



Regulated prices for mobile roaming services

A REPORT PREPARED FOR VODAFONE

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Summary and overview

The ACCC's domestic mobile roaming inquiry offers an opportunity to improve the prospects for competition for the supply of retail mobile services in regional and metropolitan areas of Australia. This would require the ACCC to be satisfied that declaration of a domestic mobile roaming service will promote the long term interests of end-users (LTIE), and, in particular, that roaming will promote the right kind of competition to promote economic efficiency.

The focus of this report is appropriate methodology or methodologies for setting regulated prices for access to a domestic mobile roaming service. This report does not comment specifically on the case for declaration, but in it, we note that there is a link between access pricing and the competition and efficiency benefits that may be expected from declaration. We take into account the likely geographically-limited scope of the declaration, and address how the main access pricing methodologies can be practically implemented while retaining incentives for efficient investment.

The key points in this paper are that:

- There are three main options available for setting regulated prices for a declared domestic mobile roaming service: TSLRIC+, cost plus (using a Regulated Asset Base) and retail-minus avoidable costs. A benchmarking approach does not appear feasible.
- Each of these options could be consistent with promoting the LTIE legislative criteria and, in particular, providing Telstra with incentives to efficiently invest in infrastructure. Each methodology has been used by the ACCC to set access prices for at least one declared service.
- An important consideration in the choice of method (or methods) for a declared domestic roaming service will be the implementation costs and information risks of the different methods. We find that each of the methods will have a number of implementation challenges, but none seem to be insurmountable.
- The key implementation issues for each method are as follows:
 - For **retail minus avoidable cost**, information is required on retail prices and retail margins – which is reasonably straightforward to collect – but also on the avoidable costs of coverage in more competitive areas where each of Vodafone, Optus and Telstra all supply services. Such costs could be proxied using a wholesale ‘value’ for competitive areas based on prices that Telstra or other operators charge to its MVNOs in these areas.
 - For **TSLRIC**, the flexibility of the models provides benefits in terms of isolating costs for specific services in specific geographic areas, but the key

issue will be whether the ACCC can develop, update or import a suitable model at reasonable cost and within a reasonable timeframe.

- For **cost plus**, the key issue is how well Telstra's information systems can produce asset information in particular geographic areas so that costs for a geographically-limited roaming service could be calculated. This would also need to take account of common costs across fixed and mobile networks, and contributed assets.
- It is also plausible that more than one method could be relied on. While this may be more costly to implement, it could also produce greater benefits. For example, retail minus is likely to be fastest to implement, and could be used on an interim basis while the more challenging TSLRIC or cost plus approaches are further considered and then implemented.

1 Introduction

1.1 The mobile roaming inquiry

The ACCC has recently commenced a public inquiry into the declaration of a wholesale domestic mobile roaming service.¹

The core reason for the inquiry is to determine whether the difference in geographic coverage provided by the three mobile networks (Telstra, Optus and Vodafone) is reducing competition and the efficiency of outcomes in mobile markets.

If the ACCC finds that competition and efficiency is reducing in mobile markets, the question is whether declaring a mobile roaming service would be in the long-term interests of end-users. Such a finding is likely if the declaration can be said to promote competition and efficiency, which are key sub-criteria to the overarching LTIE objective.

1.1.1 The framework for declaration

The framework for declaration of a service under the Part XIC access regime is now well developed and understood. As the ACCC notes, there is no general right to access telecommunications services in Australia, and access to telecommunications services is usually unregulated unless it has made a decision to declare or regulate the service.²

The ACCC can declare a telecommunications service if (among other things) it is satisfied that doing so will be in the LTIE.³ In deciding whether declaration will promote the LTIE, the ACCC must consider whether declaration is likely to result in the achievement of the following three objectives:

- promote competition in markets for telecommunications services
- achieve any-to-any connectivity
- encourage the economically efficient use of, and investment in, telecommunications infrastructure.⁴

The ACCC is required to consider *only* the above objectives when determining whether declaration would be in the LTIE.

¹ ACCC, *Domestic Mobile Roaming Inquiry: Discussion Paper*, October 2016 (“discussion paper”)

² See, s 152AL, of the CCA

³ See, s 152AL of the CCA.

⁴ Section 152AB of the CCA.

1.1.2 Key questions raised

The discussion paper sets out a number of key issues for comment. These issues focus on the application of the competition and efficiency criteria, including how a declaration would promote competition (or remove a basis for it), and whether declaration would reduce investment in infrastructure.

A further set of questions relate to how the service should be regulated, if there is an ‘in principle’ case for regulation. This applies to the service description, which could vary across Australia, be limited to particular technologies, or limited to particular services, and it also applies to the (prospective) pricing of declared services.

Both of these latter elements are important to understanding how, in practice, a declaration could provide benefits to end-users, and impose costs on access providers.

1.2 This report

Frontier Economics has been asked by Vodafone to provide it with advice on (one or more) appropriate methodologies for setting regulated prices for access to a domestic mobile roaming service. This report should clarify which pricing methodologies can address concerns relating to promoting competition and efficient investment, and be practical and implementable.

This report has been prepared on the following basis:

- The geographic scope of any service definition will be limited to areas where Telstra has infrastructure but Vodafone does not. This includes both monopoly areas and also some limited ‘duopoly’ areas where both Telstra and Optus have coverage.
- The service definition will be technology neutral and will include all mobile services (i.e. voice, SMS, MMS and data).

2 Access pricing in a declaration inquiry

2.1 Prices (or price methods) are set after the inquiry

Access prices are not set as part of the declaration inquiry. The discussion paper notes that (further to changes to Part XIC in 2010) the ACCC *may* issue access determinations for each declared service, which set out up-front terms and conditions of access.⁵

This phrasing is different to what is stated in the ACCC's recent review of declaration provisions, which is that "...the ACCC *must* issue access determinations for each declared service."⁶ This appears to rely on the legislative requirement to (a) commence a public inquiry under 152BCI within 30 days if the service has not previously been the subject of an access determination and (b) 152BCH requires that a determination be made only after such a public inquiry and (c) 152BCK requires the ACCC to make a final access determination within 6 months of commencement of the public inquiry.

An access determination can include both price and non-price terms in relation to access to the service. However, the reference to terms and conditions in an access determination must include terms and conditions relating to price or a method of ascertaining a price.⁷ This appears to give the ACCC some flexibility about the form of the access determination.⁸

Finally, we also note that parties can rely on the terms and conditions set out in an access determination, or they can negotiate commercial terms and conditions.⁹

2.2 Access prices will influence both the costs and benefits of declaration

The ACCC notes that it normally considers regulated pricing for a declared service in a public inquiry for making a final access determination after a service is declared. It further notes that the question of whether regulated pricing would impact competition and investment is a matter that may impact the assessment of

⁵ Discussion paper, p. 7.

⁶ ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, p. 8.

⁷ See s 152BC(8) of the CCA.

⁸ For example, in the DTCS FAD, the ACCC provided a pricing formula relating prices to route length, capacity, interface and type of route.

