically efficient in certain circumstances, and does not necessarily represent anti-competitive conduct in breach of Part XIB of the Act. Similarly, bundling *per se* can, depending on its particular nature, provide significant benefits to consumers and need not necessarily represent anti-competitive conduct. In considering whether the conduct of

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[281] AAPT, *op. cit.,* p. 25.
[282] Hutchison, *op. cit.,* p. 10.
[283] *Ibid.*

vertically-integrated carriers represents anti-competitive conduct, the Commission notes that pricing of FTM in the corporate sector continues to be of particular interest to the Commission.

The Commission believes the current structure of the FTM and mobile termination markets means there is the potential for anti-competitive price-squeezes to occur in the market within which FTM services are provided. In a recent report for the Commission, n/e/r/a argues that there are three necessary conditions for an anti-competitive price-squeeze to be a rational and viable strategy for an integrated firm:

- two markets must be vertically-related and the upstream product must be a necessary input into producing the downstream product;
- at least one firm must be vertically-integrated and possess market power in both the upstream and downstream markets; and
- the downstream market must be open to competition from rival, non-vertically-integrated firms.[284]

All these conditions are satisfied in the market within which FTM services are provided, where integrated operators provide the termination access service as an essential wholesale input to the provision of FTM services at the retail level, as well as compete in that same retail market with non-integrated service providers.

The Commission does not accept the arguments of Telstra and Optus that the low barriers to entry to the market within which FTM services are provided will inhibit price-squeeze behaviour. This is discussed in detail in section 4.4.2.

Overall, the Commission believes the structure of the market within which FTM calls is provided is such that Telstra has significant market power. Accordingly, the Commission believes the market is such that effective competition is not present to constrain Telstra in the terms and conditions it sets for FTM services.

Impact of other fixed-line services in the preselection bundle

To the extent that FTM calls are, due to single-basket preselection, provided in a bundle that includes NLD and IDD calls, the Commission notes that it is appropriate to define the market within which FTM calls are provided as a broader market that also includes NLD and IDD calls. In this instance, it is worth considering whether competitive forces exist over the provision of the full bundle of these services to ensure that the market within which FTM calls are provided is competitive.

At the outset, it is noteworthy that the Commission has for some time expressed concerns about the lack of effective competition in the supply of both NLD and IDD calls. These concerns were recently noted in the Commission's 2001-02 Competitive Safeguards Report (the Division 11 Report) which stated that although there are

[284] n/e/r/a, *Imputation Tests for Bundled Services*, A Report for the ACCC, January 2003, p. 1.

encouraging signs of competition in the market for NLD and IDD calls, Telstra retains commanding shares of these markets.[285]

Telstra's own retail market share estimates show that it has 63 per cent of the national long distance market and 53 per cent of the international call market.[286] Optus, AAPT and Primus account for most of the remaining revenues in these markets. The provision of both NLD and IDD services requires a number of fixed-line cost inputs, including 'transmission capacity' as well as PSTN 'origination' and 'termination' services.

Telstra's market share in part reflects its ownership of the ubiquitous fixed-line network. While competitors are able to access inter-capital transmission services from a variety of carriers, they are generally limited to acquiring origination and termination services from Telstra's fixed-line network if they are to provide NLD and IDD services to consumers. In this regard, Telstra's network ownership provides it with a distinct advantage over its competitors.

Retail pricing trends in the 2002-03 Division 12 report reveal that the retail prices paid for NLD calls decreased by an average of 4.7 per cent during 2002–03, compared to 8.7 per cent, 6.3 per cent and 9.5 per cent in the previous three years.[287] For IDD calls, the average retail price paid decreased by an average of 5.8 per cent during 2002–03, compared to 15.3 per cent, 17.2 per cent and 27.0 per cent in the previous three years.[288] These figures tend to suggest that the extent of price competition has slowed in 2002–03.

In isolation, price decreases are not necessarily indicative of increased competition. They may reflect that the market has reached a certain level of maturity. However, the Commission believes that prices remain well above cost for these services. For example, the Commission's December 2003 Accounting Separation report suggests that there is still a significant gap between the revenues earned by Telstra in providing these services and the associated costs. This report showed that the imputed margin[289] for domestic long distance was 58 per cent for residential and 64 per cent for business customers. For IDD services, the imputed margin was 24 per cent for residential and 40 per cent for business customers.

Overall, therefore, it seems that there are reasons to be concerned about the effectiveness of competition in the market within which all of NLD, IDD and FTM services are provided. Accordingly, it is unlikely that, even if FTM calls are thought to be provided in a broader market that includes all three services in the pre-selection single basket, such a market could be thought to be effectively competitive.

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[285] ACCC, *ACCC Telecommunications Reports – Report 1. Telecommunications Competitive Safeguards for the 2002-03 Financial Year*, June 2004, p.16.

[286] Telstra presentation, 'Telstra Corporation Limited First Half Fiscal 2004 results', Dr Ziggy Switkowski, 12 February 2004.

[287] ACCC, *ACCC Telecommunications Reports – Report 1. Telecommunications Competitive Safeguards for the 2002-03 Financial Year*, June 2004, p.16

[288] *Ibid.*

[289] In this context, imputed margin means the difference between Telstra's average retail prices and the access prices plus retail and other costs faced by access seekers in providing the same services.

Overall conclusion about the state of competition in the market within which FTM services are provided

The Commission considers that although barriers to entry into the market within which FTM services are provided can be partially mitigated by access to Telstra's PSTN network (and access to MNOs' mobile termination services), other indicators suggest that the market is not effectively competitive.

In particular, data from annual reports, Commission monitoring and overseas jurisdictions that relate to both retail prices for FTM services and the underlying cost of providing these services provide strong evidence of a lack of effective competition in the market. This is because prices for both wholesale mobile terminating access and retail FTM services are currently set well above the underlying (TSLRIC) cost of providing these services.

Similarly, the Commission considers that existing market structures provide vertically-integrated fixed and mobile network operators with considerable scope and incentive to use their control over access to the MTAS to engage in anti-competitive price-squeeze behaviour.

Finally, the Commission also considers that the market for the single-basket pre-selection bundle within which FTM services are provided to consumers is not effectively competitive at this point in time.

Therefore, on the basis of the observed concentration levels, price conduct, the considerable scope and incentive for anti-competitive price-squeeze behaviour and a possible lack of full and effective competition in the pre-selection NLD, IDD and FTM services market, the Commission considers the market within which FTM services is not effectively competitive.

4.4 The extent to which competition would be promoted by declaration

Once the Commission has formed a view about the effectiveness of competition in relevant markets, it is then able to compare this to how it believes the future state of competition in these markets will look with declaration.

In section 4.3, the Commission concluded that the level of competition in the markets in which the eligible service is supplied and other related markets is likely to be less than effectively competitive. The next question, therefore, is whether or not declaration of a MTAS would make any difference to the state of competition in these markets.

In forming a view about the likely impact of declaration on competition, the Commission must consider not only whether declaration would be likely to promote competition but also the *extent* to which this would be likely to occur.[290] This

[290] Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 – item 6, proposed s. 152AB.

suggests that greater weight ought to be given to a situation where the likely effect of declaration on competition is substantial than to one where the effect is minor.

Competition is a process of rivalry and accordingly it may be difficult to describe (in qualitative terms) the extent to which declaration would be likely to promote competition through simply examining its impact on that process. In many cases, it will be more instructive to examine the extent to which declaration promotes competition from the perspective of end-users; that is, to have regard to the likely results from increased competition in terms of price, quality and service diversity. The impact on end-users may depend on the price of the service being considered. Also, the nature of the service being considered in this inquiry may have an important impact on end-users' interests. For instance, if access to an end-to-end service is only likely to lead to an increase in the number of suppliers with all suppliers essentially offering the same service at the same price, then competition is unlikely to be promoted to a significant extent. Where, however, declaration is likely to facilitate the development of new services and the provision of better quality services, competition is likely to be promoted to a greater extent.

On the other hand, declaration may have little impact on the terms and conditions upon which the eligible service is supplied. This would be the case if suppliers of the eligible service would be constrained in their price and output decisions, in which case declaration would be unlikely to generate increased competition in downstream markets. For example, if the Commission could be confident that the MTAS would, in the absence of continued declaration, be likely to be provided on similar terms and conditions as those that would arise in a competitive market for this service, there would be less scope for declaration to promote competition in telecommunications markets.

Submissions to the Discussion Paper

While some interested parties, such as ATUG, CompTel, MCI, AAPT, the Australian Consumers Association, Hutchison, the CCC and PowerTel, argue that continued declaration of the MTAS would promote competition in telecommunications markets, others, such as Vodafone and Optus, submit that continued declaration would be detrimental to competition. Further, some interested parties argue that continued declaration would be more effective in promoting competition if retail FTM rates were also regulated by the Commission.

ATUG argues that continued 'regulation by declaration of GSM and CDMA mobile services' would promote competition and as a consequence is in the LTIE.[291]

CompTel argues that continued declaration of the MTAS will promote competition in the downstream market within which FTM services are provided. It also argues that a long-run incremental cost (LRIC)-based pricing principle should be adopted.

> The incentive and ability of [mobile network operators (MNOs)] to act anti-competitively would be significantly reduced, if not eliminated, with the continued declaration of the mobile termination access service and cost-based price controls on the mobile termination

[291] ATUG, *ATUG's Submission to the ACCC Mobile Services Review 2002-03 Discussion Paper*, p. 2.

> rates … Through LRIC-based rates the Commission will remove the marketplace distortions that are harming carriers and end-users alike.[292]

MCI also argues that continued declaration of the MTAS will promote competition. It refers to an Andersen Management International report written for Sweden's National Regulatory Agency which notes that without regulation there is 'virtually no competition and no immediate prospect of competition in the market for wholesale call termination'.[293] MCI also believes that high termination rates distort competition in telecommunications markets.

> High termination charges on any mobile networks result in a substantial competitive distortions (sic), leading to an artificial transfer of resources from fixed networks to mobile networks. In addition to increasing the cost of calling a mobile phone beyond economically efficient values, this results in an artificial diversion of economic resources from other sectors of the economy towards mobile networks. It makes little sense to accept market failures in the name of subsidizing some operators over others, particularly when FNOs and their consumers will suffer the consequences.
>
> Additionally, permitting selective above-cost mobile termination may result in further competitive distortions. It also gives rise to inefficient forms of arbitrage such as "tromboning".[294]

AAPT considers that continued declaration of the MTAS 'is the most effective means of promoting competition'.[295] AAPT contends that continued declaration and appropriate pricing principles would promote competition by preventing 'dominant mobile service providers' from engaging in anti-competitive behaviour such as price-squeezes.[296]

The CCC considers that continued declaration of the MTAS will promote competition in the market within which FTM services are provided if the Commission's access pricing principles are fully implemented and if FTM pass-through occurs.[297]

The Australian Consumers Association considers that declaration of the MTAS should 'definitely' not be revoked.[298]

Hutchison considers that it would be in the LTIE to continue the declaration of the MTAS in the short to medium term.[299] It considers that the effect of declaration on competition in downstream markets depends on the pricing principles adopted. Hutchison considers it unlikely that reductions in wholesale mobile termination rates would be passed through to retail FTM prices in the absence of regulation of retail FTM prices.[300]

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[292] CompTel, *Comments in Mobile Services Review 2003*, 19 June 2003, p. 2.
[293] MCI, *Comments of MCI regarding the ACCC Discussion Paper on the Mobile Services Review,* 13 June 2003, p. 6.
[294] *Ibid.*, p. 9.
[295] AAPT, *op. cit*., p. 23.
[296] *Ibid.*, p. 24.
[297] CCC, *op. cit*., p. 24.
[298] Australian Consumers' Association, *Response to ACCC Discussion Paper Mobile Services Review*, 11 June 2004, p. 2.
[299] Hutchison, *op. cit*, p. 3.
[300] *Ibid*, p. 12.

Vodafone argues that continued declaration of the MTAS that results in 'significant reductions' in mobile termination prices would weaken Vodafone's competitive position and consequently reduce competitive pressures in the mobile service market.[301] Vodafone argues that regulated reductions in termination rates are 'a straight hit to the profitability of Vodafone' and result in a net benefit to vertically-integrated carriers.[302]

Vodafone argues that regulation of the MTAS is not the appropriate means by which to remedy market failure in the market within which FTM services are provided.

> Vodafone believes that competition in F2M retail will not intensify as a result of regulating wholesale terminating prices and will not necessarily result in lower prices to residential customers. As mentioned earlier, Vodafone's terminating rates have fallen by approximately 45 per cent in real terms in less than five years and yet there have been only slight reductions (or possibly increases) in the F2M retail price to residential customers. Regulating mobile termination will not guarantee the pass through of lower terminating rates to residential customers.
>
> Also, regulation of mobile termination is not going to alter the structure or dynamics of the industry. Therefore it is unlikely to have any effect on promoting competition in the F2M retail space.[303]

Vodafone considers that if market forces alone do not result in reductions in FTM call prices, there are a number of other ways 'that regulation could be applied to speed this market outcome'. For instance, Vodafone argues that introducing multi-basket preselection with FTM as a separate option allows consumers to choose a separate provider for FTM calls. Vodafone contends that this approach would increase the competitive pressure on current providers to pass-through lower wholesale termination rates and create opportunities for market entry by operators offering FTM services only. Vodafone notes that this approach was introduced in New Zealand in 2001.[304]

Optus also argues that competition would be promoted by the revocation of the MTAS declaration. It contends that there is no market failure to address with regard to the MTAS as MNOs are constrained in their pricing of the service by competition for subscribers and a high level of consumer awareness.[305]

Optus considers the only potential beneficiary of a 'heavy-handed' approach to regulation of mobile termination rates is Telstra. This is because, in the short term, Telstra would benefit from 'less than complete pass through, and the benefit would endure if the lack of pass-through is not competed away'.[306]

Telstra argues that the 'mobiles market' is competitive and therefore regulation of the MTAS is not required.

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301 Vodafone, *op. cit*., p. 11.
302 *Ibid.*, pp. 9-10.
303 *Ibid.,* p. 8.
304 Vodafone, *op. cit.,* pp. 16-17.
305 Optus, *op. cit*., p. 54.
306 *Ibid.,* p. 66.

> Telstra does not believe that there is a case for continued regulation of mobile terminating access services and it does not believe that any of the concerns raised by the Commission could justify regulation … Since the mobiles market, as the Commission itself has previously noted, is a competitive one, it does not make sense for the Commission to regulate this market.[307]

Submissions to the Draft Report

Submissions in relation to the impact of declaration on the market within which FTM services are provided

In responses to the Draft Report, a number of parties expressed support for the Commission's analysis on this issue. See for example, the submission by Powertel.[308] Some other parties, however, asserted that declaration, combined with a pricing principle that lowers the price of the MTAS, would not promote competition in the market in which retail FTM services are provided, because other factors contribute to the lack of effective competition in this market. For example, Optus argued that Telstra derives strong structural advantage from its historic incumbency, ubiquity, control over key natural monopoly infrastructure, and partial government ownership. Optus argued that addressing these factors would be more effective than regulating MTAS charges.[309]

Separately, however, Optus argues that if barriers to entry are low (due to declaration of PSTN originating and mobile terminating access services), then vertically-integrated carriers will have no incentive to engage in price-squeeze behaviour in the market within which FTM services are provided. This is because low barriers to entry in the market within which FTM services are provided mean carriers have no capacity to recoup revenues foregone as a result of a temporary price-squeeze.[310] Telstra also puts forward a similar argument.[311] Furthermore, Optus argues that no price-squeeze is in fact occurring, and refers to imputation testing results recently released by the Commission.[312] Telstra contends that any anticompetitive conduct in this context should be addressed via Part IV of the Act.[313]

Optus also questions whether incentives exist for double marginalisation – the process by which both the upstream and downstream arms of a vertically-integrated firm both set prices at monopoly profit-maximising levels – in relation to the MTAS and FTM services. Optus argues that the extraction of monopoly rents at the downstream (i.e. FTM) level imposes an unwanted externality on upstream (i.e. MTAS) operators, and that vertical integration solves this problem.[314] Hence, it argues, the fixed-line side of the vertically-integrated operator's business would have no incentive to mark-up prices further above cost.

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[307] Telstra, *op. cit*., p. 2.
[308] Powertel, *Draft Decision on the Mobile Terminating Access Service, Submission by Powertel Ltd*, 10 May 2004, p.2.
[309] Optus, *op. cit.*, pp. 14-15.
[310] Optus, *Submission to the ACCC on Mobile Terminating Access Service*, May 2004, pp. 10-13; Telstra, *Submission to the ACCC*, June 2004, pp. 18-21.
[311] Telstra, *op. cit*.
[312] Optus, *op. cit*.
[313] Telstra, *op. cit*., p. 21.
[314] Optus, *op. cit*., pp. 9-10.

Optus also asserts that vertically-integrated carriers hold no cost advantage over their fixed-line only FTM competitors. This is because for two thirds of the FTM calls it originates, Optus must purchase the MTAS from other carriers. Furthermore, Optus argues that excess revenues it earns from selling the MTAS are competed away over the whole of the retail mobile services bundle. Optus quotes Wright (2002):

> … due to competition to capture this lucrative termination revenue, cellular firms may well have competed away much of the higher termination revenue under dispute.[315]

Optus then anticipates the counter-argument that the mobile services market is less than effectively competitive, claiming that if any carrier has the capacity to raise prices above total cost, then preventing them from doing so in relation to one service would not affect their ability to do so in relation to other services.[316]

Similarly, Hutchison Telecommunications argued that the following factors result in ineffective competition in the market within which FTM services are provided:

- Telstra's dominance at the infrastructure level;
- a large part of the competition which does exist is dependent on the resale of FTM calls supplied by Telstra;
- the existence of significant cross-subsidisation of selected services through bundling and specific targeting of corporate customers;
- Telstra's dominant share of all retail telecommunications markets; and
- Telstra's significant degree of vertical and horizontal integration.[317]

However, Hutchison does not believe that these factors should stop the Commission from declaring a MTAS.

Frontier Economics (on behalf of Vodafone) argues that declaration is unlikely to promote competition in the provision of FTM services because of other significant barriers to entry into the market in which these services are provided. Frontier asserts:

> The most obvious barrier to entry is the very large sunk cost associated with entry into a market characterised by economies of scale over a very wide output range.[318]

Frontier also comments:

> The Commission has failed to analyse the remaining barriers to entry into this market. If it had, it would recognise mobile termination rates are unlikely to play an important role in any player's decision to enter.[319]

Some interested parties also argue that merely lowering an input cost into the provision of retail FTM services is unlikely to promote competition. Vodafone comments:

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[315] *Ibid*., p. 9.
[316] *Ibid.*
[317] Hutchison Telecommunications, *Response to the ACCC's Draft Decision on Mobile Terminating Access*, 30 April 2003, p. 3.
[318] Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, report for Vodafone, May 2004, p. 17.
[319] *Ibid*.

> Promotion of competition says nothing about altering the input costs of a business. Rather the promotion of competition and or the extent to which businesses compete is more in relation to market structure. Market structure is more to do with the following:
>
> - the number, size and structure of active buyers and sellers and potential new entrants;
> - degrees of product differentiation;
> - the amount and the cost of information about price and quality of the products and services; and
> - the conditions of entry and exit.[320]

AAPT disputes this view, arguing:

> … lower input costs will decrease barriers to entry to the industry. A new entrant facing lower input costs is likely to have a greater chance of long-term success in a market, as it can charge a lower price than would otherwise be the case, while still making a normal rate of return.[321]

Submissions in relation to the issue of FTM pass-through

Several interested parties continue to question the extent to which pass-through is likely to occur. Hutchison, for example, argued that without an explicit mechanism requiring Telstra to pass on MTAS cost reductions, Telstra would gain a significant windfall. Hutchison estimated this potential windfall to be $123.8 million. Even if Telstra passed through 50 per cent of MTAS price reductions, Hutchison argues Telstra would enjoy a windfall gain of $62 million.[322] Similarly, Optus commented:

> Telstra is in a position to receive windfall profits from the ACCC's decision – industry analysts estimate that this windfall to Telstra will be in the order of $50 million (with partial fixed-to-mobile pass through) to $140 million (if no pass-through) over the next 3 years.[323]

Hutchison also argued that Telstra is only likely to pass-through cost reductions to mobile subscribers, and to bundled and corporate fixed-line consumers. Hutchison argued:

> Hutchison believes there is overwhelming evidence that savings in MTAS charges are generally not passed through to residential and small business customers but are used to engage in anti-competitive retail pricing practices in the provision of F2M services in the corporate market and in providing discounts to customers that bundle F2M calls with other telecommunications services.[324]

AAPT agreed that pass-through might only occur in certain market segments:

> Similarly, there is a danger that if pass through does not occur, vertically-integrated telecommunications providers will be able to take advantage of the price reduction, and cross-

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[320] Vodafone, *Response to ACCC Draft Decision*, 30 April 2004, pp. 30-31.

[321] AAPT, *Supplementary Submission by AAPT Limited in Response to the Australian Competition and Consumer Commission's Draft Decision on the Mobile Services Review: Mobile Terminating Access Service*, 21 June 2004, p. 7.

[322] Hutchison Telecoms, *Response to the ACCC's Draft Decision on Mobile Terminating Access*, 30 April 2004, p. 8.

[323] Optus, *Submission to ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004, p. 6.

[324] Hutchison Telecoms, *op. cit.*, p. 9.

> subsidise corporate and government customers at the expense of other types of retail customers.[325]

AAPT also noted other reasons why pass-through might not occur:

> It is possible that where the dominant telecommunications company fails to pass through the cost savings on FTM retail services, a competing firm without substantial market power may also fail to pass through the rate reductions. For example, if a competing firm is relatively small in the market, and believes that a price reduction would either not change, or even decrease, its market share or profit, it may choose to maintain price at the initial level.[326]

In a similar vein, Vodafone argued that pass-though is unlikely to occur in the absence of an explicit regulatory mechanism.[327]

Hutchison made a further argument why pass-through is unlikely to occur: because most non-Telstra FTM call traffic is actually resale of Telstra calls. Consequently, without an explicit pass-through mechanism, lowering termination prices would confer a significant benefit on Telstra.[328]

Optus also argued that the issue of pass-through is not necessarily relevant to whether declaration would promote competition. Optus commented:

> In particular, even in the event of full retail pass-through of termination reductions, the level of competition within the fixed-to-mobile services market would remain unchanged.[329]

Submissions in relation to the impact of declaration on the retail mobile services market

In response to the Commission's initial views regarding the potential that declaration has to promote competition in the retail mobile services market, Vodafone argues that declaration of the MTAS will decrease the level of the competition in this market by substantially benefiting the vertically-integrated MNOs and leaving the remaining 20 per cent of the market – that is, Vodafone and Hutchison – substantially worse off. Hence, Vodafone argues that lowering input costs will not improve competition in the retail mobile service market.[330]

Virgin Mobile suggests that declaration will have a 'dramatic impact' on its revenues and margins, which will inhibit its ability to compete with vertically-integrated and other MNOs on price. Virgin Mobile states that declaration will have a disproportionate effect on mobile-only operators, such as itself.[331] It argues this is

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[325] AAPT, *Submission in Response to the ACCC's Draft Decision on the Mobile Services Review: Mobile Termination*, 30 April 2004, p. 10.
[326] *Ibid*., p. 9.
[327] Vodafone, *Response to the ACCC Draft Decision on the Mobile Terminating Access Service*, 30 April 2004, pp. 44-45.
[328] Hutchison, *op. cit.*, p. 9.
[329] *Ibid.*, p. 16.
[330] See Vodafone, *Response to the ACCC Draft Decision on the Mobile Terminating Access Service*, 30 April 2004, p.29.
[331] Virgin Mobile, *Non-Confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, pp.3-4, 6-7

especially the case for Virgin Mobile as its customers receive significantly more calls than they make.[332]

Frontier Economics, on behalf of Vodafone, argues that declaration of the MTAS will force MNOs like Vodafone to rebalance their revenue sources, which will require increased prices for consumers (subscription or call prices). Frontier argues this will reduce the attractiveness of mobile telephony services, encouraging subscribers to make fewer calls which will further reduce the revenues collected by MNOs.[333]

Optus also argues that regulation of the MTAS will necessitate rebalancing of revenue sources, due to the lack of economic profit being earned by the MNOs. Optus suggests that this rebalancing will decrease the level of competition in the retail mobile services market by:

- Increasing the risk of 'wrong' pricing structures;
- Introducing time lags in subscriber call decisions;
- Introducing inefficient customer churn;
- Limiting the scope for product differentiation by pricing structure;
- Decreasing demand and therefore revenues, which in turn decreases the value of marginal subscribers and so reduces competition for subscribers; and
- Increasing barriers to entry by lowering termination revenues and therefore MNO margins.

CRA, on behalf of Optus, argues that declaration of the MTAS in the UK resulted in a 15 per cent increase in the total cost of mobile packages for low use customers between July 2003 and October 2003, decreases in the overall penetration rate between May and August 2003 (down from 75 per cent to 73 per cent) and decreases in mobile penetration among low income households (down from 64 per cent to 60 per cent).[334]

Allphones argues that regulation to reduce termination prices will lower margins for MNOs, like Optus and Vodafone, which will be passed on to agents such as Allphones. Allphones states that this is likely to result in fewer sales occurring through retail outlets such as Allphones, or fewer retail outlets and, as the level of distribution a carrier has affects its competitiveness, this will result in diminished competition in the retail mobile services market.[335]

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[332] Virgin Mobile, *op. cit*, p. 6.
[333] Frontier Economics, *Analysis of Markets and Competition in the ACCC Mobile Services Review Draft Decision*, May 2004, pp.17-18.
[334] Charles River Associates, *The Use of Benchmarking in Regulating Mobile Termination Rates*, report for Optus, 28 May 2004, p.5.
[335] Allphones, *ACCC Draft Ruling on Terminating Access Allphones Submission*, pp.9-13.

The Commission also notes that Unwired argues that declaration will improve competition in the retail mobile services and fixed-line markets by allowing it to compete with MNOs by offering flat monthly rates for all calls – local, STD and FTM. Unwired states that regulation will prevent MNOs from inflating the cost base of non-MNO competitors and so will promote increased competition in the broader telecommunications market.[336]

4.4.1 The impact of declaration on competition in the market within which the eligible service is provided

In general, declaration of a service can serve the LTIE in two ways. Firstly, it can ensure access to essential inputs is granted where it would otherwise be denied by potential access providers. Secondly, even where access is offered, declaration can better ensure that access is given on reasonable terms by, amongst other things, providing a right to arbitration of access disputes.

As indicated in section 4.2, the Commission believes that MNOs have control over access to termination services provided on their networks and that mobile operators are largely unconstrained by competitive forces when setting the price of termination services on their networks. For the purposes of this inquiry, the Commission defined separate markets for the provision of the MTAS on each MNO's network. In section 4.3, the Commission considered the state of competition in the markets for the eligible service and concluded that despite the existing declaration of the MTAS, the MTAS is priced above its underlying cost of production. Further, section 4.3 indicated that the price of the MTAS has reduced only marginally since the Commission indicated its preference for a retail benchmarking pricing principle for this service in July 2001.

In the absence of continued regulation of the MTAS, the Commission believes that MNOs would continue to set the price of this service above its underlying cost of production. Further, to the extent that existing regulation of the MTAS has led to it being priced below the profit-maximising level for network operators, the Commission believes MNOs may have an incentive to increase the price of the MTAS even further in excess of cost if the existing declaration were to be revoked. As discussed in Chapter Five, the Commission is also concerned that established MNOs may have an incentive to refuse access to termination on their networks (or provide it on unfavourable terms and conditions) to new entrants to the retail mobile services market.

In contrast, continued declaration of a MTAS will, when coupled with an appropriate pricing principle, generate a closer association of prices with the underlying cost of the MTAS that would exist in the absence of declaration. While this is unlikely to generate greater competition in the markets within which the MTAS is provided, the Commission expects this will generate a greater level of competition in related markets. This is considered in more detail in sections 4.4.2 and 4.4.3 below.

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[336] Unwired Australia, *Response to the Commission's Draft Report – Mobile Terminating Access Service*.

4.4.2 The impact of declaration on competition in the market within which FTM services are provided

Under current market conditions and the current approach to regulating the price of the MTAS, the Commission believes the provision of FTM calls is subject to only weak competitive constraints. Whilst there is a number of providers of FTM calls in Australian telecommunications markets, Telstra appears to have a substantial share of over 60 per cent of the market within which FTM calls are provided. Further, all Telstra's competitors rely, to some extent, on access to its PSTN and/or mobile services networks in order to provide FTM calls to end-users. Whilst the Commission believes current cost-based approaches to the regulation of the PSTN originating service helps to mitigate Telstra's control over access to this input, access to the MTAS of Telstra and other mobile carriers is not currently priced at cost-based levels. For reasons outlined in sections 4.2 and 4.3, the Commission believes the average price charged for the MTAS is likely to be at least double its underlying cost of production. The Commission believes this helps to maintain Telstra's share of the market within which FTM services are provided, by enabling it to raise its rivals' costs above those which it faces when terminating FTM calls on its own network. This is especially significant given that the largest volume of FTM call minutes terminate on Telstra's mobile network.

More broadly, the ability of mobile operators to set the price of the MTAS well in excess of cost prevents competitive market outcomes in the FTM call market in two ways:

- it ensures the price of an essential input into the provision of FTM calls is set at a level in excess of its attributable cost. As a result, fixed-line only operators must set the price of FTM calls above underlying cost if they are to recover *their* costs of producing FTM calls; and

- the vertically-integrated nature of the two providers of FTM calls with the greatest market share gives them the ability to raise rivals' costs in a way that might inhibit the ability of fixed-line only operators to compete effectively in the provision of FTM call services (and, therefore, the pre-selected bundle of FTM, NLD and IDD calls) to end-users.

In combination, the ability to charge above-cost prices for the MTAS would appear to be manifesting itself in the form of two mark-ups above cost. Firstly, the price of the MTAS is set above its underlying cost of production. In turn, this eases competitive pressure over the provision of FTM services and appears to contribute to a further mark-up of prices above cost in this market. In total, this leads to concerns raised in the previous section that the price of FTM services appears to be at least double the underlying cost of providing these services.[337]

[337] The Commission notes Optus' submission that double marginalisation is unlikely to occur in the present instance (for a definition of double marginalisation and why it would be an unprofitable strategy for a vertically-integrated firm, refer to J. Tirole, *The Theory of Industrial Organization*, MIT Press, Cambridge, Massachusetts, 1992, pp. 174-175). At the outset, the Commission agrees with Optus that double marginalisation is unlikely to be occurring at present. This is because double marginalisation would require that carriers providing the MTAS are setting price at profit-maximising monopoly levels. The Commission does not, and has never said, that the price of the

Would revocation of the MTAS declaration improve the state of competition in the market within which FTM services are provided?

The Commission does not believe revocation of the current MTAS declaration is likely to improve the state of competition in the market within which the FTM service is provided. In its view, a key cause of the lack of effective competition in this market derives from the ability of vertically-integrated providers of the MTAS to price above underlying cost for this service. As indicated above, the Commission believes this incentive will still remain if the MTAS declaration is revoked. Indeed, the Commission is concerned there may be incentives for mobile operators to raise the price of the MTAS even further above cost if the service declaration is revoked. This would further inhibit the ability of fixed-line only operators to compete in the market within which FTM services are provided.

In the absence of declaration, the Commission also believes there would be an incentive for vertically-integrated providers of FTM services to restrict or frustrate access to the MTAS on their mobile networks when sought by competitors. Further, vertically-integrated operators will continue to have the incentive and ability to discriminate between the prices they set for termination on their network to competitors in the market within which FTM services are provided and the downstream arms of their business.

The Commission therefore believes that revocation of the MTAS declaration would not change the influences that lead to above-cost pricing for the MTAS, and the consequent problems this causes for the effectiveness of competition in the market within which FTM services are provided. Indeed, the Commission is concerned the lack of effective competition could be intensified if the service declaration is revoked.

Can continued declaration improve the state of competition in the market within which FTM services are provided?

Given that the market within which FTM services are provided is not effectively competitive, and the Commission believes revocation of the existing MTAS declaration would not be likely to improve the state of competition in the downstream market, the next question is whether declaration can *improve* the state of competition in this market.

MTAS is at the monopoly level. Whilst the Commission believes providers of FTM services do have control over access to the MTAS on their networks, and would therefore in the absence of declaration have the ability and incentive to set the price of the service above its underlying cost, the Commission does not believe current prices for the service are at profit-maximising monopoly levels. Partly, this is because the MTAS is currently the subject of declaration under Part XIC of the Act. Further, double marginalisation could also only occur where the downstream provider of FTM calls was also a monopolist. This is clearly not the case at present. Overall, the Commission believes that whilst the prices of MTASs and FTM services are clearly above their underlying costs of production, neither is currently priced at profit maximising monopoly levels. In this context, further increases in the price of FTM call services will continue to increase the profits of vertically-integrated providers of FTM calls. Hence, the Commission does not believe unprofitable double marginalisation is being observed in the market for FTM call services.

The Commission considers that the current disparity between the price of the MTAS and its underlying cost of provision is a key factor inhibiting the emergence of effective competition in the market within which FTM services are provided.

This is because, absent declaration, vertically-integrated fixed and mobile network operators have the ability and incentive to increase the price of the MTAS above its underlying cost of provision. As a result of this, equally efficient competitors in the relevant downstream markets might not be able to compete with vertically-integrated providers of FTM services, because vertically-integrated carriers are able to raise input costs for fixed-only operators above those which they face when terminating calls on their own network. Further, setting the price of the MTAS above its underlying cost of provision gives vertically-integrated operators a 'cushion' that enables them to withstand the competitive threat that a more efficient operator in downstream markets could present. By lowering the price of the MTAS towards its underlying cost of provision, declaration can ensure equally or more efficient CSPs can place competitive pressure on vertically-integrated providers of FTM services to improve their own efficiency and reduce prices paid by consumers of FTM (and possibly STD and IDD) services. Hence, the Commission considers that regulated MTAS charges would provide a stimulus for increased competition from existing FTM providers, and possibly from new entrants.

Response to submissions in relation to promoting competition

The Commission agrees with Optus, Hutchison Telecommunications and Frontier Economics that entry barriers to providing FTM services, other than high MTAS prices, may exist. However, it disagrees with comments made by Vodafone, Telstra and Optus that the presence of these other barriers will prevent a decline in the price of the MTAS promoting competition in the market within which FTM calls are provided. Partly, this is because declaration of PSTN origination services addresses many of these issues. Reducing MTAS prices would mitigate or remove another significant entry barrier, and as such will promote competition in the market in which retail FTM services are provided.

The argument that one entry barrier should not be removed or attenuated because others remain should not prevent the Commission from declaring the access service. By Optus's logic, the Commission should not have been regulating PSTN originating access services since 1997, as other barriers to entry remain in the market within which FTM (and other fixed-line) services are provided. The Commission is confident it is addressing a significant barrier to entry into the market within which FTM services are provided. However, should other entry barriers remain, the Commission will assess these in the light of the regulatory and enforcement powers available to it.

Further, the Commission's Discussion Paper on the Mobile Services Review commented:

> The LTIE test under section 152AB of the Act requires consideration of the extent to which declaration promotes competition and encourages efficiency. The test does not require that the declaration of itself actually causes increased competition or efficiency. Declaration might put in place necessary preconditions for improved competition and efficient use of and investment in infrastructure. Putting into place those preconditions can itself be in the LTIE,

> even if the necessary pre-conditions are not taken advantage of. Clearly, however, it would be preferable that any decrease in the price of a mobile termination service is passed on to end-users in the form of lower fixed-to-mobile retail prices. [338]

The Commission does not agree with the view expressed by Vodafone that declaration is unlikely to promote competition because it would merely lower an input cost. Firstly, this is because declaration of the MTAS enables access seekers to gain access to essential inputs where vertically-integrated carriers might otherwise have an incentive to deny access. Further, by lowering the price of the MTAS towards its underlying cost of production, declaration removes the ability of vertically-integrated carriers to raise the costs of rival fixed-only providers of FTM services above that which they themselves face when terminating FTM calls on their mobile networks. Hence, declaration, combined with an appropriate pricing principle, should allow current and prospective FTM providers to buy this input at prices that are more cost reflective. This goes beyond merely lowering an input cost and is likely to promote competition in the market within which FTM services are provided.

In relation to Optus's and Telstra's comments that they have no incentive to engage in price-squeeze behaviour, the Commission notes that where a vertically-integrated carrier has the capacity to raise its rivals' costs above those it faces itself, price-squeeze behaviour can be a profitable long-term strategy. This is because a firm can engage in a price-squeeze where prices in downstream markets are set above their underlying cost of production, but below the cost (including above-cost access prices) that an access seeker faces in order to provide services in downstream markets.[339]

Furthermore, even if price-squeeze behaviour cannot be proven to be occurring at present, the threat of future price-squeeze behaviour could be sufficient to deter entry into the market within which FTM services are provided.

The Commission also disagrees with Optus' submission that any rents from the MTAS are likely to be competed away in the retail mobiles market, such that it could not profitably engage in price-squeeze behaviour. As discussed in section 4.3.3 of this report, the Commission takes the view that the retail mobiles market is not effectively competitive at this point in time. Consequently there is some scope for the retention of profit in this market.

In relation to the suggestion that the Commission's powers under Parts IV or XIB are more appropriate legislative instruments for redressing price-squeeze or other analogous behaviour, the Commission notes that it has been provided with both regulatory and enforcement powers in relation to telecommunications services. This reflects the view that either (or both) of these instruments might be appropriate to address issues of entrenched market power in telecommunications markets. Crucially however, whilst Part XIB can be used to prevent anti-competitive conduct, the Commission believes the use of Part XIC is more appropriate in this instance as it will 'promote' competition both now and in the future.

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[338] ACCC, *Discussion Paper on Mobile Services Review*, April 2003, pp. 42-43.

[339] For instance, as shown in section 4.3, the underlying cost of providing a FTM call minute can be estimated conservatively at between 10 and 17 cpm. However, the input cost faced by an access seeker for an off-net call is roughly 27.5 cpm on average. Hence, even on conservative measures of the cost of a FTM call minute, a vertically-integrated carrier could profitably set the price of on-net calls at between 17 and 27.5 cpm, and profitably sustain this price in the long term.

Commission view on pass-through

In the Draft Report, the Commission indicated it had analysed whether pass-through has been occurring for the period 1997-98 to 2002-03 using a variety of data sources such as Telstra's Annual Reports, reports submitted to the Commission under the Regulatory Accounting Framework (RAF) requirements and the database for the Commission's Division 12 reports. Based on this analysis, the Commission has concluded that:

- Partial pass-through has occurred when considered over the whole period under analysis. This appears to be in accord with economic theory which suggests that only partial pass-through is likely to occur where there is less than effective competition in downstream markets;

- FTM pass-through appears to have declined in the most recent period of analysis. However, this coincides with a period of only minor reductions in the price of the MTAS; and

- While Telstra's average per-minute retail price for FTM calls has partially decreased in line with reductions in termination charges, there is some evidence that not all categories of end-users have enjoyed the same extent of pass-through. In particular, price reductions have been more pronounced for on-net FTM calls in the corporate segment of the market.

