TELSTRA CORPORATION LIMITED

Submission in response to the ACCC's Discussion Paper on the WIK Mobile Network and Cost Model to inform the MTAS Pricing Principles Determination

1 July 2007 to 30 June 2009

March 2007

1 Introduction and summary of submissions

1.1 Introduction

On 31 March 2006 the Australian Competition and Consumer Commission ("**Commission**") released a "Request for Tender for the Provision of Expert Telecommunications Sector Consultancy Services to the Australian Competition and Consumer Commission" ("**ACCC Request for Tender**"). In response, wik-Consult GmbH ("**WIK**") was engaged to prepare a cost model for the purpose of estimating the costs of supplying the MTAS in Australia. The Commission has indicated it will use this cost model to inform the MTAS pricing principles that will apply from 1 July 2007.[1]

On 1 February 2007, the Commission released its *Discussion Paper on the WIK Mobile Network and Cost Model to inform the MTAS Pricing Principles Determination 1 July 2007 to 30 June 2009* ("**Discussion Paper**") and called for submissions from the public. At the same time the Commission released a public report prepared by WIK titled *Mobile Termination Cost Model for Australia* ("**WIK Report**"). The Commission has also, under quite onerous confidentiality restrictions, subsequently made available to Telstra the "WIK Mobile Network and Cost Model" ("**WIK Model**") in electronic form.

Telstra welcomes this opportunity to comment on the WIK Model and respond to the matters raised in the Commission's Discussion Paper.

1.2 Summary of submissions

In summary, Telstra makes the following submissions in response to the Commission's Discussion Paper:

(a) Telstra submits that the Commission's consultation process in relation to the WIK Model has lacked openness and transparency and has not provided parties adequate opportunity to respond to issues in relation to the WIK Model. In particular, the Commission's refusal to grant access to the source code underlying the WIK Model has severely restricted the ability of Telstra (and other parties) to provide a fully informed submission on the key issues surrounding the WIK Model.

(b) Telstra has identified a number of serious concerns with the WIK Model, which include:

[1] ACCC, "Release of WIK consult mobile network and cost model, WIK report and discussion paper", (MR 023/07) (1 February 2007).

- the use of a bottom-up cost model with no attempt to reconcile with a top-down approach;

- the adoption of inputs and assumptions which do not reflect the realities of providing the MTAS in an Australian context; and

- the use of a problematic WACC that is based on international rather than domestic market data.

(c) Telstra submits that WIK should have considered alternative approaches to the allocation of common costs rather than simply adopting the Commission's preferred "EPMU" approach. Further, WIK should have also investigated the relevance of network externalities.

(d) Notwithstanding Telstra's concerns in relation to the WIK Model, for the reasons set out in this submission, it nevertheless recognises that the outputs generated by the WIK Model appear to be in line with other sources which suggest that the efficient cost of supplying the MTAS is at the lower end of the Commission's range of reasonable estimates (that is, in the order of 5-6 cpm).

2 Background

2.1 Declaration of the MTAS

On 30 June 2004 the Commission declared the "Domestic Mobile Terminating Access Service" (that is, the MTAS).

The declaration of the MTAS flowed out of the Commission's "Mobile Services Review". The Mobile Services Review was announced by the Commission in April 2003 and was a broad ranging review that considered what form of regulation, if any, should be applied to the mobile terminating and originating access services, the domestic and international roaming services and 3G mobile services.

The declaration of the MTAS was accompanied by a report by the Commission titled *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) ("**MTAS Final Decision**"). The MTAS Final Decision discussed in some detail the Commission's rationale for regulating the MTAS and the Commission's view on appropriate pricing for the MTAS (as discussed below).

2.2 Previous MTAS pricing principles

At the same time as declaring the MTAS, the Commission made pricing principles and price related terms and conditions for that service under section 152AQA of the *Trade Practices Act 1974* (Cwlth) ("**TPA**") ("**Current Pricing Principles**"). The formulation of the Current Pricing Principles followed a lengthy industry consultation process as part of the "Mobile Services Review" in which the Commission received numerous submissions from a range of interested parties.