⁹ Sections 152AY and 152BCC of the CCA.

whether declaration itself would benefit end-users of mobile services.¹⁰ In our view, the ACCC is correct.

This approach is different to that which seems to be envisaged in Part IIIA of the CCA¹¹, although amendments to Part IIIA have also provided general pricing principles for making decisions on access disputes or certification decisions.¹² However, there is no question that a key issue for this declaration inquiry is the impact of declaration on investment incentives; in our view, it would be incongruous to ignore the impact that (different kinds of) access pricing has on incentives to invest. A claim that declaration will of itself reduce efficient investment should be rejected. This is also supported in the economic literature: for example, in analysing access regulation under Part IIIA, Gans and Williams (1998, p. 159) find that:

“in order to influence investment incentives, firms must form expectations as to the regulated price that will be applied”.

Other things equal, a higher expected access price would increase returns from investment, and so the incentive to invest.¹³

Will cost-based access pricing benefit all end users?

While the ACCC’s general consideration of access pricing can be supported, the ACCC’s initial views on how pricing might affect end users are somewhat surprising. In particular, the ACCC says that:

- Usually, when prices reflect the cost of providing the declared service, competition and allocative efficiency in downstream markets will be promoted.¹⁴
- In the context of a mobile roaming service, the application of a cost-based pricing approach may lead to higher costs for consumers. This is because (a) costs are higher than average in areas where mobile roaming will be acquired and (b) mobile operators offer nationally-uniform prices.
- If these higher costs are passed on to consumers (as higher national prices) some consumers might be worse off.

¹⁰ Discussion paper, p. 39.

¹¹ See *Application by Services Sydney Pty Ltd* (2006), ATPR 42-099.

¹² s 44ZZCA of the CCA.

¹³ See also the conclusions in Valletti (2003), “The theory of access pricing and its linkage with investment incentives”, *Telecommunications Policy* 27 pp. 659–675.

¹⁴ This is because, as the ACCC also notes, a cost-based price that takes into account a reasonable return for investments can protect the legitimate commercial interests of the access provider and encourage efficient investment in the infrastructure used to provide the declared service in the long term.

The ACCC seems to have a mind an example such as the following: the costs of serving customers in lower cost areas is \$20 (per customer, per month), and lower and higher cost areas is \$30 (so the incremental cost of serving higher cost areas is \$10 pcpm). The price for a network that only covers lower cost areas is around \$20. A price that reflects coverage in both areas (including a wholesale roaming service) would be at least \$30. If access is provided at a fixed monthly charge, and customers value the extra coverage at more than \$10, this trade-off would be worthwhile. However, for the customer that values the coverage at \$5, a price of \$30 would leave them worse off.

This example indicates that it does not seem to matter whether average costs are higher or lower in the roaming area; the trade-off for the access seeker is one of whether the value to its subscribers exceeds the cost (\$10 pcpm). However, even if we put to one side the proposition that average costs are higher, there seems to be two difficulties with the proposition that providing access at a cost-based price would make consumers worse off.

The first problem is that access seekers will only acquire roaming if they expect such use to be profitable. So long as consumers value the additional coverage then that access seeker's subscribers (both existing and newly acquired after it offers the extra coverage) will in *aggregate* be better off. Otherwise, seeking access would not be a commercially-attractive strategy as no access seeker would incur costs to supply a service that subscribers would not value.

The second difficulty is that it suggests that an access seeker could not choose how it structures retail service offerings and prices to limit the extent to which consumers that do not value additional coverage might pay. For example, an access seeker might pay and pass through a charge of \$10 per customer per month for those customers that acquire a retail roaming service, but offer the same retail prices for those that do not wish to acquire a broader service. Other options might also be feasible – including structuring access charges to allow recovery of fixed costs through usage charges.¹⁵

Consequently, we conclude that the ACCC concern that “cost based” pricing will create losers from roaming appears unfounded.¹⁶ However, we do agree that the

¹⁵ While with independent demands for access and usage it is efficient to recover fixed costs in fixed charges and charge marginal usage charges at marginal costs, this relationship does not necessarily hold if it reduces the number of subscribers that take up the roaming service. See e.g. Train (1997), *Optimal Regulation: The Economic Theory of Natural Monopoly*, p. 201.

¹⁶ Moreover, even if some users are worse off, it is the aggregate benefit that should be considered. This is consistent with the ACCC's own guidance on declaration: “The ACCC considers that it need not be satisfied that all end-users will benefit. In some instances, the benefits may be confined to a group of end-users, while in other instances some end-users may be adversely affected. Where this is the case, the ACCC is likely to group the end-users and identify the benefits and costs for each group of end-users. It will then determine whether there is a net benefit across all end-users (i.e. whether benefits to one group of end-users are likely to be outweighed by harm to another group of end-

ACCC should consider how access pricing can assist with the promotion of the LTIE criteria – in particular the promotion of efficient investment.

users). ACCC, *A guideline to the declaration provisions for telecommunications services under Part XIC of the Competition and Consumer Act 2010*, August 2016, p. 31.

3 Relevant considerations in setting access prices

3.1 Legislative criteria and ‘fit for purpose’ pricing approaches

The setting of access prices is invariably complicated by constraints that regulators face. Some of these constraints are legal in nature, and are not considered as they are beyond the scope of this report. Nonetheless, other constraints do exist, particularly to do with the incentives of the regulated firm, the information that is available and/or can be revealed, and computational complexity.

For these reasons, the ACCC has in the past elected to use (in either access arbitrations or undertakings) a range of different access pricing approaches. The approaches have included those described in the following table.

Table 1 Access pricing approaches used by the ACCC

Costing approach	Examples of prior use in Australia
TSLRIC (including common costs or ‘+’)	Mobile termination post-2005 and a range of fixed line services (including pay TV carriage).
Retail minus retail costs	Local carriage services
A building block model, leading to a form of cost-plus or fully-distributed cost pricing	Fixed line services (post 2011).
International benchmarking	In support of mobile termination and fixed line services (including ULLS)
Domestic benchmarking	Transmission capacity services
Retail benchmarking	Mobile termination services (c. 2000)

The Australian Competition Tribunal has, at various points, commented favourably on the ACCC’s use of the TSLRIC pricing method. In early decisions of the Tribunal¹⁷, a strong preference was expressed for TSLRIC-based access pricing:

In our view, in the general case where access prices need to be regulated, unless pricing is on a TSLRIC basis, efficient investment is unlikely to be encouraged. This,

¹⁷ Re Seven Network Limited (No 4) [2004] ACompT 11 (23 December 2004)

in turn, would fail to promote competition in the long-term, as end-users would not be able to benefit from new investment (thereby also missing out on more efficient and diverse product offerings).