In its Draft Decision, the Commission considered that partial pass-through of MTAS price reductions could be expected in the short term. However, over the longer term, reducing MTAS prices should improve competition in the market within which FTM services are provided, leading to a closer association of FTM prices with their underlying cost of provision. Given the price of FTM services appears to be further above cost in absolute terms than the price of the MTAS, this would mean the price of FTM calls may fall by more than the cost over the MTAS in the long term.

However, even if pass-through is not complete, this does not mean competition will not be promoted in the market within which FTM services are provided.

The Discussion Paper of April 2003 makes clear that the Commission is aiming to put in place the preconditions for increased competition to provide FTM services. This would be the case even if such an increase pass-through did not occur, or alternatively only occurred with a significant time lag. Declaration, combined with an appropriate pricing principle, is likely to promote competition to provide FTM services by engendering a situation where any provider of FTM services, either a market incumbent or a new entrant, will be in a position where they can obtain access to origination, transmission and termination services at cost-reflective prices. This should provide the opportunity for resellers of FTM services, as well as existing (and potentially new) carriers, to provide FTM services at well below prevailing prices. This would represent an improvement in the necessary preconditions for competition.

Further, actual improvements in competition might emerge in a range of other ways, including price reductions in limited segments of the market to provide FTM services. Alternatively, price reductions may be passed-through in the form of lower prices for

other services provided in the market within which FTM services are provided (for example, prices for NLD or IDD call services). Finally, improved competition may alternatively manifest itself in the form of improved quality of service rather than 100 per cent pass-through of price reductions for FTM call services. Furthermore, the full extent of improvements in competition might not occur until MTAS prices have fallen to a level that approximates their underlying cost of provision.

With regard to concerns raised by some parties in relation to the possibility of anti-competitive price discrimination in the market within which FTM services are provided, the Commission notes that price discrimination is not necessarily anti-competitive conduct and is no longer a *per se* breach of the Act. This is because there can be legitimate economic reasons for price discrimination such as to better reflect lower costs in different markets or segments of markets. However, it is also possible that price discrimination could be used in an anti-competitive way. In this regard, the Commission accepts it is possible that vertically-integrated carriers could take advantage of their position by not passing through in full, and uniformly, decreases in termination charges in a way that enables them to target particular sectors of markets – such as the corporate sector of the market – with an anti-competitive effect.

This is not to say, however, that the Commission should not declare the MTAS. By eliminating the ability of vertically-integrated carriers to raise the costs of their rivals, declaration, accompanied with appropriate pricing principles, can help generate greater competition in the FTM market that might help to counteract any market power a firm engaging in anti-competitive conduct might have. That is, as is well recognised, declaration is but one of the regulatory tools available to the Commission that can be used in concert to ensure more competitive outcomes in telecommunications markets. While declaration can help erode market power over time, allegations of anti-competitive price discrimination would still need to be considered under the anti-competitive conduct provisions of Part XIB of the Act. The Commission does not believe that declaration of the MTAS will inhibit price discrimination where it is in the LTIE.

The Commission also notes concerns raised by Hutchison with regard to the possibility of below-cost pricing of FTM services by vertically-integrated carriers in the corporate market being bundled with mobile plans with anti-competitive effect in the retail mobile service market. The Commission notes that bundling can be pro-competitive or anti-competitive. Whether or not this particular behaviour is anti-competitive requires separate, case-by-case, consideration under Part XIB of the Act. In this regard, the Commission notes it is conducting continuing work on pricing practices in the corporate sector of the market and that this behaviour should be considered in this context.

Evidence of anti-competitive bundling of FTM services with other services should not, however, be seen to diminish the case for declaration of the MTAS. Rather, it should strengthen the case for declaration as it would help reduce market power in the market within which FTM services are provided such that anti-competitive conduct is less likely to occur.

In relation to arguments that Telstra stands to gain a significant windfall from declared MTAS price reductions, the Commission notes that this consideration is not

directly relevant to any of the coverage criteria. Furthermore, if MTAS price reductions stimulate competition to provide FTM services, this would be expected to lead Telstra to fully pass-through any cost reductions, as indicated above, and might lead to the average price of FTM call minutes decreasing by more than the per minute reduction in the price of the MTAS. This would erode or even remove any windfall accruing to Telstra, and, by analogy, to other vertically-integrated carriers. Furthermore, if rival FTM carriers are able to reduce Telstra's share of the market within which FTM services are provided, this would also reduce any windfall from lower termination prices.

In relation to AAPT's comment that a non-dominant carrier might not be inclined to pass-through cost reductions unless its stronger rivals chose to do so, the Commission reiterates its view that pass-through may take time to emerge in full, might be stimulated by new entrants rather than incumbents, and might appear in the form of reductions to other fixed-line services such as NLD and IDD calls. However, this does not militate against declaration or accompanying steps to reduce MTAS prices.

In relation to the assertion by Hutchison Telecommunications that most FTM calls not carried by Telstra represent end-to-end resale of Telstra services, market inquiries conducted by the Commission indicate this is not the case. In any case, even if it were true, FTM 'resellers' might choose to purchase a wholesale end-to-end service from Telstra's competitors, should they lower their charges for wholesale end-to-end services as a result of changes in the price of the MTAS. In other words, pressure would be applied to Telstra to pass-through decreases in the price of the MTAS to its wholesale purchasers of end-to-end FTM calls if its competitors chose to pass-through lower input costs of the MTAS.

Chapter Nine on implementation of pricing principles considers a number of measures that could be undertaken to improve the degree of FTM pass-through in the short term while competitive influences in the market improve.

4.4.3 The impact of declaration on the market within which retail mobile services are provided

The Commission believes that, while the retail mobile services market is exhibiting more encouraging market outcomes than the markets for fixed-line telecommunications services, it is unlikely to be effectively competitive as yet. This is because there continues to be a high level of concentration at the carrier network level (where the combined share of Telstra, Optus and Vodafone is approximately 97 per cent of the market); barriers to effective entry into the market (associated with national coverage and sunk costs) remain high; and established mobile operators (and in particular Telstra and Optus) appear to be earning profits well in excess of those the Commission would expect in competitive markets for these services. In addition to this, the Commission notes that reductions in the prices paid for retail mobile services appear to have slowed in recent years, with some indication that prices appear to have increased, on average, during the 2002-03 financial year.

Despite this, the Commission expects the greatest competitive benefit from continued declaration of the service is likely to occur in the market within which FTM services

are provided. That said, the Commission expects that declaration has the potential to help promote competition in the retail mobile services market to the extent it serves to overcome the ability established mobile operators might have to frustrate new entrants interconnecting with established networks on reasonable terms and conditions. This issue is discussed in more detail in Chapter Five. The Commission also believes that declaration of the MTAS will lead to a more efficient use of and investment in the infrastructure used to provide retail mobile services. This is discussed in detail in Chapters Six and Seven.

Will declaration have disproportionate effects on MNOs?

Whilst declaration may be expected to put in place pre-conditions that help to promote competition in the retail mobile services market, the Commission recognises that declaration is likely to affect different mobile operators in different ways. In this regard, the Commission has considered arguments that substantial reductions in the price of the MTAS might weaken the competitive position of mobile-only operators as compared to vertically-integrated fixed and mobile operators.

One argument raised during the course of this inquiry is that non-integrated mobile operators will be disadvantaged over others as a result of any decision to lower mobile termination prices. This is premised on assumptions that vertically-integrated operators will not pass reductions in termination rates paid to MNOs for FTM calls through to their FTM consumers. Putting aside the issue of whether pass-through will or will not occur (this is addressed in other parts of this report), it is not clear how this will harm competition in the retail mobile services market. It could only harm competition if the vertically-integrated operator transfers the money it saves in its fixed-line operations, from lower termination charges paid to other operators, to (further) subsidise its retail mobile operations. Two points should be made about this:

- It is not clear that a vertically-integrated operator would seek to transfer any cost savings from its fixed-line business to its mobile business. Instead, it may choose to use these cost savings to make its fixed-line business more competitive. This would especially be the case if its fixed-line only competitors pass on, in full, reductions in the price of the MTAS; and

- It is quite possible that Telstra, at least, already earns economic profits across its fixed-line business. Parties to this review have differing views on whether Telstra is currently transferring these to subsidise its mobile business in a way that hinders the effectiveness of competition in its retail mobile operations. For instance, Vodafone argues that the retail mobile services market is effectively competitive. If this were true, it is unclear why Telstra (or any other vertically-integrated operator earning above economic profits) would start using rents from its fixed-line business, following this decision, to begin hindering competition in the retail mobile market if presently it has chosen not to do so.

That said, the Commission notes concerns raised by Hutchison that it is unable to compete with vertically-integrated carriers in the provision of retail mobile services to corporate customers due to potentially anti-competitive bundling of FTM and retail mobile services.

As indicated above, however, the Commission believes the potential for any such anti-competitive bundling behaviour will be reduced as declaration promotes the level of competition within the market within which FTM services are provided.

In general, and as indicated earlier in this Chapter, the Commission believes that all mobile operators have the ability to raise the price of the MTAS above its underlying cost of production, and that this enables them to earn economic profits when providing this service. Accordingly, all mobile operators are likely to experience reduced economic profit from the provision of MTASs if a pricing principle is established that generates a closer association of prices and cost for the service.

Whether or not particular mobile operators will suffer a proportionately larger reduction in overall revenues is, however, less clear. On the one hand, the Commission believes that mobile-only operators may, in the short-term, experience a relatively larger proportionate reduction in revenues from MTASs than vertically-integrated operators will experience across the combination of mobile termination and FTM services, if FTM pass-through is incomplete. On the other hand, however, the Commission notes that declaration of the MTAS should, by improving the state of competition in the market within which FTM services are provided, help to ensure the level of FTM pass-through increases over time. Further, as competition in the market within which FTM services are provided improves, it is possible that reductions in the price of the MTAS could lead to even greater absolute reductions in the price of FTM call minutes. That is, at present, the extent of the absolute divergence between price and underlying cost is greater for FTM call minutes than it is for mobile termination call minutes. Hence, as competition in the market within which FTM services are provided becomes more intense, it is possible that reductions in the price of MTASs could lead to even greater reductions in the price of FTM call minutes than that flowing from pass-through *per se*. Such an outcome would lead to the combined mobile termination and FTM revenues of vertically-integrated operators reducing by relatively more than the mobile termination revenues of mobile-only operators. Accordingly, the relative impact of continued declaration on mobile-only and vertically-integrated fixed and mobile operators is uncertain and heavily dependent on the extent of FTM pass-through and the enhancement of competition in the retail FTM market.

Further, the overall profitability of mobile operators is affected by a number of factors other than simply the revenue they receive from the MTAS. Accordingly, the profitability of MNOs will depend on a number of factors in addition to regulation of MTAS, including:

- the extent to which reductions in the price of the MTAS are offset by any changes to the price of retail mobile services;[340] and
- the growth of other sources of revenue for MNOs, such as data, messaging and international roaming services.

The Commission notes that whilst revenue from termination of voice services on mobile networks is a significant component of the overall revenue of MNOs, its importance is expected to gradually decline into the future. This is supported by recent observations that the revenue growth of data, messaging and other value-added services for mobile operators appears to be exceeding that from mobile termination services. For example, Telstra's annual reports indicate that revenues from these sources grew by 94 per cent from $339 million to $657 million over the two years from 2000-01 to 2002-03, while the Commission's Regulatory Accounting Framework (RAF) data indicate revenues from termination and origination increased by a substantially smaller amount over the same period. The Commission also notes that the revenue Telstra earns from data and other value-added services from its mobile business alone is now substantially greater than that which it earns from the mobile termination and origination services. While the Commission does not have access to comparable figures for Vodafone, information available to it suggests that, although Vodafone is more heavily reliant on wholesale revenues than Telstra, a similar pattern of revenue change would have occurred**.** Further, the Commission notes that ATUG argues that regulation of mobile termination in Europe has seen the introduction of innovative products such as mobile data and 3G technologies to replace lost revenues.[341]

More importantly, the Commission notes that, while the MTAS continues to be priced above its underlying cost of production (as will be the case for some time yet under the Commission's new pricing principle), the service should continue to be a source of economic profit for mobile operators. This is especially the case given reductions in the price of the MTAS should lead to an increase in demand for the service and a consequent reduction in the unit costs of providing the service as economies of scale are generated.

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[340] That is, mobile operators may, depending on the state of competition in the retail mobile services market, seek to recover some of these lost profits by raising the price of some retail mobile services. The Commission notes, however, that market inquiries reveal this has not, to date, been the general response of UK mobile operators to the first round of regulated reductions in the price of the mobile termination service in 2003. Indeed, market inquiries indicate that the introduction of 3G mobile services in the UK has created competitive pressures that have led 2G mobile operators to absorb decreases in mobile termination service prices without consequent increases in the price of retail mobile services. It remains to be seen whether mobile operators in the UK continue with this practice as additional scheduled reductions in the price of the mobile termination service are implemented.

[341] ATUG, *Comments on the Draft Decision on Mobile Terminating Access Services*, May 2004.

Will declaration raise prices for retail mobile services and decrease competition in the retail mobile services market?

In response to the views of Frontier Economics, Optus and CRA regarding the impacts of declaration on the price of retail mobile services, the Commission believes it is unclear to what extent (if any) reductions in mobile termination rates will necessarily lead to increases in prices for retail mobile services. If, as the Commission believes, the mobile industry is returning economic profits, then reductions in termination rates may be absorbed within overall economic profits such that the price of mobile services need not rise. Indeed, Virgin Mobile has indicated that increasing the cost of retail mobile calls originating on its network is not a viable alternative.[342]

Further, the Commission notes that references to UK observations are incomplete in nature.[343] Specifically:

- Observations of reduced overall mobile penetration rates from 75 per cent to 73 per cent between May and August 2003 following the introduction of lower termination prices in the UK are qualified by Oftel (now OfCom), which notes that 'the apparent fall in the proportion that personally own or use a mobile is within the survey's error margins, [and] hence has remained stable for 9 months';[344]

- A more recent report released by Ofcom (on 28 April this year) shows penetration rates *increased* in the following period from August to November 2003, with the overall mobile penetration rate returning to 75 per cent;[345]

- Ofcom's April report also notes there has been a 'combination of growing usage, growing penetration and yet (recently) relatively flat prices…[resulting]… in a steady increase in consumer spend on mobile;[346] and

- Finally, mobile termination rates have been steadily declining in the UK since Oftel began regulating this service in 1998. Since this time, however, mobile penetration rates have increased steadily from slightly greater than 40 per cent in January 2000 to recent observations of 75 per cent in November 2003.[347]

Hence, the evidence does not seem to support the claims of MNOs that reductions in mobile termination rates have led to reductions in mobile subscriptions in the UK, when considered over the long-term. References made by CRA to the period from May to October 2003 seem to be an anomaly in a long-term trend of increasing mobile penetration rates while termination rates have fallen.

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[342] Virgin Mobile, *Non-Confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, p.4.
[343] See Charles River Associates, *The Use of Benchmarking in Regulating Mobile Termination Rates*, report for Optus, 28 May 2004, p.5.
[344] Oftel, *Consumers' Use of Mobile Telephony Q14 August 2003*, October 2003, p. 6.
[345] Ofcom, *Strategic Review of Telecommunications Phase 1 Consultation, Annex H*, 28 April 2004, see Figure 16.
[346] *Ibid,* paragraph H.33.
[347] *Ibid,* see Figure 16.

While observations of the supply of mobile services in the UK may differ from those that can be expected in Australia, the Commission considers it is unclear that reduced termination rates will necessarily be followed by increased prices for retail mobile services and hence lower levels of mobile subscription. This has certainly not been the historical trend in Australia. In this regard, the Commission also notes that information provided by MNOs and the Commission's Division 12 reports show no correlation between reductions in MTAS prices and increases in the price of retail mobile services during recent years. For instance, evidence shows strong reductions in retail mobile prices and rises in mobile subscription levels since MTAS prices began falling after the commencement of the telecommunications access regime. However, even if rates do increase, the latest observations from the UK show it is unlikely to have a significant impact on mobile subscription levels.

Finally, the Commission is not persuaded by Allphones' argument that declaration of, and a decrease in the price for, the MTAS will lead to lower margins for MNOs that will flow on to the distribution channels for retail mobile services and so diminish the level of competition in the retail mobile services market.

4.4.4 Conclusion

Continued declaration, combined with a pricing principle that saw a closer alignment of mobile termination charges with underlying cost would therefore be likely to result in:

- the removal of the ability of vertically-integrated carriers raise the input costs of rival fixed-line only operators above that which they face for terminating calls on their own networks;
- improved competition in the provision of FTM (and possibly NLD and IDD) services;
- pressures for greater FTM 'pass-through' over time;
- a gradual reduction in the potential for anti-competitive conduct arising out of the market power some providers appear to have in the market within which FTM services are provided; and
- limited impact on the level of competition in the market within which retail mobile services are provided.

Accordingly, the Commission is of the view that declaration of the MTAS is likely to promote competition in telecommunications markets.

5. Will declaration achieve any-to-any connectivity?

Any-to-any connectivity enables end-users to communicate with each other, irrespective of the network to which they are connected.

When the MTAS was deemed to be declared in 1997, the Commission considered that declaration was necessary for the purpose of achieving the objective of any-to-any connectivity. The Commission determined declaration was necessary to ensure that mobile network operators would provide termination for all calls made to their network, including those originating from other operators.

5.1 Views of interested parties

5.1.1 Responses to Discussion Paper

Submissions to this Review express differing views as to whether declaration of a MTAS is necessary to achieve the objective of any-to-any connectivity.

Hutchison and AAPT argue that declaration of a MTAS is necessary to achieve any-to-any connectivity. These industry participants believe that, in the absence of declaration, large mobile network operators will have an incentive to refuse to provide termination services to smaller operators, and potential new entrants, to inhibit or prevent competition against them.

Hutchison also believes that extending the service description to include new technologies used to provide voice termination on mobile networks would assist in achieving the objective of any-to-any connectivity.

The CCC and the ACA consider that declaration is still necessary to achieve any-to-any connectivity between operators and to ensure access to networks is on reasonable terms and conditions.

Vodafone and Optus both argue that competition within the mobile services market is sufficient to ensure any-to-any connectivity in the absence of declaration.

5.1.2 Responses to Draft Report

In response to the Draft Report, Vodafone argued that declaration is not necessary on the basis of promoting any-to-any connectivity as transit arrangements exist to allow new entrants and smaller mobile operators to access the termination services of all mobile carriers. Vodafone states that:

> … it is highly unlikely that a new entrant would be refused access by all carriers. Once a new entrant has negotiated an access agreement with one carrier, transiting arrangements mean they have access to all carriers.

> … there would be no reason for an existing carrier to refuse to interconnect with a new entrant once the new entrant had negotiated an arrangement with one established carrier; and
>
> … Vodafone is not aware of any access disputes between existing and new entrants in relation to mobile to mobile termination.[348]

5.2 Commission view

The Commission considers that the question of whether operators would provide access to the MTAS in the absence of declaration applies equally to termination services on 2G, 2.5G and 3G networks.

Subscribers to a mobile service expect to be able to call any other subscriber to a mobile (or fixed-line) service, regardless of which network each subscriber is directly connected to. Market research indicates that in many (if not most) cases, a calling party will not know which network the person called is connected to.

Where there are a number of established mobile operators with substantial subscriber numbers, each operator will have an incentive to reach an interconnect agreement with every other operator, in order to:

- gain revenue from termination charges levied on the operator of the originating network; and
- attract and maintain a subscriber base by allowing for calls to and from subscribers on all other networks.

Accordingly, the Commission considers that market forces are generally such that mobile operators will enter into agreements allowing termination of voice calls on their networks in the absence of declaration.

However, where a new operator enters the market, the incentives for the established operators to interconnect with the new operator may be insufficient to ensure any-to-any connectivity. In this situation, the incentives for established operators and a new entrant are likely to differ markedly.

5.2.1 Established operators

For established operators, the need to purchase termination services from a new entrant is unlikely to be imperative. This is because a new entrant will have only a small number of subscribers upon first entering the market. In these circumstances, lack of access to this relatively small number of subscribers is unlikely to affect the attractiveness of subscription to the established operators' networks. Accordingly, the established mobile operators may have an incentive to refrain from purchasing termination services from the new entrant in order to restrict competition by rendering

[348] Vodafone, *Supplementary Submission to the ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004, p.4. See also Vodafone, *Response to the ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, p.32.

the new entrant's subscription package relatively unmarketable[349] and restricting the new entrant's revenue base (from termination charges). Even if established operators do seek termination services from a new entrant, they may have a strong incentive to impose onerous terms and conditions upon such acquisition. For example, they may require supply to be made using unnecessary and expensive network elements. The imposition of such onerous terms and conditions, particularly ones that significantly increase the costs for the new entrant, will make it difficult for the entrant to participate and compete effectively in the market.

Similarly, by refusing to provide termination services to a new entrant, an established operator can inhibit, if not prevent, competition, by restricting the attractiveness of the new entrant's subscription package. As noted above, subscribers expect to be able to contact all other mobile subscribers regardless of network. If an operator cannot offer the ability to call subscribers on other networks, then potential customers are unlikely to subscribe to the new operator. This is particularly so in the case of new entrants, when most calls made on the new operator's network are likely to be to subscribers to the established operators' networks. Again, even if an established operator provides termination services to the new entrant, it may have an incentive to impose onerous terms and conditions on the access seeker. The imposition of such terms and conditions would be likely to increase the costs and/or decrease the attractiveness of the new entrant's subscription package.

Accordingly, the established operators may refuse to provide termination services, or to provide termination services on reasonable terms and conditions, to new entrants in order to restrict a potential competitor's ability to gain market share, and to prevent the loss of subscribers. These incentives are most likely to exist in the provision of MTASs for calls that have originated on mobile telephony networks.

This practice is also likely to be more attractive to established operators in mature markets where the entry of a new operator is unlikely to result in an increase in demand for the established operators' termination services. In mature markets, it is likely that successful entry of a new market participant will be at the expense of the market shares of the established operators, as the participation rate remains steady and a new entrant increases competition for the same consumer group.

5.2.2 New Entrant

In contrast to the established operators, there are strong incentives for a new entrant to both obtain termination services from, and provide termination services to, the established operators.

Firstly, as discussed above, if an operator is unable to offer the ability to call all (or even most) mobile subscribers, consumers are unlikely to subscribe to that operator's network. Therefore, in order to gain subscribers and so enter the market, a new entrant must reach agreement with each established operator for the provision of termination services to the new entrant.

[349] If established operators do not acquire termination services from a new entrant then the new entrant will be unable to offer potential subscribers the ability to receive calls from subscribers on other networks.

Secondly, consumers are unlikely to subscribe to a network that allows them only to make and not to receive calls. Therefore, in order to attract significant numbers of subscribers, a new entrant will need the established operators to purchase termination services from it in order to be a viable operation.

Further, in a market where each network owner has control over access to its subscribers, the provision of termination services is likely to be a significant source of revenue for each operator. Due to each operator's control over access to termination on its network, mobile operators are likely to set the price for mobile termination services in excess of the cost of providing these services, in the absence of declaration. This allows each operator to earn economic profits from the supply of mobile termination services. In such a market, participants may have an incentive to transfer some (but probably not all) of these economic profits into handset and other subsidies in order attract more subscribers.[350] Accordingly, a new entrant will want to supply termination services to the established operators. Without the economic profits, from providing termination services, that are likely to arise in the absence of declaration, a new entrant will be constrained in its ability to subsidise subscription and therefore will be unable to compete effectively in the retail mobile services market.[351]

Whilst Vodafone's argument that connectivity can be, and is, achieved through transit arrangements may be correct, the Commission notes that such an arrangement may inhibit competition (by raising the price access seekers must pay to achieve termination) and distort usage of telecommunications infrastructure by forcing mobile operators to re-route traffic through another MNO's network. Transit arrangements can raise the input costs of the MNO acquiring transit services, which in turn affects the prices paid by consumers for MTM calls, leading to reduced consumption and allocative inefficiency. Therefore, even if transit agreements can overcome any-to-any connectivity concerns, such a solution is not likely to be in the LTIE.

5.3 Conclusion

The Commission considers that declaration of a MTAS prevents new entrants and small operators being refused access to the mobile termination services of other operators.

The Commission, therefore, considers that the achievement of the object of any-to-any connectivity is promoted by declaration.

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[350] The Commission considers the extent to which economic profit from above-cost termination service prices is used to subsidise subscription to mobile networks in further detail in Chapter Six.

[351] For the sake of clarity, the Commission emphasises that although it recognises that in the absence of declaration, a new entrant may need high termination rates to be able to compete effectively with incumbent operators who already operate in the retail mobile services market, this should not be taken to mean the Commission believes pricing of termination services above the underlying cost of production is appropriate or, in the absence of declaration, in the LTIE. As indicated in Chapters Four, Six and Seven, such a pricing structure will inhibit the development of competition in the telecommunications markets and generate an inefficient use of, and investment in, the infrastructure by which telecommunications services are provided.

The Commission accepts Hutchison's argument that the refusal to acquire termination services from a competitor may be an effective strategy to deter entry or prevent effective competition in the retail mobile services market. Whilst the Commission does not have the power to declare that an operator must *acquire* a declared service, the Commission notes that this problem has not been raised by interested parties in the context of its consideration of whether the GSM and CDMA mobile originating access service declaration should be broadened to include origination of all calls on mobile networks.[352] Further, the Commission notes that a universal service obligation (USO) provider is required to interconnect with all telecommunications networks that provide similar services, as a consequence of the connectivity test in the definition of the standard telephone service contained in the *Telecommunications (Consumer Protection and Services Standards) Act 1999*.[353] This requirement may operate to limit the ability of a larger operator providing the USO (currently Telstra) to refuse to acquire a MTAS from smaller operators.

[352] See ACCC, *Mobile Originating Access Service, Final Decision*, June 2004.
[353] See subsection 6(2).

6. Will declaration encourage economically efficient use of infrastructure?

As discussed in Chapter Two of this report, when deciding whether declaration of a service will be in the LTIE, the Commission is required to consider whether declaration would be likely to encourage the economically efficient use of infrastructure. In considering this question, the Commission is mindful that such consideration must be made in an environment where the MTAS is already declared. Hence, the Commission addresses this issue from the perspective of considering the likely consequences of continued or varied declaration as opposed to those that would be likely to emerge if declaration were revoked.

As indicated in Chapter Two, the Commission considers that efficiency has three major components – allocative, productive and dynamic. In general, each of these forms of efficiency is enhanced when the prices of given services reflect the costs of providing these services. In more competitive markets, service providers have a greater incentive to lower prices in order to win market share. Accordingly, this incentive helps push prices towards costs, and thereby improves the efficient use of resources, and therefore infrastructure.

Where declaration is likely to promote competition in markets for carriage services or services provided by means of carriage services, the Commission's competition analysis will generally help it to form a view about the impact of declaration on efficiency. For instance, where the Commission finds that declaration can lead to greater competition in downstream markets by helping to ensure prices for the eligible service better reflect their efficient costs of provision, it is likely such declaration will also help promote efficiency in use of telecommunications services. By enabling greater competition in downstream markets, declaration would be expected to improve productive and dynamic efficiency in these markets by giving service providers the incentive to find lower-cost means of producing goods and services in downstream markets, and by encouraging them to invest and innovate in ways that will ensure they produce goods and services of a chosen quality at the lowest possible cost in the future. Further, the Commission would expect allocative efficiency to be improved as it would be more likely that the final prices paid for retail services by end-users will better reflect the efficient costs of provision of these services. In the language of subsection 152AB(2)(e), declaration will be expected to result in the more efficient use of infrastructure used to supply the eligible service. Conversely, a decision not to declare would – on this reasoning – lead to less competition in downstream markets and a less efficient outcome.

A clear implication of this, therefore, is that the level of costs (inclusive of a normal profit) is important in determining whether declaration will lead to a more efficient use of infrastructure. The comparison of costs to prices, and the impact declaration will have on any difference between the two, is a key consideration in whether declaration will lead to a more efficient use of infrastructure.

In addition to this, however, the competitive dynamics associated with a given market structure are also of relevance to considerations of the efficient use of telecommunications infrastructure. In particular, it is important to consider the

overall structure of prices across a range of inter-related services when considering whether a particular pricing structure is economically efficient or not, rather than focusing narrowly on the inter-relationship between prices and costs for individual services such as the MTAS alone.

Further, a particular feature of network industries is that networks tend to be more valuable to those subscribed to them as the number of subscribers increases. This gives rise to a form of network externality in that the benefits of network subscription may be broader than simply the private benefits individuals enjoy from subscribing to a network. Consideration of the relevance of such network externalities may suggest, under certain circumstances, that the efficient use of telecommunications infrastructure requires a disassociation of the price and cost of the eligible service.

Similarly, it is often argued that the making of a call provides benefits to two parties. However, given only one party pays for the call (generally the person making the call), it is sometimes argued that the person making the call does not take into account the benefit they provide to those receiving a call when deciding whether to make one. In this instance, it can be argued that pricing the making of a call below cost might help internalise any 'call externality' generated for the recipient of a call.

Another feature of telecommunications networks is that there can be a number of common shared costs associated with the provision of the eligible service and other telecommunications services. For instance, it is likely that there are a number of common costs associated with the provision of mobile termination and other mobile retail services such as the production of outgoing MTM and MTF calls to end-users. Consideration of the existence of – and need for a carrier to recover − such common costs may, under certain circumstances, give rise to arguments that the efficient use of telecommunications infrastructure is better promoted where the price of the eligible service is set at a level different from its total service long-run incremental costs (TSLRIC) of production.

Finally, in considering the impact of declaration of a service on the efficient use of telecommunications infrastructure, the Act also requires the Commission to consider whether it is 'technically feasible' to supply and charge for the eligible service when determining whether declaration would encourage the efficient use of infrastructure. In this regard, the Commission must particularly consider:

- whether supply is feasible in an engineering sense (i.e. having regard to the technology that is in use or available);
- the costs of supply and whether the costs are reasonable; and
- the effects, or likely effects, of supply on the operation or performance of telecommunications networks.

Given the MTAS has been declared and provided since 1997, the Commission believes it is technically feasible to provide this service.

6.1 Views of interested parties

Interested parties to this inquiry are divided on whether they would expect an efficient use of telecommunications infrastructure in the absence of declaration of the MTAS. Some of the views of those who believe declaration is likely to encourage an efficient use of infrastructure and those that believe it will not are addressed in turn below.

6.1.1 Arguments that declaration is likely to encourage an efficient use of telecommunications infrastructure

A number of parties submitted during the inquiry that they believed continued declaration of a MTAS would be likely to encourage a more efficient use of telecommunications infrastructure because, as indicated in Chapter Four of this report, they believe the existing price of the service is well above its underlying cost of production. In turn, these parties believe this leads to inefficiently high prices for calls to mobile networks and an efficiently low level of consumption of these services. These parties appear to believe that this situation would persist in the absence of declaration. For instance, in its submission to the Discussion Paper, AAPT argues that:

> Allocative efficiency is achieved when prices of resources reflect their underlying costs… As the Commission noted in its *2001 Report*, prior to the development of any pricing principles for termination services, these services were supplied at prices that were greater than cost. Termination charges continue to be greater than cost due to the ineffectiveness of the pricing methodology adopted in the *2001 Report*.[354]

Similarly, MCI argues in its submission to the Discussion Paper that:

> Unnecessarily high mobile termination rates depress demand for fixed to mobile calls. Consumers make fewer fixed-to-mobile calls and talk for shorter periods when they do make fixed-to-mobile calls. Such economic inefficiency reduces the utility of mobile phones by discouraging consumers from taking advantage of the opportunity to reach mobile phone subscribers wherever they are located. Bringing fixed-to-mobile termination rates in line with costs would unlock natural demand for fixed-to-mobile calls and fully maximize the utility of mobile networks.[355]

The CCC also argues that declaration of a mobile MTAS is necessary to ensure a closer alignment of the price of the service with its underlying cost of production. The CCC believes this would, in turn:

> … have the flow through effect of more efficient prices for mobile calls. The consequence of this would be that the relative use of mobile network infrastructure (higher cost) to fixed network infrastructure (lower cost) would be determined on the basis of incurred costs, rather than the cost assignments that currently prevail.[356]

To the extent that some of the proceeds from above-cost pricing of the MTAS were likely to be used to subsidise subscription to mobile telephony networks, some parties

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[354] AAPT, *Mobile Services Review 2003, Submission by AAPT*, 13 June 2003, p. 32.
[355] MCI, *Comments of MCI Regarding the Australian Competition and Consumer Commission Discussion Paper on Mobile Services Review 2003*, 13 June 2003, p. 10.
[356] Competitive Carriers Coalition (CCC), *Submission to the ACCC Mobile Services Review 2003*, June 2003, p. 29.

argue that this leads to inefficiently high levels of subscription to mobile networks. In this regard, AAPT argues that:

> This cross-subsidisation leads to inefficiently low levels of fixed-to-mobile calls and inefficiently high levels of mobile subscribership. Associated with this is a productive inefficiency as customers have incentives to us[e] high-cost mobile technology in place of low-cost fixed telephony.[357]

Further, AAPT argues that this inefficient structure of prices will result even if the mobile services market is effectively competitive. AAPT argues this is because:

> … they result from inefficient cross-subsidisation between various services within the mobile services market, rather than the aggregate price level for mobile services.[358]

In its response to the Draft Report, AAPT supported the Commission's reasoning with respect to allocative efficiency losses from the existing pricing structure and its case for a cost-based price.[359]

Parties in favour of declaration tended to rely on observations of the price of the MTAS being well in excess of their estimates of its costs of production, and that this in turn distorts consumers' consumption decisions with regard to FTM and retail mobile services. No party presented any formal quantification or modelling of the loss in economic efficiency that currently exists as a result of perceived distortions to the pricing structure of the mobile termination and retail mobile services. Further, none of these parties attempted to estimate the size of the benefits they expected to see generated by continued declaration of a MTAS. Finally, no party considered the possibility that not declaring could lead to an even less efficient outcome than present.

6.1.2 Arguments that declaration is not likely to encourage an efficient use of telecommunications infrastructure

Those opposed to declaration provide a varied collection of arguments to support their beliefs. In the first instance, some of the larger mobile carriers argue that they are subject to strong competitive forces that ensure they make no economic profit across the whole of their mobile business. For instance, Optus claims that:

> The Australian mobile industry as a whole is not earning excess profits. While Telstra and Optus run profitable mobile businesses in accounting terms, other players in the industry do not.[360]

Further, it argues that:

> … competition is effective and monopoly margins cannot be maintained …[361]

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[357] AAPT, *op. cit.,* p. 33.
[358] AAPT, *op. cit.,* p. 34.
[359] AAPT, *Submission by AAPT Limited in Response to the Australian Competition & Consumer Commission's Draft Decision on the Mobile Services Review: Mobile Terminating Access Service*, 30 April 2004, p. 4.
[360] Optus, *Submission to Australian Competition and Consumer Commission on Mobile Services*, June 2003, p. 18.
[361] *Ibid.*, p. 52.

Similarly, Telstra claims:

> … the markets in which mobile services are provided are competitive … [and] providers [are] not in a position to earn monopoly rents.[362]

Further, Frontier Economics (on behalf of Vodafone) cautions that:

> … before the ACCC made any finding that there was a real problem caused by the absence of competition, they should satisfy themselves that rates of return … look substantially higher than the costs of shareholders funds. [363]

In its response to the Discussion Paper, however, MCI asserts, with reference to papers by JPMorgan and Salomon Smith Barney that:

> … evidence gathered by different Financial Analysts indicates that the MNOs [mobile network operators] are earning supra-normal profits.[364]

The claimed absence of economic profits translates to claims that any enforced price reductions as a result of continued declaration of the MTAS will have to be counteracted by price increases for other services provided by mobile network operators. This claim is usually made in the context of reductions in the FTM termination charge needing to be compensated by increases in prices for retail mobile services (i.e. upfront fees, monthly access charges, outgoing call charges, removal of handset subsidies etc.). In this regard, CRA for Optus says:

> It is generally accepted that a reduction in termination charges will force up the prices of retail mobile services, such as outgoing calls and subscription … charges.[365]

Optus claims that such compensating price increases have already been observed in the UK in response to forced reductions in the FTM termination charge.[366]

Optus has repeated these claims in its submission to the Draft Report, referring to a submission provided on its behalf by CRA. In this regard, CRA claims that mobile penetration rates in the UK fell from 75 per cent to 73 per cent following decisions by the UK regulator (Oftel – now OfCom) to reduce the price of the MTAS in July last year.[367] As indicated in Chapter Four of this report, however, the Commission has concerns with this representation, as Oftel indicated this fall was within its error margins such that it did not consider there was evidence that penetration rates had fallen. More importantly, the next period of results saw a return of penetration rates to 75 per cent.

The claimed absence of economic profits has also led some parties to argue that, given termination is (in their opinion) provided as part of a broader bundle of services

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[362] Telstra, *Initial Response to the Discussion Paper of the Australian Competition and Consumer Commission*, April 2003, p. 5.

[363] Frontier Economics, *Principles Governing the Regulation of Fixed-to-Mobile Termination*, Report prepared for Vodafone Australia, 2 September 2003, p. 11.

[364] MCI, *op. cit.,* p. 14.

[365] CRA, *Regulation of Mobile Call Termination Charges: International Approaches*, report for Optus, 14 August 2003, p. 1.

[366] Optus, *op. cit.,* p. 53.

[367] CRA, *The Use of Benchmarking in Regulating Mobile Termination Rates,* report for Optus, 28 May 2004, p. 5.

in a highly competitive mobile services market, the structure of prices that will emerge for mobile termination and other retail services is likely to be efficient.

To the extent that the price of the MTAS may be above its long-run incremental costs of production, and that the price of retail mobile services may be below their long-run incremental costs of production, some parties have argued this structure of prices is likely to encourage economically-efficient use of infrastructure.[368] For instance, at various stages of the inquiry, some parties have argued that above-cost prices for the MTAS may be efficient in order to:

- subsidise subscription in a way that would internalise the network externalities consumers of FTM calls enjoy when there is a greater number of mobile services (the fixed-line network externality argument);

- subsidise subscription in a way that would internalise the externalities enjoyed by other mobile subscribers when there is a greater number of mobile subscribers (the mobile network externality argument); and

- ensure a structure of prices across the mobile termination and retail mobile services that would be consistent with a 'Ramsey' efficient configuration of prices (the Ramsey pricing argument).