Consistent with the approach indicated in the Commission's *Access Pricing Principles - Telecommunications: a guide*, (July 1997) ("**Access Pricing Guide**"), the "principles" indicate that a Total Service Long-Run Incremental Cost ("**TSLRIC**") approach (with an allowance for common costs) should be adopted in pricing the MTAS. Annexure 1 of the Current Pricing Principles provides:

> "***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."*

Consistent with the pricing principles,[2] the price related terms and conditions set out in Annexure 2 of the Current Pricing Principles provide:

> "***Price related terms and conditions relating to access to the Domestic Mobile Terminating Access Service***

[2] See *Vodafone Australia Limited v ACCC* (2005) 147 FCR 203.

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

In developing the Current Pricing Principles, the Commission sought to estimate the TSLRIC+ of supplying the MTAS "using reasonable cost estimates available to it". That included a consideration of cost models developed in overseas jurisdictions and TSLRIC+ proxies based on the data provided to the Commission by mobile operators under the Regulatory Accounting Framework. The Commission was also assisted by a report commissioned from Analysys.[3]

On the basis of that analysis the Commission concluded that:[4]

"*...the best cost measures of the MTAS indicate a range of between 5 and 12 cpm*".

It also concluded that the "*Commission continues to believe a target price of 12 cpm is appropriate for this pricing principle*" on the basis that - in accordance with its pricing principles - it represented "*the upper range of reasonable estimates of the TSLRIC+ of supplying the service that are currently available*".[5] However, the Commission expressly noted the possibility of lower MTAS prices once the Current Pricing Principles had expired and further consideration of the costs of the MTAS had been undertaken. Indeed, by selecting the target price adopted in the Current Pricing Principles, the Commission expressly recognised that it could well have been adopting "a target price above existing TSLRIC+ levels (and possibly even further above what TSLRIC+ will be in 3 years time)".[6] The Commission stated:[7]

"*Given it [the Commission] has:*

[3] See MTAS Final Decision, pp. xviii-xix, 212-215 and Annexure.
[4] MTAS Final Decision, p. 215.
[5] MTAS Final Decision, pp. 207 and 244.
[6] MTAS Final Decision, p. 215.
[7] MTAS Final Decision, p. 211.

- *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."

As a result, the "upper bound" target price of 12 cpm was not expected to apply past 30 June 2007, at which time the Current Pricing Principles expire. As the Commission concluded in the MTAS Final Decision:[8]

> *"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 until 30 June 2007."*

3 Statutory framework

The object of the present inquiry is expressed in the formulation of pricing principles for the MTAS that are to be applicable from 1 July 2007 to 30 June 2009. The pricing principles are said to be made pursuant to section 152AQA of the Act.

Consistent with basic principles of statutory interpretation,[9] the power to make pricing principles needs to be read in light of the object of Part XIC.

The object of Part XIC of the TPA is stated in section 152AB of the TPA as being "to promote the long-term interests of end-users of carriage services or of services provided by means of carriage services" ("**LTIE**"). The LTIE is defined in subsection 152AB(2) of the TPA in terms of the following three objectives:

[8] MTAS Final Decision, p. 220-221.
[9] As adopted in section 15AA of the *Acts Interpretation Act 1901* (Cth).

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

Each of those objectives is further defined or elaborated on in section 152AB of the TPA.[10]

Furthermore, as the Commission has stated elsewhere, pricing principles are published for the purposes of providing the industry with guidance as to the approach that the Commission might take if required to arbitrate an access dispute under Division 8 of Part XIC or consider an undertaking under Division 5 of Part XIC.[11] When considering an access dispute or an ordinary access undertaking, the Commission is obliged to have regard to a number of specified considerations. Those considerations are set out in sections 152AH of the TPA (in relation to undertakings)[12] and section 152CR of the TPA (in relation to access disputes) in near identical terms:

- whether the determination or the terms and conditions of an undertaking (as the case may be) will promote the long-term interests of end users of carriage services or of services supplied by means of carriage services;
- the legitimate business interests of the carrier or provider, and the carrier's or provider's investment in facilities used to supply the declared service;
- the interests of all persons who have rights to use the declared service;
- the direct costs of providing access to the declared service;
- the value to a party of extensions, or enhancement of capability, whose cost is borne by someone else;

[10] Telstra further discusses aspects of the LTIE relevant to the present inquiry in more detail below.
[11] Pursuant to subsection 152AQA(6) of the TPA, the Commission is specifically required to have regard to any relevant pricing principles when arbitrating an access dispute.
[12] Subsection 152BV(2) of the TPA provides that the Commission must not accept an undertaking unless, among other things, it is satisfied that the terms and conditions of the undertaking are "reasonable". Section 152AH of the TPA sets out the matters which the Commission must have regard to in considering the reasonableness of those terms and conditions.

- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility;[13] and

- the economically efficient operation of a carriage service, a telecommunications network or a facility.

While as a matter of law the Commission is not required to have regard to the above criteria in formulating pricing principles, given the significance of those criteria in relation to access disputes and undertakings, for pricing principles to provide useful and meaningful industry guidance in those circumstances it would clearly be beneficial for pricing principles to be developed consistent with those criteria. If pricing principles were developed without having regard to those criteria and inconsistent with them, they would provide little use when considering an undertaking or access dispute when the Commission is positively obliged to have regard to the criteria.

4 Consultation process and access to the WIK Model

4.1 Consultation process

For reasons set out in more detail below, Telstra submits that the entire consultation process undertaken in respect of the WIK Model is unsound. In summary, the consultation period has been disproportionately short and access to the WIK Model has not been open and transparent.

As noted above, the Commission released the Discussion Paper on 1 February. In so doing it set a deadline for submissions of 16 March 2006. The WIK Model was only made available to interested parties on 16 February 2007.[14] As a result, parties (including Telstra) were given no more than four weeks to consider the WIK Model and prepare submissions on it to the present inquiry.

Telstra submits that such a short timeframe fails to allow parties sufficient time to understand the WIK Model (and identify any issues with it) and prepare submissions on the model. This issue alone calls into question the very integrity of the undertaking process. Contrasts can readily be drawn with the process for the consideration of an ordinary access undertaking under Division 5 of Part XIC. In that context, the Commission has up to 9 months to consider an undertaking (not including additional time provided by reason of the making

[13] This criterion only applies in respect of access disputes. It is not a mandatory consideration for the purposes of considering ordinary access undertakings.
[14] See email from Ms Gwenda Gleeson of the Commission to Telstra on 12 February 2007.

of an information request).[15] It took the Commission one year to consider Vodafone's MTAS undertaking. Similarly, Optus' MTAS undertaking was lodged in December 2004 and the Commission did not make its final decision until February 2006.[16]

It is difficult to see how the Commission can justify giving interested parties only four weeks to consider the WIK Model yet take over a year to consider other people's MTAS models (which, Telstra notes, were less complex than the WIK Model).

Other aspects of the consultation process also give rise to concerns. For example, the Discussion Paper indicates that the Commission will not accept submissions on the *WIK Mobile Network and Cost Model Version 1.01 User Guide* ("**the User Guide**"). Telstra finds the Commission's position difficult to reconcile with its previous criticisms of Telstra's failure to provide third parties with a user manual to accompany the PIE II model. In its *Assessment of Telstra's ULLS monthly charge undertaking* (August 2006) (**"2006 Undertaking Decision**"), the Commission stated that the absence of a user manual "*makes review and manipulation of the model for the purposes of critiquing it difficult*" and gives rise to the view that the model is not transparent (page 78).

It is evidently the Commission's view that a user guide is essential for the purposes of critiquing a cost model. Indeed in the context of the ULLS undertaking it obviously influenced the Commission's decision to reject the undertaking. Telstra submits that it is inconsistent for the Commission to criticise Telstra on this basis yet refuse to accept submissions on the very same issue in the present consultation process.

4.2 Access to source code

Under the version of the WIK Model provided by the Commission to Telstra, access could not be obtained to the source code of the model. Telstra twice wrote to the Commission seeking access to the source code,[17] which was denied by the Commission.[18]

As set out in Telstra's correspondence with the Commission, access to the source code is critical in understanding several critical aspects of the WIK Model, which are in turn key

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[15] Subsections 152BU(5) and (7) of the TPA. The Australian Competition Tribunal is subject to similar time frames in respect of an application for review of a decision of the Commission in respect of an ordinary access undertaking.