However, in later Tribunal decisions, it accepted that:

- Other cost models could approximate TSLRIC-based pricing
- Deviations from TSLRIC-based charging could be justified

[44] We do not consider that the use of a fully allocated cost model, as distinct from a TSLRIC+ model is, of itself, unreasonable having regard to the matters specified in s 152AH and the objectives set out in s 152AB. We accept that in *Re Seven Network (No 4)* [2004] (ACompT 11; (2004) 187 FLR 373) at 410, the Tribunal expressed the view that it would generally not be in the long-term interests of end-users to depart from TSLRIC pricing where access is regulated. However, we would repeat the observation of the Tribunal in *Telstra Corporation Limited* (supra) at par [63]:

"In this area of analysis there is no one correct or appropriate figure in determining reasonable costs or a reasonable charge. Matters and issues of judgment and degree are involved at various levels of the analysis."

Nevertheless, we still consider that in general terms the prices in access undertakings should reflect and not exceed forward looking efficient economic costs: *Telstra Corporation Limited* (supra) at par [46].¹⁸

By 2010, the Tribunal had refined its position to note that:

- TSLRIC described both a pricing approach and a linked costing approach, which could be implemented in different ways
- Where infrastructure competition was not likely, “a simpler and more appropriate *pricing* methodology might be, for example, to apply a “regulated asset base” approach, like that used in relation to other regulated infrastructure providers.”¹⁹ [emphasis added]

In our view, these decisions highlight the complex and fact-specific nature of each access pricing inquiry.

In these circumstances, it is reasonable for the ACCC to consider the best approach in each case; noting that in general the one ‘anchor’ for access prices is that they should be directed at ensuring that prices should not exceed forward-looking efficient economic costs, unless there are other considerations that may justify departure from this direction.

¹⁸ *Application by Vodafone Network Pty Ltd & Vodafone Australia Limited* [2007] ACompT 1.

¹⁹ *Application by Telstra Corporation Limited ABN 33 051 775 556* [2010] ACompT 1 at [199].

3.1.1 Ensuring access prices are consistent with legislative criteria

We expect that a key claim of the access provider(s) will be that declaration of roaming services will reduce incentives to invest, because it reduces returns to investing in coverage. However, it is clear that the approach taken to *pricing* a declared roaming service will have a material impact on investment, and so incentives to invest.

With that in mind, it is important to note that the LTIE sub-criteria refer specifically to the promotion of “efficient” investment – not investment that is inefficient, resulting in higher costs of supplying mobile services, nor investment requiring super-normal returns.

This raises two related practical issues: how to ensure reasonable but not excessive returns, and whether there are appropriate ‘build or buy’ signals.

As the Tribunal has recognised, this requires the ACCC to strike a balance in setting prices and this balance should both promote efficiency and competition in the long term:

Ascertaining an appropriate price is a direct product of the LTIE test. That is, regulated access prices must promote the LTIE. This will be achieved by sending the right signals for investment and the use of (whether ‘buying’ or building) infrastructure. The right signals means prices that will allow sound investments to make a reasonable, but not excessive, return...

Accordingly, a balance must be reached between allowing a reasonable, but not excessive, return to access providers. Reaching this balance will assist in encouraging both the efficient use of, and investment in, infrastructure. Such balance, in turn, is likely to promote competition in the long-term.²⁰

Investments in mobile networks in regional and remote areas are driven by:

- seeking a first mover competitive advantage over rivals; and
- increasing market power by leveraging coverage advantages from regional to urban users.

The key issue for the ACCC to determine a “reasonable” return on investment is to ensure that returns do not compensate for the latter: otherwise the declaration will have little competitive effect.

²⁰ *Re Seven Network Limited* (No 4) [2004] ACompT 11 (23 December 2004)

3.2 Minimising implementation costs and regulatory burden

In practice, decisions about access prices often must take into consideration matters such as the feasibility of implementation of a particular access pricing method. Moreover, access pricing approaches that are not able to be expeditiously implemented can itself reduce the competitive benefits of declaration. This creates a kind of trade-off between approaches to pricing that might be considered conceptually most appropriate, and approaches that are faster and less costly to implement.

An example of this kind of thinking is the domestic transmission capacity (DTCS) or ‘backhaul’ service. The ACCC considered a number of different methods by which these services could be priced, and initially it favoured a TSLRIC approach when access prices were to be negotiated or arbitrated. The ACCC later switched (in 2012) to favouring a domestic benchmarking approach which applied benchmark prices from competitive routes to non-competitive routes:

Other cost based approaches (such as bottom up cost modelling) to pricing the DTCS have previously been considered by the ACCC, but were found to be problematic due to the inherent complexities of the service. The ACCC notes that transmission is made of many network elements, one of which is the DTCS, and the difficulties in isolating what network elements are used in any particular transmission network. Further, it was challenging to identify and allocate costs directly attributable to the DTCS and not any other service. Where costs would be attributable across services, the proportion allocated to each service would also be difficult to isolate. The ACCC therefore maintains the domestic benchmarking approach in the DTCS FAD is the appropriate approach.²¹

We have also noted that the ACCC has in the past used three different approaches to setting prices for mobile termination services – a retail benchmarking approach, TSLRIC (using its own cost model) and international benchmarking (based on TSLRIC models in other jurisdictions). A key reason for the recent switch to benchmarking was the regulatory burden imposed: “...it was important to balance the need to develop a sufficiently robust pricing methodology with the regulatory burden that may be imposed on stakeholders.”²²

Therefore, while the ACCC recognised that the appropriate conceptual approach was (or remained) TSLRIC+, the advantages to timeliness and reduction in regulatory burden supported a benchmarking approach rather than developing a

²¹

<https://www.accc.gov.au/system/files/Explanatory%20Statement%20to%20the%20DTCS%20FAD%20-%20June%202012.pdf>

²² MTAS FAD Draft decision - 6 May 2015, Ch. 3.

new cost model (which would be required to estimate TSLRIC given that the WIK TSLRIC model used in 2008 was out-of-date).²³

We conclude that the feasibility of estimating a reasonable roaming price will likely have some relevance to the declaration decision. It will therefore be useful to consider how different pricing approaches could be implemented in practice, and we turn to this in the following section.

²³ Ibid.

4 Implementation of access pricing approaches for mobile roaming

In this section, the implementation issues associated with the main methods of estimating prices for a domestic mobile roaming are considered.

4.1 Possible pricing approaches

In our view, there are three approaches that could be used (alone or in combination) to determine a reasonable access price that would meet the legislative criteria for a wholesale domestic roaming service:

- TSLRIC+
- A cost of service or ‘cost plus’ approach
- A retail minus approach

Other options, such as benchmarking of services provided in more competitive or regulated markets, appear infeasible due to a lack of suitable benchmarks. Mandated domestic roaming has been applied in other countries typically where there was new entry, with the new entrant requiring access to existing mobile infrastructure to be able to offer a mobile service as it rolled-out its own network. These are different circumstances to those in Australia where there are concerns related to the existence of a natural monopoly or duopoly. In principle, services such as international roaming could be used on the basis of service similarity (these services are supplied to international networks providing roaming services in Australia). However, Telstra also faces the same incentive to charge high prices reflecting its coverage premium to overseas operators, and this undermines its suitability. Nor is it limited to the particular geographic areas of interest.

That being said, we recognise that all approaches will require some decisions and trade-offs to be made on precision and tractability.

In the following sections, we discuss how each of the three approaches could be used to produce an estimate of prices, and means of dealing with the implementation challenges of each approach.