Some of the views of interested parties on each of these arguments are set out in turn below.

The Fixed-line Externality Argument

In its submission to the Discussion Paper, Optus argues that fixed-line callers to mobile networks enjoy a benefit from having more mobile subscribers to call. On the basis of this view, Optus appears to argue that higher prices for the MTAS can be justified in order to fund subsidisation of lower prices for retail mobile services that would attract a higher level of mobile subscription. Accordingly, Optus argues that:

> Consumers are unambiguously worse off from an imposed reduction in the mobile termination rate.[369]

In particular, Optus argues that a reduction in termination rates of as little as 5 cents per minute would generate a series of changes to the prices of FTM and mobile subscription services that would result in a welfare (efficiency) loss of $984 million per annum for consumers of FTM services.[370] The basis of Optus' analysis can be summarised in the following key points:[371]

1. *Revenue Neutrality — other prices must increase if the FTM termination charge is reduced*. Reducing the termination charge is assumed to result in

[368] There has been considerable variety of opinion about what constitutes the appropriate cost benchmark for efficiency analysis. In the Commission's view, this is TSLRIC, without the '+'. Some interested parties have suggested other benchmarks, in particular, 'marginal cost'.
[369] Optus, *op. cit.,* p. 30.
[370] Optus, *op. cit.,* p. 32.
[371] Optus' full analysis can be found at Optus, *op cit.,* pp. 30-35.

mobile carriers increasing other charges to make up the revenue loss to maintain revenue neutrality:

> Optus believes that mobile carriers will simply increase origination and subscription charges in order to make up for the resulting decline in termination wholesale revenue.[372]

2. *Higher customer access charges result in a loss in subscriptions*. The increase in customer access charges has an impact on the number of mobile subscribers. Based on an assumed subscription elasticity of –1.0, a one-cent reduction in the termination charge would result in a 2 per cent (281,000) reduction in the number of subscribers. A five-cent fall removes 1.4 million subscribers.

3. *This in turn reduces FTM Calling*. The reduction in the number of mobile subscribers is asserted to result in a *pro rata* reduction in the amount of FTM calls, as FTM callers lose some of their destination mobiles. Hence, the FTM demand curve will swivel inwards, resulting in a lower demand for FTM calls at all relevant prices. Even though the decrease in the FTM price may elicit a movement along the FTM demand curve, the increase in demand from this is not sufficiently large to offset the large decrease in calls from the swivel.

4. *This reduction in FTM calling results in a large fall in FTM callers' surplus*. The welfare impact of this is measured by a fall in FTM callers' surplus identified by a swivelling in of the FTM demand curve. While there is a small offsetting consumer-side efficiency gain from the reduction in the FTM call price, there is a large net fall in callers' surplus.

5. *Consumer welfare effects are the same as overall welfare effects*. The welfare effects are presented as consumer welfare effects, but as producer welfare does not change and there are no government revenue implications included, consumer welfare effects are equal to economic welfare effects.

In its submission to the Draft Report, Optus continues to assert that FTM consumers will be worse-off as a result of decreases in the price of the MTAS. This is largely based on its belief that:

- FTM demand is very inelastic with respect to price;
- that the flow-through impact of a decrease in the MTAS charge on to subscription prices and volumes will be large (based on the zero profit constraint interacting with a large subscription elasticity); and
- that this will result in a large (negative) fixed-line externality effect (flowing from a large loss of a large amount of FTM callers' surplus).

The end result will again be a very large efficiency loss from reducing the MTAS, with a small direct efficiency gain being enormously outweighed by the fixed-line externality effect. Modelling conducted by n/e/r/a, on behalf of Optus, estimated the

[372] Optus, *op. cit.,* p. 35.

size of welfare gains and losses based on a variety of different input assumptions.[373] Under all cases considered by n/e/r/a, welfare reduces as a result of reductions in the price of the MTAS.

Optus has also introduced an 'option value' for FTM calling, and has taken a different position from the Commission on the impact of the 'call externality'.

The Mobile Externality Argument

In addition to arguing that mobile termination prices will efficiently be above long-run incremental costs in order to effectively internalise the externalities FTM callers enjoy from having a greater number of mobile subscribers to call, Optus argues that higher-than-cost prices for MTASs may be justified on the grounds of broader mobile subscription network externalities enjoyed by other mobile subscribers. That is, rather than just FTM callers enjoying an effective externality benefit from a larger number of mobile subscribers, Optus argues that other mobile subscribers also benefit from increased mobile subscription. This is because existing mobile subscribers will benefit from each additional mobile subscriber as:

> … they can now contact this person and vice versa easily.[374]

This argument is supported by its consultant, Charles River Associates (CRA), which argues that:

> The presence of the network externality implies that it is socially optimal for the prices facing the mobile subscriber to be subsidised by a surcharge on termination.[375]

The Commission notes, however, that whilst arguing that FTM and mobile consumers enjoy an effective calling externality from having a greater number of mobile subscribers to call, Optus does not attempt to estimate an overall economically-efficient structure of prices for mobile termination and other retail mobile services. Rather, it seems to assume that its broadly-defined mobile services market is highly competitive and that:

> The market might attempt to 'internalise' these externalities by using an implicit pricing structure that encourages a higher uptake of mobile subscription.[376]

Optus further argues that:

> There are a number of options available to the mobile operator to internalise the positive externality … [including increasing] … mobile call charges above the marginal cost of providing calls … [and/or increasing] … mobile termination charges above the marginal cost of terminating calls.[377]

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[373] n/e/r/a, *Existence and Exercise of Market Power in Mobile Termination*, A Report for Optus, April 2004; and n/e/r/a, *Mobile Services as Jointly Produced Products: Concepts and Empirics*, A Report for Optus, May 2004.
[374] Optus, *op. cit.,* p. 22.
[375] CRA, *op. cit.,* p. 2, fn. 4.
[376] Optus, *op. cit.,* p. 23.
[377] *Ibid.,* p. 23.

Optus argues that:

> All options will result in unavoidable economic distortions because of the initial market failure of under-subscription … The challenge for operators is therefore to apply the pricing structure which results in the lowest level of distortions and therefore lowest level of deadweight loss to society. Such a structure will also maximise profits to the mobile operator, so all parties' interests are aligned.[378]

Optus' estimate of the efficiency consequences of reducing mobile termination rates are, as discussed above, focused only on the impacts in the market for FTM services and only consider the impact of a change in the price of the MTAS from its current level.

In its submission to the Draft Report, n/e/r/a (on behalf of Optus) estimates the welfare loss of mobile subscribers as a result of reductions in the number of subscribers that might follow a decrease in the price of the MTAS under a variety of assumptions.[379] However, whilst arguing such a welfare loss is likely to exist and be significant, it does not endorse any particular set of assumptions.

CRA for Optus does, however, further examine the trade off between the benefits of subsidising mobile subscribers in order to promote an efficient expansion in demand for subscription and the deadweight loss of the higher termination charges. It also reports on UK estimates of the 'optimal externality surcharge' (the equivalent in Australian dollars of) up to 19 cents per minute, and suggests that:

> … a higher externality surcharge on termination may be justified in Australia to achieve the socially optimal number of mobile subscribers.[380]

Frontier Economics (on behalf of Vodafone) questions the Commission's approach to externalities, arguing that its decision does not allow for them to be taken into account.[381]

Telstra also criticised the arguments in the Draft Report relating to the relevance of network externalities.[382]

In contrast to Optus, Hutchison (both in its own submission and in a report prepared for it by J. Gans and S. King), AAPT, CCC and MCI all discuss the issue of network externalities briefly. For all of these parties, network externalities are regarded either as irrelevant to mature networks and efficient pricing and/or that basing subscription subsidies on them is inefficient. For example, AAPT asserted that:

> … subsidisation [of subscriptions] leads to inefficiently high levels of mobile subscribership.[383]

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[378] *Ibid.,* p. 23.
[379] n/e/r/a, *Existence and Exercise of Market Power in Mobile Termination*, Report for Optus, April 2004, pp. 22-29.
[380] CRA, *op. cit.,* p. 6.
[381] Frontier Economics, *ACCC Mobile Service Review: Effects of Declaration on Efficiency*, A Report Prepared for Vodafone Australia, 1 June 2004.
[382] *Telstra, Response to the Draft Decision on the Mobile Terminating Access Service*, June 2004.
[383] AAPT, *Mobile Services Review 2003, Submission by AAPT*, 13 June 2003, p. 33.

AAPT argues further that:

> … the external benefit of mobile subscribership is only one of many externalities that affect the mobile services market, and to consider the effects of one externality, but not others, is inappropriate.[384]

During discussion at the Melbourne Mobiles Forum and in its submission to the Discussion Paper, the CCC also argues that it is:

> … of the view that, in respect of voice services, there are now no network externalities (if such ever existed) given the current level of mobile penetration.[385]

Ramsey Pricing Arguments

A number of parties commented on the importance of Ramsey pricing principles when assessing the structure of prices that would be likely to arise with and without declaration of a MTAS. Ramsey pricing concepts address situations where a number of services share common costs of production. Hence, if all these services were priced only at their attributable costs, these common costs would fail to be recovered. Ramsey pricing concepts therefore deal with finding a configuration of prices that would ensure that these common costs are recovered in the least distortionary way. Under a Ramsey configuration, the structure of prices across a collection of services sharing common costs would ensure higher proportionate mark-ups above attributable costs for those services with relatively inelastic demands, according to the inverse-elasticity or 'Ramsey-Boiteux' rule.[386]

In the context of assessing whether declaration of the MTAS would encourage an efficient use of telecommunications infrastructure, some mobile carriers present FTM calling (or FTM termination) as being particularly inelastic in demand and MTM/MTF calling as relatively elastic in demand, therefore prescribing a higher mark up above attributable costs for FTM services.

Optus, Vodafone and Telstra submitted qualified statements that their prices reflect Ramsey principles. For example, Optus expresses its belief that:

> … it is likely that the current market prices broadly reflect Ramsey pricing principles.[387]

Optus has also commented again on Ramsey pricing in its submission to the Draft Report, and reiterated its appropriateness.[388]

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[384] *Ibid.,* p. 33.

[385] CCC, *op. cit.,* p. 33.

[386] The Ramsey-Boiteux approach dates back to a paper by Ramsey (F. Ramsey, 'A Contribution to the Theory of Taxation', *Economic Journal*, 36, 1927, pp. 47-61) setting out a procedure for raising a *given amount* of commodity tax revenue at the least overall cost to economic efficiency. Boiteux (M. Boiteux, 'Sur la Gestion des Monopoles Publics Astrients á l'Equilibre Budgétaire', *Econometrica*, 24, 1, 1956, pp. 22-40; published in English as 'On the Management of Public Monopolies Subject to Budgetary Constraints', *Journal of Economic Theory*, 3, 1971, pp. 219-40) adapted the rule to utility pricing, taking into account the general-equilibrium aspects of minimising efficiency loss of covering non-variable production costs. While this is usually called 'Ramsey pricing' it should more properly be called the 'Ramsey-Boiteux rule' when used with reference to utility pricing.

[387] Optus, *op. cit.,* p. 22.

Similarly, Telstra claims in its submission to the Discussion Paper that:

> … such a pattern of cost recovery is consistent with Ramsey pricing, as the demand for fixed-to-mobile services is more price inelastic than the demand for outgoing mobiles services.[389]

Telstra reiterated its advocacy of a Ramsey pricing approach in its submission to the Draft Report.[390]

Vodafone claims that Ramsey factors are:

> … an important determinant of the commercial prices set … [and while] it is never an exact science … regulators can rest easy.[391]

Vodafone also ties Ramsey pricing principles to network externalities, and, as previously noted, CRA for Optus considers the trade-off between the size of the FTM surcharge and the subsidy to subscription.

In a specific submission on efficiency in response to the Draft Report, Frontier Economics criticises the Commission for using the 'wrong notion of cost', by applying TSLRIC instead of 'marginal cost'. It further argues that 'fixed and common costs' should be recovered by application of the Ramsey rules.[392]

On the other hand, AAPT, MCI and Gans and King for Hutchison are all sceptical about claims that current pricing reflects Ramsey principles. In particular, AAPT argues that on-net/off-net retail price

> … differentials are not based upon considerations of demand responsiveness or any theory of Ramsey pricing …[393]

Gans and King argue that Ramsey pricing is desirable only if non-linear pricing is not possible, and state that there is

> … no reason why mobile network competition for subscribers will lead to socially-optimal Ramsey prices.[394]

They also draw attention to what they see as technical deficiencies in the arguments put by the major mobile carriers. In particular, Gans and King see no reason why

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388 Optus, *Optus Submission to Australian Competition and Consumer Commission on Efficient Use of Mobile Infrastructure and Investment*, May 2004. There are also some comments on network externalities in CRA, *The Use of Benchmarking in Regulating Mobile Termination Rates*, Prepared for Optus, 28 May 2004, pp. 14-15.

389 Telstra, *op. cit.,* p. 6.

390 Telstra*, Response to the Draft Decision on the Mobile Terminating Access Service*, June 2004.

391 Vodafone, *op. cit.,* p. 6.

392 Vodafone, *Response to ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004; Vodafone, *Supplementary Submission to ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004 and Frontier Economics, *ACCC Mobile Service Review: Effects of Declaration on Efficiency*, A Report Prepared for Vodafone Australia, 1 June 2004.

393 AAPT, *op. cit.,* p .22.

394 J. Gans and S. King, *Price Regulation of Mobile Termination: Promoting Competition and Investment in Telecommunications*, A Report on Behalf of Hutchison Telecommunications, CoRE Research, Melbourne, 26 June 2003. p. 44.

mobile network competition for subscribers will lead to socially-optimal Ramsey prices, and derive the result that:

> … competition will result in mobile originating charges that are too low…and terminating charges that are too high.[395]

MCI claims that the Ramsey argument 'fails' and also draws attention to technical shortcomings in the arguments put forward in favour of it. In particular, it argues that:

> …even if we were to accept the arguments that Ramsey Pricing is appropriate (which we do not), any purported benefits of Ramsey Pricing would depend on the retail side of the market being fully competitive. Otherwise, the above-cost component of mobile termination charges would not be competed away in the other arguments. Ramsey pricing requires that the profit constraint (i.e. zero excess profits) be met and not exceeded. …
>
> Second, even if the mobile operators were competitive, the subsidy provided from above-cost mobile terminations to retail services would be economically inefficient…[because] the loss of economic welfare suffered by those calling mobiles would exceed the gain to mobile owners.
>
> Third, a socially optimal application of Ramsey pricing requires that prices be set based upon market elasticities of demand for the services used by consumers, something that is economically infeasible. By contrast, MNOs price using the elasticity of demand for mobile termination, which is much lower that the retail elasticity of demand for calls to mobiles. This is because an MNO in the CPP [calling party pays] environment does not directly realize any benefits from reduction in the costs of incoming calls.[396]

6.2 Commission assessment regarding whether declaration would be likely to encourage an efficient use of telecommunications infrastructure

As indicated in section 4.2 of this report, the Commission believes that mobile termination on each mobile network represents an 'essential facility' or 'bottleneck' service. Accordingly, mobile operators have control over access to calls terminating with consumers on their network, and this gives them the ability to raise the price of the MTASs on their network above their costs of provision. This ensures that each subscriber to a mobile operator's network becomes a potential source of economic profits whenever a call is made to these consumers. In turn, this provides each mobile operator with an incentive to lower retail prices to mobile consumers in order to attract more subscribers to its network. Armstrong characterises this form of market behaviour as one of 'competitive bottlenecks'.[397] That is, mobile carriers compete to become the bottleneck that must be accessed in order to ensure calls to their subscribers are completed.

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

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[395] *Ibid.*, p. 64.
[396] MCI, *op. cit.,* p. 14.
[397] M. Armstrong, *Competition in Two-Sided Markets*, paper presented at the ESEM meeting in Venice, August 2002, p. 38.

pricing the MTAS above cost to subsidise the price of the bundle of retail mobile services. A monopolist would subsidise subscription until the marginal gain in profit from attracting more subscribers is equal to the marginal loss from subsidisation. Where there is some degree of competition in the retail market, carriers may go beyond this condition, with the more intense the level of competition in the retail mobile services market, the greater the amount of economic profit flowing from mobile termination services used to subsidise subscription to mobile networks.

In assessing whether continued declaration of a MTAS would be likely to encourage an efficient use of telecommunications infrastructure, the Commission has reached views on a number of issues raised by interested parties to this inquiry. In particular, the Commission has reached views on whether or not:

- mobile operators are subject to effective competition in the retail mobile services market such that they are bound by a 'zero-profit' constraint;
- it is likely there would be direct efficiency gains from declaration if it led to a change in the structure of pricing for the mobile termination, retail mobile and FTM services;
- 'fixed-line externalities' are relevant such that they would make above-cost pricing for the mobile termination service efficient;
- mobile network externalities exist that would make above-cost pricing of the mobile termination service efficient; and
- Ramsey pricing arguments justify above-cost pricing for the MTAS.

Each of these issues is addressed in turn below.

6.2.1 Effective competition and the 'zero-profit' constraint

As indicated above, some parties in this inquiry have argued that the mobile services market is sufficiently competitive that any profits they may receive from pricing the MTAS above cost are transferred, in full, to mobile retail subscribers in the form of lower prices for retail mobile services. Accordingly, these parties argue that effective competition ensures that the structure of prices across mobile termination, retail mobile and FTM services is one that should result in an efficient use of telecommunications resources.

At the outset, and as outlined in Chapter Four of this report, the Commission does not believe that the state of competition in the market within which retail mobile services are provided is likely to be effectively competitive at this time. Whilst showing signs of being more competitive than markets within which fixed-line services are provided, the Commission believes there is enough structural and behavioural evidence for it to be concerned that the market is not effectively competitive at present. The Commission does not expect this to change in the near future.

Accordingly, the Commission is not convinced that effective competition exists to ensure all economic profits from the provision of the MTAS are dissipated through

lower prices at the retail level for consumers of mobile telephony services. As a result of this, the Commission does not believe all mobile carriers are making zero economic profits such that losses in revenue suffered by mobile carriers from reductions in the price of the MTAS would need to be recovered, in full, from higher prices for retail mobile services. This is supported by observations that:

- In the case of the integrated carriers (Telstra and Optus) a decrease in the mobile termination charge represents both a loss of revenue on incoming calls and a saving in costs on outgoing calls. In the case of Telstra, which is a net payer of termination charges, a decrease in termination charges across all carriers could – depending on assumptions regarding the own-price elasticity of demand for FTM services and the degree of FTM pass-through – lead to a net gain to it in revenue terms.

- Where an actual net loss is incurred from lowering the termination charge, the Commission is not convinced there is a need to increase prices elsewhere given net economic profits appear to be present in the industry as a whole, and especially in the case of Telstra and Optus which, together constitute 80 per cent of the market and appear to be able to cover economic costs comfortably. Because of the integration of these carriers, Vodafone has indicated that it does not 'expect a counterbalancing increase in retail prices for mobile prices like that expected in the UK.'[398]

- As described in section 4.4.3, the financial viability of the mobile carriers has been greatly enhanced in recent years by the rapid growth of revenues from, in particular, SMS and international roaming. These revenues have been generated substantially by using existing infrastructure and, therefore, involve little additional cost.

- During the inquiry, the Commission has been provided with only limited evidence to suggest compensating price increases in the UK or elsewhere where substantial regulated reductions in FTM termination charges have already been experienced. In correspondence to the Commission, Optus quotes increases in prices for retail mobile services following reductions in the price of the MTAS in July last year,[399] the Commission notes more recent reports from OfCom indicate it believes that price levels have remained relatively 'flat' in recent periods.[400] To the extent that price increases for mobile subscription services are minimal, this might indicate the existence of some economic profits that enable mobile operators to absorb price decreases for the MTAS in the UK.[401] That said, the Commission notes that only the first stage of price decreases for the MTAS have been completed in the UK to date. The Commission is also mindful that the launch of 3G

[398] Vodafone letter to the Commission, 9 October 2003, p. 11. This view may have changed since release of the Draft Report. Frontier Economics, in its 'Analysis of Markets' report for Vodafone, argues that mobile carriers 'will be forced to increase other prices (subscription prices and/or call prices) if fixed to mobile termination charges are reduced' (p. 18).

[399] Optus, Letter to Commissioners, 2 June 2003 (sic).

[400] Ofcom, *Strategic Review of Telecommunications Phase 1 Consultation, Annex H,* 28 April 2004, paragraph H. 33.

[401] The Commission's 2002-03 Division 12 report indicates that retail prices have increased in Australia, in spite of there being no appreciable decrease in termination rates.

> services in the UK might also have constrained the ability of 2G mobile operators to increase their prices for retail mobile services.

The Commission believes the absence of effective competition and, therefore, the inapplicability of the 'zero-profit' constraint, has two main implications. Firstly, the Commission is not convinced by the arguments of some mobile operators that all excess profits from the price of the MTAS being set above cost are being transferred to mobile subscribers in the form of lower prices for mobile retail services. Hence, the Commission believes the current pricing structure for mobile termination, FTM and retail mobile services is likely to generate excess profits for some mobile carriers. As a result, the Commission does not believe that an efficient use of the infrastructure used to provide a range of telecommunications services can be guaranteed in the absence of regulation of the MTAS.[402]

Secondly, and partly as a result of the first point, the Commission is not convinced that mobile carriers will necessarily seek to fully recover the revenue they lose from reductions in the price of the MTAS by raising the prices of retail mobile services. This has significant implications for the Optus-n/e/r/a assessment of efficiency-in-use effects outlined in section 6.2.3 below.

6.2.2 Direct efficiency gains from declaration of the MTAS

Even if the retail mobile services market was effectively competitive, however, the Commission does not believe that this would ensure an efficient use of the infrastructure used to provide the mobile termination, FTM and retail mobile services. This is because, as indicated above, the Commission believes that incentives exist for mobile operators that will lead to above-cost prices for the MTAS (and, in turn, lead to above-cost prices for the FTM service) and below-cost prices for retail mobile services. The resulting disassociation between price and costs for all these services is likely to distort consumption decisions and lead to an inefficient use of telecommunications infrastructure. This will come in the form of higher-than-efficient levels of consumption of retail mobile services, and lower-than-efficient consumption and use of the infrastructure used to provide FTM services.

As Armstrong concludes:

> As usual in this kind of 'competitive bottleneck' model, total welfare is not maximised since the interests of fixed network callers are not taken into account when the quantity of fixed-to-mobile calls…is chosen [and implicitly, the price of mobile termination services is set]. Welfare would be increased [if the number of fixed-to-mobile calls] were increased, i.e., if the implicit price for calling mobile subscribers from the fixed network were reduced to below the unregulated equilibrium level.[403]

Further, and as indicated above, to the extent that the state of competition in the market for retail mobile services is less than effectively competitive, the Commission

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[402] This is the case even if the Commission were to accept (which it doesn't) n/e/r/a's assertion that mobile termination and retail mobile services are joint in production. Whilst there is clearly some complementarity in supply of mobile termination and origination minutes, the Commission does not believe this extends to other elements of the retail mobile package, such as the provision of handsets.

[403] Armstrong, *op. cit.*, p. 38

believes that the prices that are likely to emerge in the markets for mobile termination and retail mobile services are even less likely to equate with those that one would expect to best promote the efficient use of telecommunications infrastructure. The extent of the direct efficiency loss generated by this structure of prices in the market for FTM and retail mobile services is discussed in turn below.

The direct efficiency gain from reducing the price of mobile termination services in the market within which FTM services are provided

In the first instance, the Commission believes that pricing the MTAS above underlying cost will give rise to an economically-inefficient reduction in the use of the MTAS. This is because the Commission believes above-cost prices for the MTAS have two major effects in the related market within which FTM services are provided. Firstly, the above-cost price of the MTAS will increase the input costs for non vertically-integrated providers of FTM calls above their underlying cost of production. In turn, this above-cost pricing is likely to be passed on to consumers of FTM services in the form of higher prices for the FTM service. Secondly, as indicated in Chapter Four of this report, the Commission believes that above-cost pricing for the MTAS is contributing to a lack of effective competition in the market within which the MTAS is provided. In turn, this enables providers of the FTM service to set prices for FTM calls even further in excess of the costs they face. In other words, the retail price of the FTM service is likely to be set above its underlying cost of production twice – once by above-cost pricing for the mobile termination service and a second time when providers of FTM services charge above their input costs in order to take advantage of the lack of effective competition in this market.[404]

This outcome appears consistent with the Commission's observations in Chapter Four of this report that:

- the average price of the MTAS appears to be well in excess of its underlying cost of production; and

- the prices of FTM services appear, on average, to be above the underlying cost fixed-line only operators face when providing off-net FTM calls.

To the extent that the retail prices of FTM services are, on average, well in excess of their underlying cost of production, the Commission believes this will reduce consumption of FTM calls below their economically-efficient level. That is, in this circumstance, the Commission expects consumers will be deterred from making some calls for which they would derive a benefit greater than the cost of producing these calls. This is because there will likely be a range of calls for which consumers' willingness to pay lies somewhere between the underlying cost of providing these calls and their above-cost price. Such decisions would not lead to the best use of telecommunications infrastructure, as services which provide a benefit greater than their cost of production will not be produced and consumed. In effect, above-cost

[404] As indicated in Chapter Four of this report, Optus has criticised this assertion on the grounds that it would imply irrational double marginalisation by vertically-integrated operators. The Commission disagrees with this view – largely because the price of neither the MTAS nor FTM call minutes appears to be at a profit-maximising monopoly level. For the Commission's full response on this issue, refer fn. 337.

prices lead consumers to make less (or shorter) FTM calls than would be consistent with an efficient use of telecommunications infrastructure.

The extent of the cost to society of this inefficiency in use can be measured using the concepts of consumer and producer surplus. In this regard, consumer surplus is defined as the difference between consumers' valuations of a quantity of a service, and the amount paid for that quantity. In general, therefore, if the price of a given service falls, consumer surplus will increase. Producer surplus, on the other hand, is defined as the difference between the cost of producing a quantity of a service and the revenue a producer receives from selling that quantity. Accordingly, a price fall will normally lead to a reduction in producer surplus.

In order to measure whether society, as a whole, benefits or loses from a change in prices, it is necessary to weigh up the changes in both consumer and producer surplus. In particular, if a change in price leads to an increase in one form of surplus, but a decrease in the other, society as a whole can only benefit if the gain outweighs the loss.[405] In the absence of externalities, if a change in price means a closer alignment with cost, society as a whole will gain. The intuition is that by more-closely aligning prices with costs, resources will be better directed to those parts of the economy where they are more highly valued.

To illustrate the efficiency in loss of setting the price of the FTM call minute above their underlying cost of production, consider Figure 6.1 below. In this diagram, the initial retail price of a FTM call is P^0 cents per minute at which level consumers purchase Q^0 minutes of the FTM service. The TSLRIC of production is C^0 cents per minute. Compared to a situation where the price of a FTM minute is set at its underlying cost of production, a price of P^0 cents per minute generates an increase in producer surplus equal to the area A, and a decrease in consumer surplus equal to the area A + B. Overall, society as a whole loses the area B. This area is sometimes referred to as the deadweight loss or efficiency loss of prices being set in excess of the underlying cost of production.

[405] Hence, if a price fall leads to an increase in consumer surplus, but a decrease in producer surplus, society as a whole will only gain if the increase in consumer surplus is greater than the decrease in producer surplus.

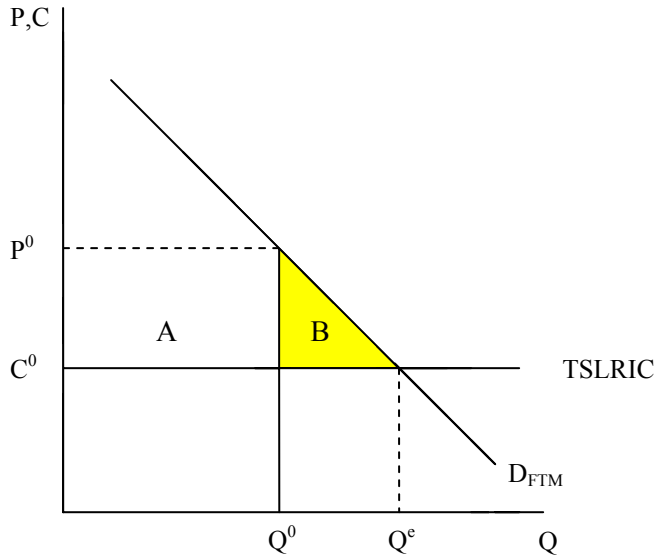

Figure 6.1 – Efficiency loss when price is greater than cost

In order to estimate the direct efficiency costs of having a price of P^0 instead of being set equal to cost (C^0) requires estimates of P^0, Q^0, C^0 and the elasticity of demand. Based on 2002-03, the Commission estimates the following magnitudes for these key variables:

- An initial starting price for FTM call minutes of 38.5 cents per minute (cpm) based on Telstra's average yield (revenue divided by number of minutes);[406]

- A TSLRIC cost of 14 cpm, based on an estimated cost of termination of 9 cpm and costs of fixed-line origination, transmission and retailing totalling 5 cpm;[407]

- An initial quantity of FTM call minutes being consumed of 6,037 million minutes per annum; and[408]

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[406] Telstra Corporation Limited, *Year End Results and Operations Review Year Ended 30 June 2003*, Table 7, p. 12. Revenue is reported as $1,517 million and minutes as 3,944 million.

[407] This is based on a cost of mobile termination of approximately 9 cents per minute (based on a rough estimation of the mid-point of cost estimates for the mobile termination service provided in s. 5.3 of this report) total downstream costs of 5 cents per minute, comprising PSTN origination, transmission and retailing costs. The termination cost is based on evidence submitted by the interested parties, market inquiries and regulatory accounts. To be conservative it is on an average cost basis with a contribution to organisation-level costs; essentially making it a TSLRIC+, rather than the Commission's preferred TSLRIC basis for efficiency analysis.

[408] This volume is based on two sources giving remarkably similar answers. First, Telstra's reported volume of its own carriage of calls (*Year End Results, op. cit.*) as 3,944 million. NECG reports Telstra's market share for calls of about 65 per cent, yielding 6,068 million (3,944/0.65) (necg, *Price Regulation of Mobile Termination: Promoting Competition and Investment in Telecommunications A Comment on CoRE Research's Submission to the ACCC*, prepared for Telstra, November 2003, Figure 1). Second, Macquarie Research Equities estimated the volume at 6,027 million (Macquarie Research Equities, *Mobile Termination Rates – The Regulator's Dilemma*, 7 April 2003, p. 8).

- An elasticity of demand for FTM call minutes of –0.6[409] with an assumption of linearity of the demand curve as in Figure 6.1.

On the basis of these empirical magnitudes the Commission estimates the efficiency cost from present prices as compared with prices based on cost as $282 million in 2002-03. Alternatively, this is an estimate of the efficiency gain from reducing price from its current level to a cost-based level.[410]

Where the reduction in price is insufficient to remove the entire margin between price and cost, the reduction in price will remove only part of the deadweight loss triangle. With reference to Figure 6.2, suppose the per-minute price of a FTM call is reduced from P^0 to P^1 cents per minute. In response to this reduction in price, demand for FTM calls will increase to Q^1 minutes. As a result of this, consumer surplus will increase by the area A + B; while producer surplus will fall by area A, but *increase* by area D. Overall, therefore, society as a whole will be better off by the efficiency gain of area B + D. Suppose, for example, the price were to fall by 5 cpm. Under the Commission's assumptions this would result in an efficiency gain of around $103 million per annum.

[409] The Commission considered a variety of sources of information about the magnitude of the own-price elasticity – market inquiries; estimates used by market analysts; and the only recent formal professional study (DotEcon, *Estimation of Fixed to Mobile Price Elasticities*, prepared for BT, 08 May 2001, p. 3 at www.dotecon.com/images/reports/elastftm.pdf). All of these sources suggest an elasticity in the range between roughly –0.4 and –0.8, with a mid-value of –0.6. The most sophisticated of these studies is that for the United Kingdom of DotEcon, and it reports mid-point long-run elasticities of –0.375 for daytime; –0.86 for evening and –0.485 for weekend. Australian analysts have, based on market inquiries, used elasticities within this range. For example, Macquarie Research Equities, has applied an elasticity of –0.75 (*Mobile Termination Rates – The Regulator's Dilemma*, 7 April 2003, p. 8) and CommSec has applied an estimate of –0.50 (CommSec, *ACCC Mobiles Review to harm Optus more than Telstra*, Company Report, August 2003, p. 23) Elasticities in this range are also suggested by the Commission's own market inquiries. Only one party, Optus and its consultant NERA, provided views on the factors determining demand for FTM calling. In its June 2003 submission on the Discussion Paper, Optus reported an estimate by Access Economics of –0.08. The Commission understands that this was not actually an estimate by Access Economics, which reported an earlier estimate based on data from the early 1990s (Optus, *Optus Submission to Australian Competition and Consumer Commission on Mobile Services*, June 2003, p. 12 and p. 24.). In its May 2004 'Efficient Use' submission, Optus finds the Macquarie Research Equities estimate of –0.75 to be 'unreliable as it indicates that the price of fixed to mobile is as high as mobile originated calls (estimated by Frontier to be up to –0.8)' footnote 11, p. 14. Optus does not state why the FTM elasticity would be expected to be much less than the FTF elasticity

[410] For the avoidance of doubt, this is the Commission's estimate of area B in Figure 6.1 and it is the direct efficiency gain from moving *completely* to cost-based pricing.

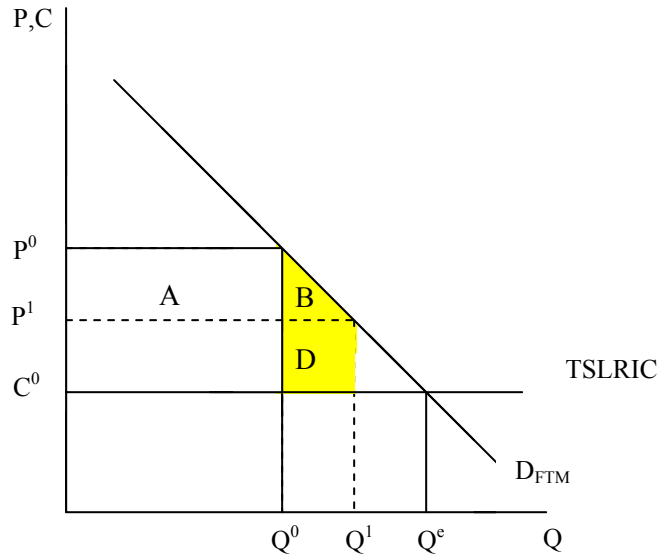

Figure 6.2 – Efficiency gain from a closer association of prices and costs for FTM call minutes

During this inquiry, no party has attempted to quantify the size of the net welfare gain or loss generated by the existing set of prices for the mobile termination, mobile retail or other related services. Only Optus (and latterly n/e/r/a) has attempted to measure the welfare implications of various regulatory approaches with regard to the MTAS, and only then in terms of measuring the impact of a 5 cent per minute reduction in the price of the MTAS. As indicated above, Optus argues in its submission to the Discussion Paper that a 5 cent per minute reduction in the price of the MTAS will, all else being equal, generate an efficiency (welfare) loss for consumers of FTM calls of $984 million dollars per annum. This amount is made up of two components:

- A $1 million per annum direct efficiency gain for consumers as a result of a consequent 5 cent per minute decrease in the retail price of these calls;[411] and

- A $985 million per annum loss for FTM consumers due to the reduction in mobile subscription that would result from the increase in mobile subscription prices needed to recover the loss in mobile operators revenue when mobile termination prices increase. This loss is generated by the 'fixed-line externality' identified above.

Putting aside the impact of the fixed-line network externality – which is addressed in greater detail in section 6.2.3 below – the Commission criticised Optus' analysis in the Draft Report, believing it greatly underestimates the size of the direct efficiency gain consumers of FTM services would enjoy as a result of a 5 cent per minute reduction in the price of FTM calls. In particular, the Commission detailed several deficiencies with Optus' estimate, including the apparent belief that a 5 cpm reduction was enough to achieve cost-based pricing *or* that it overlooked area D in Figure 6.2; assumption of an initial quantity of FTM call minutes being consumed of only 4.244 billion minutes per annum compared with an actual quantity of over 6 billion; and the assumption of an elasticity of only –0.08 (or –0.10). In its further submissions, Optus

[411] Optus' analysis assumes a 100 per cent 'pass-through' of decreases in mobile termination rates to the price of FTM calls.

and n/e/r/a have discussed this issue, but have not provided a definitive estimate. Instead, n/e/r/a provide a range of alternative estimates of the direct efficiency gain based on a variety of input assumptions. n/e/r/a appears to express no preference for any set of input assumptions.

Overall, the Commission continues to believe its input assumptions are relevant for determining the direct efficiency gain from changes in the price of the MTAS, and consequently the FTM service. Further, the Commission believes there would be a direct efficiency gain from continuing to declare the MTAS. This is because, in the absence of continued regulation, the Commission believes the price of the MTAS will continue to be priced in excess of its cost of production. In turn, this will lead to higher-than-cost prices for FTM calls, which will lead consumers to make fewer and shorter FTM calls than would be economically efficient. As indicated above, under the Commission's preferred set of assumptions, a 5 cent per minute reduction in the price of the MTAS would, if it led to a 5 cent per minute reduction in the price of FTM call minutes, generate an efficiency gain of around $103 million per annum.

To the extent that non-declaration led to an increase in the price of the MTAS charge, the Commission's analysis suggests that the existing efficiency cost would increase at an increasing rate as the price increasingly diverged from its underlying cost. For example, assuming full FTM pass-through, and using the Commission's assumptions regarding elasticity of demand and starting prices, quantities and cost, even a 5 cent per minute increase in the price of the mobile termination service would result in an estimated $127 million dollar increase in the efficiency cost.

The direct efficiency gain from reducing the price of termination in the market within which retail mobile services are provided

As indicated above, the Commission believes that mobile network operators will use some of the excess profits from pricing MTASs above cost to subsidise the price of retail mobile services in order to increase the volume of subscribers to their networks. The Commission also believes that the extent to which mobile operators subsidise this price of retail mobile services will depend on the overall level of competition in the market within which retail mobile services are provided.

It is unclear to the Commission the extent to which mobile operators will raise the price of retail mobile services in response to a reduction in the price of the MTAS. It is also unclear, in the case that mobile operators did seek to recover lost termination revenues through increased prices for retail mobile subscribers, the extent to which it would raise the prices of separate items in the package of retail mobile services. That is, analysis provided by Optus and n/e/r/a during the course of this inquiry assumes that all lost revenue will be recovered from retail prices for mobile subscription services. The Commission believes, however, that to the extent that mobile operators seek to recover lost termination revenues through increased prices for retail mobile services, any recovery will be made across the full range of retail mobile services.