[16] Note Optus lodged a new MTAS undertaking to the Commission on 16 February 2007. For the purposes of this submission, all references to Optus' MTAS undertaking are references to the first MTAS undertaking lodged by Optus in December 2004.

[17] See Telstra's letters to the Commission dated 22 February 2007 and 5 March 2007 requesting access to the source code.

[18] See the Commission's letters to Telstra dated 26 February 2007 and 6 March 2007 denying access to the source code.

drivers of the outputs generated by the model. For example, access to the source code is necessary in order to understand the operation of the Strategic Network Planning Tool. In particular, how it determines the deployment of base transmission stations (BTSs) for different levels of coverage.

BTS deployment is the first step in the design of the hypothetical mobile network over which costs are estimated for the purposes of the WIK Model and affects all other aspects of the model, including the determination of upper network elements. Thus, the WIK Report states (at p. 63)

> *"The cell and BTS deployment is the first step in the design of the mobile network and specifically in the Base Station Subsystem (BSS)."*

The way in which BTSs are deployed is of fundamental significance and a critical determinant of the cost estimates generated by the WIK Model. Indeed, it is recognised by WIK as the emphasis of its modelling (at p. 7):

> *"For a given demand of traffic the key cost driver in a mobile network is the number of base transceiver stations (BTSs). Accordingly, the emphasis in modelling has been on the optimisation of the number of BTSs for each of the areas to be covered. The upper network elements are then determined such that they connect the optimised network of BTSs."*

Access to the source code is also important in relation to other aspects of the WIK Model. For example, in relation to the provisioning of the backhaul network and, in particular, what calculation is made to determine the lengths of the backhaul network.

Given that Telstra has been deprived of access to the source code, it has been unable to test these critical aspects of the WIK Model. Telstra assumes that other industry participants are likewise constrained. This has severely limited Telstra's ability to meaningfully assess the WIK Model and provide meaningful submissions on the model. In turn, this must be taken to have seriously undermined the legitimacy of the present consultation process.

This is particularly disappointing given that the WIK Report expressly stressed the importance of "an open and transparent consultation process about the model and model outcomes that would inform future regulatory processes".[19] This was stressed as one of the significant benefits of basing the model on publicly available information.[20] However, by denying access to the source code, the Commission has denied industry participants- whose businesses are directly affected by the present inquiry - an open and transparent consultation process the importance of which was stressed by WIK itself.

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[19] WIK Report, p. 1.
[20] WIK Report, pp. 1 and 6; and see ACCC Request for Tender, p. 3.

In the Commission's *Assessment of Telstra's ULLS and LSS monthly charge undertakings (Final Decision)* (December 2005), it was stated (at p. 98):

> *"Given the concerns identified in relation to the transparency and manipulability of the model, the ACCC continues to believe that an appropriate level of scrutiny has not in fact taken place."*

The Commission discussed the accessibility and transparency of the PIE II model at some length in its *Assessment of Telstra's ULLS monthly charge undertaking (Final Decision)* (August 2006).[21] In that context, the Commission specifically stated (at p. 43).

> *"…the ACCC and other industry participants remain of the view that the model's lack of transparency, the absence of detailed documentation of its code, and the restrictions imposed on third parties regarding manipulation of its code to test its underlying assumptions make it difficult for the ACCC and other interested parties to assess Telstra's network claims and be satisfied that the model accurately estimates efficient costs."*

Later in the same report, the Commission raised as a specific concern the inability to make significant changes to the coding used in the PIE II model (at p. 46).

In the context of making the previous model price terms for the unconditioned local loop service ("**ULLS**"), the Commission stated that, without further analysis, it considered that "*the model's lack of transparency limit (sic) the extent to which it can be directly utilised in determining indicative price terms and conditions or for other regulatory purposes.*"[22]

The Commission's approaches to its assessment of PIE II and the present consultation process are plainly inconsistent. It is not open to the Commission in one context to stress the importance of access to the source code of PIE II as being fundamental before a model can be accepted as reasonable and used to set indicative prices; yet in another context to simply deny access to the source code of the WIK Model by dismissing requests for access and continue to develop indicative prices based on that model. There can be no explanation for the divergent approaches - particularly when, unlike PIE II, the WIK Model was intended for a public process and developed using public information.