4.2 TSLRIC+

4.2.1 Background and relevance

As noted in section 3, in the past the ACCC has favoured the use of TSLRIC-based pricing to set prices for mobile network services.

This has primarily been on the basis that where technological change is rapid, it is important to reflect the optimised replacement cost of assets in prices to promote efficient decisions by access seekers to ‘build or buy’ infrastructure.²⁴ TSLRIC+ also allows a contribution to common costs incurred in the provision of multiple network services.

A key plank of Vodafone’s argument for the imposition of regulated roaming is that certain parts of Telstra’s mobile network are not now, and will not be in the future, amenable to network duplication. These are natural monopoly areas. In such areas, there is no concern about efficient build or buy decisions. Nonetheless, such considerations may remain relevant in areas where the ACCC considers that duplication is a real possibility in the foreseeable future.

4.2.2 Implementation of TSLRIC+

Bottom up models

A TSLRIC+ approach can be implemented in a number of ways. This includes the development of bottom up or top down cost models, or the use of international benchmarking. The most common approach used internationally is through a bottom up cost model. Bottom up cost models have a number of advantages:

- Bottom up TSLRIC models can be applied to determine the costs of providing the service in specific geographic areas or for specific technologies. Models specify the quantity and type of assets required to service a particular geographic demand for different network types.
- TSLRIC models can be adjusted to estimate the costs of an operator with an efficient level of scale, which is necessary to ensure a reasonable return on investment in non-monopoly areas.
- TSLRIC+ models will also typically consider disaggregation of costs by geography, so should be possible to calculate such costs in geographic areas with different density characteristics (and backhaul costs).
- TSLRIC+ models can also produce technologically neutral estimates of costs.

Typically, TSLRIC models are used to estimate incremental costs of a particular service. They combine coverage costs (assuming that a coverage layer provides minimal capacity) with incremental capacity costs arising from the additional investment in capacity needed as demand for a specific service grows. In the case of the rural or remote areas, however, most costs are likely to be coverage costs (i.e. fixed costs), with additional incremental costs expected to be minimal in relation to the radio access network. This is because the radio access network is likely to have sufficient capacity to serve demand in monopoly areas. In duopoly

²⁴ Ibid.

areas, it is possible that for at least some cells, the radio access network costs would be driven by capacity.

Given that coverage costs are common to a number of different services (i.e. outgoing calls, incoming calls, national roaming, incoming international roaming), the ACCC would need to consider how these fixed costs should be allocated across these various services. Potential approaches might include usage-based allocation or ‘equi-proportionate mark ups’.

Updating the bottom up model?

An obvious disadvantage of pursuing a bottom up modelling approach is that the ACCC no longer maintains an up-to-date mobile TSLRIC model. The most recent TSLRIC model for Australia was the 2007 model developed by WIK for the 2009 mobile termination access service (MTAS) review. This is primarily a 2G/3G model, and as such is not representative of current technology. As the ACCC explained in 2014:

The WIK Model is no longer an appropriate means of estimating the costs of providing mobile termination services because: the large majority of voice calls are now provided on 3G networks; data services make up a considerably larger portion of mobile services; there is greater mobile penetration.²⁵

In the last (2015) mobile termination access service (MTAS) review²⁶, the ACCC decided to maintain the TSLRIC principle but estimate it using international benchmarking. This approach arrives at a TSLRIC+-based MTAS rate for Australia by using MTAS rates from a range of countries that had determined these rates using TSLRIC+ cost models, and then making suitable adjustments to take into account Australia-specific conditions.

The rationale for the change was that the extra benefits from the greater accuracy of estimates generated from a cost model compared with benchmarked rates was fairly marginal, and would be more than offset by the detriment associated with developing the model. This detriment included the financial cost and resource burden on stakeholders, with the ACCC estimating that a TSLRIC+ cost model, with proper stakeholder consultation, taking between 1 to 2 years to be developed. In addition, the interim period while the cost model was being developed would significantly prolong the time of application of the extant rates, which were no longer efficient (due to technological and other changes since the previous review). In contrast, the ACCC considered that an international benchmarking study could

²⁵ Mobile terminating access service, Final access determination discussion paper, August 2014, Chapter 4.

²⁶ MTAS FAD Draft decision - 6 May 2015, at <https://www.accc.gov.au/regulation/infrastructure/communications/mobile-services/mobile-terminating-access-service-fad-inquiry-2014>

be conducted relatively quickly and with minimal impost on industry stakeholders. The latter prediction was essentially borne out in practice.

That said, our estimate is that a new TSLRIC model could be developed (or the WIK model updated) in around 9-12 months.²⁷ Based on international experience, this appears to be able to be produced no more slowly than separated accounts for Telstra, which would be required to support a ‘cost plus’ approach.

Another possibility to explore would be whether the WIK benchmarking study could be suitably adapted to generate cost estimates for the monopoly and duopoly areas. The feasibility of this approach is suggested by the fact that the internationally benchmarked rates already had to undergo adjustment in order to reflect Australian conditions; hence this extended exercise could simply be a further refinement of that analysis.

A second disadvantage of pursuing the bottom up TSLRIC+ approach is that it contributes to uncertainty about the returns from investment (due to the periodic revaluations of the asset base). This is essentially the reason that the ACCC favoured a move to a BBM for fixed line services. However, we do note that:

- TSLRIC+ models can be calibrated to ensure the overall cost estimates are realistic and consistent with operators’ accounts (a top-down reconciliation).
- Asset valuation could be adapted to apply more of a historic cost approach to assets that are not expected to be economically replicable (as discussed below).

The rate of return

A key issue in all debates about cost-based pricing for access is the allowable rate of return on invested capital. The rate of return used in a cost-based model must provide suitable compensation for the access provider; one that compensates for the particular (systematic) risks associated with the provision of roaming services in regional areas. In TSLRIC models, the rate of return enters into the calculation of a tilted annuity which provides for a return of and on capital.

Complications in calculating a suitable return for a roaming service will undoubtedly arise. Although we have not undertaken a detailed comparison of the risk profile of roaming services in regional and remote areas, we anticipate that arguments could be made that estimating a suitable WACC will be difficult because:

- a) there are no “pure play” or “benchmark” efficient entities providing only roaming services from whom a reasonable rate of return estimate could be derived

²⁷ See http://www.anacom.pt/streaming/AnexoIVAnexo8.pdf?contentId=1363131&field=ATTACHED_FILE which updates a 2G/3G model to 4G. e.g.

- b) a roaming service would only account for a very small proportion of the regulated firm's revenues and costs
- c) the service is likely to be inherently riskier than the average of other services within the firm's portfolio.

The first factor means that it will not be possible to directly benchmark returns, while the latter two factors make it difficult to decompose an efficient firm's cost of capital into roaming services and other mobile services (which might be benchmarked).

Having noted these issues, it is also apparent that many regulators around the world have produced WACC estimates for services delivered on mobile networks, such as mobile termination. This has also occurred in an environment of technological change and new investment. This would provide the ACCC with relevant benchmarking information.