To the extent that mobile operators do choose to recover lost termination revenues through increases in the prices of retail mobile services, the Commission believes this is likely to generate efficiency in use gains in the retail mobile services market if it generates a closer association of prices and costs for these services. The size of this

efficiency gain will depend on the own-price elasticity of demand for these services and the relevance (and size) of mobile network externalities at the margin. This issue is discussed in the sub-section on the relevance of mobile network externalities below.

6.2.3 The relevance of fixed-line externalities

As indicated above, in response to the Discussion Paper Optus provided the Commission with detailed analysis estimating the welfare loss in the market for FTM calls that will occur from decreasing the price of the MTAS. While there have been changes to the detail, Optus has provided a similar analysis in response to the Draft Report. The key driver of this welfare loss is an argument that decreases in the price of the MTAS will, due to the assumed zero economic profit constraint, force mobile carriers to increase the price of mobile subscriptions to recover, in full, decreases in revenue they experience as a result of decreases in the price of the MTAS. This price increase will lead to a reduction in the number of mobile subscribers. The lost subscribers are assumed to be of equal value to FTM callers. As a result of their departure, FTM consumers will have fewer mobile subscribers to call such that the benefits they receive from FTM calls will be reduced. This loss is only partially offset by the direct efficiency gain discussed in section 6.2.2 above.

In earlier parts of this chapter, the Commission has referred to this argument as the 'fixed-line externality' argument. Optus' arguments regarding the magnitude of this effect are best illustrated with reference to Figure 6.3 below.[412]

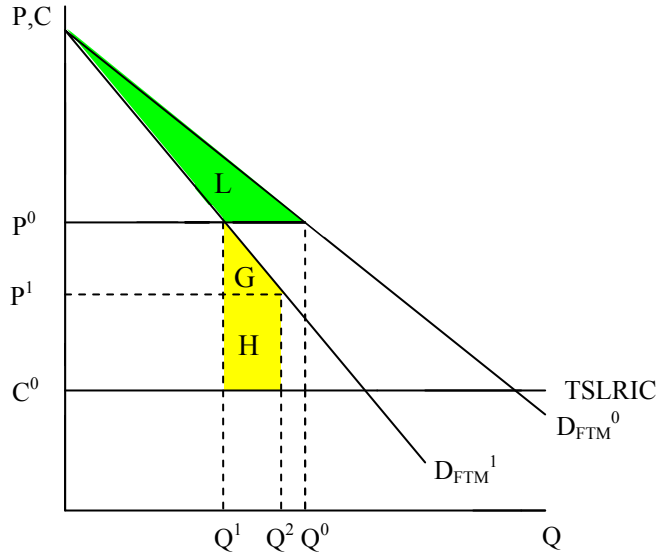

Figure 6.3 – Optus-n/e/r/a's analysis of efficiency implications in the presence of fixed-line externalities

In the first instance, Optus argues that in the absence of regulation, demand for FTM calls can be represented by the demand curve D_{FTM}^0. At an initial price of P^0,

[412] Figure 6.3 is based on Figure 3.3 in n/e/r/a's May 2004 'Joint Products' submission on behalf of Optus. It is also reproduced in Optus' 'Efficient Use' submission, p. 16.

consumers will demand Q^0 FTM minutes. If, in this setting, the price of the MTAS is decreased, two effects will occur:

1. Mobile operators' revenue from the MTAS will decrease. Given the assumed zero economic profit constraint, mobile operators will need to recover this revenue through higher mobile subscription charges. In turn, this will decrease demand for mobile subscription such that the number of mobile subscribers will fall. This will mean FTM consumers have fewer mobile subscribers to call such that the demand for FTM calls will shift inwards (swivel) to be represented by the new demand curve D_{FTM}^1. Based on an initial price of FTM calls of P^0 cents per minute, the shift in (swivel) of the demand curve will reduce quantity demanded from Q^0 to Q^1 FTM minutes. Under Optus' analysis, this leads to a decrease in consumer surplus equal to the area L in Figure 6.3.[413]

2. The price of FTM calls will, due to the decrease in mobile termination charges, decrease from P^0 to P^1. This will encourage a movement down the new demand curve such that the final consumption of FTM minutes will be Q^2.

Empirically, Optus and n/e/r/a discuss the relative magnitudes of these efficiency effects. In its submission on the Discussion Paper, Optus estimated the area L as $985 million per annum. As indicated above, its estimate of the direct efficiency gain (area G only) was $1 million per annum, resulting in an overall efficiency loss of $984 million. While the magnitude of its current estimates are unclear, Optus appears still to be claiming that the fixed-line externality effect is very large, and the direct efficiency gain very small, leaving a very large overall net loss of many hundreds of millions.[414]

The Commission has a number of both conceptual and empirical concerns with Optus' and n/e/r/a's arguments. These are outlined below.

Conceptual concerns

On a conceptual level, the Commission believes that the fixed-line externality is only one externality that affects the interaction between the FTM, retail mobile and mobile termination services. That is, the Commission believes it is just as likely that mobile subscribers derive some benefit from having greater numbers of fixed-line callers being prepared to call them on their mobile phones. Viewed in this way, it could be argued that it would be efficient to subsidise (rather than inflate) the price of FTM calls, *ceteris paribus,* in order to internalise this alternative type of call externality. However, to the extent that the price of FTM calls is kept above their underlying cost

[413] Optus ('Efficient Use' submission, p. 16) and n/e/r/a ('Joint Products' submission, pp. 16-17) criticise the Commission's conceptual analysis in the Draft Report because it missed the two areas J and K (marked in the diagram in Optus' 'Efficient Use' submission, p. 16) which are producer losses. While it may be unclear exactly who is losing, the logic of the Optus-n/e/r/a position would be not to include these as net losses because all termination revenue lost is retrieved in the mobile subscriptions market.

[414] The Commission notes that n/e/r/a, on behalf of Optus, presents an alternative framework for outlining this analysis. However, the underlying intuition of the framework is the same as its original presentation.

of production, this will generate a welfare loss to mobile subscribers by reducing the willingness of FTM consumers to make FTM calls.

The Commission believes a proper analysis of all externality benefits would require further consideration of the magnitude of these and other possible externality benefits. In this regard, the Commission agrees with AAPT's comments that it would be inappropriate to place undue focus on only one of the possible externality effects that might be expected to impact on the FTM, mobile termination and retail mobile services.[415]

In addition to this, the Commission is concerned that no party to this inquiry appears to have argued that mobile operators will, in the absence of regulation, have any incentive to set a structure of prices across the mobile termination and retail mobile services that would lead to the most efficient use of telecommunications infrastructure in the presence of any such fixed-line network externalities. That is, Optus' analysis is aimed at determining the impacts of reducing the price of the MTAS from its existing price. The analysis does not argue, however, that existing prices for mobile termination and FTM services are optimal in the presence of fixed-line network externalities. The analysis also does not argue that mobile operators would, in the presence of these externalities, have appropriate incentives to set a price for the MTAS that ensures an efficient use of telecommunications infrastructure. In other words, whilst it is possible there may be a fixed-line network externality generated by greater subscription to mobile telephony networks, the Commission has not been presented with any evidence or arguments to suggest that mobile operators internalise the externality generated for fixed-line consumers when they set the price for the mobile termination service. In this regard, the Commission believes it is highly unlikely that mobile operators will choose a price for the MTAS that efficiently internalises externalities enjoyed by fixed-line consumers. This is especially the case for mobile-only operators that do not have a direct billing relationship with FTM consumers.

Hence, it is one thing to say a fixed-line externality exists. It is quite another to argue that in the absence of declaration, mobile operators will efficiently internalise this externality when setting prices for the MTAS such that declaration of the service is not appropriate.

Empirical concerns

Even if the Commission were to entertain consideration of the fixed-line externality argument in isolation of other externality effects, the Commission would still have substantial concerns with Optus' $985 million per annum estimate of the impact of this externality on welfare (efficiency) for consumers of FTM services. As indicated in detail above, the Optus analysis involves a chain of related effects that follow a decrease in the price of the MTAS. In the Commission's view there are weaknesses in every link in the chain. In particular, the Commission is concerned that:

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[415] While n/e/r/a's analysis attempts to model another network externality loss from reducing the price of the MTAS (the loss in welfare felt by remaining mobile subscribers who have less mobile phone users they can call), it makes no attempt to measure the gain in welfare remaining mobile subscribers experience from having more FTM calls made to them as a result of lower prices for FTM services.

- The size of the increase in the price of mobile subscription services is unlikely to be as large as Optus and the analysis undertaken by n/e/r/a outlines;

- The consequent decrease in the volume of mobile subscribers is unlikely to be as large as Optus and the n/e/r/a analysis suggest; and

- The consequent loss in welfare for FTM consumers as a result of any lost subscribers is likely to have been exaggerated.

Each of these concerns is outlined in turn below.

The Commission expects a much smaller increase in the retail price of mobile subscription services

As indicated above, the Commission does not accept that the market for retail mobile services is effectively competitive such that mobile operators are subject to a zero economic profit constraint. Hence, the Commission does not accept the first link in the Optus-n/e/r/a chain of analysis that all of the net revenue lost from the fall in the MTAS price will lead to higher subscription prices. As previously discussed, to the extent that there was an above-normal profit element in the mobile termination price, there may be no flow-through to subscription prices at all or the flow-through could only be partial.

Further, any lost revenue that mobile operators do seek to recover through increased prices for retail mobile services may be recovered from retail mobile services other than subscription. That is, the Commission notes that Optus's and n/e/r/a's analysis of the welfare effects of reduced termination charges relies on the full decrease in the price of the MTAS being recovered through increases in the price of retail mobile subscription charges. This is a key driver of the large falls in subscriber numbers Optus and n/e/r/a estimate from decreases in the price of the MTAS. However, based on Optus and n/e/r/a's assumptions of the average price of retail mobile subscriptions, mobile operators only recover slightly over one quarter of their overall retail mobile revenues from subscription services.[416] The remainder is recovered across MTM, MTF, international roaming, SMS call charges, etc. To the extent that mobile operators sought to recover part of the lost revenues through increases in the prices of these other services, increases in the average price of mobile subscriptions would be significantly reduced. This would be even more heavily reduced if mobile operators are not subject to a zero economic profit constraint. Hence, it is likely that the flow-on effect of reduced MTAS charges in to increased prices for mobile subscription services would be less much than suggested and could even be zero.

[416] The n/e/r/a analysis suggests an average price for subscription of $145 per annum and a volume of 13.9 million subscribers. This implies an annual level of revenue from mobile subscription of $2.02 billion. The Commission understands the Australian mobile industry as a whole generates about $7.6 billion in retail revenue.

The Commission expects a much smaller reduction in the volume of mobile subscribers

Even if the full impact of the decrease in the MTAS rate falls on subscribers, Optus is likely to have overstated the impact on subscription numbers. In its 2003 submission, Optus had applied an overall own-price elasticity of demand for mobile subscription of –1.0. This was described by Optus as 'conservative' and supported by a reference to 'Optus' empirical market data'.[417] To the extent that Optus data refer to the responsiveness of Optus' demand to changes in Optus' prices, this would tend to indicate a more elastic response than if all carriers increased their prices — i.e., an individual carrier's demand will be more elastic than market demand. In its latest submission Optus refers to much less elastic subscription responses of –0.06 and –0.54.[418] These are more compatible with other available estimates – Madden, Coble-Neal and Dalzell estimate a price elasticity of subscription of –0.53 for high-income countries and –0.55 for 'global', while Grzybowski's estimates for a number of European countries over a run of years are even lower, finding an average of –0.3 for 2002.[419]

Crucially, Optus makes no allowance for different degrees of responsiveness for different categories of demand. In particular, as is the case for fixed-line business services, mobile business users and entrenched social subscribers are likely to have very inelastic demands. This leaves a large and growing group of more marginal later adaptors that is likely to be more responsive to price. However, even if the own-price elasticity of demand for mobile subscription were as high as –1.0 for this marginal group, this would imply a much lower own-price elasticity of demand when averaged over all users. In turn, this would reduce the decrease in mobile subscribers from any increase in the price of retail mobile subscription services.

Fourthly, as indicated above, consequent reductions in the price of FTM services that result from decreases in the price of the MTAS will increase the value of a mobile subscription (as more calls will be made to mobile subscribers). In turn, this effect would, in isolation, tend to increase demand for mobile subscription services in a way that may even lead to a net increase in the volume of mobile subscribers.

The Commission does not believe, therefore, that the shift inwards (swivel) of the demand curve for FTM calls from a decrease in the price of the mobile termination service is likely to be anywhere near as large as Optus' analysis assumes.

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[417] Optus, *op. cit*., p. 31.

[418] Optus, 'Efficient Use' submission, p. 13. It is unclear why Optus describes these as having a 'very high own-price elasticity' when they are not even in the elastic region, and at the lower end is very close to perfectly inelastic.

[419] See G. Madden, G. Coble-Neal and B. Dalzell,'A Dynamic Model of Mobile Telephony Subscription Incorporating a Network Effect', *Telecommunications Policy*, 28, 2004, pp. 133-144; and Lukasz Grzybowski, 'The Competitiveness of Mobile Telecommunications Industry Across the European Union', Centre for Information and Network Economics, Munich Graduate School of Economics, April 2004, table on page 34.

The Commission expects a much smaller loss (if any) in FTM consumer surplus as a result of the fixed-line network externality effect

Finally, the Commission believes there are various problems with the empirical estimation of the consumers' surplus loss from the swivel (the area L identified in Figure 6.3 above):

- In its first incarnation, the height of the original consumers' surplus triangle (the vertical intercept at point A in Figure 6.3) was implausibly large, which, given that the loss of consumers' surplus is proportional to this triangle, led to a general overstatement of loss. The estimation of original total consumer surplus was based on a linear extrapolation of the demand curve from the price-quantity coordinate at P^0, Q^0. As the elasticity assumed to apply at the point is very inelastic (–0.08), the linear extrapolation produced a very high intercept on the vertical axis ($5.40), implying that the *average* FTM caller has a willingness to pay for FTM calls of $2.70 per minute. It was pointed out in the Draft Report that it is highly unlikely that the *average* FTM caller would be prepared to pay anything like $2.70 per minute. Optus has now changed its approach to the identification and measurement of this surplus by considering a constant-elasticity of demand, capped by an assumption that each FTM subscriber makes 140 minutes of calls each year valued at $2.50 each.[420] The Commission also finds this highly implausible.

- The size of the inward shift in the FTM demand curve depends on the estimated fall in the number of subscribers, and (as previously argued) this would appear to be substantially over-stated.

- There is an implicit assumption that the number of FTM calls falls *pro rata* with the number of subscribers, so that (under last year's model) the swivel removes 10 per cent of the base and 10 per cent of the area of the consumers' surplus triangle. This result assumes that those who no longer choose to subscribe receive the *average* number of FTM calls. However, it is more likely that those who no longer subscribe will be far more marginal consumers who receive a below-average number of FTM calls. If so, the base of the loss triangle would be shorter than assumed by Optus.

- It is also assumed that those with highest willingness to pay for FTM calls are equally likely to lose their destination subscribers. In contrast, it is more likely that the FTM calls lost will be on average lower-value FTM calls, and therefore the amount of surplus lost on these calls would be lower than average. This means the height of the loss triangle would be lower than suggested by Optus.

Overall, therefore, the Commission believes that if there were to be any impact on consumers' welfare from the elimination of destination subscribers, it is likely to be a much smaller proportion of a much smaller consumers' surplus. Further, there will be an offsetting call-externality gain to mobile subscribers from the stimulation of FTM calls flowing from a reduction in their price.

[420] See n/e/r/a 'Joint Products' report, pp. 27-28.

Summary of Commission analysis on the relevance of the fixed-line externality

In summary, therefore, the Commission has a number of conceptual and empirical concerns with Optus' analysis of a decrease in the price of the mobile termination service on the efficient use of FTM services. These are related to both its estimate of the $985 million per annum efficiency loss generated by the fixed-line externality and the $1 million per annum offsetting direct efficiency gain.

The Commission believes that Optus (and latterly, n/e/r/a) has greatly underestimated the size of the offsetting direct efficiency gain generated by a decrease in the price of the FTM service.

The combined effect of this over-estimation of the fixed-line externality effect and the under-estimation of the offsetting efficiency gain leads the Commission to believe that Optus has considerably overstated the welfare loss resulting from a 5 cent per minute reduction in the FTM termination charge. Indeed, the Commission believes that a 5 cent per minute reduction in the price of the mobile termination service would, when considered using a proper specification of the underlying empirical inputs and a correct estimation of all welfare effects with regard to consumption of FTM services, likely generate an overall gain from the more efficient use of the FTM service.

6.2.4 The relevance of mobile network externalities

As indicated above, a number of parties have considered the relevance of mobile network externalities during the Commission's inquiry into whether it should continue to declare the mobile termination service. Those in favour of discontinuing the declaration of the mobile termination service argue that the current pricing structure for the mobile termination service reflects, in part, an efficient cross-subsidisation of mobile subscription prices with higher prices for mobile termination services. These parties argue this promotes an efficient use of infrastructure because it efficiently internalises the benefit mobile subscribers receive from having additional other subscribers to call and receive calls from. They argue that mobile subscription would be below efficient levels if mobile subscription prices were not subsidised through higher prices for mobile termination services.

When is a subscription subsidy justified by mobile network externalities?

Whether or not subsidisation of mobile subscription improves the efficient level of consumption of mobile subscription services depends on whether there would be an additional externality benefit generated by additional subscribers in the absence of any subsidisation of the price of subscription. To illustrate, consider Figure 6.4. In this figure, the private demand curve representing individuals' willingness to pay (WTP) for subscription slopes downwards, indicating that individuals vary in their valuation of subscription. The externality benefit (i.e., what others are willing to pay to have more subscribers) from each additional subscription is reflected by the marginal external benefit curve (MEB). This is assumed to slope downwards as well, eventually becoming zero.

The total benefit to society from each additional subscriber should therefore reflect the sum of both their own private benefit and the benefit others in society gain from their subscription.[421] This is reflected in Figure 6.4 by vertically summing the marginal externality benefit and the marginal private benefit curves to yield a marginal social benefit (MSB) curve. An implication of this is that as the externality benefit reduces to zero, the social demand curve converges towards the private demand curve. The point of this convergence could be interpreted as the level of membership where the network is 'mature', and any subscriptions beyond this level should be on a strictly user pays basis without any need for subsidisation of prices. Indeed, any subsidisation beyond the mature level would damage economic efficiency.

Assuming the price of subscription was initially set at TSLRIC, individuals would only purchase a mobile subscription if their private willingness to pay for mobile subscription was at least as high as this price. Accordingly, the unsubsidised level of consumption would be determined where the TSLRIC line in Figure 6.4 intersects with the private demand curve. In terms of Figure 6.4, a price set equal to TSLRIC would generate a level of consumption equal to Q^0 mobile subscriptions. In this instance, it may be that consumption is sub-optimal as the marginal consumer could be generating an external benefit. In Figure 6.4, the value of this benefit is measured by the height of the MEB curve at Q^0 units of subscription. In this circumstance, the efficient use of the infrastructure used to provide mobile subscription services would be at a level of consumption where the total value to society from each additional network subscriber equalled the cost to society of providing their subscription. In Figure 6.4, this would be found at the level of consumption (Q^e) consistent with the intersection of the MSB and TSLRIC curves. Assuming private individuals only have regard for their own willingness to pay when determining whether to purchase subscription, an argument can be mounted for providing mobile subscribers with a subsidy equal to the value of the MEB of the Q^e unit of subscription. This is measured by the amount S^e in Figure 6.4.

However, while it is possible that efficiency in use could be promoted by subsidising consumption of mobile subscription services, it is also possible that there is no MEB *at the margin*. That is, it is possible that while there is likely to be some positive externality generated by additional subscribers at lower levels of mobile penetration, it is also possible that this positive marginal externality benefit may be negligible once subscription reaches a certain level. In this instance, subsidisation would only be warranted when the TSLRIC curve intersects the MSB curve at a point before it has converged with the private demand curve.[422] Were the level of subsidisation to be such as to extend subscription beyond Q^e there would be an efficiency loss, equal at

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[421] Oftel (*Proposals for the Identification and Analysis of Markets, Determination of Market Power and Setting of SMP Condition, Explanatory Statement and Notification,* 19 December 2003, Annex G.) presents this in terms of the Rohlfs-Griffin factor, the ratio of the sum of the external and private benefits to the private benefit. Oftel proposes that this equals one where there is no marginal private benefit and two where the external value of a new subscription is the same as its value to the new subscriber.

[422] Expressed differently in keeping with the public finance literature (in particular, J. Buchanan and W. Stubblebine, 'Externality', *Economica*, 29, 1962, pp. 371-84) there is only a case for intervention where the externality is Pareto-relevant, and this occurs where it is non-zero at the margin. See also Y-K. Ng, *Welfare Economics: Introduction and Development of Basic Concepts*, Macmillan, London 1979 at pp. 166-169.

the margin to the excess of TSLRIC over MSB. The efficiency loss in the subscription market would increase at an increasing rate as the price were driven down by more aggressive handset and subscription subsidies, and would eventually outweigh the efficiency gain from subsidisation in the first place.

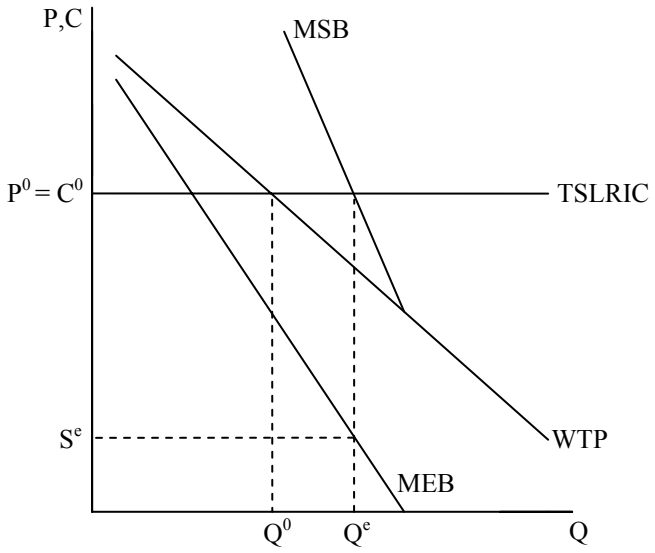

Figure 6.4 – Mobile network externalities

This then brings into sharp focus the empirical evidence surrounding these magnitudes. In the Draft Report, the Commission regarded the downward slope of the MEB curve as non-contentious.[423] It reasoned that the 'attractiveness' of new subscribers to existing subscribers is likely to vary. Those that are more attractive to call or be called by others are likely to be earlier joiners, and eventually the addition of new subscribers will be of little or no interest to existing subscribers.[424] However, in response to the Draft Report, Optus stated that it 'disputes the ACCC's claims the MEB curve is downward sloping'.[425] Optus presents arguments relating to subscribers needing to care about those calling them; the analogy with credit-card holders and the assertion that there

> … is no reason as to why the MEB for these subscribers [teenagers and immigrants] would be lower than for existing subscribers.[426]

However, the empirical information for a declining MEB is compelling. The majority of more recent subscribers are pre-paid, and these have average revenue per user (ARPUs) very much smaller than post-paid subscribers. For example, in the first half of 2003-04, Telstra reports ARPUs for pre-paid subscribers of $14.72, only about

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[423] See for example O. Bomsel, M. Cave, G. Le Blanc and K.-H. Neumann, *How Mobile Termination Charges Shape the Dynamics of the Telecom Sector*, Final Report, wik Consult, University of Warwick, 9 July 2003, pp. 21-22.

[424] Where an existing subscriber has a personal interest in a new subscriber joining it is likely that the subsidy would be paid directly by that subscriber. Other existing subscribers would be indifferent. This may be the case with, for example, many of Virgin Mobile's subscribers.

[425] Optus 'Efficient Use' submission, p. 10.

[426] *Ibid.*, p. 11.

one-quarter of that for post-paid ($58.24).[427] Optus also reported a large differential between post-paid and pre-paid ARPU (about three to one) in c-i-c evidence to the Commission.[428] Another indicator is the decline over time in the average ARPU, falling substantially more greatly than prices from $65.66 to $51.13 per month over 1997-98 to 2002-03.[429] Further, very large differences between usage by the five categories of users (from very low to very high) as reported in the Commission's recent 'Division 12' report are also suggestive of great heterogeneity of subscribership**.**

It further needs to be determined whether or not the market in Australia is mature or not. CRA for Optus argues that this is 'unclear' based on comparisons for mobile penetration between Australia and Europe, suggesting that Australian rates are a little lower than those in Europe.[430] The Commission believes that, where compared on a like-on-like basis, Australian penetration levels on a population basis at around 78 per cent are higher than those in most European countries (e.g., the UK at 75 per cent)[431] and much higher than in the receiving party pays (RPP) countries like the United States and Canada. Reported rates of above 80 per cent for the UK and elsewhere appear to be for *household* penetration, which are consistently higher than levels on a population basis.

n/e/r/a effectively argues that there will always be a positive marginal externality benefit, irrespective of the level of penetration. In particular, NERA argues

> … in order for there to be a zero benefit to callers as a result of an extra subscription it is necessary that the extra subscriber receives zero calls per annum.

While this is true in an absolute sense, it is unlikely to be worthwhile chasing down small marginal efficiency gains at the expense of (possibly large) marginal efficiency losses from taxing FTM callers. Further, to the extent there is a call externality, there is an additional cost to mobile subscribers from raising the FTM price to fund the subsidy.

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[427] Telstra Corporation, *Half Year End Results and Operations Review, Half Year Ended 31 December 2003*, Table 9. Note however, that the pre-paid ARPU may be a smaller percentage than this. Macquarie Research Equities (*Australian Mobile Market Update*, 16 June 2004, p. 3) notes that all end-to-end wholesale customers are included as post-paid customers. This will inflate the pre-paid/post-paid ARPU proportion. On the other hand, Virgin Mobile (*Non-confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, p. 3) states that its customers have a higher average number of incoming minutes than outgoing minutes.

[428] Optus, *Optus Submission to Australian Competition and Consumer Commission on Mobile Services*, June 2003, p. 21.

[429] ABN-AMRO, *Australian Telecommunications 2004*, 20 November 2003, Table 15, p. 29.

[430] CRA, *The Use of Benchmarking in Regulating Mobile Termination Rates*, Report for Optus, 28 May 2004, pp. 14-15.

[431] Macquarie Research Equities, *op. cit.*, p. 2 for the Australian estimate for March 2004. UK estimate from Ofcom, Strategic Review of Telecommunications Phase 1 Consultation, Annexure H, p. 12 at http://www.ofcom.org.uk/consultations/current/telecoms_review/annexh/?a=87101

Should a subscription subsidy be funded through a surcharge on mobile termination rates?

In the event that a subsidy is justified it has to be funded and there are broadly two potential sources of funds:

- First, it could be funded by Government in which case a full efficiency analysis would require considering both the efficiency gain from the subsidy and the additional deadweight losses from raising additional taxation revenue to fund the subsidy.

- Second, it could be funded by 'cross-subsidy' through higher charges for mobile calls and/or wholesale charges. In this case, the efficiency analysis would have to include any efficiency consequences of holding price(s) of these retail or wholesale services above their cost of provision.

As is clear from the preceding, the debate with respect to the mobiles network externality has revolved around the latter source of funding, specifically through a surcharge on the FTM termination charge.

Given there is a network externality at the margin, partial-equilibrium efficiency analysis suggests that a subsidy up to the amount of the marginal externality increases efficiency. On the other hand, funding this subsidy through a surcharge on the FTM termination charge causes a deadweight loss. Considering both these effects together suggests that each effect must be traded off with the other and that therefore there would be a limit to the amount of the subsidy and to the surcharge. In short, there will be an optimum subsidy and an optimum surcharge on the FTM termination charge.

The resolution of this trade-off is where the marginal loss in efficiency from increasing the surcharge on termination is equal to the marginal efficiency gain from applying the subsidy. Because the marginal efficiency loss from the surcharge increases at an increasing rate and the marginal efficiency gain from the subsidy falls at an increasing rate, it must be true that the optimum surcharge/subsidy is reached before the total efficiency loss is equal to the total efficiency gain. Overlooking this rule has led some to advocate inefficiently high levels of subsidisation (and, therefore, taxation in the form of pricing above the cost of production..

In response to the Discussion Paper, CRA for Optus defined the optimum FTM surcharge as that resulting where

> …the private and external benefits created by lowering subscription can be balanced against the deadweight loss created by raising termination charges.[432]

It was clear that CRA meant that the total efficiency gain from the subsidy be set equal to the *total* deadweight loss from the FTM termination surcharge because of its criticism of the UK Competition Commission for equating:

> …the external benefit with the subsidy (rather than the deadweight loss).[433]

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[432] CRA, *op. cit.*, p. 21.
[433] *Ibid*., p. 21.

While the Competition Commission's rule is incorrect in any case, the CRA's criticism of it was only quoted to confirm CRA's interpretation of the optimum rule in terms of *total* rather than marginal efficiency effects, thus resulting in an excessive subsidy and (therefore) an excessive FTM surcharge.

The Commission is concerned that Optus may have misunderstood the basis of the Commission's critique of both CRA and the UK Competition Commission, by suggesting that it is making the same mistake as the UK Competition Commission.[434] This is a serious misrepresentation. To be clear, the Commission does not agree with either the CRA's rule (equating total efficiency loss with total efficiency gain) or the Commerce Commission's rule (equating total efficiency loss with total efficiency gain plus subsidy amount). Both are incorrect (because they equate total effects rather than marginal effects) but the Competition Commission is more incorrect because it is relating the efficiency loss to the wrong thing.

In summary, the optimum subsidy and surcharge is found by equating the marginal efficiency gain (MEG) from applying the subscription subsidy with the marginal deadweight loss (MDWL) from applying the mobile termination surcharge. This must result in a subsidy of less than that from equating the total benefit from the subsidy with the total deadweight loss from the mobile termination surcharge, and less than the full amount of the marginal external effect.

Call Externality

As indicated above, it is likely that there is also a call externality, where mobile subscribers perceive a benefit from being called by fixed-line subscribers. This benefit is dependent on the price of FTM calling, with fixed-line callers being expected to make more calls to mobiles when they face a lower calling price. Accordingly, a decrease in FTM price will lead to an upward shift in the demand-for-subscription curve, and this in turn will decrease any excess of TSLRIC over MSB. Therefore, if there were a case for a subsidy of some level at the original price of FTM calling, the call-externality effect would unambiguously reduce the amount of the optimum subsidy.

Commission assessment of the relevance of network externalities

The Commission is not convinced that mobile network externalities justify a surcharge on the price of the mobile termination service at present. This is for two main reasons:

1. No evidence has been provided to the Commission to quantify the size of such externalities either infra-marginally or at the margin. Further, no party provides any indication of how any such externality benefit could be measured; and

[434] Optus 'Efficient Use' submission, footnote 12, p. 14.

2. It is unclear whether surcharges on the price of the mobile termination service would be the most efficient way to finance subsidisation of mobile subscription charges if such an externality was relevant.

With regard to the relevance of network externalities at the margin, those parties arguing its relevance simply assert its existence, without any attempt to measure its size or relevance. In contrast, those arguing against its relevance comment on the 'maturity' of mobile networks. In doing so, they argue there is a high level of mobile network penetration in Australia, and that this is likely to mean there would be limited additional benefit generated for existing mobile subscribers by the addition of more mobile subscribers. While this argument is intuitively appealing, it still could be the case that maturity has been reached only because of subsidisation, and that removing subsidies would lead to a fall in penetration and, thus, a suboptimal outcome.

Overall, the Commission considers that there are likely to be positive externality benefits generated by new subscribers while subscription to mobile networks is low. At present, however, penetration levels in Australia are high. The evidence available to the Commission on the presence and relevance of a network externality in the Australian mobile industry is inconclusive. There are signs that the market is mature and, therefore, that marginal externalities are negligible. At this stage, however, the Commission has not been provided with sufficient evidence for the externality argument to be taken seriously as a basis for efficient subsidisation of subscription.

Finally, even if there is a relevant externality, it is not clear to the Commission that subsidisation of mobile subscription charges will cease if the Commission continues to declare a MTAS and that the price of the MTAS were more closely aligned with its underlying cost of production. As indicated above, the Commission believes there is likely to be some economic profit being earned across the mobile telephony industry, and that some or all of the reduction in mobile termination revenues could be absorbed within this economic profit. Further, as indicated above, the Commission has been provided with little evidence to suggest that mobile subscription charges have increased in the UK in response to regulated reductions in the price of the mobile termination service.

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.

6.2.5 The relevance of Ramsey pricing considerations

Optus, Vodafone and Telstra all submitted that their pricing structures approximate Ramsey-efficient ones, while Gans and King for Hutchison and AAPT questioned the achievement of Ramsey pricing in aspects of current pricing. Optus (and n/e/r/a), Vodafone (Frontier) and Telstra all reiterated Ramsey arguments. The Commission makes the following observations on this issue:

- Ramsey pricing structures should cover all of the services sharing common costs with a clear articulation of the costs attributable to each service and the elasticities applying to each service as a basis for determining the mark-ups for each service. There are six identifiable services sharing the unattributable common costs – termination; international roaming; MTM; MTF; SMS and subscription. The submissions to the Discussion Paper failed on all counts, and the same comment can be made of submissions to the Draft Report. At most, three of the six services are considered; with in all cases omission of MTF, SMS and international roaming. With respect to the cost bases, none of the submissions specify these for any of the services included. Further, there is little or no specification of the elasticities used.[435] In short, no party even approaches a full specification of the Ramsey solution.

- Two of the parties took an odd view on subscription subsidies, presenting these as part of a Ramsey pricing configuration. However, the Ramsey rule is based on positive mark-ups on attributable costs, and the suggested mark-downs are – without further elucidation – incongruous to the framework.

- Ramsey prices can be set at any level ranging from cost recovery to full monopoly exploitation. Those suggesting that Ramsey pricing is observed do not explicitly specify the level at which prices are set, although implicitly a cost-recovery level seems to be assumed. As discussed in section 4.3, the Commission believes that both Telstra and Optus are likely to be exceeding cost recovery, and therefore that there is scope to bring the entire pricing level down towards cost recovery.

- Similarly, the Commission agrees with the views of Gans and King that there is no reason to suspect mobile network competition for subscribers will lead to socially-optimal Ramsey prices.

- The Commission is unequivocal in its view that Ramsey pricing at any level requires market power, without which carriers could not hold prices above attributable costs. Further, Ramsey pricing is exactly the pricing scheme that will be adopted by a profit-maximising monopolist, with the overall level of prices dependent on the constraint (if any) on profits. However, the carriers claimed (and continue to claim) that they operate in a market that is either 'workably' or 'effectively' competitive which would imply that such

[435] Telstra, *op. cit.*, p. 24, argued that 'it would be worthwhile for the Commission to pursue a much better understanding of the size of these elasticities'. Optus ('Efficient Use' submission, p. 21) suggests 'application based on a conservative proxy for a Ramsey mark-up on termination', presumably based on its secondary-source based own-price elasticity of –0.08.

margins are not sustainable without collusion. By definition, it is not possible in competitive markets to hold prices above levels consistent with long-run cost recovery. In the Commission's view, by continuing to argue for Ramsey pricing, carriers are implying the existence of market power they otherwise are vehemently denying exists.

- AAPT's argument that on-net/off-net retail price differentials are not based upon considerations of demand responsiveness or any theory of Ramsey pricing appears to the Commission to be correct.

In summary, therefore, the Commission considers that arguments presented relating to Ramsey pricing of mobile services are neither well-articulated nor supported by robust empirical evidence. Further, these arguments imply the existence of market power, contradicting denials elsewhere in their submissions that markets are highly competitive.

6.3 Conclusion on the Efficiency-in-use Considerations in Declaration

Overall, therefore, the Commission believes that continued declaration of a MTAS would be likely to encourage economically-efficient use of the infrastructure used to provide telecommunications services.

In the absence of declaration, the Commission believes mobile operators have both the ability and incentive to raise the price of MTASs on their network above their costs of provision. This ensures that each subscriber to a mobile operator's network becomes a potential source of economic profits whenever a call is made to these consumers. In turn, this provides each mobile operator with an incentive to lower retail prices (especially subscription) to mobile consumers in order to attract more subscribers to its network.

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 the MTAS 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 MTAS;
- 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 turn, this pricing structure is likely to generate direct efficiency losses in the market within which FTM services are provided. This is likely to be in the form of less than efficient consumption of retail FTM services. Based on plausible assumptions relating to the elasticity of demand for FTM calls and the starting quantities and prices for FTM call minutes, the Commission estimates this direct efficiency loss could be as high as $282 million per annum in 2002-03. Further, the Commission expects this pricing structure will – after considering all relevant externalities – generate greater than efficient consumption of retail mobile subscription services, and a consequent efficiency loss in the market for retail mobile services.

A number of arguments have been advanced by interested parties that attempt to defend the efficiency of this pricing structure. These include justifications based on fixed-line network externality, mobile externality and Ramsey pricing arguments.

With regard to the fixed-line externality arguments, the Commission believes it would be unwise to unduly focus on this form of potential externality to the exclusion of all other forms of potential externalities that are generated by the consumption of FTM and retail mobile services. Further, proponents of this argument have provided no evidence that mobile operators have sufficient incentive to efficiently internalise any such externality, in the absence of regulation, through their pricing of mobile termination services. Estimates of the loss in efficiency generated by a 5 cent per minute reduction in the price of FTM calls in the presence of such fixed-line externalities are implausibly high, and based on a series of questionable assumptions regarding the starting price and quantity for FTM calls, the elasticity of demand for FTM calls and mobile subscriptions and the nature of the demand response for FTM calls to a reduction in mobile subscribers.

With regard to mobile network externalities, the Commission believes it is unclear the extent to which these are relevant at the margin. That is, given the high levels of mobile subscription that currently exist, the Commission believes the level of benefit generated for existing mobile subscribers by new mobile subscriptions is likely to be low (if not zero). In this context, it is unlikely that existing above-cost mobile termination rates (and the consequent marginal deadweight loss this generates) are justified in order to subsidise additional mobile subscription. That is, it is highly unlikely that the existing cross-subsidised structure of prices represents an optimal pricing structure on the basis of mobile network externality arguments. Crucially, however, for the purposes of determining whether revocation of the declaration of the MTAS would promote an economically-efficient use of telecommunications infrastructure, no party has provided evidence to suggest that mobile operators have sufficient incentive to efficiently internalise any such externality, in the absence of regulation, through their pricing of mobile MTASs.

When all relevant externalities are considered and in the light of its knowledge of relevant empirical magnitudes, the Commission is attracted to the advice of Bomsel *et al*:

> Looking at all these effects and tendencies together, the best advice to regulators would appear to be to tax neither fixed network users for network externalities in mobile networks, nor to tax mobile users for network externalities in fixed networks, until the future trends in substitution between mobile and fixed networks become better understood.[436]

Finally, Ramsey arguments are not well developed and, as they essentially represent a restatement of other arguments against declaration (revolving around the suggested extreme inelasticity of the MTAS and the suggested high elasticity of mobile subscription) appear to have little additional relevance to the efficiency in use issue.