As a public regulator, the Commission should have no interest in the outcome of objective inquiry. This is especially so in circumstances where the results of inquiries like that which the Commission is presently engaged in will have a direct and significant impact on the prices charged for services comprising a key source of revenue for a number of businesses. That the Commission should so overtly seek to curtail objective inquiry not only contradicts the

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[21] See esp. at pp. 37-46.
[22] ACCC, *Final Determination: Model Price Terms and Conditions of the PSTN, ULLS and LCS services*, (October 2003), p. 31.

position it has adopted in other contexts but is also inconsistent with its function as a regulator.

4.3 Process going forward

In relation to the transparency of the WIK Model and the associated consultation process, a further concern arises in relation to where the process will head from here. The Commission will no doubt receive submissions from a number of industry participants (including the present submission). Under the terms of the confidentiality restrictions imposed by the Commission in order to gain access to the WIK Model, it can be expected that the submissions received by the Commission will be of their very nature confidential, and therefore will presumably not be published by the Commission. As a result, interested parties will be unaware of the submissions made by other parties and there will be no transparency in relation to what the Commission (or WIK) does or does not do in response to issues raised by the parties.

In any event, given that interested parties are required to destroy the WIK Model and associated materials generated using that model on the day that their submissions are due, they will not be in a position to consider the submissions of other parties or any outcomes from the consultation process.

In those circumstances, there can be little confidence that the Commission can properly be held to account on the reasonableness of the ultimate form of the model and its outputs. No assurance or guarantee has been given as to the visibility of the consultation process after submissions have been lodged from here, or the accountability of the Commission in relation to any decisions made following that process. Telstra submits that as a public regulator, the Commission's decisions should be able to withstand public scrutiny. Such scrutiny does not appear to be possible in the present context.

Further, Telstra notes that the ACCC Request for Tender indicates that a draft report was to be provided by the successful tenderer. No such draft report was provided for public comment (assuming WIK produced a draft report a matter about which Telstra is unaware). Telstra is concerned that it may only see the "final" version of the model with which it has been provided and, contrary to the usual process, will not be given the opportunity to comment on any changes made to that version as a result of the industry consultation process.

5 Overview of the WIK Model

5.1 The components of the WIK Model

The WIK Model is a bottom-up cost model, using the TSLRIC framework. The model first designs and then dimensions a network of the requisite capacity to provide all services the operator is offering, and then determines the cost of running the network, which means the total cost of all network elements. The model consists of the following two components:

(a) the Strategic Network Planning Tool ("**SNPT**"); and

(b) the Cost Module.

The SNPT is used to determine the network structure and dimension the network elements of the WIK Model. It does this by

(a) calculating the optimal cell radius and cell deployment for each relevant area;

(b) determining the network hierarchy; and

(c) determining the capacity requirements of the link structure.

Once the network structure and all network elements have been determined, the costs of the services provided by the network ("**Network Services**") can be determined using the Cost Module. The Cost Module consists of:

(a) the annualised capital expenditure on equipment and facilities ("**annualised CAPEX**"); plus

(b) the cost of operations and maintenance ("**OPEX**"); plus

(c) the cost of leased facilities as the case may be; plus

(d) common organisational-level costs.

5.2 The adoption of bottom-up modelling in the WIK Model

As noted above, the WIK Model is a bottom-up cost model. That is, it attempts to model the costs of the network and cost structures of a hypothetical operator.

By way of contrast is a top-down cost model. Under a top-down approach, the actual data of a specific carrier are taken as the starting point for the inputs of the model and adjusted for efficiency considerations and in order to produce a forward looking projection of costs.