Further, if the ACCC is particularly concerned about not discouraging future investment, and the potential for asymmetric consequences of under-estimating the WACC compared to over-estimating, it can adopt a conservative approach to the choice of WACC. For example, regulators often will obtain a range of WACC estimates and choose a mid-point. However, estimates that are above the mid-point have also been adopted²⁸, or explicitly chosen to reflect a "WACC percentile" that is above the median or 50th percentile.²⁹

In our view, addressing rate of return issues directly would be a better means of addressing investment concerns than the approach of offering a "regulatory holiday" over certain kinds of new investments (e.g. offering roaming only on 3G). Regulatory holidays will invariably result in the achievement of a higher rate of return, but the consequences of only offering the lower-quality service may be to undermine the achievement of the objective of declaring a roaming service in the first place – meaning there is:

- little certainty over actual returns that might be earned
- a possibility that consumers will get 'locked in' to the access provider beyond the access holiday
- a reasonable likelihood that there will be limited demand for a roaming service that is lower quality than the one Telstra is able to offer.

²⁸ See, for example, Table 1, p. 5 in Economic Insights, *Regulatory Precedents for Setting the WACC within a Range*. Report prepared for the New Zealand Commerce Commission, <https://www.comcom.govt.nz/dmsdocument/11974>

²⁹ See, for example, the Commerce Commission (NZ) considerations around the choice of a WACC percentile for price-quality regulation of electricity and gas networks. <http://www.comcom.govt.nz/dmsdocument/12626>

4.3 Building block or ‘cost plus’

4.3.1 Background and relevance

The second possible method is a building block or ‘cost plus’ approach, which would estimate the cost of Telstra’s network in the monopoly and duopoly areas based on financial and accounting information. This information would be used to construct a regulatory asset base (RAB) on which the access provider would earn a return on and of capital.

The primary advantage of a RAB-based method is that it increases the certainty of cost recovery for the access provider (if the RAB is developed using historic costs, indexed or otherwise, it allows for the recovery of costs actually incurred). This approach is therefore particularly advantageous where (a) we are less concerned about the efficiency of historic investment (or do not want to be seen as expropriating sunk investments) and (b) there is little prospect of asset duplication and so no useful entry signals sent by access pricing. A RAB approach can also be flexible (through the use of current cost accounting, as discussed below) where asset duplication is feasible.

The further benefit of this method is – unlike retail minus approaches – that it does not include Telstra’s economic profit margin in the estimate of the network costs to be recovered. Therefore, the resulting access price is likely to be lower and consumers are expected to benefit earlier from lower access prices, which would lead to more intense competition between Telstra and its competitors (Optus and Vodafone) and resulting lower retail prices.

4.3.2 Implementation of a cost plus approach with a RAB

Valuing network assets

Implementation of a RAB-based approach would require identifying and valuing Telstra’s network assets in monopoly and duopoly areas.

At a very high level, Telstra’s network assets could be broadly split into the following categories:

- **Passive** assets: masts, ducts, trenches and sites
- **Active** assets: RAN and backhaul equipment

The first challenge would be how to value the different kinds of assets. A RAB would be determined using one of the two cost accounting methodologies:

- **Historical cost accounting (HCA)** - This methodology values assets at the cost at which they were acquired, using actual historical transaction data. The asset is then depreciated over its assumed useful life.

- Current cost accounting (CCA) – this methodology values assets at their replacement cost. This can be done either on current replacement cost basis or on Modern Equivalent Asset basis (MEA). In the latter case, assets are valued at the cost of purchasing new assets to perform the same function.

One approach would be to adopt a universal approach regardless of asset type. This has tended to be the approach adopted in Australia – such as with Telstra’s fixed network. However, the choice of which method to use can also change depending on the type of asset, and in particular whether that asset is likely to be replicable by competitors to the access provider. This has been the approach adopted in Europe for fixed NGA networks (see Box 1), which recognises that full replacement valuations are not necessary or desirable for legacy civil engineering assets.

Box 1: European Commission recommendation on costing

The EC recommendation on costing methodologies to promote competition and investment in broadband recommends that the approach to valuation of assets should be on the basis of replacement costs, except for reusable legacy civil engineering assets, for which NRAs should not include any such assets if they are fully depreciated but still in use:

33. NRAs should value all assets constituting the RAB of the modelled network on the basis of replacement costs, except for reusable legacy civil engineering assets.

34. NRAs should value reusable legacy civil engineering assets and their corresponding RAB on the basis of the indexation method. Specifically, NRAs should set the RAB for this type of assets at the regulatory accounting value net of the accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the retail price index. NRAs should examine the accounts of the SMP operator where available in order to determine whether they are sufficiently reliable as a basis to reconstruct the regulatory accounting value....NRAs should not include reusable legacy civil engineering assets that are fully depreciated but still in use.

35. When applying the method for asset valuation set out in point 34, NRAs should lock in the RAB corresponding to the reusable legacy civil engineering assets and then roll it forward from one regulatory period to the next.³⁰

Therefore, the initial RAB for the reusable legacy civil engineering assets would be set at the regulatory accounting value, net of the accumulated depreciation at the time of calculation and indexed by an appropriate price index, such as the retail price index.

Source: *European Commission*

For mobile networks, it may be necessary to consider whether a CCA approach would be superior in certain network areas to reflect an assessment of replicability in monopoly and duopoly areas.

³⁰ http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2013/c_2013_5761_en.pdf

For example, in monopoly areas, civil engineering assets (for example ducts and trenches used in mobile backhaul) are assets that are unlikely to be replicated. Technological change and the level of competition and retail demand are not expected to allow alternative operators to deploy a parallel civil engineering infrastructure. Further sites, masts and active equipment might also be considered to be non-replicable assets, i.e. alternative operators are not expected to deploy a parallel network of masts. In both cases, an approach which provides for recovery of *actual* costs plus a suitable return (or of replacement costs using the indexation method) will be a reasonable approach.

In duopoly areas, certain assets including sites and masts as well as active equipment might be considered to be replicable assets in the foreseeable future, meaning that the argument for current cost valuation using replacement costs is stronger.

Identifying relevant assets and costs in monopoly and duopoly areas

The major challenge for implementing a cost plus approach is to identify and value the relevant assets. Our understanding is that Telstra is unlikely to have any separate statutory or regulatory accounts for service provision in monopoly or duopoly areas.

The approach chosen in other jurisdictions when faced with the requirements to identify costs and revenues attributable to specific services has been imposing a requirement to establish regulatory accounts separating financial information between relevant services and products. Regulators have typically established rules and guidelines setting out a number of principles according to which fixed assets, operating expenses and revenue are meant to be attributed to products and services. For example, the causality principle requires operators affected by such regulation to develop allocation rules that accurately reflect the way in which [demand for/provision of] certain services result in costs/revenues being incurred.