[436] Bomsel, Cave, Le Blanc and Neumann, *op. cit.*, p. 24.

7. Will declaration encourage economically efficient investment in infrastructure?

In examining the likely impacts of declaration on economically-efficient investment, and the extent of such investment, the Commission has focussed oneffects on economically efficient investment in:

- infrastructure by which the eligible service is supplied; and
- infrastructure by which other communications carriage services, and services supplied by means of communications carriage services, are supplied in related markets.

Central to the consideration of the incentives declaration give to service providers is the impact on their 'build/buy' decisions. That is, carriers operating in related markets will have a choice as to whether they invest in their own infrastructure in order to provide the eligible service (i.e. 'build') in order to provide final services to end-users, or to seek access from an existing provider of the eligible service (i.e. 'buy'). In this regard, the Commission is particularly concerned to ensure declaration would not prevent efficient investment (such as efficient investment in the infrastructure used to provide the eligible service by potential service providers) or encourage inefficient investment (such as excessive investment in related markets or inefficient duplication of network infrastructure). To a large extent, creating the right incentive for service providers to make an efficient build/buy choice is a matter of determining appropriate pricing principles for a declared service, and this issue is discussed in detail in Chapter Eight below.

Incentives for investment in infrastructure needed to provide the MTAS

Declaration may, when combined with an inappropriate pricing principle, distort the access provider's decisions about maintenance, improvement and expansion of existing infrastructure, thus harming the LTIE. For instance, if the access price of a declared service were to be based on a provider's actual costs, then declaration may lead to the access provider over-investing in the existing network in order to raise the access price (also known as 'gold plating').

Conversely, if the access price for a declared service was set at an inefficiently low level, it may deprive the access provider of the ability to earn an economic rate of return on its efficient investment in the infrastructure used to provide this service. In this instance, the access provider may be deterred from making efficient investment in the infrastructure used to provide a MTAS.

In other situations, the access provider may have an incentive to under-invest in order to limit the scope for third-party access to its network. Consequently, the Act requires the Commission to consider the likely impact of declaration on the incentives for investment in infrastructure by which the eligible service is supplied.

Incentives for investment in other infrastructure

As discussed in Chapter One, access seekers require access to the MTAS in order to provide FTM and MTM services to end users. Therefore, the Commission's assessment of the impact of continued declaration of a MTAS also includes an assessment of its likely effect on investment in infrastructure by which services in the related markets within which FTM and MTM services are provided.

7.1 Views of interested parties

In response to the Discussion Paper, submitters presented a range of views on the impact on investment of continued declaration of the MTAS. Optus, Vodafone and Telstra argue that continued declaration would result in inefficient investment outcomes while AAPT and the CCC contend that inefficient investment would be more likely to result in the absence of declaration. Hutchison considers that declaration of the MTAS using new networks would not affect the investment decisions of mobile operators.

Optus argues that declaration results in a regulatory risk that discourages investment in the mobile services market. Accordingly, it argues that the revocation of the declaration of the MTAS would promote certainty which would be likely to encourage investment in new networks and investment by new entrants.

> Optus firmly believes that a decision to revoke the declaration is likely to stimulate further investment by removing the regulatory risk that currently overhangs the mobile services market. The continued threat of regulatory intervention in this market raises the WACC/hurdle rate required by investors because of the high degree of uncertainty it creates. The ACCC's views with respect to the regulation of a service can shift dramatically, as is demonstrated by the thrust of this current review. Whilst regulation is in place there exists the scope for regulatory gaming by market players that also adds to the uncertainty of investors.[437]

Optus also contends that the current pricing structure for the full range of retail and mobile termination services promotes mobile penetration and that this in turn promotes investment in the infrastructure used to provide mobile services.

> the current structure of charges – with relatively low subscription charges – promotes penetration and the rapid take-up of services by consumers. This encourages existing operators to invest in mobile towers and capacity so driving further penetration. This is virtuous circle of continued investment and penetration that is in the mutual interests of both carriers and end-users (sic) [?]. The former pursue scale to drive efficient use of the infrastructure and reduce costs to serve; the latter benefit from reduced costs and the external benefits of higher mobile penetration. Continued regulation is a threat to this virtuous circle because it acts to reduce incentives for investment.[438]

[437] Optus, *op. cit.*, p. 57.
[438] *Ibid.,* p. 58.

Vodafone also contends that continued regulation of the mobile termination service would result in inefficient infrastructure investment. In particular, Vodafone argues that if mobile termination prices are reduced by regulation to a level that does not allow the network operator to break even, this could result in the network operator either decreasing its investment or exiting the market.

> Vodafone believes that there could be a number of consequences of significantly reduced mobile termination prices if, as a result, a mobile carrier is unable to break even; that is, earn an adequate return on their investment. This could include one or more of the mobile carriers doing one or a combination of the following:
>
> - Writing down the value of their assets but continuing to compete in the market (assuming debt and equity holders accept this write down);
> - Reducing investment in future infrastructure in an attempt to reduce capacity and lift retail prices; and/or
> - Exit the market (although we consider this unlikely to occur due to the extent that investments are already sunk).[439]

Vodafone also argues that significant reductions in mobile termination prices as a result of regulation would increase the perceived risk of investment. This would lead to one or both of an increase in the return on investment sought by providers of capital and a decrease in the forward-looking economic cash flows of capital investments.[440]

Vodafone also argues that regulation has the potential to adversely affect incentives to invest in new infrastructure and service development.

> Vodafone has committed to investing in 3G in Australia with commercial service available by mid-2005. While Vodafone stands by its commitment in regard to 3G, implementing binding regulation of mobile termination has the potential to adversely impact on incentives to invest in new infrastructure and service development.[441]

Telstra argues that continued declaration of the MTAS would result in inefficient investment because it considers the market in which the MTAS is provided to be a competitive one. In this regard it contends that:

> one of the major risks of regulation in a competitive market is the potential for that regulation to constrain investment, dampen incentives for technological innovation and slow market development. Since the mobiles market, as the Commission itself has previously noted, is a competitive one,[442] it does not make sense for the Commission to regulate this market.[443]

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[439] Vodafone, *op. cit.*, 9 October 2003, p. 10.
[440] *Ibid.*, p. 10.
[441] *Ibid.*, p. 10.
[442] See, for example, ACCC, *Public Inquiry into Declaration of Domestic Inter-carrier Roaming under Part XIC of the Trade Practices Act 1974 – Final Report*, March 1997; ACCC, *Pricing Methodology for the GSM Termination Service, Final Report*, July 2001. In the Commission's *Review of Price Control Arrangements* (2001), it noted that the supply of mobile services had become sufficiently competitive such that mobiles services could be removed from the existing broad price cap: p. 17.
[443] Telstra, *Mobile Services Review Telstra's Initial Response to the Discussion Paper of the ACCC*, April 2003, p. 2.

AAPT, on the other hand, argues that continued declaration of the MTAS offers the most effective means of encouraging efficient investment in infrastructure. AAPT contends that a correct application of total service long-run incremental cost (TSLRIC) pricing principles would encourage efficient investment and that regulation tends to deter efficient investment when regulatory changes are unexpected. In this regard AAPT argues that:

> It is unexpected changes, not expected ones, that tend to disrupt expected returns on investment projects and, in this way, discourage future investment. In the instant case, it would be the revocation of the mobile termination declaration that would be unexpected and, therefore, the revocation of the declaration that would be most likely to create uncertainty in the mind of investors.[444]

The CCC contends that setting the mobile termination price at an 'efficient' level will result in an efficient level of infrastructure investment. The CCC contends that the current price of the MTAS is above cost and that this has recently resulted in investment in mobile network infrastructure that 'in all likelihood' has been inefficient.[445]

Hutchison considers that investment decisions are made on the basis of expected demand for services and that declaration of the MTAS on networks using new technology will not affect a mobile operator's investment decisions. Further, Hutchison argues that the declaration of the MTAS should be varied to include voice termination on 3G networks in order not to distort investment decisions regarding 3G networks.

> A decision to invest, whether for 2G or 3G networks, should and would be based upon the likely take-up of mobile services and not regulation of the MTAS [termination access service]. This is because termination prices and retail prices for mobile services are closely linked. Any relevant fixed costs will generally be common costs of terminating and originating services and can therefore be recovered through retail mobile services. In fact, failing to vary the declaration of the MTAS to include 3G or other new technologies may serve to distort investment decisions.[446]

CoRE Research, in its submission on behalf of Hutchison, argues that a reduction in mobile termination rates would not discourage investment in the infrastructure used to provide mobile services, because changes in termination charges do not affect mobile operators' overall profits.

> Our past modelling of competition in mobile telephony (e.g., Gans and King, 2001) demonstrates that mobile network profits do not alter as termination charges (for mobile to mobile or fixed to mobile calls) alter. To see this, suppose that a change in mobile termination charges leads to an increase in total termination profits for the mobile networks. (As noted above, this change may be either an increase or a decrease in termination charges depending upon the initial level of these charges). Then from the perspective of the mobile carriers, the increased termination revenues make it more desirable to attract new subscribers, so that mobile network competition is intensified. In this situation, mobile subscription fees will fall, lowering mobile carrier profits. In equilibrium, these two effects offset each other. As a result, while the level of termination charges does affect social surplus and the benefits received by various market participants, it does not tend to alter total mobile carrier profits. Because of this,

[444] AAPT, *op. cit*., p. 35.
[445] Competitive Carriers Coalition, *op. cit.*, p. 29.
[446] Hutchison, *op. cit.*, p. 7.

> regulation of mobile termination fees will have no effect on either investment by existing mobile carriers or the entry of new mobile carriers.[447]

CoRE Research emphasised, however, that there is a need for research on the linkages between interconnection pricing and incentives to invest in infrastructure. CoRE Research commented that:

> While appropriate regulated pricing rules exist for traditional (or one-way) access issues that can generate socially optimal infrastructure the interconnection issue is fundamentally more difficult; especially given the interaction between competition and horizontal trade between incumbent and entrants.[448]

Some interested parties also submitted comments on efficient investment in infrastructure in response to the Draft Decision.

Optus argues that the Commission's Draft Decision would distort efficient investment and is definitely not in the LTIE of either mobile or fixed-to-mobile services. It argues that even with the most conservative assumptions, there is likely to be a welfare loss from regulation and as a consequence a distortion of investment in infrastructure.[449]

Optus argues that the Commission should not differentiate between investment in handsets and investment in mobile services arguing that they should be considered as one and the same.[450] Optus also argues that the Commission has 'ignored' Ramsey pricing principles in setting the target price and that as a result the Commission fails to demonstrate that the proposed pricing principle will not distort efficient investment in infrastructure.[451]

In relation to two-sided market theory, Optus quotes Rochet and Tirole to argue that the starting point for the theory of two-sided markets is that end-users do not internalise the welfare impact of their use of the platform on other end-users. Based on this, Optus then argues that the Commission mistakenly applied two-sided market theory.

> In assessing the price structures in the mobile and fixed to mobile markets, the ACCC has sought to identify negative welfare consequences when customers seek to extract an 'economic profit'. A more appropriate characterisation is that the price structures are the market's way of allowing subscribers to internalise the welfare impact of their use on the other side of the market. Indeed, in promoting efficient investment and efficient use of infrastructure, internalisation of external welfare impacts should be encouraged by the ACCC, not prohibited. [452]

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[447] J. Gans and S. King, *Price Regulation of Mobile Termination: Promoting Competition and Investment in Telecommunications*, A Report on Behalf of Hutchison Telecommunications, CoRE Research, Melbourne, 26 June 2003, pp. 41-42.
[448] *Ibid.*, p. 42.
[449] Optus, *Optus Submission to the ACCC on Efficient Use of Mobile Infrastructure and Investment*, May 2004, p. 18.
[450] *Ibid.*, p. 6.
[451] *Ibid*., p. 21.
[452] *Ibid.*, p. 12.

Optus argues that the current 'trade-off of efficiency consequences' in relation to the pricing of mobile services does not lead to 'significantly' distorted investment decisions.

In its response to the Draft Decision, Frontier Economics (on behalf of Vodafone) argues that the Commission has erred in reaching its view that inefficiently high prices for FTM services result in inefficiently low levels of investment in infrastructure used to provide FTM services. This is because Frontier Economics argues the Commission has 'failed to use standard economics in establishing that mobile termination prices are inefficiently high …one cannot support their conclusion that investment in the fixed-line network is inefficiently low'.[453]

Telstra also comments on investment in its submission to the Draft Decision. Telstra considers that the Commission's analysis in its Draft Decision is unreliable and argues that there is a 'high probability' that the application of the Draft Decision would result in a 'substantial downside regulatory risk' which could discourage investment by incumbents.[454]

On the other hand, AT&T agrees with the Commission's view that above cost mobile termination rates promote inefficient investment.

> Excessive mobile termination charges foster inefficient investment and operations, and unfairly distribute benefits and costs by harming consumers making calls to mobile users, particularly from fixed networks, and by allowing MNOs either to cross-subsidize the costs of their more competitive services or to retain unjust profits.

AAPT expressed agreement with the Commission's view concerning the impact on investment in infrastructure used to provide FTM calls of above-cost prices for the MTAS.[455]

Unwired argues that VoIP is technically possible now but that artificially high fixed-to-mobile interconnection rates restrict the 'value proposition' of the service and 'slow the development of the PSTN market as a consequence'.[456]

7.2 Commission view

In assessing the likely impact of continued declaration of the MTAS on efficient investment in infrastructure, the Commission considers it useful to compare the effect on efficient infrastructure of a revocation of the declaration of the MTAS with the effect on efficient investment of continued declaration.

As discussed in Chapter Four of this report, each mobile operator has control over access to a bottleneck facility in the form of the MTAS. Given this, in the absence of declaration, mobile operators will have the ability and incentive to raise the price of

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[453] *Ibid*., p. 13.
[454] Telstra, *Submission to the ACCC – Response to Draft Decision on the Mobile Terminating Access Service*, June 2004, p. 27.
[455] AAPT, *Submission by AAPT Limited in Response to the ACCC's Draft Decision on the Mobile Service Review: Mobile Terminating Access Service,* 30 April 2004, p. 4.
[456] Unwired, *Unwired Australia Pty Ltd Response to the Commission's Draft Report – Mobile Terminating Access Service*, 4 June 2004, p. 2.

the MTAS above its underlying cost of production. Given the two-sided nature of the service, however, mobile operators may choose to use some of the economic profits from MTASs to subsidise retail mobile service offerings in order to attract mobile subscribers to their networks, subject to the constraint that this increases net profitability. The greater is the effectiveness of competition with regard to the retail mobile services, the greater will be the transfer of economic profits from mobile termination to retail mobile services. Further, to the extent that the prices of MTASs are set above cost, this is likely to generate above-cost prices for FTM calls.

The Commission has three major concerns surrounding the effect of this pricing structure on efficient investment.

Firstly, if competition with regard to retail mobile services is not fully effective (as concluded in Chapter Four of this report), it is unlikely that there will be a full transfer of economic profits from mobile termination to retail mobile services. This would result in mobile operators earning above-normal profits across their mobile business as a whole and, as a consequence, it is likely that this would generate inefficient investment in mobile telephony infrastructure as a whole.

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 above-cost pricing of the MTAS in order to subsidise the price of retail mobile services, the resulting subsidisation would be likely to result in an inefficient allocation of investment funds across the different infrastructure used to provide mobile telephone services.[457] 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. In this regard, the Commission is not convinced by CoRE Research's arguments that investment by existing mobile carriers will not be affected by the pricing structure mobile operators set across the MTAS and retail mobile services.

Thirdly, as discussed in Chapter Four, above-cost prices for MTASs would be likely to result in fixed-line operators paying above-cost termination prices for FTM calls. This is likely to result in fixed-only carriers being disadvantaged compared with vertically-integrated carriers because fixed-only operators would be required to pay above-cost termination rates for all calls to mobile networks. In contrast, vertically-

[457] Frontier Economics (*ACCC Mobile Service Review: Effects of Declaration on Efficiency*, Report prepared for Vodafone Australia, 1 June 2004, pp. 13-14) regards the association of cross-subsidy with effective competition as a 'slip' and that using TSLRIC as a cost benchmark is inconsistent with the 'standard economic literature'. The Commission disagrees with both criticisms. Taxation of termination to subsidise handsets in the 'competitive' retail market is a classic cross-subsidy situation. It would only be if termination and retail were both effectively competitive that the notion of cross-subsidy would become incongruous. Secondly, TSLRIC is clearly an 'avoidable' cost concept and relating pricing to this benchmark is precisely the way to determine whether there is a subsidy or not. This concept of 'subsidy' would be readily understood by Frontier Economics immediate clients with respect to the meaning of a 'handset subsidy'. Frontier Economics makes reference to Faulhaber (G. Faulhaber, 'Cross-Subsidization: Pricing in Public Enterprises', *American Economic Review*, 65, December 1975, pp. 966-977). The Commission suggests that a careful reading of it would discover nothing inconsistent with its use of the term 'cross subsidy'.

integrated carriers would only pay above-cost termination rates for calls which do not terminate on their own mobile networks. It is likely that this lessening of competition in the downstream market within which FTM calls are provided would result in inefficient investment by fixed-line carriers. This is because the Commission believes that above-cost FTM call rates would decrease demand for FTM services leading to the potential for inefficiently low levels of investment in fixed-line network infrastructure used to provide call capacity. In this regard, the Commission disagrees with Frontier Economics that it has failed to use standard economics in establishing that MTAS prices are inefficiently high.

In relation to FTM telephony, the Commission also notes Unwired's argument that it is inhibited in its ability to compete by MNOs being able to charge above-cost prices for the MTAS. The Commission believes that Unwired's submission indicates it is not just fixed-line and mobile network operators that face above-cost prices for the MTAS. It also suggest that above-cost pricing of the MTAS may have the effect of hindering the development and competitiveness of new and emerging technologies that could offer a broader competitive constraint on existing network operators.

In addition to creating the incentive to structure prices for mobile services in a way which hinders efficient investment, the Commission believes that the absence of declaration of the MTAS may create an incentive for established mobile operators either to refuse to provide access to new entrants or to providing access only on terms and conditions which do not allow new entrants to compete effectively. This would increase new entrants' costs relative to established operators' costs and would also inhibit new market entry. It is the Commission's view that this lessening of competition would also result in less than efficient levels of investment in the infrastructure used to provide a range of telecommunications services.

These expected investment outcomes contrast with those which the Commission would expect if the MTAS were regulated in such a way that the price of the service was more closely associated with its underlying cost of production.

The Commission believes, that if continued declaration of the MTAS leads to a closer association of its price and cost, this will promote competition in the market within which FTM services are provided by enabling fixed-only carriers to compete more equally with integrated carriers. This increased competition will in turn promote more efficient investment in the infrastructure used to provide call capacity on the PSTN network.

The Commission is also of the view that continued declaration which results in an appropriate price for the MTAS will encourage mobile operators to recoup more of their investment costs of providing individual mobile services directly from the services which incur the investment costs, rather than cross-subsidising infrastructure investment between services. This is likely to lead to greater efficiency in investment in infrastructure used to provide mobile call services. For instance, the Commission considers that the expected decrease in mobile termination rates to align them more closely with costs would, over time, be expected to provide mobile operators with appropriate incentives to invest efficiently in capacity in mobile networks.

With regard to arguments by interested parties during the course of the inquiry, the Commission disagrees with Optus' argument that the Commission should not differentiate between investment in handsets and investment in mobile services. The Commission is concerned that the cross-subsidised pricing structure that exists with respect to the mobile termination, FTM and retail mobile services is likely to be creating distortions to efficient investment decisions by vertically-integrated, mobile and fixed-line only operators. In particular, the Commission is concerned that:

- above cost pricing of the MTAS is reducing demand for mobile termination (and therefore FTM) services. In turn, this is likely to distort investment decisions by encouraging operators to under-invest in the mobile and fixed network capacity needed to provided FTM calls;

- subsidised pricing of retail mobile services is likely to be encouraging excessive investment in the infrastructure used to provide retail mobile services. For instance, subsidised handset prices (such as free handset offers) are likely to have encouraged greater-than-efficient turnover of mobile handsets by consumers. Further, it is likely to have led to excessive investment in the infrastructure used to develop new handsets;

- VMA's submission to the Draft Report may indicate that providers of retail mobile services have an incentive to seek to attract those subscribers that receive more calls than they make in a welfare-reducing fashion; and

- above-cost pricing of FTM calls (and possible subsidisation of MTM call prices) may be encouraging consumers to substitute some FTM calls with MTM calls when the underlying cost of providing FTM calls is less.

The Commission believes that the likely impact on the growth of mobile subscription of any consequent increase in retail subscription prices should be considered in the context of the already high level of mobile penetration in Australia.

Further, the Commission disagrees with Vodafone's proposition that continued declaration of the MTAS will constrain investment in innovative technology. As indicated above, the Commission believes that continued declaration of the MTAS – when combined with a pricing principle that ensures a closer association of the price of the service and its underlying cost of provision – is likely to promote competition in the related market within which FTM services are provided. In turn, this should help provide incentives for providers of services in this market to innovate and invest efficiently in ways that will help them compete and develop new ways of differentiating their product from that of their competitors in this market.

In this regard, the Commission notes that despite arguments by Telstra, Optus and Vodafone that regulation of 3G voice services would have a significant effect on investment in 3G infrastructure and services, to the detriment of end-users, it does not appear that the MNOs' commitments to 3G services have been retarded as a result of the Commission's draft decision. For example, Vodafone confirmed its commitment to invest in a 3G mobile network on 10 May 2004 by announcing a partnership with Nokia for the implementation of its 3G network in the second half of 2005 – well after the release of the Commission's Draft Decision.

The Commission also notes that mobile operators have continued to invest heavily in mobile network infrastructure in Australia following regulation of the MTAS in July 1997. The amount of expenditure by mobile operators in recent years in the infrastructure needed to provide mobile telephony services is set out in Table 4.3 in Chapter Four of this report. Further, the Commission also notes that despite cost-based retail price index (RPI)–X regulation of the MTAS in the UK, Vodafone has recently announced that it will launch 3G data services in the UK in 2004.

To the extent that regulation may discourage marginal 3G investment (in terms of scope, timing or level) the Commission considers that this may be quite consistent with promoting efficient investment. That is, the legislative criteria clearly indicate the aim of declaration is not to encourage investment at the margin *per se*, but to promote efficient investment. To the extent that existing investment decisions are based on the existence of an inefficient pricing structure for the MTAS and retail mobile services, declaration that changes investment decisions at the margin based on a more efficient pricing structure would represent promotion of efficient investment in telecommunications infrastructure.

Accordingly, even if marginal investment in 3G mobile networks will diminish as a result of declaration, the Commission does not consider this alone is a valid reason for restricting application of the MTAS declaration to only 2 and 2.5G mobile voice services.

Whether or not declaration will hinder incentives for investment in markets within which mobile telephony services are provided will depend on whether mobile operators are able to earn an economic return on their investments in innovation. In turn, this is to some extent dependent on the price they receive for the MTAS. To the extent that the Commission's pricing principles for this service allow mobile operators to earn an economic return on efficient investment and innovation, the Commission believes that carriers will not be deterred from making efficient investment decisions with regard to the infrastructure used to provide mobile telephony services. The Commission supports the view presented by Hutchison in this regard. The Commission's views on appropriate pricing principles for this service are discussed in more detail in Chapter Eight of this report.

With regard to Optus' argument that the threat of declaration *per se* introduces regulatory risks that might discourage investment in mobile services markets, the Commission notes that it seeks to release pricing principles at the same time as it declares a service (or as soon as possible thereafter) to provide greater certainty to industry with regard to the way the Commission will regulate declared services. In this regard, the Commission believes it is crucially important that it provides as much certainty as possible to the industry regarding how it will regulate telecommunications services. That said, to the extent that existing pricing principles are failing to achieve their intended (and stated) objectives, the Commission believes it has to be flexible and adaptable in the way it regulates services. This was a key concern for the Commission when it proposed the then novel retail benchmarking pricing principle in July 2001, and largely explains why it indicated that review of this pricing principle would be appropriate after a two-year implementation period.

In the absence of declaration, the Commission also believes that access seekers can face potential uncertainty as to the terms and conditions upon which they will acquire access to particular services. That is, the Commission believes that mobile operators have control over access to essential inputs needed by other telecommunications service providers – some of which are in competition with mobile operators in related telecommunications markets – to provide telecommunications services to end-users. In turn, this confers on mobile operators a number of strategic and competitive advantages, including:

- The ability to control rivals' input costs through price and non-price terms and conditions;

- The ability to leverage off the ownership of essential inputs to gain competitive advantage in related markets; and

- The high level of bargaining power in commercial negotiations resulting from, among other things, asymmetric information regarding costs, technical specifications and network operating requirements.

In turn, these advantages have the potential to create significant uncertainties for potential access seekers with regard to the terms and conditions they will face for access to the mobile termination service. In contrast, a key benefit of declaration in these circumstances is that it can help to overcome some of the uncertainties access seekers face when negotiating terms and conditions of access for the mobile termination service.

In conclusion, therefore, the Commission believes that declaration of the MTAS will encourage economically-efficient investment in the infrastructure by which listed services are provided.

8. Pricing principles for a declared Mobile Terminating Access Service

The price charged for a service has a significant impact on the promotion of the LTIE. The Commission therefore sees a benefit in signalling at the declaration inquiry stage its thinking on what should be the appropriate principles used to determine a price for the eligible service, were it to be declared. This is particularly relevant given recent amendments to the Act that require the Commission to determine, by writing, pricing principles relating to the price of access to the declared service at the time the Commission declares the service or as soon as possible thereafter.[458] The principles specified in such a determination are indicative of the approach that the Commission would likely take should it be required to arbitrate a dispute relating to the price of access. Although a party may still argue against the application of those principles to its case, determining pricing principles will guide commercial negotiation of access by providing greater certainty as to the Commission's views on reasonable access prices.[459]

The timely specification of pricing principles is also particularly relevant in the case of the MTAS, where encouragement of more reasonable access prices is a key motivation behind the broader Mobile Services Review.

This chapter presents the Commission's final views on appropriate pricing principles for a declared MTAS after it has analysed and given due consideration to the submissions of interested parties in response to the draft pricing principle for the MTAS presented in the Commission's Draft Decision in March 2004. In this regard, this chapter constitutes the Commission's written determination of principles relating to the price of access to a declared MTAS in accordance with the requirements of s. 152AQA of the Act. In order to elucidate upon how the Commission approached the development of these pricing principles, this chapter considers:

- the legislative criteria the Commission is required to consider when determining or assessing the terms and conditions of access to declared services;
- the alternative forms of pricing principles considered during this inquiry; and
- the Commission's final views on what form of pricing principles would be most appropriate for a MTAS.

For the avoidance of any confusion, section 152AQA(2) of the Act outlines that a pricing principle determination made by Commission may also contain price-related terms and conditions relating to access to the declared service. Whilst this chapter outlines the general approach the Commission believes would be appropriate for pricing the MTAS, Chapter Nine of this report indicates the Commission's views

[458] See s. 152AQA of the Act.
[459] See Commonwealth, Trade Practices Amendment (Telecommunications) Bill 2001, pp. 10, 18.

regarding indicative price related terms and conditions it believes would be appropriate for a MTAS at this point in time.

The Commission's pricing determination for the Domestic MTAS specifying both principles relating to price and price related terms and conditions is contained in Appendix D to this report.

Further, the Commission notes that the pricing principles it establishes here for the MTAS are not binding. In the event of arbitration of an access dispute, or assessment of an undertaking determination, the Commission will have full regard to the matters presented before it, including responses of interested parties to new material provided in the pricing principle determination covered across both Chapter Eight and Nine of this report.

8.1 Legislative criteria

An important consideration in ensuring that access to declared services would promote the LTIE is whether the terms and conditions of access (including the price or a method for ascertaining the price) are reasonable. This is because the mere provision of access by an access provider may not be sufficient to promote the LTIE. The terms and conditions under which access is provided, particularly the price, are therefore also important in determining the degree to which the LTIE is promoted by declaration. The Commission's role in assessing terms and conditions generally revolves around assessing undertakings and arbitrating disputes. In these circumstances, the Act requires that the terms and conditions of access are reasonable.[460] In determining whether terms and conditions are reasonable, regard must be had to the following matters:

- whether the terms and conditions promote the LTIE of carriage services or of services supplied by means of carriage services, which in turn are achieved by:
  - promoting competition in markets for telecommunications services;
  - achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
  - encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which telecommunications services are supplied;[461]
- the legitimate business interests of the carrier or carriage service provider concerned, and the carrier's or provider's investment in facilities used to supply the declared service concerned;

[460] The Commission must also ensure that the terms and conditions in undertakings and any arbitration determination are consistent with any Ministerial pricing determination in place. See s. 152CH of the Act.

[461] s. 152AB(2) of the Act.

- the interests of persons who have rights to use the declared service concerned;

- the direct costs of providing access to the declared service concerned;

- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility; and

- the economically efficient operation of a carriage service, a telecommunications network or a facility.[462]

This does not, by implication, limit the matters to which regard may be had.[463]

A more detailed discussion of these legislative criteria and their application in determining access pricing principles can be found in *Access Pricing Principles – Telecommunications – a guide*[464] (the APP paper).

8.2 Which form of pricing principle is appropriate for a MTAS?

In earlier parts of this report, the Commission indicated it believes MNOs have, in the absence of declaration of the MTAS, the ability and incentive to raise the price of this service above its underlying total service long-run incremental cost (TSLRIC+)[465] of production. Mobile operators may, depending on the level of competition in the related retail mobile services market, use some portion of the economic profits from above-TSLRIC+ pricing of the MTAS to reduce the prices they charge potential mobile subscribers in order to attract more subscribers to their network. The Commission believes the resulting structure of prices that would emerge in the absence of declaration is not likely to promote the LTIE because it has the potential to inhibit competition in the market within which FTM services are provided and is likely to generate an inefficient use of, and investment in, the infrastructure used to provide telecommunications services.

To the extent that declaration of the MTAS can lead to a closer association of the price of the service with its underlying TSLRIC+ of production, the Commission believes the LTIE can be promoted because:

- competition will be promoted in the related market within which FTM services are provided; and

- the extent of any cross-subsidisation of mobile retail services by MTASs will be reduced such that a pricing structure would be expected that is more likely to promote an efficient use of, and investment in, the infrastructure by which telecommunications services are provided.

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462 s. 152AH(1) of the Act.
463 s. 152AH(2) of the Act.
464 ACCC, *Access Pricing Principles Telecommunications – a Guide*, 1997.
465 The concept of TSLRIC+ and its application to MTAS is discussed further in detail in subsection 8.2.5 of this Chapter.

Accordingly, in order for declaration to best promote the LTIE, the Commission believes a pricing principle must be devised for the MTAS that will ensure a closer association between the price and TSLRIC+ of providing this service.

Throughout the course of this inquiry, six main options have been presented as alternative approaches for generating this closer association. These are:

- regulatory forbearance;
- greater provision of information to mobile subscribers and FTM callers regarding the price of MTASs;
- continuation of some form of retail benchmarking pricing principle;
- a form of cost-based pricing principle;
- an adjustment path towards a closer association of price and TSLRIC+; and
- a form of Consumer Price Index (CPI) minus X pricing principle;

The advantages and disadvantages of each approach are considered in turn below.

8.2.1 Regulatory forbearance

In considering the full range of pricing principles available for the MTAS, it has been proposed that one possibility may be to do nothing at all. Submissions received from Vodafone[466], Optus[467] and Telstra[468] have suggested this is the optimal regulatory approach for the Commission with regard to the MTAS. Largely, this view is derived from a belief that mobile termination is supplied as part of a broader bundle of mobile telephony services that includes retail mobile services, and that supply of this bundle of services is effectively competitive. Accordingly, regulation of the MTAS should be unnecessary, as competition for the bundle (or cluster) of mobile telephony services should ensure the price of the service is kept at an effectively competitive and economically-efficient level.

In addition to this, Optus and Vodafone also argue that the price of the MTAS has declined in the absence of direct regulatory intervention in recent years. Hence, these parties believe the price of the MTAS will likely reduce on its own if the Commission forbears from direct regulatory intervention of this service. This view is supported by evidence from Optus that the price it pays Telstra for the MTAS has decreased significantly in recent years from a high of c-i-c cents per minute in 1996 to c-i-c

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[466] Vodafone, *Supplementary Submission to ACCC Draft Decision, Mobile Termination Access Service*, 1 June 2004, p. 5; *Response to ACCC Draft Decision, Mobile Termination Access Service*, 30 April 2004, p. 3.

[467] Optus, Letter to the Commission, 2 June 2003, pp. 2-3; *Optus Submission to ACCC on Mobile Services Review: Mobile Terminating Access Service*, May 2004, pp. 4-5; *Optus Submission to ACCC on Efficient Use of Mobile Infrastructure and Investment*, pp. 2-4.

[468] Telstra, *Submission to the ACCC, Response to Draft Decision on the Mobile Terminating Access Service*, 17 May 2004, pp. 3, 23.

cents per minute in January 2003.[469] Further, Vodafone submits that the weighted average price it charges for termination has decreased from approximately c-i-c cents per minute in December 1998 to around c-i-c cents per minute in June 2003.[470] In similar statements, Vodafone claimed that its average F2M interconnection rate had dropped by 45 per cent in real terms in less than five years without regulatory intervention, and that these drops had occurred independently from retail price reductions[471] (i.e. reductions in average retail prices of mobile services).

As indicated in Chapter Four, the Commission believes that mobile carriers have the ability and incentive to keep the price of the MTAS above full economic cost. This is irrespective of the overall state of competition in the market for retail mobile services. Largely, this is due to the calling party pays (CPP) principle that governs calls to mobile networks, the control over access to mobile termination that mobile operators have and the abilities and incentives this creates for pricing the MTAS and retail mobile services. This is supported by observations that the price of the MTAS appears to be well in excess of its underlying TSLRIC+ of production. To the extent that this is inhibiting the development of effective competition in the downstream market within which FTM services are provided and leading to an allocatively-inefficient structure of prices for a range of telecommunications services (both fixed and mobile), the Commission believes regulatory forbearance would not promote the LTIE.

At the outset, it should be noted that once a service is declared under Part XIC of the Act, the Commission is obliged to publish pricing principles by section 152AQA of the Act. As such, simply not making a price determination in respect of a declared service is not an option open to the Commission.

Further, while the Commission agrees with Optus and Vodafone that the price of the MTAS has declined during the last six years, the Commission notes that the reduction has occurred during a period when the MTAS has been declared and subject to regulation under Part XIC of the Act. Absent declaration, the Commission believes the incentives for mobile carriers to lower access prices are minimal and significant reductions should not be expected. Further, whilst the prices of MTAS are significantly lower than those observed in 1996, the bulk of this reduction appears to have occurred during the period prior to January 2001, by which time the price Optus paid Telstra for mobile termination had already fallen to around c-i-c cents per minute, and the average price Vodafone paid for the MTAS had fallen to a similar level. In the last two-and-a-half years, however, price falls have slowed significantly, with average prices now in the order of 22.5 cents per minute. Market inquiries indicate that price falls for the MTAS have largely stalled during the last 15 months while the Commission has considered appropriate pricing principles for this service. Most importantly, based on overseas estimates of the cost of providing the MTAS, data collected under the RAF and other corroborative sources (as discussed further in Chapter Nine of this report), the Commission believes the price of the service is still well in excess of its underlying TSLRIC+ of production.

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[469] Optus, *Optus Submission to ACCC on Mobile Services*, June 2003, p. 17.
[470] Vodafone, Letter to the Commission, 5 August 2003.
[471] Vodafone, *ACCC Mobile Services Review, Regulation of GSM & CDMA Origination and Termination Services*, slide presentation by Peter Stiffe in the 2003 Mobile Services Review Forum in Melbourne, 29 August 2003.

Accordingly, the Commission believes that, *ceteris paribus*, it is unlikely that the price of MTAS would trend further towards TSLRIC+ in the absence of any form of regulatory intervention in relation to this service. In turn, concerns regarding the state of competition in the market within which FTM services are provided would remain, and the existing structure of prices across a range of mobile and fixed retail services would continue to be economically inefficient with possible distortions to carriers' build/buy incentives.

Hence, regulatory forbearance is unlikely to promote the LTIE and is therefore an inappropriate regulatory approach for the MTAS.

8.2.2 Provision of pricing information to mobile telephony subscribers and FTM callers

Some submissions to the review have argued that, if the Commission is concerned about the low level of consumer awareness in relation to the prices being charged by different carriers for MTAS, and that this is contributing to the higher prices for these services, then the Commission should direct its regulation to address this problem 'at its source'. That is, rather than 'treat' the outcome of problems that lead to the price of MTASs being in excess of TSLRIC, the Commission should instead target the source of the problem by increasing the level of consumer awareness regarding the different prices being set by different carriers for MTASs.

During the Commission's previous consideration of appropriate pricing principles for the MTAS in 2001, suggestions made to the Commission included providing end-users with information about which mobile carriers they are calling when they make MTM and FTM calls, and the retail price/access price for the MTAS associated with a call.

Again it can be noted that any requirements that the Commission could impose in this regard could not satisfy its obligation under section 152AQA of the Act to publish pricing principles.

Further, the legislative framework under which the Commission operates does not easily lend itself to require the provision of price related information to consumers at the point of supply..

The Commission may be able to characterise a requirement to provide information about an access provider's mobile termination rate in such a way that it falls within the Commission's power to set terms and conditions for telecommunications services.[472] However, the Commission's ability to set terms and conditions in relation to access to a MTAS is predicated upon the:

- Commission declaring the MTAS; and
- the notification to the Commission of an access dispute with respect to the declared service by either the access provider or the access seeker.

[472] See s. 152CP of the Act.

Such an information requirement would be further limited by its restricted application. Under s. 152CP of the Act, a determination setting a term or condition of access to a declared MTAS, under an arbitration, would only apply to the parties to the arbitration. Therefore, it is likely that, if the Commission were to implement such a measure in an arbitration, then the MTAS rate charged by only one carrier would be available to the customers of only one access seeker. Such asymmetric regulation and information could actually create greater consumer confusion and exacerbate any information asymmetries that exist in related markets.

Furthermore, the terms and conditions determined by the Commission in an arbitration would, ordinarily, be considered commercial-in-confidence. Whilst the Commission may make a determination setting terms of conditions of access that require disclosure of the mobile termination rate, or publish the determination under s. 152CRA of the Act itself, the Commission would still be required to have regard to the legitimate commercial interests of the parties in doing so. This has the potential to further restrict the Commission's ability to effectively implement a measure to improve consumer awareness in this way.