Section 2.1 of the WIK Report discusses WIK's views of the benefits and detriments of the two modelling approaches and stated that each "*has specific strengths and weaknesses*".[23] WIK also recognises that:[24]

> "*by using certain approaches of model calibration it is possible to combine the strengths of both of these approaches. Such a hybrid approach first develops a bottom-up model and calibrates the outcomes of that model with the network element and cost components of specific network operators.*"

Despite the fact that WIK recognises that bottom-up cost modelling has certain weaknesses (and stating its view that these can be overcome), it nevertheless does not seek to account for these weaknesses in adopting its preferred approach or to attempt any sort of reconciliation.

In support of its use of a bottom-up cost model, WIK cites from a previous submission of Telstra which it takes out of context.[25] After the phrase referred to by WIK, Telstra's submission went on to state:[26]

> "*…Telstra also recognises that, for mobile networks, an actual network is likely to provide a reasonable approximation of these costs and that there are significant benefits associated with a top-down approach. This is further supported by the fact that Australian mobile networks have been built relatively recently and competition in the mobiles market has been intense. Therefore, the usual arguments put in favour of a bottom-up approach are less relevant in the case of mobiles. In addition, Telstra supports the use of a top-down approach as an important sanity check on bottom-up modelling.*
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> *In Telstra's view, the main benefit of a top-down cost model is that it is grounded in reality and hence captures the costs that are necessarily incurred in providing the service at issue. In the case of bottom-up modelling, it has been Telstra's experience that many of the costs that are necessarily incurred in providing the service are too easily assumed away as inefficiencies or unnecessary. There is little scope for testing the assumptions in a bottom-up model, including those relating to allocation of fixed and common costs, as the network in question will never actually be built. As a result, the top-down approach provides an important discipline on bottom-up modelling, requiring the modeller to justify the exclusion of cost items.*"

Telstra continues to maintain the view that where a bottom-up cost model is relied upon, it needs to be reconciled with a top-down approach. As discussed further below, the inherent dangers of bottom-up modelling noted in Telstra's previous submission have been made manifest in the WIK Model.

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[23] WIK Report, p. 4.
[24] WIK Report, p. 5.
[25] See WIK Report, p. 5.
[26] Telstra, *Submission in response to the Commission Discussion Paper: Vodafone's Undertaking in relation to the Domestic Digital Mobile Terminating Access Service,* (August 2005), pp. 19-20.

5.3 Expertise of authors

The authors of the WIK Report, who are based in Germany and Spain, do not provide details of any knowledge of, or expertise in relation to, the local telecommunications market in Australia and it would appear, from the report itself, that the authors do not possess such expertise and knowledge despite opining on matters requiring this.

For example, the WIK Report indicates a fundamental misunderstanding of local geography by incorrectly classifying particular geographic regions as urban, suburban or rural based on the population density attributed to a particular postcode. Given that the WIK Model is required to simulate differences in, among other things, geographical/population coverage,[27] the authors' lack of understanding makes it unsafe to rely on the model.

Further, the authors rely on international benchmarks in respect of various inputs into the model without discussing the applicability of those benchmarks to Australia. In some instances it is not clear why local data could not have been used. For example, in relation to the annualised CAPEX, it is unclear why Australian prices for equipment and facilities could not have been used instead of benchmark prices said to have been adopted from the European Union regulatory context.

5.4 Materials provided in support of the WIK Model

No materials have been provided in support of the WIK Model (other than the WIK Report itself) or the reasonableness of the assumptions and inputs used by it. Furthermore, in the majority of cases, no citations are provided in the WIK Report as to the source for the various inputs and assumptions adopted in the WIK Model. In many instances, WIK simply asserts that international benchmarks have been relied on without citing the source of those benchmarks. As a result, interested parties are not able to properly consider the reasonableness of the inputs or the sources allegedly relied upon.

In this regard, a point of comparison lies with the Commission's own approach to considering ordinary access undertakings and the approach endorsed by the Australian Competition Tribunal (the "**Tribunal**"). The Commission has repeatedly emphasised that parties submitting undertakings have an onus to satisfy it of the reasonableness of the cost models (and the inputs adopted in them) presented in support of such undertakings.

[27] WIK Report, p 1.