An operator affected by such regulation will typically:

- Develop a set of drivers, often specific for each type of equipment, which translate service volumes into the utilisation of specific network equipment. For example, different mobile voice and data traffic is converted into busy hour capacity requirement which is often considered to be the driver for the roll-out of mobile network equipment in order to allocate the cost of such equipment to the relevant services.
- Document and submit cost allocation rules to the regulator, together with financial statements separated by services setting out total costs and revenues attributed to such services as well as unit costs and revenues subject to the type of unit in which a service or product is specified.

- Submit the separated accounts to review by independent auditors to ensure that the total and unit costs and revenues set out in such separated accounts have indeed been determined using the methods set out in the accompanying documentation. In addition to providing a degree of assurance to the regulatory authority, such audit also limits the extent to which a regulator is required to undertake its own review of the data before using the provided information for the purpose of regulatory decision making.

Accounting for contributed assets

Telstra has received a significant amount of public subsidies to improve its coverage in remote areas. For example, in its 2015 annual report, Telstra states: “Under the Federal Government’s Mobile Black Spot Programme, we are deploying 429 new 3G/4G base stations to improve mobile coverage for over 400 communities across Australia ...”³¹. It is important that such public subsidies are appropriately taken into account in asset base calculations, so that Telstra does not over-recover costs.

Rate of return

Similar considerations apply to those discussed in section 4.3.2.

Practical steps and timing

Judging from experience in other jurisdictions, the implementation of such a process can often be a complex task taking considerable time (initially between 1 and 2 years) for establishing a corresponding regulation and allowing an affected operator to implement the regulatory requirements.

However, there are some reasons to think that the implementation time and effort could be significantly reduced if regulation is imposed on a “narrow” service like domestic roaming. For example, assuming that the relevant sites can be identified, establishing the relevant costs of sites considered for the purpose of implementing national roaming should be relatively straightforward given that capital costs of their roll-out and associated equipment is typically readily identifiable in an operator’s fixed asset register. Operating expenses typically vary with the number of sites which will usually allow for a reasonably reliable allocation of such costs to be taken into account. Corresponding unit costs can be based on the current utilisation of such sites which is typically recorded in mobile network management systems. Additional adjustments for determining a regulated price can be made on the basis of including the expected demand for national roaming services when calculating the unit cost as a basis for such a regulated price.

³¹ <https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-e/2016-Annual-Report.pdf>

Further, Telstra's recent FAD for fixed line services considered the issue of cost allocation in some detail, and usage-based factors for traffic were derived for asset classes including ducts, fibre and transmission equipment.³² This was also subject to independent review by consultants to the ACCC.³³ We would expect that such factors could be re-used for the purposes of allocating costs for these assets.

4.4 Retail minus

4.4.1 Background and relevance

A retail minus avoidable cost (RMAC) approach to access pricing is well established. It sets the wholesale price for a given service by taking its corresponding price in the retail market and subtracting an amount (typically a fixed percentage) to allow an appropriate margin for retail competition. This margin is typically based on an assessment of retail costs. As a result, the approach effectively allows regulators to determine an access price for access to an input that is required to compete in the retail market, without the need to explicitly determine the costs of wholesale supply (or a retail price).

A potential downside of RMAC is that, in preserving the incumbent's retail margin, it could lock in any monopoly rents that exist within this wholesale margin.

Two examples of its use in Australia include:

- the ACCC's early approach to regulating competition in the fledgling retail broadband market involved the application of a no-price squeeze rule vis-à-vis Telstra's related wholesale offerings, which is, in effect, a RMAC approach. The application of this approach was manifested in the 2004 Part XIB inquiry into Telstra's conduct in the retail/wholesale ADSL market³⁴. The rationale then was that this would allow entrants to enter and compete in the market in a relatively low cost fashion and build a presence, without initially incurring the large sunk investment and risk entailed by entering at a deeper layer of the network (such as with access via unbundled loop.) As their customer base and brand expanded, however, these entrants could gradually invest in their own infrastructures and seek access at a deeper network layer. This would allow for more sustained and meaningful competition to emerge over time (than would be the case under pure resale-based competition).

³² See chapter 11 in ACCC, *Public inquiry into final access determinations for fixed line services: Final Decision* available at:

<https://www.accc.gov.au/system/files/FSR%20FAD%20Final%20Decision%20Report%20-%20Public%20Version.pdf>

³³ Analysys Mason, *Assessment and verification of inputs into Telstra's Cost Allocation Framework*, June 2015.

³⁴ See media report at <http://www.smh.com.au/articles/2004/03/16/1079199226205.html>

The rationale for the use of RMAC here would be quite different, as it would not be predicated on a ‘ladder of investment’ principle. However, access at RMAC prices could serve to facilitate a broader form of retail competition between the major players which would otherwise not exist, namely with respect to the coverage offering, even if the resulting access price is not fully reflective of the efficient costs of supply. Put another way, this pricing approach can help to ameliorate the current leveraging of market power that Telstra enjoys from monopoly/duopoly areas to competitive areas.

- A second example, and as noted in section 3, the ACCC has previously used a retail minus approach (known as retail minus retail costs) to price the local carriage service. The ACCC applied this approach because it was initially concerned about the consequences of a cost-based approach in the downstream market; this was a factor in the ACCC’s use of retail minus because a cost-based approach would have resulted in conflict between wholesale prices and retail prices (which were capped below cost via a retail price control). Retail minus was later dropped once cost modelling was available that revealed that retail prices were no longer below estimated costs of supply.³⁵

The ACCC also noted of this approach:

...it is necessary for there to be a readily referable retail service equivalent to the declared service to apply this principle. For a service such as ULLS, where the transformed retail service can vary quite significantly, this approach may not be appropriate.³⁶

This provides one condition on which the ACCC might (not) favour the use of retail minus – that the wholesale and retail services are too dissimilar. The nature of wholesale and retail mobile services do not appear to cause concerns in this regard.

A retail minus approach has also been used to price access to incumbents’ fixed and mobile networks internationally. For example, it was used to set price for national roaming in Norway³⁷ and to set price of Virtual Unbundle Loop Access

³⁵ In 2010, the ACCC noted that: “For several years, the ACCC has signalled to industry its intention to move away from RMRC based pricing for WLR and LCS...since 2006, it has stated on three separate occasions that the RMRC approach was an interim pricing principle and that it would seek to implement a cost-based pricing approach for WLR and LCS as soon as it had constructed a robust cost model capable of producing reliable price estimates.” See ACCC, Review of the 1997 telecommunications access pricing principles for fixed line services Draft report September 2010, p. 53.

³⁶ ACCC, *Unconditioned Local Loop Service (ULLS), Final pricing principles*, November 2007, p. 8.

³⁷ http://www.nkom.no/arked/arked/regulering-smp/arked/arked-15/_attachment/2540?_ts=139c46cc4db

(VULA) in the UK³⁸. Its use has become more popular in Europe where there is particular concern about maintaining investment incentives for next generation access networks.

Our view is that there are advantages in using RMAC price for a domestic mobile roaming service, particularly if the geographic scope of the determination is limited. Support for using retail minus derives from:

- Retail minus can be practical and could be relatively quick to implement (as discussed further in section 4.4.2).
- Retail minus errs on the side of over-compensating access providers, as it allows the access provider to control network margins (and instead facilitates more competition for retail margins). While not as beneficial for consumers in the short term, it can provide stronger incentives for building rather than buying in areas where this is sustainable..