More importantly, however, the Commission is not convinced that the source of carriers' ability and incentive to raise mobile termination prices above cost derives solely from a lack of consumer awareness regarding mobile termination prices on different carriers' networks. Rather, the Commission believes that:

- carriers' ability to raise termination prices above cost derives from their exclusive control over access to MTAS on their networks, the CPP billing arrangement and the lack of substitute services that might otherwise constrain mobile operators' pricing decisions for the service; and

- their incentive derives from the fact that the greater the price a mobile operator charges other telecommunications service providers for access to termination services on its network at the wholesale level, the greater will be its profit.

As indicated in Chapter Four, even if those individuals making calls to mobile networks had access to information that was easy to understand regarding the mobile network that people they were calling were connected to, there are limited substitution possibilities available to them if they think the price of calling a particular mobile phone user connected to a particular mobile network is too high.

With regard to those parties choosing which mobile network to connect to (and who will then be the recipient of calls to mobile networks), the Commission believes these consumers are unlikely to be inclined to place a constraint on the prices of the MTAS charged by networks they subscribe to. This is because lower mobile termination charges set by these mobile networks (which they would not enjoy the benefit of) might lead to higher charges for retail mobile services (which they would incur). In general, the Commission believes mobile subscribers are unlikely to be sufficiently altruistic to choose those mobile carriers that set lower charges for the MTAS in these circumstances.

The Commission believes greater consumer awareness of mobile termination charges would only be likely to create pressure on mobile operators to reduce the price of the MTAS to TSLRIC+ if charging arrangements for calls to mobile networks were changed from a CPP arrangement to a receiving party pays (RPP) arrangement. The Commission does not believe a change to such a charging arrangement is likely in the near future.

The Commission believes, therefore, that providing end-users with information regarding the prices charged for MTASs would be unlikely to have a significant impact on the decisions of those who call mobile phones, nor on mobile subscribers' decisions with regard to which mobile networks they should subscribe to. Accordingly, the Commission does not believe it likely to provide a mechanism that will lead to a significant alignment of the price and cost of the MTAS on its own.

8.2.3 Continuation of some form of retail benchmarking pricing principle

One possible means of achieving a closer association of price and cost for the service, and therefore to promote the LTIE, could be the continuation of the existing retail benchmarking pricing principle. Under this principle, changes in each mobile carrier's termination access price would be benchmarked against the retail price movements of the carrier's overall package of services provided on its mobile network.

In short, the retail benchmarking approach works by constructing a price index for each carrier that attempts to show how retail prices for a basket of mobile retail services change from one six-month period to the next. The services currently included in the benchmarking analysis are outgoing voice calls, charges for SMS services, charges for voicemail services, subscription (access fees), initial connection charges and sales of handsets.[473]

In turn, the price of the MTAS would be determined by applying the weighted-average rate of change for these retail services in a given period to the most recently agreed rate for the MTAS. In principle, the methodology is designed to ensure that changes in the more competitive retail mobile services market (where prices might be expected to decrease over time) are replicated in less competitive wholesale mobile termination markets.

Initial consideration of the advantages and disadvantages of a retail benchmarking methodology

When the retail benchmarking methodology was first introduced in July 2001, the Commission noted that it represented a relatively 'light-handed' means of generating decreases in the prices of MTASs towards cost. That is, rather than having to undertake the potentially costly and resource-intensive exercise of determining an appropriate price for the MTAS according to a sophisticated cost-based methodology (such as the TSLRIC+ method used for PSTN originating and terminating access services), the Commission could instead use the relatively less information-intensive

[473] For more detail on how the retail benchmarking pricing principle operates, see ACCC, *A Monitoring Report Associated with the Implementation of the Pricing Methodology for the GSM Termination Service*, August 2003, available at www.accc.gov.au

method of pegging wholesale price changes to movements in the retail price of mobile services.

At the time the retail benchmarking pricing principle was introduced, there had recently been large decreases in the retail price of mobile services and the recent introduction of two new carriers; Orange and One.Tel. In this regard, information collected on price movements for retail mobile services as part of the Commission's *Changes in Prices Paid for Telecommunications Services in Australia* (the Division 12 Report) showed the average price paid for GSM mobile services had decreased by 12.3 per cent during the 1999-00 financial year. Accordingly, the Commission was of the view that benchmarking changes in the price of the MTAS against such retail price movements would ensure that the significant price reductions in the retail mobile services market could be used to generate reductions in the price of MTASs towards their underlying cost of production.

That said, the Commission did note that the success of this pricing methodology relied heavily on expected decreases in the retail prices of mobile services. In this regard, the 2001 GSM pricing principles report indicated that:

> The decision is 'on balance' and the pricing principles (including forbearance) which best promote the LTIE may change over time. In particular, the Commission recognises the limitations of the retail benchmarking approach and also the anti-competitive conduct provisions of the Act. If continued retail price falls do not eventuate or if price squeezing is observed in the fixed-to-mobile market, the Commission may need to reconsider this pricing principle at the time of the next review.[474]

Accordingly, in order to determine whether such price decreases would occur, the Commission indicated it would implement a monitoring program to measure changes in the retail prices of mobile telephony services over this period. The Commission also indicated it would review the success of the retail benchmarking pricing principle after an initial implementation period of two years. Further, the Commission indicated its monitoring program would also:

- determine whether there may be increasing competitive forces on mobile termination through other forces (such as evidence of more closed-user groups and increased use of call back, etc.); and

- determine whether vertically-integrated mobile carriers (who are likely to face lower internal access prices for mobile termination) engage in anti-competitive pricing of FTM calls.

The final results of this monitoring are outlined below.

Retail benchmarking monitoring program

In August 2003, the Commission released its first set of results outlining changes in the retail price of GSM mobile services. The results showed that, during the monitoring period, the rate of change in the retail price of the bundle of mobile services varied across carriers and was, by and large, inconsistent with the price

[474] ACCC, *Pricing Methodology for the GSM Termination Service – Final Report*, July 2001, p. 78.

decreases observed by the Commission prior to adopting this methodology. These results have subsequently been expanded to include an additional period of retail price monitoring for each carrier. The final results for each of the three carriers are outlined in turn below:

Telstra's retail price movements

The six-month period from January to June 2001 serves as the base period for the index for the average retail price of Telstra's GSM mobile services. Table 8.1 below shows the period-on-period percentage changes in Telstra's average retail price from the base period to the period with the latest available data, January to June 2003.

Table 8.1 Telstra's retail price movements

	Jan–Jun 2001	Jul–Dec 2001	Jan–Jun 2002	Jul–Dec 2002	Jan –Jun 2003
Telstra	base period	-1.4%	+7.5%	-1.7%	-1.6%

Source: information provided to the Commission by Telstra.

Table 8.1 reveals that Telstra's average retail price for its GSM mobile services decreased by 1.4 per cent from January-June 2001 to July-December 2001; increased by 7.5 per cent from July-December 2001 to January-June 2002; and decreased by 1.7 per cent from January-June 2002 to July-December 2002. Results from the latest monitoring period show the average retail price decreased by 1.6 per cent during the period from July-December 2002 to January-June 2003.

Vodafone's retail price movements

Table 8.2 below shows the period-on-period percentage changes in Vodafone's average retail price from the base period to the period with the latest available data, January to June 2003. The six-month period from July to December 2001 serves as the base period for the index for the average retail price of Vodafone's GSM mobile service.

Table 8.2 Vodafone's retail price movements

	Jan–Jun 2001	Jul–Dec 2001	Jan–Jun 2002	Jul–Dec 2002	Jan-June 2003
Vodafone		base period	+3.6%	-9.0%	-1.9%

Source: information provided to the Commission by Vodafone.

Vodafone's average retail price for its GSM mobile services increased by 3.6 per cent from July-December 2001 to January-June 2002; and decreased by 9 per cent from January-June 2002 to July-December 2002. It decreased by 1.9 per cent during the latest monitoring period from July-December 2002 to January-June 2003.

Optus' retail price movements

Optus has aligned its retail benchmarking reports with its six-month reporting periods under the RAF. Accordingly, its reports cover the six-month periods from 1 April to 30 September and from 1 October to 31 March.

The six-month period from October 2000 to March 2001 serves as the base period for the index for the average retail price of Optus' GSM mobile services. Table 8.3 below shows the period-on-period percentage changes in Optus' average retail price from the base period to the period with the latest available data, October 2002 to March 2003.

Table 8.3 Optus' retail price movements

	Oct 2000 – Mar 2001	Apr–Sep 2001	Oct 2001– Mar 2002	Apr–Sep 2002	Oct 2002 – March 2003
SingTel Optus	base period	+9.9%	+6.8%	-3.7%	0.0%

Source: information provided to the Commission by Optus.

Optus' average retail price for its GSM mobile services increased by 9.9 per cent from October 2000-March 2001 to April-September 2001; rose further by 6.8 per cent from April-September 2001 to October 2001-March 2002; and fell by 3.7 per cent from October 2001-March 2002 to April-September 2002. During the most recent reporting period, the average price paid for Optus' retail mobile services remained unchanged.

Overall, these results tend to indicate that over the full breadth of the monitoring periods, retail prices for mobile services have tended to decrease little (if at all) for each carrier and that there is no guarantee under the retail benchmarking pricing principle that the average price of the retail basket of services will decrease from one period to the next. Such results would appear to call into question the foundation upon which the retail benchmarking pricing principle is designed to work.

ATUG has a similar view in its response to the Draft Decision, where it states that it 'does not think the retail benchmark pricing principle previously adopted has been effective in bringing prices closer to cost, as would be expected if the market were truly competitive'.[475]

In addition to these observations from the retail benchmarking monitoring process, the Commission also notes the separate index of retail price movements for mobile services constructed each year for the Commission's Division 12 Reports. In the 2002-03 report, the Commission observed that the average price paid for retail mobile services had, in real terms, decreased by only 2.0 per cent for the 2001-02 financial year. This price decrease was much lower than that observed in the two previous financial years, where the average price paid for GSM services decreased by around 13.2 per cent during the 1999-00 financial year, and by 6.8 per cent over the 2000-01 financial year.[476]

Further, the 2002-03 Division 12 Report indicates that this trend of slowing price decreases has continued. Indeed, for the first time in the index's history, the 2002-03 Division 12 Report shows an *increase* of 0.9 per cent in the average price paid for mobile telephony services during this period.[477] Further, it is noted that these price

[475] ATUG, Letter in Response to the ACCC Draft Decision, (undated), p. 4.
[476] ACCC, *ACCC Telecommunications Reports 2002-03, Report 2. Changes in Prices Paid for Telecommunications Services in Australia*, May 2004, pp. 132-4.
[477] ACCC, *op. cit*., pp. 132-4.

movements are measured in real terms. Accordingly, the actual – or nominal – prices paid by end-users would have increased by an even larger amount during this period.

Evidence of increased competitive forces in the market

The Commission believes that there is no evidence to suggest an increase in competitive forces in the mobile services market since June 2001 that would indicate the existence of greater competitive forces applying to providers of MTASs. Indeed, since this time, one facilities-based competitor (One.Tel) has left the market and the market shares of the remaining carriers appear to have changed little. Further, as discussed in Chapter Four, the mobile services market appears to be less than effectively competitive and that Telstra and Optus appear to be earning rates of return on capital employed well in excess of those expected in effectively competitive markets.

Evidence regarding anti-competitive conduct in the market within which FTM services are provided

A number of parties have alleged that vertically-integrated carriers may be engaging in anti-competitive price-squeezes, price discrimination and bundling in the downstream FTM services market. Most allege this is possible because of the market power some vertically-integrated carriers have in the downstream market within which FTM services are provided caused by the ineffectiveness of the existing MTAS pricing principle. The Commission has commenced separate investigations regarding pricing practices for FTM services in the corporate sector of the market to ascertain the veracity of these claims.[478]

As indicated in Chapter Four of this report, the Commission is also separately conducting investigations into specific allegations of anti-competitive conduct by some carriers in the market within which FTM services are provided under Part XIB of the Act.

Overall assessment of the existing retail benchmarking methodology

In its Draft Decision, the Commission indicated it believes the retail benchmarking methodology has, to date, shown little evidence of its ability to meet its original objective. That is, if applied in any arbitration to date, the methodology would have been unlikely to generate meaningful decreases in the price of the MTAS towards cost. Further, there does not appear to be evidence of the emergence of greater competitive pressures on the pricing of the MTAS. Finally, there continue to be grounds for concern with regard to the possibility of anti-competitive pricing of FTM services in downstream markets.

Hutchison expresses the same concerns above by contending in its response to the Draft Decision that:

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[478] Under a Direction issued on 19 June 2003 by the Minister for Communications, Information Technology and the Arts, the Commission is required to monitor and prepare six-monthly reports for the Minister on competition in the telecommunications industry in the corporate customer segment. The Commission's first report covering the period July-December 2003 is being finalised at the time of writing of this Final Report.

> The retail benchmarking pricing principle adopted by the Commission in 2001 has not achieved its objectives of:
>
> - meaningfully reducing the MTAS charge (access prices are still significantly above costs);
>
> - preventing integrated carriers from engaging in discriminatory pricing in connection with the supply of F2M calls; or
>
> - meaningfully reducing retail prices for F2M calls, which are significantly above costs. In fact, the price for F2M calls appears to be more than double the underlying costs of providing the service.[479]

In addition, the Commission now has further reasons to doubt the theoretical basis of the retail benchmarking pricing principle. In particular, it is concerned that:

- mobile operators have limited incentive to reduce the price of retail mobile services if they will be required to decrease mobile termination charges as well. That is, in the absence of any associated decrease in the cost of running mobile networks, a decrease in both the price of the MTAS and retail mobile services would be likely to reduce their overall profits;

- if this is true, then the only way a mobile operator can profitably decrease both retail and wholesale termination prices would be if its costs of production decrease. If this is the case, whilst the price of the MTAS may be able to come down, the difference between the cost of mobile termination and its price will not be eroded. Accordingly, concerns about the differential costs faced by vertically-integrated and fixed-line only operators in the related market within which FTM services are provided would continue to exist; and

- to the extent that this pricing principle does little to affect the level of competition in the related market within which FTM services are provided, problems of incomplete FTM 'pass-through' may continue. The Commission believes that a key cause of incomplete pass-through in the market within which FTM services are provided is the lack of effective competition in this market. A pricing principle that is unable to address the difference between the price and cost of MTASs will maintain an ineffective level of competition in the related market within which FTM services are provided.

Some of these concerns have also been raised by Oftel in its assessment of the suitability of the retail benchmarking pricing principle for determining appropriate access prices for mobile termination services in the UK. In particular, Oftel noted that:

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[479] Hutchison, *Response to the Australian Competition & Consumer Commission's Draft Decision on Mobile Terminating Access – Mobile Services Review 2003*, 30 April 2004, p. 4.

- the retail prices – to which charges for mobile termination are linked – do not appear to have fallen in Australia since the approach was announced, and this has limited the impact of the benchmarking approach compared to that which was originally envisaged; and

- the approach is unlikely to correct the perceived imbalance between retail origination prices and termination charges in the longer term, regardless of whether termination charges are reduced by the same as a basket of retail prices or a mobile operator's own retail prices.[480]

Can the retail benchmarking methodology be altered to generate more appropriate outcomes?

In its submission to the Mobile Services Review, Telstra indicated it believed the current retail benchmarking methodology might potentially be improved through a minor modification in the way it is implemented. In this regard, Telstra notes that it believes the benchmarking methodology provides no incentive for mobile operators to lower their wholesale or retail prices for mobile telephony services. Telstra believes, however, that an amendment that makes the relevant starting price for the MTAS the lowest available rate in the *industry*, and which links changes in that rate to the industry's retail price movements, could potentially address this problem.

During the course of market inquiries and the public forums held for the Mobile Services Review, Telstra expanded on these thoughts indicating it believed such an adjustment had merit as it would weaken the link between each mobile carrier's retail price movements and its own individual termination rates. That is, a one per cent decrease in an individual carrier's retail prices would, given an individual carrier's market share is less than 100 per cent, generate a less than one per cent decrease in the weighted-average price change for the industry as a whole (and upon which changes in mobile termination rates would be based). Hence, the disincentive to reduce mobile termination charges would be lessened for each carrier.

In meetings with Telstra, it indicated it has constructed a model suggesting that a change to this form of retail benchmarking pricing principle would generate decreases in the MTAS rate of c-i-c per cent and c-i-c per cent for the retail FTM price. However, Telstra did not provide further details of how this model is constructed, or the data used to derive these results. Further, the Commission understands that Telstra has adopted assumptions in line with a 'Bertrand' model of oligopolistic pricing behaviour when designing its model, where each competitor assumes its rivals will hold their price irrespective of what it does. Each competitor does this in consecutive moves, even though it always turns out to be a wrong assumption to make, resulting in them successively undercutting each other in a 'price war'. Adopting Bertrand's assumption is likely to generate the greatest possible price decreases for carriers operating under an oligopolistic scenario.

That said, whilst the modelling work performed by Telstra is likely to be based on assumptions that would generate a significant lowering of termination rates, it is possible that some increase to the rate of price reduction may be engendered by a

[480] Oftel, *Oftel's Comments on O2's Suggested Retail Benchmarking Remedy*, 7 October 2002.

switch to accommodate Telstra's suggestion. The Commission is concerned, however, that the suggested modifications to the pricing principle still do not overcome the more basic flaws of the retail benchmarking pricing principle. That is, the principle would still require downward pressure on mobile termination rates to come from downward pressure on retail prices. To the extent that the retail mobile services market is effectively competitive, mobile operators are limited in their ability to decrease both retail and wholesale charges. To the extent that the retail mobile services market was not effectively competitive, the pressure to reduce retail rates in order to generate decreases in mobile termination rates would also be reduced as carriers would be likely to seek to preserve any existing economic profits. Decreases in the retail (and subsequently wholesale) rates would reduce the existing level of economic profit and would therefore be unlikely to be pursued by mobile operators in this environment.

8.2.4 CPI minus X per cent pricing methodology

In their respective responses to the Draft Decision, Vodafone and Virgin Mobile argue that if the Commission is minded to continue declaration of a MTAS, it should consider using a CPI minus X per cent price cap pricing methodology in the event that it was required to determine an appropriate price for this service. In correspondence with the Commission, Optus also suggests that, if the Commission wishes to regulate, it should adopt a CPI minus 5 per cent price cap.[481]

Vodafone presents this pricing principle as an 'interim' price cap, and argues this pricing principle could apply for a maximum of two years from 1 January 2005 and ending 1 January 2007, with X set 'conservatively' at 5 per cent per annum. Vodafone argues this pricing principle would be advantageous, as it would:

> … have the effect of ensuring a downward pressure on prices during the period while acknowledging the significant uncertainty surrounding the appropriate price of the mobile termination service in Australia (including the appropriate mark ups using Ramsey adjustments and quantification of relevant externalities). [482]

The Commission notes, however, that Vodafone does not indicate what it believes would be an appropriate pricing principle after this interim period expires. Rather it simply indicates further work is needed to 'ensure the underlying costs of terminating voice calls on mobile networks in Australia are properly understood'.[483] Vodafone also argues:

> … there has only been limited analysis regarding the implementation of Ramsey pricing and the quantification of the relevant externalities to apply to the mobile termination service … these are complex matters and require greater time for consideration.[484]

Vodafone does not explain the basis for its proposal of a 'conservative' level for 'X' of 5 per cent per year.

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[481] Optus, Letter to the Commission, 22 June 2004, p. 3.
[482] Vodafone*, Supplementary Submission to the ACCC Draft Decision Mobile Termination Access Service*, (public version), 1 June 2004, p. 8.
[483] *Ibid*., p. 7.
[484] *Ibid*., p. 7.

In a similar vein, Virgin Mobile argues that:

> — The Commission could adopt a CPI-X% pricing methodology. This methodology may more appropriately reflect the cost of providing the mobile terminating access service. Further work would have to be done to determine what "X" should be. This proposal would allow the prices to be smoothly reduced in accordance with the cost of providing the service, and would have the dual advantages of:
>
> - not presupposing a target price (or at least allowing the Commission the opportunity to conduct further investigation to accurately determine and substantiate the appropriate target price); and
>
> - ensuring a steady decline in the real price of wholesale mobile terminating rates. [485]

That said, Virgin Mobile also notes that the Commission should 'adopt pricing principles which … reflect the cost of providing the service; and … do not cause the significant and disproportionate impact on the viability of niche retail mobile providers such as Virgin Mobile'.[486]

Unlike Vodafone, Virgin Mobile appears to propose a CPI minus X pricing methodology as a long-term pricing principle and not merely as an interim pricing method. It suggests that the appropriate level of 'X' should be rigorously estimated.[487]

In considering this form of pricing principle, the Commission notes that it has been used to regulate the price of the MTAS in a number of European jurisdictions in the past.

In the UK, for example, the regulator for the telecommunications industry, Oftel (which has since been merged into Ofcom), imposed in 1999 a price cap of RPI minus 9 per cent on the MTAS rates of Vodafone and BT Cellnet. In 2000-01 Oftel proposed a further annual charge cap of RPI minus 12 per cent for each of the four years from 2001-02 to 2005-06 for the four main MNOs in the UK. After the issue was referred to the Competition Commission for consideration, the Competition Commission released its final verdict in January 2003, imposing price caps on the MNOs' charges expressed as RPI minus X formulas and covering the years 2003 to 2006.[488]

A further example is the action by the French telecommunications regulator, Autorité de Regulation des Telecommunications (ART), which imposed in November 2001 obligatory F2M termination price reductions on MNOs Orange and SFP in the form of RPI minus X price caps. Both MNOs were required to decrease their termination prices by 40 per cent over three years from 2001 to 2004.[489]

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[485] Virgin Mobile, *Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access*, (public version), 30 April 2004, p. 7.

[486] *Ibid.*

[487] *Ibid.*

[488] *Director General's Statement on the Competition Commission's Report on Mobile Termination Rates*, UK Competition Commission, 22 January 2003; *Reports on References under Section 13 of the Telecommunications Act 1984 on Charges made by Vodafone, O2, Orange and T-Mobile for Termination Calls from Fixed and Mobile Networks*, UK Competition Commission, January 2003.

[489] 'Decrease of the Price of Fixed-to-mobile Calls', Autorite de Regulation des Telecommunications Press Release, 6 November 2002.

Further, CPI minus X per cent price capping has been an important part of utility regulation for a number of industries, both overseas and in Australia. Presently, CPI minus X per cent price caps have been determined by the Minister for Communications, Information Technology and the Arts to be appropriate to apply to a basket of retail telecommunications services supplied by Telstra.[490] A key advantage of this form of price control arrangement is that it provides a regulated entity with the incentive to pursue productive and dynamic efficiencies in order to reduce its costs – both now and in the future – at a rate faster than the speed with which it is required to reduce the real price of its price-regulated services. This is because a firm that is subject to a CPI minus X per cent price cap can increase its profits if it is able to reduce its costs at a rate faster than the amount it is required to reduce the real price of its services. Hence, CPI minus X per cent price caps are thought to have desirable 'incentive regulation' properties.

While there may be some desirable incentive properties associated with CPI minus X per cent price caps, the Commission believes these properties are best achieved when the existing price of a regulated service already reflects its underlying cost of production. In this situation, X would then be set following extensive total factor productivity (TFP) analysis to estimate expected future reductions in the cost of providing the regulated service. Accordingly, the price cap works by ensuring that the price of the regulated service is required to decrease in line with expected TFP improvements (and hence cost reductions) with regard to the provision of the regulated service.

As indicated in Chapter Four, however, based on the information outlined in Appendix D of this report, the Commission believes the lowest-available price for the MTAS is well in excess of its underlying cost of production. In turn, the Commission believes this would not promote the LTIE as it is inhibiting the development of competition in the downstream market within which FTM services are provided and leading to inefficient use of, and investment in, telecommunications infrastructure. Hence, in order for this form of pricing principle to promote the LTIE, the Commission believes X must be set at a level greater than expected TFP improvements in order that the price of the MTAS both converges towards current estimates of the underlying cost of providing the MTAS and accounts for expected future reductions in the underlying cost of providing the service as a result of TFP improvements. Given the Commission believes the average current price of the MTAS is around 22.5 cpm and its underlying TSLRIC+ is no greater than 12 cpm, the Commission believes X would have to be set at 18.9 per cent per annum simply in order that the price of the MTAS converges to a conservative estimate of TSLRIC within 3 years. Assuming TFP growth at a rate greater than the CPI over this period, X would have to be set at an even higher level to ensure the price of the MTAS converged to future cost levels by this time. Hence, the Commission believes Optus' and Vodafone's suggested CPI minus 5 per cent pricing principle would not promote the LTIE as it would preserve prices for the MTAS well in excess of its underlying cost of production for many years to come.

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[490] Refer to Minister for Communications, Information Technology and the Arts, *Telstra Carrier Charges–Price Control Arrangements, Notification and Disallowance Determination No. 1 of 2002*. This determination applies to Telstra for the 2002-03 financial year.

Further, the Commission believes that CPI minus X price capping is not free from difficult informational and implementation issues. First, a rigorous study has to be undertaken to estimate the mobile telephony industry's long-term total factor productivity and, consequently, the appropriate level of 'X'. In this regard, the range of factors likely to influence TFP includes:

- past and present productivity growth of the regulated carrier(s), including consideration of economies of scale and scope;
- past and potential growth of economy-wide productivity;
- business plans of the operator(s);
- investment requirements and the economic and required rates of returns on investments; and
- forecasts of traffic growth.[491]

Overall, therefore, the Commission believes that CPI minus X per cent price capping has some desirable incentive regulation properties. However, if appropriately applied, X would need to be set after careful consideration of a number of factors that both ensure the price of the service reduces to a level that generates a closer association of the price of the service with its underlying cost of production and ensures prices decrease over time in line with expected TFP improvements.

8.2.5 Cost-based pricing methodologies

Throughout the course of this inquiry, many parties have advocated the replacement of the retail benchmarking pricing principle with a cost-based alternative. In this regard, two main cost models have been proposed – short-run marginal cost (SRMC) and total service long-run incremental cost (TSLRIC). The merits of each alternative are discussed in turn below.

Short-run marginal cost (SRMC)

In a submission prepared on behalf of Hutchison, Gans and King argue that the appropriate pricing principle for a MTAS should be either 'marginal cost' (by which is meant SRMC) or symmetric termination charging for termination on PSTN and mobile networks.[492]

The Commission does not believe basing mobile termination prices on a SRMC pricing principle would promote the LTIE because it would not take account of the

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[491] For background on the application of CPI minus X pricing in Australian telecommunications, refer to ACCC, *Review of Price Control Arrangements*, February 2001.

[492] J. Gans and S. King, *Price Regulation of Mobile Termination: Promoting Competition and Investment in Telecommunications*, A Report on Behalf of Hutchison Telecommunications, CoRE Research, Melbourne, 26 June 2003, p. 50. The Commission notes, however, that the SRMC approach is not formally proposed in Hutchison's submission and Hutchison is 'not prepared to recommend … a particular pricing principle' – Hutchison 3G Australia, *Submission to the ACCC Mobile Services Review 2003,* 16 June 2003, p. 18.

long-run costs a mobile operator incurs when providing the MTAS to access seekers. Accordingly, such a pricing principle would not account adequately for the legitimate business interests of access providers and is otherwise inconsistent with the LTIE.

Similarly, parity with PSTN termination charges would provide inadequate compensation to access providers as PSTN costs of around 1 cent per minute are substantially lower than the Commission's expectations of the cost of providing the MTAS.

Total service long-run incremental cost (TSLRIC)

The Commission's 'usual' approach to pricing declared services is to use a TSLRIC pricing methodology. In July 1997, the Commission released its general guide to access pricing principles.[493] The APP paper concluded that the Commission does not consider it appropriate to specify a common methodology for determining an access price for all declared services. However, it did conclude that, in the usual case, the Commission would apply the TSLRIC methodology for determining access prices, as this is the methodology that would best promote the LTIE and the other goals of the statutory criteria.

A number of submissions supported TSLRIC as the choice of costing methodology. Indeed, a cost-based approach is favoured by all parties other than the three main mobile carriers.

For example, the CCC 'is of the view that … [efficient prices are] best achieved if such prices are calculated in accordance with TSLRIC'.[494] Similarly, AAPT notes that 'the most appropriate principle for determining a price for mobile termination is TSLRIC'[495] and that in 'the continued absence of … competitive pressure, TSLRIC pricing is now more necessary than ever'.[496] In its response to the Draft Decision, AAPT reiterated that it supports a 'move from the light-handed retail benchmarking approach towards a total service long-run incremental cost-based (TSLRIC-based) price'.[497]

A TSLRIC-based approach is also suggested by PowerTel[498], MCI[499], CompTel[500], Australian Consumers' Association[501] and SETEL.[502]

AT&T, in its response to the Draft Decision, argued that the Commission should 'ensure cost-oriented rates by using a LRIC-based approach …given that LRIC[503] best

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493 ACCC, *Access Pricing Principles, Telecommunications – a Guide*, July 1997.
494 CCC, *op. cit.*, p. 34.
495 AAPT, *op. cit.*, p. 39.
496 *Ibid*, p. 46.
497 AAPT, *Submission in Response to the ACCC's Draft Decision on the Mobile Services Review*, 30 April 2004, p. 3.
498 PowerTel, *Submission by PowerTel Limited*, 18 August 2003, p. 3 and *ACCC Mobile Services Review Draft Decision on Mobile Terminating Access Service Submission by PowerTel Limited*, March 2004, p. 1.
499 MCI, *op. cit.*, pp. 12-14.
500 CompTel, *op. cit*., p. 2.
501 Australian Consumers' Association, *op. cit*., p. 2.
502 SETEL, *op. cit.*, p. 4.

replicates prices that would be charged by carriers subject to competitive pressures, and in turn, best ensures an efficient utilization of the service in question.'[504]

Further, in its response to the Draft Report, PowerTel 'considers that there are significant merits of adopting a TSLRIC pricing principle to justify the time and cost committed' and that it believes that 'due to the nature of mobile networks … it would be far simpler to develop a TSLRIC model for a mobile network than a PSTN network'. [505]

The concept of TSLRIC can be understood by breaking it up into its components:

- 'Total service' refers to it being the cost of production of an entire service (or an entire production element) not to the cost of a particular unit. However, with respect to carriage services, it is usually expressed on a per-minute basis by dividing the annual total service cost by the number of minutes carried.

- 'Long run' refers to it being a long-run cost concept in contrast to a short-run one. In the short run the amount of at least one factor of production (usually capital equipment) is fixed, while in the long run all factors of production can be varied.

- 'Incremental cost' means that it is a form of 'marginal cost', although not the more familiar 'marginal cost' of the change in cost incurred through a change in the *amount* of output produced.[506]

- It is also an attributable cost concept as it refers only to those costs that can be attributed to the production of the service. Costs common to more than one service cannot be attributed to a particular service and therefore do not form part of a 'pure' TSLRIC. However, in practice, it is sometimes defined to include a contribution to organisational-level costs ('TSLRIC+').

Given these attributes, TSLRIC can be defined in the following alternative ways:

- it is the incremental or additional cost – on an annual basis – the firm incurs in the long run in providing a particular service (or production element) as a whole, assuming the scale of all of its other production activities remain unchanged; or

- it is the total cost (on an annual basis) the firm would avoid in the long run if it ceased to provide the service as a whole.

For the purposes of estimation, the TSLRIC of supplying a service can be expressed as the sum of the operating and maintenance costs and the capital costs (both physical

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[503] Refers to long-run incremental cost, a concept of cost similar to TSLRIC and commonly used in overseas jurisdictions such as the UK.

[504] AT&T, Letter submitted in response to the ACCC Draft Decision, 30 April 2004, p. 6.

[505] PowerTel, *ACCC Mobile Services Review Draft Decision on Mobile Terminating Access Service Submission by PowerTel Limited*, March 2004, p. 3.

[506] Unless explicitly qualified, the words 'incremental' and 'marginal' are synonymous and are used here interchangeably.

and the risk-adjusted opportunity cost of capital) that the firm incurs in providing the service as a whole over a certain forward-looking period, typically annually.

The TSLRIC pricing principle – or variants of it – has been found to be consistent with the LTIE by the Commission for a number of declared telecommunications services in the past such as PSTN originating and termination access services, the unconditioned local loop service (ULLS) and the line sharing service (LSS). Largely, the Commission has found this pricing principle to be appropriate for declared telecommunications services because it:

- reflects the direct cost of supplying the service;
- ensures equally-efficient access seekers in related markets are able to compete on an equal footing with vertically-integrated access providers as both will face similar input costs for the declared service;
- takes account of the interests of both access providers and access seekers; and
- encourages the economically efficient use of, and the economically efficient investment in, the infrastructure used to provide telecommunications services.

The Commission has also previously stated that a TSLRIC-type pricing principle is particularly appropriate for services that are well developed, necessary for competition in dependent markets and where the forces of competition work poorly in constraining prices.

When the Commission considered the question of appropriate pricing principles for the MTAS in July 2001, it considered that the MTAS met the last two of these three conditions. However, the Commission was concerned that the MTAS was not provided in a well-developed market. In addition to this, the Commission was concerned that, while cost-based approaches have favourable properties in the sense of limiting opportunities for anti-competitive behaviour by integrated carriers and potentially improving allocative efficiency, the costs of implementing the approach (both in terms of actual resource costs and the risks if implemented incorrectly) outweighed the benefits at that stage. Partly as a result of these concerns, the Commission argued that the alternative retail benchmarking pricing principle was more appropriate for this service at that time.

In addition to concerns about the effectiveness and suitability of the retail benchmarking pricing principle outlined above, many factors have changed in the ensuing three years that would now make the application of a TSLRIC pricing methodology more appropriate than appeared the case in June 2001. In particular:

- cost-based models have since been (or are currently being) developed in Malaysia, South Korea, Sweden, Greece, Israel and France (in addition to cost models in the US and UK that were initiated prior to 2001) that could guide the Commission in the development of a TSLRIC model of its own.

This would heavily reduce the risk of the Commission incorrectly applying the TSLRIC methodology for a MTAS;

- some of these models – in particular, those developed in the UK – have considered difficult issues of organisational-level cost allocation and the appropriateness of including mark-ups to account for network externalities; and

- the market has had additional time to develop such that it is likely that voice termination on mobile networks should be considered to be a well-developed service. In this regard, the Commission notes that the number of mobile subscriptions is now at a level substantially greater than that of fixed-line connections in Australia.

Accordingly, in addition to the theoretical advantages TSLRIC has over a retail benchmarking alternative, some of the difficulties of estimating TSLRIC for the MTAS are now being addressed in other jurisdictions around the world. Hence, the Commission believes many of the concerns it had with regard to setting a price for the MTAS based on TSLRIC pricing principles have been removed.

As such, the Commission considers that it is appropriate for the price of the MTAS to be based on estimates of the TSLRIC+ of providing the service as it believes it would best promote the LTIE and satisfy the other statutory criteria under section 152AH(2) of the Act.

An Adjustment Path Towards TSLRIC Pricing

That said, the Commission is also concerned that immediate implementation of a TSLRIC+ price would be likely to lead to very substantial reductions in the price of this service within a short period of time. In turn, the Commission is concerned that this would be likely to generate significant and potentially harmful disruption to the operations and planning of a number of telecommunications carriers. This would have the effect of compromising the legitimate business interests of access providers that have made business decisions on the basis of the Commission's previous approach to pricing of the MTAS for regulatory purposes. As a result of these concerns, the Commission believes it would be inappropriate to immediately set a price for the MTAS equal to TSLRIC+ at this time.

Further, the Commission is still concerned that estimation of a TSLRIC+ price for the MTAS would be costly (in a resource sense) and time consuming to implement. Further, the Commission has not developed a TSLRIC+ model that it could use to set a price based for the MTAS at this point in time.

However, the Commission does not believe that either of these concerns should deter it from establishing a pricing principle that would ensure the price of the MTAS better reflects TSLRIC+ over time. That is, the Commission believes that a pricing principle must be established that begins to generate a closer association of the price and underlying cost (i.e. TSLRIC+) of the MTAS. Inescapably, problems with regard to the MTAS are being generated both by the existence and extent of the current disassociation between the price and TSLRIC of this service. Hence, in the short-

term, the Commission believes the appropriate pricing principle for this service is one that involves reducing the price of the MTAS towards the best estimates of TSLRIC+ the Commission has available to it at this point in time. In this regard, PowerTel[507], Hutchison[508], AAPT[509], the ACA[510] and MCI[511] have all suggested that the Commission consider the use of benchmarks and other proxy measures of cost when regulating the MTAS. It is significant to note, however, that many parties such as PowerTel,[512] the CCC[513] and AAPT[514] favour this approach only as an interim measure and reiterate the need for estimation, during the period of 'adjustment' discussed below, of the TSLRIC of the MTAS.

As discussed in detail in Chapters Four to Seven of this report, a closer association of price and TSLRIC+ for the MTAS would significantly promote the LTIE as it would help promote competition in downstream markets and a more efficient use of, and investment in, the infrastructure used to provide telecommunications services. By adopting a gradual adjustment path, the Commission would also ensure it had proper consideration of the legitimate business interest of access providers.

The Commission considers that the adjustment path towards TSLRIC pricing should be set having regard to the following principles:

- the starting price should be set at the lowest price at which the service is being supplied;.
- the end price should be set at the upper end of the range of reasonable estimates of the TSLRIC+ of supplying the service that are currently available;
- the adjustment path should commence on 1 July 2004 and conclude on 1 January 2007;
- decrements should initially be made on a six monthly basis then, as prices become more proximate to TSLRIC+, be made on an annual basis; and
- each decrement between the start price and end price should be of equal amount.

These principles and the Commission's views as to the adjustment path that results from their application are discussed in Chapter Nine to this report.

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[507] PowerTel, *op. cit.*, p. 3.
[508] Hutchison 3G Australia, *Submission to the ACCC Mobile Services Review 2003*, 16 June 2003, pp. 20-21.
[509] AAPT, *op. cit*., pp. 47-49.
[510] Australian Consumers' Association, *op. cit.*, p. 2.
[511] MCI, *Comments Regarding the ACCC Mobile Terminating Access Service Draft Decision*, 30 April 2004.
[512] PowerTel, *op. cit.*, p. 1.
[513] CCC, *op. cit.,* p. 34.
[514] AAPT, *Submission by AAPT Limited in Response to the Australian Competition & Consumer Commission's Draft Decision on the Mobile Services Review: Mobile Terminating Access Service*, 30 April 2004, pp. 2-3.

Consideration of mark-ups to pure TSLRIC

In its Discussion Paper for this inquiry, the Commission asked interested parties:

> If the Commission were to move to some form of cost-based pricing principle such as TSLRIC … what, if any, mark-ups should be adopted to a pure TSLRIC measure?[515]

Some of the views of interested parties, and the Commission's response to these views, are addressed for these types of mark-up to TSLRIC below:

Parties who supported a TSLRIC-based pricing principle recognised that the organisational-level costs of providing the MTAS have to be recouped by the service provider.

MCI, for example, argued that

> … to prevent the distorting effects of excessive mobile termination costs being perpetuated, rates should be reduced to LRIC + EPMU as soon as possible. Once it is established that mobile termination rates are above cost, there is no justification for deviating from the basic principle of cost-orientation for any period of time.[516]

By supporting an equi-proportionate mark-up (EPMU) method, MCI suggested that a LRIC should be supplemented by a contribution to cover other costs that would be common to the provision of MTASs and other aspects of the MNO's business. This contribution would be estimated by spreading common costs evenly or equally across all these areas that commonly benefit from incurring the common costs.

On the other hand, Optus also believes that the fixed, joint and common costs of mobile networks should be recouped by an MNO through its MTAS charges for F2M services, albeit by a different cost-allocation method (i.e. a 'Ramsey efficient' allocation). In its response to the Discussion Paper, Optus contended that:

> Economic efficiency, in terms of the recoupment of the fixed costs of mobile networks, is promoted by a charging structure where inelastically demanded services bear proportionally more of the recovery of these fixed network costs. This is because such a structure minimizes the distortion to consumption decisions.[517]

With regard to a mark-up to TSLRIC to account for any mobile network externalities, Optus, Vodafone and Telstra all argue that network externalities should not be ignored.

Optus contended that positive network externalities exist, and that

> Although it might be considered to be efficient in the short term to price mobile subscription at (or possible below) the marginal cost of connection and to price calls at the marginal cost of calls, pricing in this way will not allow the mobile telephony provider to recover the capital and installation costs of the network or the costs of running and maintaining the network. The

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[515] ACCC, *Mobile Services Review 2003, ACCC Discussion Paper*, April 2003, p. 53.
[516] MCI, *Comments of MCI Regarding the ACCC Discussion Paper on Mobile Services Review*, 13 June 2003, p. 16.
[517] Optus, *Optus Submission to Australian Competition and Consumer Commission on Mobile Services*, June 2003, p. 22, para. 3.12.

> expectation that these costs will not be recovered would prevent future investment in new mobile telephony networks and discourage the efficient maintenance, replacement and upgrading of the current networks.[518]

Vodafone also states that it believes that there are externalities that are relevant in the mobile services market, and that the current set of prices it offers in the market largely reflect the underlying economics of mobile services provision.[519]

In its response to the Commission's Draft Decision, Telstra argued that:

> The use of an approximation of TSLRIC through benchmarking without any adjustment for network externalities or for Ramsey pricing (the principle that relatively higher contributions to common costs should be made by the least price sensitive service) ignores well-established economic principles on welfare-maximising pricing, and the fundamental characteristics of mobile networks.[520]

The Commission's views on these two types of mark-ups to TSLRIC are discussed below.

Contribution to organisational-level costs

The Commission has in the past accepted that TSLRIC-based access prices should include a contribution to organisational-level costs when setting prices for the PSTN originating and terminating access services and the ULLS (resulting in a TSLRIC+ measure).[521] In determining to include such a mark-up for these services, the Commission has recognised that a failure to account for the recovery of these organisational-level costs may not allow access providers to earn sufficient revenue to recover their costs over all the services they provide and hence ensure their legitimate business interests are met. The Commission has also indicated in the past that failure to include a contribution for organisational-level costs for declared services may reduce incentives to maintain and invest in infrastructure and distort the choice of technology towards technologies with low common costs.[522]

As organisation-level costs are not directly attributable to the production of any one service, the choice of methods for allocating these common costs across a number of services requires considered judgment. When determining an appropriate mark-up for organisational-level costs for the PSTN originating and terminating access service, the Commission has previously chosen to base the mark-up on an 'equi-proportionate' mark-up over directly attributable costs rule. This involves measuring the directly attributable costs of each service within the group of services and allocating the organisational-level costs based on each service's proportion of the total directly attributable costs. The Commission believes such an approach would be appropriate when determining a TSLRIC-based price for the MTAS.

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[518] *Ibid*., p. 23, para. 3.19.
[519] Vodafone, *Submission to the Australian Competition and Consumer Commission, Mobile Services Review 2003 Discussion Paper,* 13 June 2003 (public version), pp. 6, 20.
[520] Telstra, *Submission to the Australian Competition and Consumer Commission, Response to Draft Decision on the Mobile Terminating Access Service*, 17 May 2004, p. 3.
[521] ACCC, *Final Determination for Model Price Terms and Conditions of the PSTN, ULLS and LCS Services*, October 2003.
[522] ACCC, *Access Pricing Principles, Telecommunications – a Guide*, July 1997, p. 39.

As discussed in Chapter Six of this report, some parties to this inquiry believe that access prices for the MTAS currently, and should, reflect mark-ups to account for common costs based on Ramsey pricing concepts. The Commission believes, however, that mark-ups based on Ramsey pricing principles are difficult to estimate as they require intimate knowledge of own-price and cross-price demand elasticities across a range of telecommunications services. Given such elasticity estimates as are available are subject to disagreement across a broad range of values, that cross-price elasticity estimates are virtually non-existent, and that their misapplication could generate inferior efficiency-in-use consequences than they try to correct for, the Commission believes at this stage that it would not promote the LTIE to base mark-ups to account for common organisational-level costs on a Ramsey-Boiteux framework.

Surcharge for network externality

As previously referred to in Chapter Six of this report, some parties have argued that current above-cost prices for the MTAS efficiently internalise the externality benefits generated by mobile network subscriptions through funding handset and other retail subsidies. Whilst arguing that the Commission should therefore not regulate prices for the MTAS, they believe that if the Commission were to regulate the price of the MTAS, it include a mark-up to account for the externality benefits generated by subsidies to mobile subscriptions.

However, the Commission has concluded, based on its analysis in Chapter Six, that evidence on the presence and relevance of a network externality at the margin in the Australian mobile industry is inconclusive. There are signs that the market is mature and, therefore, that marginal externalities are negligible. The Commission believes that more study and evidence are required if the externality argument is to be taken seriously as a basis for an additional charge over the TSLRIC.

Overall, therefore, the Commission believes that if it were to set a TSLRIC-type price for the MTAS, it would be appropriate to base this estimate on a measure of TSLRIC+ that allows a mark-up for common network and non-network costs, but which does not include a mark-up for network externalities.

8.3 Conclusions

Based on its consideration of issues regarding the alternative pricing principles as suggested by interested parties during the course of this inquiry, the Commission considers that a pricing principle that generated a closer association of the price and underlying cost (i.e. TSLRIC+) of the MTAS would best promote the LTIE and the other statutory criteria under s. 152AH(1) of the Act. In this regard, TSLRIC+ would include a mark-up to account for a contribution to organisational-level costs, but no mark-up to account for mobile network externalities. The Commission believes that the appropriate method to allocate common organisational-level costs is an equi-proportionate mark-up rather than that supported by a Ramsey-Boiteux framework.

In spite of the theoretical advantages of a TSLRIC+ pricing principle, however, the Commission continues to be concerned that estimation of a TSLRIC+ model would

be costly and time-consuming to implement at this time. Further, an immediate implementation of MTAS charges based on TSLRIC+ is likely to result in potentially harmful disruption to the operations and planning of a number of mobile network carriers.

Given it has:

- not developed a specific model to estimate TSLRIC+ in Australia at this time, and

- concerns regarding the possible harm that might be caused by disrupting the business plans of MNOs if the Commission were to immediately reduce the price of the MTAS to TSLRIC+,

the Commission believes a pricing principle that generates a gradual reduction in the price of the MTAS so that it reduces to a level that represents a closer association of price and the best measures the Commission has available to it of the TSLRIC+ of providing the service within Australia would be most appropriate under the Act at this time. The principles by which this price path should be determined are as outlined above.

Over the longer term, however, the Commission wishes to stress that before it would reduce the price of the MTAS below the upper end of the range of best estimates available to it of the TSLRIC+ of providing the MTAS, the Commission would develop a more detailed estimate of the TSLRIC+ of providing the MTAS in Australia. This could be via developing a model to specifically model the TSLRIC+ of providing the MTAS in Australia, or via a detailed international benchmarking exercise that sought to make adjustments for all factors that drive the TSLRIC of providing the MTAS in different countries for Australia-specific factors.

Once a more detailed assessment of TSLRIC+ has been made, the Commission may consider moving toward a CPI minus X per cent price cap pricing principle applied to the TSLRIC+ estimate. In this regard, X would be set with reference to cost savings that would be expected to occur in the provision of the MTAS in future periods.

Finally, the Commission notes that this pricing principle applies equally to voice termination services supplied on 3G mobile networks as it does to all other forms of digital mobile technology. The Commission also notes that there should be no presumption that the Commission would set a different price for termination of voice calls on 3G networks as it would set for termination of voice calls on any other digital mobile technology.

As indicated above, the Commission's indicative price related terms and conditions for this service are outlined in Chapter Nine of this report.

9. Indicative price related terms and conditions

As noted in Chapter Three of this report, the Commission is obliged to determine pricing principles relating to services that it declares. Separately, paragraph (2) of section 152AQA of the Act provides that the determination may also contain price-related terms and conditions relating to access to the declared service.

In this Chapter, the Commission outlines indicative price related terms and conditions based on the best information available to the Commission at this point in time. The Commission notes that these indicative price related terms and conditions are not binding. Were the Commission required to make an arbitral determination, or consider an undertaking provided to it, relating to the MTAS, a party may argue against the application of the indicative price related terms and conditions. The Commission would have regard to the particular circumstances and information provided to it in relation to the matter before it at that point in time in deciding whether or not to apply them.

In the Draft Report, the Commission commented on key elements of the price related terms and conditions for the MTAS. In particular, the Draft Report considered:

1. Determination of appropriate 'target' price for the MTAS; and

2. Determination of an appropriate adjustment path towards this target price – including specification of a 'starting date and price'; over how many periods the adjustment path should operate; and whether the target price should be CPI and TFP adjusted for the MTAS.

The Draft Report also considered mechanisms that could utilised to address concerns relating to the possibility of incomplete FTM 'pass-through'.

Each of these elements is considered in more detail below.

9.1 Adoption of a target termination price

In the Draft Report the Commission considered a range of measures of cost available to it, that indicated the cost of the MTAS was likely to lie within a range between 5-6 and 12 cpm. Broadly, this was based on four types of cost measure or indicator – cost studies conducted in other countries (specifically the UK and the US), data provided to the Commission by carriers under the Regulatory Accounting Framework (RAF), inferences from mobile-to-mobile (MTM) pricing and other corroborative sources ('market inquiries').

Based on this, the Commission indicated it was confident in setting 12 cpm as a conservative target price for the MTAS.

In submissions to the Draft Report, a number of parties commented on the sources of information outlined in the Draft Report. Some of the views presented included:

- criticism that the target price was too conservative;[523]
- the Commission's choice of international benchmarks was inappropriately narrow in its focus, and that consideration of a broader range of overseas measures of costs would reveal a broader and higher range of cost estimates;[524]
- the Commission chose inappropriate currency conversions when adjusting overseas cost estimates to determine an appropriate target price in Australian currency;[525]
- overseas cost estimates need to be adjusted for a number of factors (such as network scale, geography, land and labour costs in different jurisdictions etc) before they can be relied upon to help determined an appropriate target price for the MTAS under the Commission's draft pricing principle;[526] and
- some of the sources of information that the Commission relied upon when determining its target price were unreliable.[527]

In response to these comments, the Commission has expanded its understanding of cost studies conducted in overseas jurisdictions and expanded its consideration of data provided to it under the RAF. Further, the Commission has engaged the consulting firm Analysys to advise in respect of some of the issues raised in submissions and to report its views in respect of them. In doing so, Analysys has provided to the Commission a report concerning its understanding of cost estimates conducted in a range of overseas jurisdictions; what factors drive the cost of providing the MTAS in different jurisdictions; and which of these factors could be adjusted for to derive an estimate of TSLRIC in Australia based on modelling work done in overseas jurisdictions.

The Commission's full consideration of these issues – including responses to some of the views presented by interested parties on many of these issues – is outlined in detail in The Annexure to this report.

In summary, further analysis of the RAFs of the two larger MNOs confirms the Commission's belief that their costs lie comfortably within the 5-6 cpm and 12 cpm range outlined in the Draft Report.

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[523] See, for example, PowerTel, *ACCC Mobile Services Review Draft Decisions on MTAS, Submission by PowerTel Ltd,* 4 May 2004, pp. 3-4 and MCI, *Comments of MCI Regarding the ACCC's Mobile Terminating Access Service Draft Decision*, 30 April 2004, pp. 5-8.

[524] For example, Optus, Vodafone, CRA, and Frontier Economics.

[525] For example, Vodafone and Frontier Economics.

[526] For example, CRA, *The Use of Benchmarking in Regulating Mobile Termination Rates*, prepared for Optus, 28 May 2004.

[527] For example, Vodafone, Optus, and Price Waterhouse Coopers, *Comments on the Gibson Quai / Primus GSM Mobile Access Cost Model*, report for Vodafone, May 2004.

Further, the Commission has, as suggested to it by interested parties, expanded its consideration of overseas cost modelling beyond the two countries considered in the Draft Report to include eight others – Malaysia, South Korea, Sweden, Austria, Belgium, Finland, France and Italy. The latter five of these were suggested by Charles River Associates (CRA).[528] The Commission has found, however, that these five did not display independent and transparent cost modelling of either the bottom-up or top-down variety. Hence, the Commission found work done in these countries of little assistance for determining a target price for the MTAS. Of the remaining three, the Commission notes that the Swedish regulator is due to release the findings of its cost modelling exercise shortly, but that no information is publicly available at this time that the Commission could use to help determine a target price for the MTAS. The Commission also found that Malaysia estimated the TSLRIC of providing the MTAS to be at the lower end of the range of cost estimates outlined by the Commission in the Draft Report.

In addition to the countries considered in detail, a few other countries – including Greece and Israel – have been reviewed by Analysys,[529] but none of these has yet to produce publicly-available cost estimates. The broader review has led to the conclusion that no country has produced a reliable cost estimate above the equivalent of 12 cpm, and that cost estimates as low as 5 cpm have been made.

With respect to adjustments for Australian conditions, the Commission continues to favour presenting unadjusted estimates. Considerable attention was directed at CRA's claim that the UK estimate of 12 cpm converted to nearly 27 cpm allowing for Australian conditions. Following discussions between CRA, Optus and Commission staff, however, CRA has revised the upper its estimate of an appropriate adjusted value for the UK model down to 20.11 cpm.

The Commission considers, however, that CRA's revised estimates remain above Australian costs. In addition to the limited scope of the exercise (where CRA adjusted for only three out of at least seven possible adjustments it believes could be made to the UK cost estimate to derive an Australian equivalent estimate of the cost of providing the MTAS) and the use of an inflated basis of transformation and untested estimates (e.g., its choice of scale factor used), the Commission believes CRA's estimate fails a number of basic 'reality tests'. These concerns are outlined in detail in The Annexure.

More broadly, the Commission believes it would only be appropriate to adjust overseas estimates of cost for Australia-specific factors if it was able to account for all major factors that influence costs in different jurisdictions. The Commission believes there are many factors that influence the cost of the MTAS in different jurisdictions, including:

- geographic terrain;
- population density;
- network usage and scale;

[528] CRA, *The Use of Benchmarking in Regulating Mobile Termination Rates*, report prepared for Optus, 28 May 2004.
[529] Analysys, *Examination of Mobile Termination Costs*, Final Report for the ACCC, 25 June 2004.

- land and labour costs in different jurisdictions;
- spectrum allocations;
- the extent to which MNOs are vertically-integrated fixed and mobile network operators;
- network purchasing power;
- cost of capital in different jurisdictions; and
- the mobile network technology employed in different countries (i.e. GSM or CDMA).

Adjusting overseas cost estimates for each of these factors individually will push the TSLRIC+ of providing the MTAS in different directions and by different amounts. Hence, is unclear in which direction (and by what amount) an overseas estimate of TSLRIC would change if it were adjusted for Australian conditions to account for all of these factors in combination. Accordingly, the Commission believes it would be inappropriate to adjust for only a small subset of these factors in isolation of other possible adjustment factors. Doing so may be more misleading than making no adjustments at all. While the Commission believes it would be possible to adjust for some of these factors, it would not be possible to adjust for others without first conducting a full TSLRIC model in Australia.

The Commission has therefore chosen to make no adjustments (other than to account for currency differences) to overseas cost estimates in order to inform its estimation of an appropriate target price for the MTAS. By considering as broad a range of cost estimates from overseas jurisdictions as possible, the Commission believes it is able to account for differences in cost factors between different jurisdictions. Further, by choosing a target price that is at the top-end of the best estimates currently available, the Commission believes it is taking a conservative approach to setting a target price for this service. Whilst this may mean the Commission choses a target price above existing TSLRIC+ levels (and possibly even further above what TSLRIC+ will be in 3 years time), the Commission believes such an element to its pricing principle is consistent with section 152AH(1), as it has regard to the legitimate business interests of access providers. As the Commission is not specifically modelling TSLRIC+ in Australia for the purposes of determining this pricing principle, it is therefore introducing some risk into its assessment of an appropriate target price for this service. The Commission believes this risk is balanced over the period of this pricing principle, by choosing a conservative target price for this service. Were the Commission to reduce the price of the MTAS beyond its current target price in the future, it would seek to more accurately determine the TSLRIC+ of the MTAS in Australia.

Overall, therefore, the Commission continues to believe that the best cost measures of the MTAS indicate a range of between 5 and 12 cpm. Accordingly, the Commission continues to believe a target price of 12 cpm is appropriate for this pricing principle.

9.2 A gradual adjustment to the target price to address concerns regarding adjustment costs

Whilst the Commission believes that a closer association of the price of mobile termination services and its underlying TSLRIC+ of production would generate a number of benefits in terms of promoting the LTIE, a sudden decrease could also cause substantial adjustment costs. In particular, any move substantially to reduce the price of MTASs could generate significant disruption to the pricing and business strategies of MNOs. This, in turn, would impinge upon the legitimate business interests of access providers who have, to date, based their business plans around existing pricing structures and the previous retail benchmarking pricing principle. On balance, therefore, the Commission continues to believes it is appropriate that the price related terms and conditions of its pricing principle determination for the MTAS should specify an adjustment that ensures the price of the services gradually reduces to the target price specified above. The Commission notes that the existence of such an adjustment path is not inconsistent with the approach it has taken when determining a pricing principle for the PSTN originating and terminating access service, nor with the approach taken by some regulators in Europe who have chosen CPI minus X per cent price reductions over a specified number of periods for the MTAS.

In determining an appropriate adjustment path, the Commission believes the following key elements need to be considered:

- specification of an appropriate starting price and date;
- specification of the number of periods over which the adjustment path should occur;
- specification of the decrements for each period within the adjustment period; and
- specification of whether the target price should be adjusted for changes in the CPI and/or TFP improvements during the adjustment process.

In the Draft Report, the Commission indicated that the following adjustment path would be appropriate:

	Adjustment Path
1 July 2004	21 cpm
1 January 2005	18 cpm
1 January 2006	15 cpm
1 January 2007	12 cpm

Table 9.1 – Adjustment path for the pricing principle

The Commission chose not to adjust the target price for changes in the CPI and TFP improvements.

9.2.1 Views of interested parties

In response to the Draft Report, AAPT, the Australian Consumers Association, ATUG, AT&T, the CCC, Hutchison, MCI and PowerTel argue that the proposed adjustment path in the Draft Report is too gradual. Some of these parties also argue that the amount of the reductions at each stage of the adjustment path are not great enough. On the other hand, Virgin Mobile and Optus contend that the adjustment path should be more gradual than that proposed by the Commission in its Draft Report.

More specifically, AAPT argues that three years have already been lost in terms of generating a closer association of prices and costs for the MTAS since the Commission first indicated in July 2001 that it thought decreases in the price of this service were appropriate. This has largely been due to the failure of the retail benchmarking pricing principle to adequately reduce mobile termination rates. As a consequence, AAPT argues the Commission should not delay in reducing mobile termination rates now. AAPT believes that industry will respond to decreases in mobile termination rates such as those put forward in the Draft Report more rapidly than the Commission suggests in its Draft Decision. While it acknowledges that a reduction in the price of the MTAS could lead to a loss of revenue for mobile-only operators, it argues that any loss in revenue 'may soon be offset' by increased revenues from other services such as data services.[530]

The Australian Consumers' Association argues that the adjustment path is 'excessively smooth and gradual' and that the gradual price change will make it very difficult to discern if the approach taken is having an effect on retail FTM prices if the

[530] AAPT, *Submission by AAPT Limited in Response to the ACCC's Draft Decision on the Mobile Service Review: Mobile Terminating Access Service*, 30 April 2004, pp. 7-8.

Commission were minded to monitor the extent of FTM 'pass-through' (discussed in more detail in section 9.3 below).[531]

ATUG disagrees with the Commission's views on 'rate shock' and argues that users will not see the full benefits of the decision until 2007 because the proposed adjustment path is too gradual. ATUG also suggests that the target price should be eight cents per minute. However, if twelve cents is maintained as the target price, it recommends the target be achieved earlier (by January 2006).[532]

AT&T argues that the indicative price of the MTAS should be reduced in one step rather than gradually over three years. AT&T comments that:

> The proposed three-year implementation period is far too generous to the MNOs, particularly given the conservative target price, and the prolonged period of high charges is too onerous on calling parties. Rather than allowing the MNOs to continue extracting super-normal monopoly profits from call termination services, the ACCC should eliminate the market distortion in one step. No transition period is necessary, particularly given the MNOs have understood for several years that this is a Declared Service, for which the ACCC expected that charges should come down towards cost-based levels. A lengthy transition period rewards the MNOs for their misbehaviour in maintaining unreasonably high rates.[533]

In its initial submission to the Draft Report, the CCC also disagrees with the need for an adjustment period. It argues that the Commission should take into consideration the fact that prices have been 'frozen' for the past 18 months while the Commission has undertaken its inquiry. The CCC argues that commencing the adjustment path with a rate of 21 cpm rewards the exercise of market power at the expense of retail competitors and consumers. It argues that the total cost to consumers of the adjustment path proposed in the Draft Report would be greater that $1.7 billion. The CCC contends that the adjustment path should commence with a rate of 18 cpm and decrease to 12 cpm by January 2006.[534] PowerTel takes a similar view.[535]

In its supplementary submission, the CCC argues that implementation of the proposed adjustment path for indicative prices would allow 'dominant MNOs' to continue to derive monopoly rents from the provision of the MTAS.[536]

The CCC contends that the proposed adjustment path would allow vertically-integrated operators to continue 'to leverage their market power (including through bundling)' resulting in substantial revenue losses for fixed network operators. The CCC considers that, over time, this will impact negatively on consumer welfare as MNOs use their market power to increase prices, reduce quality of services and reduce consumer choice.[537]

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[531] Australian Consumers Association, *Comment on ACCC Draft Decision Mobile Services Review Mobile Terminating Access Service*, 30 April 2004, p. 1.
[532] ATUG, *Submission to the ACCC*, May 2004, p. 5.
[533] AT&T, Letter to the Commission, 30 April 2004, p. 6.
[534] CCC, *Response to the ACCC Mobile Services Review – Draft Decision on Mobile Terminating Access Service Regulation*, 30 April 2004, pp. 2-3.
[535] PowerTel, *ACCC Mobile Services Review Draft Decision on MTAS Submission by PowerTel Ltd*, 4 May 2004, pp. 3-4.
[536] CCC, *Submission by the CCC on the ACCC's Draft Decision on the MTAS*, May 2004, p. 6.
[537] *Ibid*., p. 4.

The CCC also argues that an adjustment period to allow mobile network operators to adapt to significant reductions in revenue from the MTAS is unjustified because MNOs have had seven years in order to prepare for the introduction of cost reflective pricing for the MTAS. It argues that the Commission's role is to 'determine a cost based price for the MTS in accordance with the LTIE, not to protect the commercial interests of individual participants.' Consequently, it argues that there should be no further 'delay' in the implementation of a cost reflective price for the MTAS.[538]

Hutchison argues that the proposed adjustment path is not in the LTIE because it is too gradual. It argues that regulated reductions in MTAS rates have been anticipated by industry for some time and that an immediate reduction to the target price of 12 cpm 'should not be construed as a 'sudden' change'.[539]

MCI argues that the sooner prices for the MTAS are reduced, the sooner consumers will benefit and the sooner margin squeezing by vertically-integrated carriers will be reduced. It rejects 'regulatory shock' arguments and argues that the indicative price should be set at 18 cpm on 1 July 2004 and reduce to 9 cpm, or an amount deemed consistent with a TSLRIC study or a refreshed set of cost benchmarks, by 1 January 2007.[540]

Virgin Mobile, on the other hand, argues that the adjustment path should be more gradual to allow it to adjust to a decrease in termination revenue that would result from decreases in the price of the MTAS. Virgin Mobile contends that the Draft Decision, if implemented, would seriously affect its ability to continue to offer competitive prices for retail mobile services as its revenue from the MTAS will decrease over a 'relatively short time frame'. It argues that, as a result, it will not be able to exert the same competitive constraint on other operators as it currently does. Virgin Mobile also argues that its customers receive, on average, significantly more calls than they make. Hence, it will be severely affected by sudden reductions in the price of the MTAS. It also considers that alternative sources of revenue such as data will not develop for at least another five years to counter these reductions in termination revenue. Virgin proposes a far more gradual adjustment to allow it to adjust its business plans in response to the Draft Decision.

Optus also argues that the adjustment path proposed by the Commission is too steep. Optus contends that mobile operators may increase retail charges for mobile services to offset reductions in revenue from mobile termination. Consequently, Optus argues that a more gradual adjustment path will cushion consumers against 'the shock of less desirable mobile price structures'.[541]

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[538] *Ibid*., p. 5.
[539] Hutchison, *Response to the ACCC's Draft Decision on MTAS*, 30 April 2004, p. 5.
[540] MCI, *Comments of MCI regarding the ACCC's Mobile Terminating Access Service Draft Decision*, 30 April 2004, pp. 5-8.
[541] Optus, *Optus Submission to ACCC on Mobile Termination Charge Glide Path*, May 2004, p. 7.

Different views about the pace of MTAS charge reductions over the next 2 to 3 years are summarised in Table 9.2 below:

Table 9.2 – Alternative adjustment paths proposed by interested parties

(figures in cents per minute)	ACCC draft PP	Hutchison & ATUG	PowerTel & CCC	MCI	AT&T	Virgin Mobile
Current wt-avg MTAS charge	22.5					
1 Jul 04	21		18	18	12	21
1 Jan 05	18	18	15	15		20
1 Jul 05		15				19
1 Jan 06	15	12	12	12		18
1 Jul 06						16
1 Jan 07	12			9 or TSLRIC or new benchmark		12

9.2.2 Commission view

What is the starting date and price?

With regard to the appropriate starting date, the Commission notes that the pricing principle would be effective from the time of release of a Final Decision in this inquiry. Accordingly, the new pricing principle would take effect from 1 July 2004.

In choosing a starting price for the adjustment path of the pricing principle, the Commission has been mindful of the limited level of reduction in the price of the MTAS in recent periods and especially during the period over which the Commission has conducted this inquiry. The Commission also believes existing high prices for the MTAS are not in the LTIE. Accordingly, it believes steps must be taken to ensure the price of the service begins to reduce immediately on 1 July 2004. That said, the Commission is also mindful that an immediate and significant reduction would give mobile operators little time to adjust their business plans in response to a regulated change in the price of the service. In relation to the argument raised by rhe CCC that it is not the role of the Commission to protect the commercial interests of individual participants, the Commission notes that in setting pricing principles, it is required to have regard to the legitimate business interests of access providers.

On balance, therefore, the Commission believes it would be appropriate for there to be an immediate reduction in the price of the MTAS. However, having regard to the legitimate business interests of access providers, the Commission believes the initial price reduction should only be one that reduces the price of the MTAS to the lowest available price in the market at present. Based on information available to it, the Commission understands this is currently 21 cents per minute.

Over how many periods should the adjustment path operate?

Given the dynamic nature of the telecommunications industry, the Commission believes it appropriate in this instance that its pricing principle apply for no more than

three years. Accordingly, the Commission believes its pricing principle should apply up until 30 June 2007.

Hence, the Commission believes it is appropriate that the adjustment path should operate over a period of 30 months, from 1 July 2004 until 1 January 2007.

The Commission considers that this period allows sufficient time for MNOs to unwind or realise their business decisions made in reliance on the previous regulatory approach to pricing the MTAS. Further, although reasonable measures or indicators of the TSLRIC+ of the MTAS are currently available to the Commission, the Commission would anticipate that within this period further information will become available to the Commission to more precisely estimate the TSLRIC+ of the service within the broad range indicated by the existing measures.

What course should the adjustment path follow?

In determining the particular timing of adjustments to the price of the MTAS between 1 July 2004 and 30 June 2007, the Commission has decided that following implementation of the first price reduction to 21 cents per minute on 1 July 2004, the Commission believes the next price reduction should occur six months later on 1 January 2005. Following this, the Commission believes two further price reductions should occur on each of 1 January 2006 and 1 January 2007. This implies three price reductions from 21 cents per minute to the eventual target of 12 cents per minute. In order to ensure a steady reduction in the price of the service, the Commission has decided that each of these price reductions should be of 3 cents per minute each. The schedule of prices required by this adjustment path is outlined in Table 9.3 below.

	Adjustment Path
1 July 2004	21 cpm
1 January 2005	18 cpm
1 January 2006	15 cpm
1 January 2007	12 cpm

Table 9.3 – Adjustment path for the pricing principle

In determining such a price path, the Commission has sought to balance the promotion of the LTIE that will be made by faster reductions in the price of the MTAS, with the detriment to the LTIE that could result from disruption to mobile operators business plans (and hence the harm to their legitimate business interests) that would be caused by the change in regulatory approach to pricing and the associated rapid decreases in the price of the service.

The Commission believes an adjustment path that, after initially adjusting closer to TSLRIC+, then follows a straight line would represent an appropriate balance of these conflicting considerations under the legislative criteria set out in section 152AH(1) of

the Act. The Commission has reached this view as it considers that as the price for the MTAS becomes more reasonably proximate to the TSLRIC+ target price these matters should be given equal weighting. Until the price of the MTAS reaches that point, however, the Commission considers the LTIE would be promoted by a relatively steeper adjustment path given the greater harm of above-cost pricing to the LTIE and the lesser legitimacy of business plans that were made on the basis of access prices that significantly exceed TSLRIC+ of the service.

Accordingly, the Commission considers that the initial 3 cpm decrement should be made on 1 January 2005 given the extent to which prices for the MTAS currently exceed the best available estimates of the TSLRIC+ of the service. The following decrements should be made annually.

Should the target be CPI and Total Factor Productivity (TFP) adjusted?

Not adjusting for CPI changes would mean the target would fall to be lower than 12 cpm in real terms by the end of the three-year implementation period. Inclusion of a CPI adjustment would mean the nominal (and therefore effective) price target would grow over the three year adjustment period to be greater than 12 cents per minute (e.g., 3 per cent inflation each year would increase the target to 13.1 cents per minute after three years). On the other hand, TFP growth implies expected cost savings for a service. The effect of including a TFP measure would be to lower the target price (i.e. to take account of expected cost savings). The Commission's view on this issue is that either both these adjustments should be made or neither adjustment made. On balance, it believes the latter course is superior. While the CPI adjustment is relatively straightforward, a TFP adjustment is not.

9.3 Mechanisms to address FTM 'pass-through'

The pass-through in lower retail FTM prices of a substantial proportion of reductions in termination charges will heavily influence the size of the consumer benefits and efficiency gains the Commission expects from declaration and the staged adoption of a pricing principle yielding a closer association of price with its underlying cost.[542]

The Commission has considered the pass-through issue both in principle and empirically. Basic economic analysis would suggest that a profit-maximising monopolist with constant long-run incremental cost would, *ceteris paribus*, pass-through 50 per cent of any cost reduction, while a totally competitive market would (again, everything else being equal) pass-through the entire cost saving in lower retail prices. In the Commission's view, the market within which FTM services are provided lies within these bands, and this is reflected in the empirical observation of pass-through of over 50 per cent when considered over the entire period since 1997-98.

[542] The Commission notes, however, that it may not be necessary to demonstrate that any reductions in the charges for wholesale inputs (i.e., the mobile termination service) will be passed on to end-users in order to consider that such reductions would be in the LTIE. The LTIE test under s. 152AB of the Act requires consideration of the extent to which declaration promotes competition and encourages efficiency. The test does not require that the declaration of itself actually causes increased competition or efficiency.

Over time, however, as competition develops in this market, the Commission expects that retail prices will decrease because of both decreases in termination charges and through the market becoming more competitive. This could result in the appearance of pass-through in excess of 100 per cent. That is, a key benefit of declaration of the MTAS with implementation of an accompanying pricing principle yielding a closer association of price with underlying cost, is that the market within which FTM services are provided will become more competitive. Accordingly, the pricing principle itself should, over the long-term, work to provide a greater level of FTM 'pass-through'. The Commission's views on this are set out in detail in section 4.4 of this report.

That said, improved competition can manifest itself in many forms other than just price reductions. In particular, improved competition may be associated with incomplete pass-through if it is also associated with improvements in the quality of services provided (which may increase the cost of providing FTM call services). Further, lower input costs may be passed-through in the form of reductions in the price of other services provided in the bundle of pre-selected fixed line services. Hence, while FTM call prices may not fall by the same amount as the price of the MTAS in the short-term, the LTIE can still be promoted if there are reductions in the price of STD and IDD call services as a result of lowering input costs for competitors in the market within which FTM services are provided.

9.3.1 Submissions to the Discussion Paper

Some carriers, and in particular Hutchison, raised concerns about the competitive advantage a lack of FTM pass-through would provide to the vertically-integrated carriers with which it competes in the mobile services market. Hutchison also noted that less-than-complete FTM pass-through would reduce the benefits end-users would enjoy from a lowering of the price of the MTAS. Accordingly, Hutchison urged the Commission to consider incorporating into its pricing principle a mechanism to ensure a greater degree of 'pass-through' to end-users.[543]

In meetings with the Commission, Hutchison suggested a mechanism whereby the Commission would set a range of prices for mobile termination services depending on the retail prices being set by access seekers for FTM services. That is, access seekers would be able to receive lower prices for mobile termination services only where they demonstrated they would be charging lower retail prices for FTM services.

Hutchison suggested that the key advantages of such an approach are that it:

- should ensure pass-through;
- would provide an incentive for lower prices in the downstream FTM market; and
- should promote more competitive outcomes in the downstream market within which FTM services are provided.

[543] Hutchison, *op. cit.,* pp. 12-14.

The Commission sought comment on this proposal from interested parties in the Draft Report.

A further possible option for addressing pass-through is the use of the Government's retail price control mechanism to exert greater downward pressure on Telstra's – and therefore probably its competitors' – retail FTM prices. One party, the Australian Consumers' Association, called for

> … an amendment of the Telstra price cap regime to create a specific fixed-to-mobile sub-basket that mandates retail pass-through …[544]

A number of other parties considered the issue of modifying retail price controls, but none favoured their use in relation to pass-through. For example, Telstra dismissed the relevance of considering retail price controls in the light of what it saw as existing 'adequate' pass-through,[545] Optus observed that FTM prices were already in the call basket of the retail price controls and 'this is efficient',[546] and Vodafone 'would not support the introduction of additional retail price controls'.[547]

9.3.2 Submissions to the Draft Report

Vodafone expressed in-principle support for the mechanism outlined by Hutchison in its submission on the Commission's Discussion Paper. However, Vodafone considered that:

> ...it is neither appropriate nor workable for the Commission to stipulate a range of prices for the mobile termination service and a corresponding retail price for F2M calls.[548]

Instead, Vodafone suggested that access seekers should only be able to obtain a lower termination price if they could show that all reductions from the previous periods had been passed through. Vodafone suggested that this mechanism should be supplemented by a comprehensive program by the Commission to monitor retail FTM prices.[549]

Virgin Mobile expressed opposition to Hutchison's proposal, claiming that it would be awkward to introduce, measure and manage. Virgin also argued that this proposal would provide no relief to mobile-only operators.[550]

Several interested parties supported the introduction of a separate price cap for Telstra relating to FTM services.

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[544] Australian Consumers' Association, *Response to the ACCC Discussion Paper*, 11 June 2003, p. 3.
[545] Telstra, *op. cit.,* pp. 3, 8.
[546] Optus, *op. cit.*, p. 56.
[547] Vodafone, *op.cit.,* p. 17.
[548] Vodafone, *Supplementary Submission to ACCC Draft Decision*, 1 June 2004, p. 6.
[549] *Ibid.*, pp. 6-7.
[550] Virgin Mobile, *Non-confidential Submission on the Draft Decision of the ACCC on the Declaration of the Mobile Terminating Access Service*, 30 April 2004, p. 8.

Hutchison argued that:

> …the best method for linking reductions in MTAS charges to pass-through is through the introduction of a specific retail price control under the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (the Telecoms (CPSS) Act).[551]

Hutchison claimed that the 3.2 per cent reduction in fixed-to-mobile prices during 2001-02 shows that the existing retail price controls are unlikely to ensure adequate pass-through.

In support of a separate price cap, Hutchison argued that the cost of acquiring the MTAS is not common to the other services included in the basket with FTM calls.

Hutchison suggests the separate cap should take the form CPI minus X minus T, where T represents the reduction in MTAS charges. Hutchison also suggested narrower caps should be imposed as well, such as for off-net calls made by customers with the lowest 50 per cent of bills. Hutchison argues this is necessary to ensure pass-through occurs for all customers on a non-discriminatory basis.[552]

Likewise, Virgin Mobile submitted:

> Virgin Mobile believes a more effective means of bringing about a reduction in retail fixed to mobile prices would be to introduce a sub-basket of calls into the existing Telstra price control regime.[553]

The Australian Consumers Association also recommended changes to Telstra's price caps, and suggested the Commission make robust comments in this regard in relation to the recently-announced review of Telstra's price caps.[554]

Interested parties also suggested the Commission conduct price monitoring to ensure pass-through. Vodafone suggested the Commission establish a monitoring program commencing on 1 July 2004. Under this program the Commission should collect revenue and quantity data from carriers in relation to both FTM calls (disaggregated by customer type) and mobile termination services. Vodafone suggests the Commission publish a six-monthly report outlining the price changes for each service.[555]

Likewise, AAPT suggested the Commission monitor the relevant markets using its powers relating to tariff filing and record keeping under Part XIB of the Act.[556] SPAN also suggested that a monitoring program be established.[557]

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[551] Hutchison Telecoms, *Response to the ACCC's Draft Decision on Mobile Terminating Access*, 30 April 2004, p. 12.
[552] *Ibid*., pp. 13-14.
[553] Virgin Mobile, *op. cit.*
[554] Australian Consumers Association, *Comment on ACCC Draft Decision Mobile Services Review Mobile Terminating Access Service*, 29 April 2004, p. 1.
[555] Vodafone, *Supplementary Submission to the ACCC Draft Decision Mobile Termination Access Service*, 1 June 2004, pp. 6-7.
[556] AAPT, Op. Cit., p. 10.
[557] SPAN, *Submission to the ACCC in Respect of the Mobile Services Review Mobile Terminating Access Service Draft Decision*, 2 June 2004, p. 7.