4.4.2 Implementation issues with a retail minus approach

Limited geographic scope

As for other approaches, the application of the retail minus approach to domestic mobile roaming raises some practical implementation issues.

The first issue is that retail minus must be able to produce a price for access to a *part* of Telstra’s network (in monopoly and duopoly areas), rather than the whole of Telstra’s network. Therefore, in order to arrive at the access price in the monopoly and duopoly areas one would need to subtract from the retail price both the retail costs *and* an estimate of the costs (or value) of the network in “competitive” areas.³⁹

Suppose we assume that there are three areas with different costs for serving mobile subscribers, and that the retail costs are similar across the three areas (on a per customer basis). Then the retail minus access price in the monopoly and duopoly areas could be derived from the following equation, which decomposes prices into its elements:

$$\begin{aligned} \text{Retail price} = & \text{wholesale cost}_{\text{competitive}} + \text{wholesale cost}_{\text{monopoly}} \\ & + \text{wholesale cost}_{\text{duopoly}} + \text{retail cost} + \text{profit margin} \end{aligned}$$

where:

- *retail price* is Telstra’s retail price,

³⁸ Ofcom, “Fixed Access Market Reviews: Approach to the VULA margin”, Final Statement, 2015, https://www.ofcom.org.uk/data/assets/pdf_file/0015/72420/vula_margin_final_statement.pdf

³⁹ We use the term competitive to describe the areas where there are 3 networks.

- *wholesale cost_{competitive}* – stands for the avoidable cost of offering network coverage (and usage) in competitive areas,
- *wholesale cost_{duopoly}* - the avoidable cost of offering network coverage (and usage) in duopoly areas,
- *wholesale cost_{monopoly}* - the avoidable cost of offering network coverage (and usage) in monopoly areas, and
- *retail cost* is the avoidable retail cost calculated according to the equally efficient operator or reasonably efficient operator principle⁴⁰)
- *profit margin* includes both contribution to the recovery of common costs, as well as any monopoly profits reflecting sustainable differences between the cost of supplying services and the *value* of supplying services to users in the different areas.

From this equation, it is apparent that any attempt to estimate the “avoidable wholesale cost” in monopoly or duopoly areas by deducting retail costs and wholesale costs in competitive areas from retail prices will lead to an access price that is likely to include some profit margin – at least initially.

That is:

$$\begin{aligned}
 RMAccess\ price_{mon\&\;duo} &= Retail\ price - retail\ cost - cost_{competitive} \\
 &= cost_{monopoly} + cost_{duopoly} + profit\ margin
 \end{aligned}$$

where:

- ‘cost’ equals wholesale costs as described above.

This margin will reflect premiums that Telstra is able to earn in the retail market as a result of its market power deriving from its monopoly position in rural/remote areas. This suggests there is a risk that such a pricing approach might be ineffective in promoting further competition, as it would not offer any opportunity to lower retail prices.

⁴⁰ There are two main ways in which regulators have approached the setting of margins in retail-approaches in practice. First, the approach can be based on the downstream costs of the vertically integrated operator, this is referred to sometimes as the Equally Efficient Operator (**EEO**) principle. Second, the margin could be set to reflect the downstream costs of an efficient rival - this is sometimes referred to as the Reasonably Efficient Operator principle (**REO**).

The **EEO** principle is based on the idea of promoting efficient downstream competition – so that a rival will need to be as or more efficient than the vertically integrated operator to compete in the retail market.

The **REO** principle recognises that the vertically integrated operator may enjoy some advantage over the access seeker in the retail market as a result of its [dominant] position in the wholesale/upstream market, which is often related to lower unit costs from having a larger scale. The margin calculation can then be adjusted (either by using the access seekers’ retail costs or adjusting the vertically integrated operators’ costs), for some period, to allow a higher margin to reflect such advantage.

In principle, one could try and estimate the part of Telstra's premium that derives from its market power in the monopoly (and duopoly) areas, by seeking to estimate what would be an overall reasonable rate of return in the Australian mobile market, and calculating the difference between Telstra's actual profit margins and this reasonable rate. However, actual profit margins of individual mobile providers can deviate from estimated reasonable rates of return for a number of reasons, including investments in assets other than network coverage, customer composition, customer service, different impact of economic cycle, and others. It is not therefore clear to us at this stage, without further information, that it would be possible in practice to estimate reliably the share of Telstra's profit margin associated with its market power in the monopoly (and duopoly) areas.

We therefore discuss below the derivation of the access price to Telstra's monopoly and duopoly areas by subtracting the *value* of wholesale services in competitive areas and retail costs from the retail price. To the extent that the estimated value of wholesale services reflected some of the price premium that Telstra enjoys as a result of its market power in rural/remote areas, this approach could reduce the extent to which the derived access price includes the full premium. This is an issue that merits further consideration in arriving at an appropriate margin for deriving the wholesale price that would allow Vodafone and Optus to compete for customers that value coverage.

In the longer term, if access enables Optus and Vodafone to compete for customers who value coverage by undercutting Telstra, it would be reasonable to expect that Telstra's retail prices would be lower than otherwise. Under the retail minus methodology, this would then be reflected in lower wholesale access prices, and result in the gradual erosion of Telstra's premium which results from its market power in rural/remote areas.

In order to set the access price in duopoly and monopoly areas, the regulator would then need to estimate the following:

$$RM_{Access\ price_{mon\&\ duo}} = Retail\ price - retail\ cost - value_{competitive}$$

where:

- *value_{competitive}* - the value of offering network coverage (and usage) services in competitive areas

The total annual wholesale revenue for providing access to the monopoly and duopoly areas would be the product of the average access price per subscriber multiplied by the number of subscribers. The question how this would be recovered (e.g. per user of specific services, across all mobile subscribers, etc.) is beyond the scope of this report.

4.4.3 Consideration of the individual elements of the retail minus formula

When deriving this access price, there are a number of practical issues that would need to be resolved:

- Which retail price should be used?
- What is the appropriate deduction for retail costs?
- Where can estimates of the wholesale cost of serving competitive areas be derived?

The retail price

For retail prices, we need to consider three main issues:

- Whose retail price?
- If there are many retail prices, which prices should be used?
- Should there be more than one access price?

Our view is that the retail price should be based on prices charged to Telstra's mobile subscriber base. This will provide the appropriate starting point for estimating the (implicit) value of access to the rural/remote areas, when deriving the access price for the first time. Using the (lower) prices of other mobile operators would risk under-estimating the value of providing access to rural/remote areas, because these values are not captured in their retail prices.

Retail mobile markets offer customers a number of different services within services bundles, including voice and data. This makes it complicated to determine an appropriate retail price from which the access price would be determined. Given the range of different 'prices' facing customers, our initial view is that the retail price should be set as the average revenue per user (ARPU) for Telstra mobile subscribers. This essentially represents the weighted average price across different services and customer types.