There were other suggestions as well. ATUG recommended the Commission undertake an annual program of information to consumers to alert them to the staged reductions in termination prices, and the benefits they should be seeing in retail price reductions to FTM calls.[558] CCC recommended TSLRIC-based regulation of FTM prices.[559]

9.3.3 Commission view

Hutchison's proposed pass-through mechanism

The Commission notes that an approach that links mobile termination prices to the prices charged in the FTM retail market could involve considerable complexity, as retail pricing practices in the FTM market usually involve different retail prices for different customer groups (i.e., residential, small business, other business) and for different time periods (i.e., peak, off-peak). This practice implies that mobile termination prices could have a number of different levels according to the characteristics of the end-user making the call and the time at which it is made, even though the underlying cost of providing the mobile termination service is likely to remain unchanged. Vodafone noted these difficulties.

The Commission also believes, as noted by Hutchison in its meetings with the Commission, that the only way this mechanism could work in a way that ensured the legitimate business interests of access providers were met would probably involve setting a price floor.

Furthermore, the Commission agrees with Virgin Mobile's view that such a mechanism would discriminate between vertically-integrated providers of both MTM and FTM services, who could obtain lower MTAS prices, and mobile-only providers, who could not.

Consequently, the Commission does not propose to adopt this mechanism. For many of the same reasons, the Commission does not propose to adopt the mechanism proposed by Vodafone.

Amendment to Telstra's current retail price controls

At the outset, it should be noted that the Commission has no powers to determine the retail price controls applying to Telstra. In the past it has advised the Minister on retail price control arrangements[560], and since 1997 it has reported to the Minister on Telstra's compliance with the controls. The Commission has also recently been asked by the Minister to conduct an inquiry into what form future price control arrangements that apply to Telstra should take. The Commission has recently released a discussion paper in relation to this inquiry.[561]

That said, in its February 2001 report to the Minister on retail price controls, the Commission did not favour the continuation of existing sub-caps due to the superior

[558] ATUG, *op. cit.*, p. 7.
[559] CCC, *Where to From Here?*, p. 4.
[560] ACCC, *Review of Price Control Arrangements*, Report to the Minister, February 2001.
[561] ACCC, *Review of Retail Price Controls Discussion Paper*, 28 June 2004.

efficiency properties of broad-basket price caps. Whether or not the Commission retains this view at the end of its current inquiry into this matter remains to be seen. The Commission will take the submissions to this review into account when making recommendations to the Government in relation to the forthcoming review of Telstra's price control arrangements. However, the Commission does not at this stage wish to pre-empt any view it might take in relation to that review, as it will need to consider a much broader range of issues in making its recommendations to the Government.

In relation to Hutchison's comment that the cost of acquiring the MTAS is not common to national long distance and international services, the Commission considers that this in itself would not justify imposing a separate price cap on FTM services. Although this cost is not common to the three services, there are other costs that are.

Part XIB enforcement and monitoring

The Commission notes AAPT's suggestion that it investigate possible breaches of Part XIB of the Act in relation to alleged price-squeeze activities. The Commission notes it is currently investigating such allegations under Part XIB of the Act, and will give due consideration to any such further allegations should they arise in the future.

With regard to monitoring the market within which FTM services are provided, and other relevant markets, to ascertain the degree of pass-through that occurs in future periods, the Commission notes it already collects much of the relevant data under its Regulatory Accounting Framework (RAF) and Division 12 Report responsibilities. The Commission believes this provides it with sufficient information to assess whether pass-through will occur into the future.

Other suggested measures to ensure pass-through

The Commission does not consider it is necessary at this stage to provide additional information to consumers, on a formal basis, in terms of price reductions they should expect in relation to FTM prices. However, publications such as the Division 12 Report should alert consumers to developments in relevant markets.

9.4 Conclusions

Overall, therefore, the Commission believes:

- In recognition of the cost and time-consuming nature of implementing a cost-based pricing principle *de novo*, the Commission has determined a price target rate of 12 cents per minute towards which mobile termination charges should move. This rate is based on benchmarking against rates

determined in overseas jurisdictions and information derived from the RAF;[562]

- In order to limit concerns about the potential for substantial adjustment costs, the Commission has adopted a staged adjustment approach, whereby the price of the MTAS should reduce gradually to this target;

- The level of FTM 'pass-through' would be improved by the introduction of a pricing principle that generated a closer association of prices and TSLRIC+ for the MTAS, as this would be expected to generate a greater level of competition in the downstream FTM services market;

- While the Commission has in the past expressed reservations about sub-caps being included in its retail price control arrangements, the Commission will consider this view again separately in its current retail price control review.

[562] All sources of the benchmark rate reflect recognition of the need to attribute some measure of organisational-level costs to the price of the mobile termination service, but do not recognise the need to include a further increment to reflect the presence of network externalities.

Annexure: Determination of the Appropriate Price Target

Reactions to the Draft Report

The Draft Report considered four sources of information about costs of termination – cost studies in other countries, the regulatory accounts (RAF) of the three Australian carriers that report under the RAF, inferences from mobile-to-mobile (MTM) pricing and other sources ('market inquiries'). These indicated costs in the range of 5-6 to 12 cpm, and the Commission decided to select what it perceived to be a conservative price target at the top of this range (12 cpm).

Of the mobile carriers, this aspect of the Draft Report has proved contentious with Optus and Vodafone; less-so with Telstra and not at all with Hutchison. Access seekers (domestic and international) and consumer groups have generally welcomed the target price, although two fixed-line carriers have suggested that TSLRIC modelling would be desirable if reductions beyond 12 cpm were to be contemplated and/or in the event of disputation over benchmarking results. MCI and AT&T presented further evidence of cost proxies from a variety of sources.

The Commission's work on the target price has been driven mainly by suggestions and challenges from the interested parties. Further research has been undertaken in three main areas:

- Consideration of factors that need to be taken into account in applying estimates from other countries to Australia, including exchange rate conversions (including purchasing power parity); differences in labour and land costs; geographical conditions; coverage; scale; etc. Such factors have been discussed in three submissions.[563] The purpose of this research was to advise the Commission on which particular modelling exercises are of most relevance to Australia, while maintaining its position that any attempt to 'adjust' overseas estimates for Australian conditions defeats the purpose of benchmarking against international costs. The Commission has been assisted by a consultancy from the international consulting firm, Analysys, and its report contains a detailed discussion of the relevant cost drivers and how they impact in different countries.[564]

- Consideration of cost modelling and/or 'cost orientation' in other countries, including Sweden, South Korea, Malaysia, France, Belgium, Italy, Finland

[563] Particularly for Optus, CRA, *The Use of Benchmarking in Regulating Mobile Termination Rates*, prepared for Optus by Charles River Associates (Asia Pacific) Pty Ltd, Melbourne, 28 May 2004, Vodafone, *Response to ACCC Draft Decision Mobile Termination Access* Service, 30 April 2004, and (for Vodafone), Frontier Economics, *International Benchmarking of Mobile Termination Charge Rates*, May 2004. Additionally, Telstra (*Response to the Draft Decision on the Mobile Terminating Access Service*, June 2004) made some observations about the international benchmarking (pp. 24-25).

[564] Analysys, *Examination of Mobile Termination Costs*, Final Report for the ACCC, June 2004. Other treatments of factors determining costs across different countries include: D. Rogerson, *op. cit.*; Analysys, 'Application of Long-run Incremental Costing (LRIC) Principles to Mobile Networks', Analysys expertise and key issues; Europe Economics, *Cost Structures in Mobile Networks and their Relationship to Prices*, Final Report for the European Commission, 28 November 2001.

and Austria; and development of a deeper understanding of work in the UK[565] and the US. The degree of transparency and extent of progress in reaching cost estimates varies across countries. A small number of countries have used TSLRIC[566] modelling, others have used some form of top-down modelling of carrier costs while others have used a combination of both ('hybrid' cost modelling).[567] Practice with respect to the addition of network externality surcharges and customer acquisition costs also vary. In general, the Commission believes that these latter costs should be excluded from cost-based access charges satisfying the LTIE legislative test.

- Further work on the Australian carriers' regulatory accounts (RAFs) as part of a 'top-down' cost estimation. While the Draft Report referred to inferences drawn from Telstra's RAF, the Commission has attempted to extend the analysis to Optus and Vodafone which, under the heading 'GSM origination and termination' (GSM O/T) include revenues and costs for other than GSM O/T (e.g., end-to-end wholesaling).[568]

The Commission considers cost inferences based on mobile-to-mobile pricing as of lesser importance compared with direct estimates of costs.

Cost Modelling in Other Jurisdictions

Introduction

For the Draft Report the Commission, considered TSLRIC cost modelling done in the UK, California, New York and Florida, but was becoming aware of studies undertaken in other countries. Since the Draft Report, it has been conducting its own research on these other countries and has received information and analysis from the parties, in particular, Optus (Charles River Associates or CRA) and Vodafone (Frontier Economics). CRA made a strong attack on the unadjusted use of the UK benchmark, claiming that taking into account 'key differences in supply conditions' yields an indicative estimate of Optus' costs of 26.8 cpm, and referring to six other European 'cost estimates' in excess of the Commission's 12 cpm.[569]

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[565] Ofcom (*Wholesale Mobile Voice Call Termination*, Statement, 1 June 2004) released its final statement after the release of the Draft Report, and this contains revised cost estimates.

[566] TSLRIC stands for total service long-run incremental cost. Where it contains a contribution to organisational-level costs the Commission calls it 'TSLRIC+'. Other jurisdictions use TELRIC ('E' for 'element'); LRIC (long-run incremental cost); LRIC + EPMU (equi-proportionate mark up) or LRAIC (long-run average incremental cost). This different terminology is the cause of some confusion, but in all cases reference is being made to essentially the same thing.

[567] David Rogerson ('Mobile Termination Rates', Ovum, January 2004, p. 1) argues that 'the most appropriate approach to setting cost-based MTRs is to use a bottom-up long-run incremental cost (LRIC) model calibrated (where possible) against operators' actual network costs'.

[568] Telstra, *op. cit.*, pp. 25-26; CRA (for Optus), *op. cit.*, pp. 28-31 and Vodafone, *op. cit.*, pp. 34-35, all comment on the use of the RAF. AAPT (*Supplementary Submission by AAPT Limited in Response to the Australian Competition and Consumer Commission's Draft Decision on the Mobile Services Review: Mobile Terminating Access Service*, 21 June 2004, p. 3) refers to the issue of mobile carriers' disclosure of cost information.

[569] CRA, *op. cit.*, pp. 20 and 25. However, see below, CRA has now revised the adjusted UK cost to around 20 cpm.

In addition, as mentioned above, the UK firm, Analysys, has reviewed relevant studies in other countries and considered adjustment factors (scale, coverage, density, labour and land costs, relevance of purchasing power parity (PPP), etc.) in relating them to Australian conditions. The Commission's research now covers ten countries; although not all of these have actually modelled costs as suggested to it.

Details of the Commission's analysis of cost modelling in various countries follow.

United Kingdom

This case has been explored at length both by the Commission and by CRA and Vodafone. Ofcom has just released its final Statement on *Wholesale Mobile Voice Termination* (1 June 2004) and new estimates of costs based on LRIC + EPMU.[570] Revisions of some inputs have increased the cost estimates for 2004-05 and 2005-06, and now suggest a higher cost for 2005-06 than for 2004-05. The 'network externality surcharge' component – that the Commission does not regard as a cost of producing mobile termination – has been increased from 0.4 ppm to 0.5 ppm. In spite of these revisions, per-minute costs of 4.43p for 2004-05 and 4.50p for 2005-06[571] remain broadly within the range outlined in the Draft Report when corrected for inflation and converted at either the ten-year average official exchange rate (11. 93 cpm and 12.10 cpm) or PPP.[572]

Vodafone[573] has provided criticisms of the Ofcom/Oftel/Competition Commission modelling and chronicles several instances of significant changes that have been made to the Analysys model, noting it is 'still subject to further debate and consultation'. As discussed above, the Commission now has access to Ofcom's final statement, released after receipt of Vodafone's submission.

CRA[574] has suggested that density, coverage and scale factors would mean these costs would have to be adjusted upwards for Australia, but that land and labour cost differences suggest a downwards adjustment, and has made a quantitative analysis of these differences. In its report, CRA claimed that transformation of UK costs for these factors resulted in a corrected cost of 26.8 cpm. Following inquiries to Optus by the Commission regarding the formula used to calculate the scale effect and the treatment of non-network costs, Optus supplied the Commission with an advice from

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[570] Ofcom, *Wholesale Mobile Voice Termination*, Statement, 1 June 2004.

[571] LRIC + mark-up for common costs for 900/1800Mhz operators from Ofcom, *op. cit.*, Table 3, page 64 and Table 8 on p. 162. The numbers in these tables are in 2001-02 prices and have to be adjusted for movement in the retail price index.

[572] These have been converted at the ten-year average exchange rate of AUS$2.406 = £1.00, sourced from the Reserve Bank of Australia http://www.rba.gov.au/Statistics/Historical/index.html The use of the ten-year average exchange rate has been suggested by Frontier Economics (*International Benchmarking of Mobile Termination Charge Rates*, Report for Vodafone Australia, May 2004, p. 5). The Commission agrees with Frontier Economics with respect to the desirability of reducing 'the effect of volatile market exchange rate movements'. The Commission also believes it better reflects the local acquisition costs of installed capital equipment, given what it understands are typical ten-year asset lives for mobile equipment. See also the discussion in the Analysys report, *op. cit.*, pp. 4-6. PPP conversions from the UK and other high-cost European countries yield much lower prices in Australian currency terms.

[573] Vodafone, *Response to ACCC Draft Decision Mobile Termination Access Service*, 30 April 2004, pp. 41-43.

[574] CRA, *op. cit.*

CRA adjusting the cost estimate down to 20.11 cpm.[575] The Commission does not believe that even this lower estimate represents a robust estimate of Optus' costs. It has several reasons for this belief:

First, CRA begins with an inflated base for its adjustments by beginning with Ofcom's 'efficient charge' level rather than its estimate of cost *per se*. Ofcom's efficient charge includes a 'network externality surcharge' of 0.5 ppm (1.4 cpm), that appears to be something like an 'access deficit contribution', and is unambiguously not a cost. CRA also uses an average of the costs for 900/1800Mhz and 1800Mhz operators (rather than 900/1800Mhz only as used in Australia), and converts at a single day's exchange rate (rather than a ten-year average). In total, this means it starts at 5.97 ppm rather than 4.96 ppm (the 900/1800Mhz cost for 2004-05 corrected for inflation). This inflation of the base cascades through the adjustment process.

Second, CRA has adjusted only for scale, coverage, land costs and labour costs, but there are many other factors that influence costs. These include the degree of integration between fixed-line and mobile operations and the amount of SMS and data traffic. Both of these factors appear likely to suggest lower costs in Australia than in the UK.

Third, the Commission is concerned by the empricial estimates that form the basis of adjustments made for scale and coverage, and that CRA's assumptions do not account for Australia's high degree of urbanisation. With respect to scale, CRA cites a study estimating a cost-scale elasticity of 0.82, but overlooks a study (referenced in the study cited) that concludes 'we reject constant returns to scale for all but the smallest firm studied; the remaining firms exhibit decreasing returns to scale'.[576] In other words, this study suggests an elasticity of greater than one. Similarly, CRA makes adjustments for Australia's greater coverage area, but not for its higher degree of urbanisation.

Fourth, CRA's estimate fails various simple 'reality tests'. For example:

- 20.11 cpm is only a little under Optus' termination charge of c-i-c cpm, suggesting that it is only just breaking even on termination. Much of Optus' case against regulation rests on the profits on termination being necessary to support loss-making retail activities (especially handset subsidies). If Optus is to be consistent in its submissions, its cost of providing termination must be considerably less than this.

- If it did actually cost Optus this much to originate and terminate each of its 10.8 billion minutes, the total implied cost of $2,172 million would be incompatible with what the Commission knows about Optus' costs in 2003-04. In particular, the Commission estimates these at $2,781 million, but knows that non-minute costs such as interconnection payments, purchase of

[575] Memorandum from CRA to Optus, *Mobile Termination – International Benchmarking*, CRA No. DO5285-00, 24 June 2004.

[576] D. McKenzie and J. Small, 'Econometric Cost Structure Estimates for Cellular Telephony in the United States', Centre for Research in Network Economics and Communications, The University of Auckland, 1997, p. 2. (Published in *Journal of Regulatory Economics*, 12, 2, September 1997, pp. 147-157.)

handsets and retailing costs sum to far more than the difference of $609 million. The incompatibility is fundamental.

- Were termination costs really this high in Australia relative to the UK, then the Commission would expect that this high cost structure would also be reflected in relatively high retail prices. However, this is clearly not the case, with UK retail prices being substantially higher than those in Australia.[577]

Fifth, more directly, the Commission believes that Optus' RAF indicates termination costs of about (c-i-c) (see below), and this is far below CRA's adjusted UK cost.

In summary, the Commission has chosen not to rely on CRA's adjustment of Ofcom's estimates for Australian conditions. Consistent with its broad approach, the Commission suggests that the unadjusted UK results (suggesting TSLRIC+ cost estimates of around 12 cpm) be viewed as one of a substantial and growing number of indicators of the cost of mobile termination available from other jurisdictions.

New York, California and Florida

In the Draft Report, the Commission referred to the US Sprint models of the costs of its CDMA networks for each of New York, California and Florida. The Sprint modelling was based on TELRIC and conducted in 2000 based on data for calendar 1999. These indicated per-minute costs of between 7 and 12 cpm when adjusted for exchange rates prevailing in the first ten days of March 2004. Following the Draft Report, model documentation was supplied to Vodafone and Optus (upon request) for appraisal, and CRA has commented on them. CRA has claimed their inapplicability to Australia, and made a limited number of adjustments to account for Australian conditions. Even after these adjustments, however, CRA still reported that the Sprint costs are within the range set out in the Draft Report.[578] The Commission has many reservations about CRA's partial adjustments, and reiterates its belief that unadjusted costs provide a more relevant benchmark than costs based on only a small number of the many possible adjustments.

Malaysia

The Commission became aware of cost modelling in Malaysia through its own research rather than through advice from any interested parties. TSLRIC modelling was performed in 2002 for the Malaysian Communications and Multimedia Commission (MCMC) by n/e/r/a (London) consultants. The results of the model have been published in a 2002 Consultation paper.[579] Costs estimated by n/e/r/a range from 0.0839 (off-peak) to 0.1824 (peak) Ringit for short-haul interconnection, converting to 3.1 cpm to 6.8 cpm at 2.7 Ringit to AUS$1.00. There are small increments to the

[577] Optus itself has demonstrated a large price differential (in Australia's favour) compared with the UK and other high-cost European countries. See, for example, Cable & Wireless Optus, *Submission to the Review of Price Control Arrangements*, undated 2000, pp. 28ff.

[578] CRA, *op. cit.*, pp. 20-24. Note that the 24 June 2004 CRA-Optus Memorandum (*op. cit.*) has made further adjustments to these costs and now claims they are equivalent to 14.33 cpm.

[579] MCMC, *A Consultation Paper on Access Pricing*, 13 May 2002, p. 20. Further, the MCMC has provided the Commission with a copy of n/e/r/a's unpublished study on a confidential basis.

cost for long-haul and regional application. These costs clearly fall below or at the bottom of the range outlined in the Draft Report.

South Korea

The case of South Korea was brought to the Commission's attention in a submission by MCI,[580] and was not mentioned by either CRA or Frontier Economics. South Korean carriers use CDMA technology. The incumbent (SK Telecom) has 18.5 million subscribers, more than twice that of Telstra; the second carrier has 11.5 million and the third 5.5 million. Seoul has a population (including the surrounding province) of over 20 million. In South Korea, mobile termination rates are regulated by the Ministry of Information and Communication, and a LRIC-based approach is being established in 2004.[581] This follows regulation based on fully-allocated historic costs operating since 2000. Termination charges have fallen rapidly in South Korea from 160 Won in 1996 to 40 Won in 2003. This is equivalent to about 5 cpm, converted at exchange rates prevailing at June 2004 (approximately 810 Won = Aus$1.00). While the results of the TSLRIC modelling are not yet publicly-available, MCI reports that the modelling approach suggests a cost 'the equivalent of 5.7 Australian cents'.[582] This is well below the range of the Draft Report.

Sweden

Following the 1997 EU European Interconnection Directive, the Swedish regulatory authority, Post och Telestyrelsen (PTS), declared the incumbent, Telesonaria, had 'significant market power' (SMP) allowing it to set 'cost-oriented' prices. The other two operators were given SMP status in 2002. Like Australia, Sweden uses GSM on 900/1800Mhz, and there are three main operators – the incumbent, Teliasonera (49.5 per cent), Tele 2 (33.5 per cent) and Vodafone (17.0 per cent) with similar market shares to Australia's three main carriers. There is a very high level of penetration of mobile telephony – approximately 7.5 million mobile subscribers for a population of 8.9 million (84 per cent), which is slightly higher than Australia. Prices are currently based on rate-of-return regulation based on historical fully distributed costs (FDCs).[583] Figures for 2002[584] show that Sweden, at 10 Euro cents per minute (16.83 cpm), had the lowest mobile termination charges in Europe. This was about one-half the rate in the most expensive European countries. Sweden is moving to base its pricing on cost modelling with a hybrid of 'bottom-up' (LRIC + EPMU) and 'top-down' (historic costs). The modelling has been conducted for the Swedish regulator by consulting firm, Analysys. Two versions of the bottom-up model were released in 2003 with indicative costs. The documentation also reports on a top-down model, which is

[580] MCI, *Comments of MCI Regarding the Australian Competition and Consumer Commission's Mobile Terminating Access Service Draft Decision*, 30 April 2004, p. 4.
[581] The history of MTR regulation in South Korea has been covered by David Rogerson ('Mobile Termination Rates', Ovum, January 2004, pp. 26-27).
[582] MCI, *op. cit.*, p. 4.
[583] See Lars Hultkrantz, 'Telecommunications Liberalisation in Sweden: Is 'Intermediate' Regulation Viable?', *Swedish Economic Policy Review*, 9, 2002, 133-161 at pages 149-150.
[584] ACCC, *Mobile Services Review 2003*, April 2003, Figure 5.3, p. 35.

based on historic cost analysis.[585] When the final output is released (expected in July 2004) it will based on a 'hybrid' bottom-up/top-down model.

Austria

Austria is one of five European countries that CRA has claimed has mobile termination charges that are 'explicitly stated to be based on an analysis of costs'.[586] CRA claims that cost modelling resulted in an equivalent Australian cost of 24 cpm; implying that this is a recent cost estimate on which termination charges are based. The Commission is not convinced by these claims. While a 1999 cost study authored by four Austrian regulatory staff[587] appears to support CRA's claim of a high estimated cost of termination, this study never formed the basis of Austria's rate-setting and is otherwise irrelevant to the Commission's cost benchmarking.[588] More recent information from the Telekom-Control website[589] indicates rates were set for 2003 in the range of EUR 0.11 to EUR 0.13 (about 17 – 23 cpm). These are described as being based on 'reasonable fees' with a range of 'specific costs taken into account'. The 'costs of external effects were also taken into account'. There is no indication of how these costs are 'taken into account'. In the Commission's view, prices based on the 'reasonable costs' approach cannot be construed as transparent and formal 'cost estimates', and that the inclusion of 'costs' of external effects is inconsistent with the Commission's criteria.

Belgium

Belgium is the second of the five European countries suggested by CRA as producing cost estimates for regulatory purposes. The incumbent operator, Mobistar, was declared to have significant market power with regard to the provision of mobile termination in 2002 and thereby is subject to 'cost-oriented' pricing. CRA claims the Belgian regulator 'estimated the costs of the Belgian operator Mobistar to be between 27-34cpm'.[590] However, it is the Commission's understanding that the rates applying to Mobistar are based on benchmarking against European MTRs and are explicitly not

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[585] Details of the Swedish modelling can be accessed as follows: Link to the page where the model may be downloaded: http://www.pts.se/Sidor/sida.asp?SectionId=1848 The direct link is: http://www.pts.se/Archive/Documents/SE/Model_ver_%202_with_basic_swedish_inputs.zip

[586] CRA, *op. cit.*, footnote 51, p. 25. The other four countries are Belgium, Finland, France and Austria.

[587] R. Belfin, B. Hartsleben, M. Lukanowicz and H. P. Lehofer, 'Cost Orientation for Interconnection in Mobile Networks', Telekom-Control GmBH, Vienna, November 1999. See also R. Belfin and M. Lukanowicz, 'Forward Looking Long Run Incremental Costs for the Calculation of Interconnection Fees', Policy Paper, Telekom-Control GmBH, Vienna, 15 January 1999.

[588] The study is based on a mixed analogue/GSM technology. As analogue is now not used in Australia, this aspect of the study is irrelevant. Only modelling based on GSM, CDMA or mixed GSM/CDMA are applicable. It is now rather old, being based on 1998 data. Its inclusion would make it the oldest case in the benchmarking exercise. At the time of the study, the level of penetration in Austria was less than 50 per cent, such that operators would not have had the chance to take full advantage of any scale economies. Like Sweden, Austria has a population of eight million, so average operator size is small in any case. An apparently high WACC of 16.22 per cent is used to cost capital.

[589] http://www.tkc.at/web.nsf/englisch/PortfolioPresseinfosnach%20Datum-PresseInfo15042003TK?Open Document

[590] CRA, *op. cit.*, p. 26.

based on any independent formal modelling of costs.[591] The Commission also notes that CRA's claim is contradicted by CRA's US affiliate, that notes that in Belgium 'international benchmarks [are] used as a proxy for cost orientated rates'.[592][593]

Finland

Finland is CRA's third example of a European country with cost estimates for regulation of mobile termination. It can be noted that the regulatory and institutional structure in Finland is rather unusual in that it appears that, while there is a MTM access termination service, there is in effect no FTM termination service, and it is therefore excluded from regulatory remedies.[594] Further, while there is an MTM access service, it would appear to be incorrect to describe the new MTM rate of EUR 0.90 (roughly 16 cpm) in Finland as 'cost-based', and to represent it in Table 3 as a cost 'estimate'. This is misleading for two reasons. First, the new rate resulted from mutual agreements between operators. As reported by TeliaSonera:

> Finnish mobile network operators achieved mutual agreements on new mobile-to-mobile termination fees. As of March 1, 2004, Sonera receives EUR 0.09 per minute for each call terminated …[595]

Secondly, the term 'cost-based' is not used to describe the rate. Rather, it is described as 'cost-oriented'. According to a TeliaSonera Press Release on March 3, 2004:

> In Finland, a mobile operator is obliged to determine its interconnection fees in such a way that they are cost-oriented … A cost-oriented price … can be considered to be reasonable in view of the expenses and the efficiency. … [A] reasonable profit on capital … is taken into account.[596]

The Commission also notes that CRA's claim that Finnish rates are cost-based appears to be inconsistent with advice that the US CRA gave to BellSouth in 2003, where it commented that

> Sonera's termination rates determined to be non cost-oriented. Radiolinja under investigation. Rulings appealed, but companies have reduced rates.[597]

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[591] See Philippe Vogeleer, 'Competition Assessment in Mobile: Benchmarking as a Tool – The Mobistar Experience', 25 May 2004 at www.cerna.ensmp.fr/cerna_regulation/Documents/ColloqueBenchmarking/Vogeleer.pdf

[592] CRA (B. Mitchell and P. Srinagesh), *Economic Analysis of Fixed-to-Mobile Call Termination Charges*, prepared for BellSouth International, CRA No. 4021, 28 March 2003, Table 1, page 12.

[593] Previously MCI had made reference to an estimate of the Belgian incumbent's cost of 10 cpm made by an access seeker (Proximus), but the Commission had not relied on that as it was based on analysis of publicly-available data rather than formal modelling. CRA notes this case was 'rejected' by the Belgian regulator.

[594] Arnold & Porter, 'EU Commission Says that NRAs Must Set Aside National Laws Incompatible with the EU Regulatory Framework

[595] TeliaSonera, *Interim Report January-March 2004*, p. 9.

[596] 'TeliaSonera Finland in mobile-to-mobile termination agreements', TeliaSonera Press Release, March 3, 2004.

[597] CRA (B. Mitchell and P. Srinagesh), *Economic Analysis of Fixed-to-Mobile Call Termination Charges*, prepared for BellSouth International, CRA No. 4021, 28 March 2003, Table 1, page 12.

France

In the case for France, CRA claims that the regulator 'estimated a termination cost of around 17cpm' (p. 26). However, the Commission considers that no formal cost estimates have yet been produced in France, and that pricing is based on an *ad hoc* analysis of costs, inclusive of marketing costs (essentially a network externality surcharge) and taking into account smoothness of decline towards cost. This is confirmed by ART's recent statement that the:

> … target levels [of costs] … will be determined during 2004 on the basis of the principles defined in this document[598]

Italy

CRA also appears to misunderstand the situation in Italy by implying that the mobile termination charge (reported by CRA to be 26 cpm) reflects a cost estimate. The Commission understands that there is a cost 'orientation' in the sense of reference to the operators' audited accounts, and that prices are required to move down towards costs.

Europe Economics

CRA also lists a cost estimate by Europe Economics, of 14 cpm for urban and 48 cpm for rural. However, consultation of the Europe Economics study[599] and advice from Analysys[600] suggests that this is not an independent cost estimate. The estimates are based on a number of assumptions, including those drawn from Oftel models publicly-available at the time. Analysys concludes that these costs 'do not represent a suitable cost for inclusion in an international cost benchmark'.

Further Use of RAF Data

Cost modelling in many countries involves a combination of bottom-up (TSLRIC) analysis and top-down analysis of network operators' costs. Even though at this stage the Commission has decided not to construct a TSLRIC model, it is able to pursue a top-down approach towards a TSLRIC+ proxy, based on the carriers' External Wholesale accounts in their regulatory accounts (RAFs).

The Draft Decision referred to an analysis of Telstra's RAF External Wholesale account for GSM termination and origination to infer a per-minute cost (including a contribution to organisational-level costs) of termination. This reveals a (c-i-c) cost of c-i-c cpm in 2002-03 (well within the 6 – 12 cpm range indicated in the Draft Report). While not having a forward-looking property and with capital costs being based on depreciated assets, this may be regarded as a TSLRIC+ proxy.

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[598] Autorite de Regulation des Telecommunications, 'Summary of the Public Consultation on the Mobile Call Termination Market, May 2004', at http:www.art-telecom.fr/eng/index.htm

[599] Europe Economics, *Final Report for the European Commission bu Europe Economics*, Contract No. 48544, 28 November 2001, pp. 90-99.

[600] Analysys report to the ACCC, *op. cit.*, p. 33.

Telstra objected to this being described as 'TSLRIC' (the word proxy should have been added) and claimed it did 'not capture all of the costs', arguing for the addition of costs relating to handset subsidies, billing systems, marketing costs, channel costs and management costs'.[601] While the Commission disagrees with these inclusions, it notes that Telstra argues that addition of these would 'have a substantial impact on the size of the cost estimate'.[602] However, it does not suggest that their addition would put the cost outside of the range outlined in the Draft Report.

In its submission to the Draft Report, CRA raised a series of concerns about the use of accounting data in general and to the use of Telstra's RAF in particular, suggesting that Telstra is likely to have lower unit costs because of its size and scope advantages.[603] As a result of these concerns, the Commission attempted to derive a similar TSLRIC+ proxy from Optus' RAF data. However, because it includes other than GSM O/T in its GSM O/T External Wholesale account, a similar estimate to that of Telstra could not be made for Optus. However, Optus has been asked to disaggregate its GSM O/T account so that an estimate can be made, but at this time has chosen not to supply the necessary information. However, based on its initial consideration of Optus' RAF data, the Commission believes these data would reveal a cost similar to Telstra.

Vodafone's GSM O/T account is similarly populated with other costs and revenues, and lends itself far less easily to disaggregation than Optus' account. Vodafone has been notified of the Commission's intentions of using its modified RAF and has been briefed on the requirements. Like Optus, at this stage it has chosen not to supply the relevant information for an estimate to be made.

In summary, the Commission believes that the RAF provides a basis to test MNOs' claims concerning the TSLRIC+ of supplying the MTAS, and would also assist in deriving a TSLRIC+ proxy for the three reporting carriers (Hutchison does not report). The Commission recognises, however, that there could be significant implementation issues surrounding the use of RAF data to precisely estimate the TSLRIC+ of the MTAS, including how to properly adjust the depreciated capital base and adjust for forward-looking costs..

Conclusion

Based on its review of relevant overseas cost estimates and its analysis of RAF data from the two larger Australian carriers, the Commission continues to believe that the TSLRIC+ of mobile termination is likely to lie within the range of 5 to 12 cpm.

[601] Telstra Corporation Limited, *Response to the Draft Decision on the Mobile Terminating Access Service*, June 2004, p. 26.
[602] *Ibid*.
[603] CRA, *op. cit.*, pp. 28-30.

Appendix A – Service description

Domestic Mobile Terminating Access Service

The Domestic Digital Mobile Terminating Access Service is an Access service for the carriage of voice calls from a point of interconnection, or potential point of interconnection, to a B-Party directly connected to the access provider's digital mobile network.

Definitions

Where words or phrases used in this declaration are defined in the *Trade Practices Act 1974* or the *Telecommunications Act 1997*or the *Telecommunications Numbering Plan 1997*, they have the meaning given in the relevant Act or instrument.

Other definitions:

B-Party is the end-user to whom a telephone call is made.

Digital mobile network is a *telecommunications network* that is used to provide *digital mobile telephony services*.

Point of interconnection is a location which:

(a) is a physical point of demarcation between the access seeker's network and the access provider's digital mobile network; and
(b) is associated with (but not necessarily co-located with) one or more gateway exchanges of the access seeker's network and the access provider's digital mobile network.

Appendix B – Submissions in response to the Discussion Paper

AAPT Limited (one public submission with a c-i-c version)

Adam Lucas Johns (one public submission)

Australian Consumers' Association (ACA) (one public submission)

Australian Telecommunications Users Group (ATUG) (one public submission)

Charles River Associates (Asia Pacific) Pty Ltd (on behalf of Optus) (one public submission)

Competitive Carriers Coalition (CCC) (one public submission)

Convergent Communications Research Group, The University of Adelaide (one public submission)

Competitive Telecommunications Association (CompTel) (one public submission)

CoRE Research (on behalf of Hutchison) (one public submission)

Frontier Economics Pty Ltd (two public submissions and one c-i-c submission on behalf of Vodafone)

Hutchison Telecommunications (Australia) Limited (one public submission with a c-i-c version, and one c-i-c submission)

MCI WorldCom Australia Pty Limited (one public submission)

Network Economics Consulting Group Pty Ltd (on behalf of Telstra) (one public submission)

SingTel Optus Limited (one public submission with a c-i-c version, and two public submissions)

PowerTel Limited (one public submission)

Queensland Government, Department of Innovation and Information Economy, Sports and Recreation (one public submission)

Small Enterprise Telecommunications Centre Limited (SETEL) (one public submission)

Telstra Corporation Limited (two public submissions)

Vodafone Australia Limited (three public submissions with a c-i-c version for each)

vRoam Australia Pty Ltd (one public submission)

Appendix C – Submissions in response to the Draft Report

AAPT Limited (two public submissions)

Allphones Retail (one public submission)

AT&T Corporation and AT&T Global Network Services Australia Pty Ltd (one public submission)

Australian Telecommunications Users Group (ATUG) (one public submission)

Australian Consumers' Association (ACA) (one public submission)

Charles River Associates (Asia Pacific) Pty Ltd (one public submission on behalf of Optus)

Competitive Carriers Coalition (CCC) (two public submissions)

Frontier Economics Pty Ltd (four public submissions on behalf of Vodafone)

Hutchison Telecommunications (Australia) Limited (one public submission)

MCI WorldCom Australia Pty Ltd (one public submission)

National Economic Research Associates (n/e/r/a) (two public submissions on behalf of Optus)

SingTel Optus Limited (three public submissions)

PowerTel Limited (one public submission with a c-i-c version)

PricewaterhouseCoopers (one public submission on behalf of Vodafone)

Service Providers Industry Association (SPAN) (one public submission)

Telstra Corporation Limited (one public submission with a c-i-c version)

Unwired Australia Pty Limited (one public submission)

Virgin Mobile (Australia) Pty Ltd (one public submission with a c-i-c version)

Vodafone (Australia) Limited (two public submissions with c-i-c versions, and one public submission)

Appendix D – Pricing Principles for the Mobile Terminating Access Service

TRADE PRACTICES ACT 1974

Determination under section 152AQA

The Australian Competition and Consumer Commission determines pursuant to section 152AQA of the *Trade Practices Act 1974* (the Act) that the principles specified at Annexure 1 and the price related terms and conditions specified at Annexure 2 are to apply in respect of the Domestic Mobile Terminating Access Service.

Note: For the effect of this determination, see subsection 152AQA(6) of the Act.

This determination takes effect on 1 July 2004 and expires on 30 June 2007.

Note: A pricing determination may be repealed, rescinded, revoked, amended, or varied by the Commission.

……..

Graeme Samuel

Chairman

For the Australian Competition and Consumer Commission

DATED: 30 June 2004

Principles relating to the price of access to the Domestic Mobile Terminating Access Service

The price of the Domestic Mobile Terminating Access Service should follow an adjustment path such that there is a closer association of the price and underlying cost (i.e. TSLRIC+) of the service.

This adjustment path should have the following characteristics:

- The starting price should be set at the lowest price at which the service is being supplied;
- The end price should be set at the upper end of the range of reasonable estimates of the TSLRIC+ of supplying the service that are currently available;
- The adjustment path should commence on 1 July 2004 and conclude on 1 January 2007;
- Decrements should initially be made on a six monthly basis then, as prices become more proximate to TSLRIC+, be made on an annual basis; and,
- Each decrement between the start price and end price should be of equal amount.

Price related terms and conditions relating to access to the Domestic Mobile Terminating Access Service

The price of access to the Domestic Mobile Terminating Access Service for the periods specified in Column 1 of the following table is as specified in column 2.

Column 1	Column 2
1 July 2004 – 31 December 2004	21 cpm
1 January 2005 - 31 December 2005	18 cpm
1 January 2006 - 31 December 2006	15 cpm
1 January 2007 – 30 June 2007	12 cpm