A further question would be whether it would be necessary to have different access prices for different types of mobile subscribers? Two potential points of distinction could be pre-pay v contract customers; or business v residential customers. Such distinctions might be relevant if there were substantive differences in willingness to pay for coverage.

For example, if contract subscribers valued coverage more than pre-pay subscribers, and Telstra has a higher proportion of such customers than Vodafone, then using an average Telstra ARPU would lead to a higher access price than if two access prices were calculated, and Vodafone was required to pay a price reflecting its customer base composition. This corresponds to a certain extent to the discussion about the use of the 'equally efficient operator' or 'reasonably

efficient operator' standard. A reasonable initial approach would be to use Telstra's ARPU unless the customer composition effects are very significant.

If a 'disaggregated' approach by customer type is required, then to avoid any arbitrage opportunities it will be necessary to be able to identify consistently such subscribers in the customer base of the access seekers: this seems feasible but potentially easier for contract and pre-paid subscribers.

Finally, we note that the approach above assumes that access charges will be levied as a single monthly price per subscriber. This would only be efficient if the marginal cost for the access seeker for usage in the access areas was zero (i.e. the network is entirely used for coverage purposes and there is excess capacity). It may be necessary to complement this with an access price/usage outside a pre-specified usage basket, to deter excessive usage of the Telstra network in the access areas. One approach could be define a "usage basket" for Telstra customers – in terms of voice minutes, SMS and data (and potentially international roaming) to which the per subscriber access price would cover. The possibility of 2-part access prices with per minute/SMS/Mb access prices applying outside this average 'access' basket is discussed in Section **Error! Reference source not found.**

Retail cost (margin)

The retail margin deriving from the access price should be sufficient to cover the efficient retail costs of an access seeker. These costs include cost of sales, marketing, customer services, billing, operation of service platforms and IT systems.

In calculating these costs, the most common approach is to use the access provider's costs. Using Telstra's costs applies the EEO principle, and arguably this would be appropriate as fixed costs in retail mobile operations do not seem overwhelming. However, this may need to be an area on which the ACCC could seek submissions:

- to the extent that Telstra is enjoying a significant size advantage over rivals because of its market power in the rural areas, some adjustment for that advantage could be justified. Practically, for example, the ACCC could seek to assess the share of Telstra's retail costs that are fixed, and make an adjustment for Telstra's size.
- Telstra may also be enjoying some retail economies of scope from the joint provision of mobile and fixed services – which also raises the question of whether the ACCC should make an adjustment to reflect this. In practice, there are examples of adjustments being made to the EEO principle to reflect these considerations, but only in relation to fixed networks as far as we are aware (e.g. the case of the setting of the margin for access to BT's fibre/VDSL network by Ofcom, and to ComReg's approach to margin calculations for the provision of broadband access by eir).

In addition to the principle to apply, it will also be necessary to consider the derivation of the relevant Telstra costs. The scope of regulatory accounting information to cast light on this is unclear. In such a case, then one practical approach would be to consider benchmarking of retail margins by examining the MVNO contracts offered in Australia, and seeking to derive an ‘average’ figure.

A final practical issue is whether the retail margin needs to be further split into retail margin for competitive areas and retail margin for duopoly and monopoly areas. We have not considered this further here, assuming that it would be possible to obtain either national retail costs from separated Telstra accounts; or the margins available from benchmarking would also be representative of national retail margins.

Estimates of wholesale costs/value in competitive areas

As noted above, the retail minus approach would be most appropriately implemented using an estimate of the value of access and usage of serving the competitive mobile network areas. The most practical approach to estimate the value of access and usage in competitive areas appears to be to use information on wholesale prices charged to MVNOs. This is because it would be reasonable to assume that wholesale prices paid by MVNOs in areas where all three networks are present reflect the value of access and usage in the competitive areas.

There are a number of potential wholesale prices that could be used. Vodafone, Telstra and Optus all offer MVNO services in the competitive areas. Using Telstra’s prices would reduce its ability to recover a premium in the access price reflecting leverage from monopoly to competitive areas. However, it is likely that prices charged by Vodafone will be the best targeted as Vodafone is present in competitive areas (but not in duopoly or monopoly areas).

If Vodafone’s wholesale price was used, there would be two key implementation issues to address:

- it would be important that the wholesale price per user is calculated for a similar basket of services as that used for retail prices. This is because MNO and MVNO subscribers may have preferences for different bundles (e.g. Vodafone and Telstra consumers might consume more data, while MVNO consumers may have a preference for voice calls and SMS). Such differences could result in the wholesale price being too low or too high (depending on whether average revenues are higher or lower). We suggest that in deriving the wholesale price, it will be useful to adjust the implied prices to reflect the value of access and usage in competitive areas to the average Telstra subscriber.⁴¹

⁴¹ if the EEO principle is adopted

- The wholesale price might increase as Vodafone’s MVNOs seek to also benefit from the declaration, i.e. their customers would also get access to Telstra’s rural network. It is, however, not certain that all MVNOs would seek the roaming-enhanced service, and so some MVNOs might continue to operate on a smaller network (in competitive areas) and to charge a lower price (to capture demand from those customers who do not value coverage in rural areas). In that case, access prices charged to these MVNOs should continue to provide information on the value of access to the network and usage in competitive (urban) areas. If no MNVOs on the existing footprint remained, an alternative approach could be to use the initial wholesale price and hold this fixed over a given period of time (or fixed in real terms).⁴²

Wholesale prices charged by Telstra to its MVNOs (in competitive and duopoly areas) could also be used to derive an access price to Telstra’s monopoly network (which would be relevant for Optus). Optus is present in duopoly areas, but would need access to Telstra’s network to compete in all areas.⁴³

One final option which could be considered by the ACCC is whether Telstra’s wholesale offers to MVNOs might cast light directly on the value of additional coverage. That is, to the extent that one or more MVNOs can acquire access to Telstra’s network in monopoly areas⁴⁴, we could infer the value of additional coverage is the difference in the price of the wholesale offers. In this case, we could infer the value of additional coverage by comparing the two kinds of MVNO offers. Note that this would not be used in the retail minus calculation *per se*, as this is what is estimated. However, it should provide a useful check on calculations that are made (it could equally be relevant to cross-checking results from either of the cost based approaches).

⁴² Incidentally, this locking in approach would also prevent claims about a ‘competition softening’ effect from retail minus. Such an effect is said to arise as Telstra realises that lowering retail prices is costly if this feeds straight through to wholesale prices. Locking in a margin into a fixed wholesale price would provide Telstra with freedom to lower retail prices without seeing an automatic reduction in wholesale prices. The downside would be that ‘locking in’ the margin might give incentive to Telstra to lower retail prices to create a margin squeeze in the rural and remote areas. Given the relative importance of revenues in competitive areas and with national pricing, this risk seems reasonably low.

⁴³ The wholesale price charged to Optus would then be: $RM_{Access\ price_{mon}} = Retail\ price - retail\ cost - value_{competitive} - value_{duopoly}$

⁴⁴ At least one MVNO, Boost Mobile, appears to be able to access Telstra’s 4G services. <http://boost.com.au/coverage-map/>

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