This approach has largely been followed by the Tribunal. For example, in its decision in respect of Telstra's LSS undertaking, the Tribunal stated:[28]

> *"…whenever an access provider seeks approval of an access undertaking from the Commission which involves a consideration of a price term by comparing it with costs, it would be necessary, in order to satisfy the statutory framework, that the access provider establish that its costs are efficient costs. An access provider should also recognise that if the Commission decides against accepting the access undertaking and rejects it and the provider wishes to seek review of the Commission's decision before the Tribunal, it would be necessary to establish before the Tribunal that its costs are efficient. It is apparent from the statutory framework that the Tribunal is limited in respect of the material to which it may give consideration as it is limited to the material which was before the Commission and any material referred to in the Commission's decision. Put shortly, if an access provider wishes to establish before the Commission, or needs to establish before the Tribunal, that its costs are efficient, it will need to have put material to that effect before the Commission."*

Similar statements were made by the Tribunal in relation to its decisions in respect of Optus' and Vodafone's MTAS undertakings.[29]

Put shortly, in the present context, there is no material before the Commission by reference to which it could be satisfied of the reasonableness of the inputs and assumptions adopted in the WIK Model. Telstra submits that the Commission cannot properly reject cost models offered by industry participants on the basis of a lack of evidence and then itself use a model for which there is no supporting evidence whatsoever in order to inform its activities in relation to the pricing of declared services. To put it another way, the Commission should not rely upon a cost model that is not supported by the requisite amount of substantiation that is required in order for the Commission to accept a cost model provided by an industry participant. Any model used by the Commission should be capable of withstanding the same degree of scrutiny as that to which a model submitted by an access provider would be subjected by the Commission or the Tribunal. The WIK Model cannot be regarded as capable withstanding that degree of scrutiny. Simply because this model was built for the Commission does not mean that it should stand in a privileged position.

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[28] *Telstra Corporation Limited (ACN 051 775 556*) [2006] ACompT 4 at para [46].
[29] Cf. *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 and *Application by Vodafone Network Pty Ltd & Vodafone Australia Limited [2007] ACompT 1.*

6 The adoption of TSLRIC+ based pricing for supplying the MTAS

6.1 TSLRIC pricing is consistent with the objects of Part XIC

The Commission has recognised, in the Access Pricing Guide and in the Current Pricing Principles, that an access price for a declared service based on the TSLRIC+ of supplying that service is consistent with the objects of Part XIC as expressed in section 152AB of the TPA.

In *Seven Networks Limited (No 4)* (2005) ATPR ¶42-056, the Tribunal also endorsed the implementation of efficient cost based pricing of declared services and that such pricing should generally be determined using a TSLRIC approach. The Tribunal stated (at para [136]):

> *"... 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, 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)."*

More recently, in its decision rejecting the Optus' MTAS undertaking, the Tribunal stated (at para [99]):

> *"Consistently with previous authority, we consider generally that the undertaking prices should reflect and not exceed forward looking efficient economic costs: Telstra Corporation Limited [2006] ACompT 4."*

While, as a matter of principle, Telstra does not necessarily accept that the pricing of declared services based on the TSLRIC+ is appropriate in all circumstances, it nevertheless recognises that TSLRIC based pricing is an approach that has been recognised to be consistent with Part XIC of the TPA, including in the context of the MTAS. On that basis, Telstra accepts the appropriateness of basing MTAS prices on the TSLRIC+ of providing the service (as adopted in the WIK Model) at the same time as noting that no one methodological approach to the pricing of declared services is mandated by Part XIC or the LTIE.

6.2 The adoption of TSLRIC by WIK

The WIK Report indicates that WIK was commissioned to construct:[30]

> *"a bottom-up engineering-economics cost model of the Total Service Long-Run Incremental Cost plus (TSLRIC+) of providing the termination of voice calls on mobile networks in Australia."*

[30] WIK Report, p. 1.

The WIK Report describes the WIK Model developed in response to that commission in the following terms: [31]

> "*The WIK Mobile Network and Cost Model (WIK-MNCM) is a bottom-up cost model, using a Total Service Long-Run Incremental Cost framework. The WIK-MNCM is able to determine the costs of all services provided by a mobile network, in particular the cost of terminating a call on it. The network can flexibly be configured to a hypothetical operator based on different assumptions regarding coverage and market share and for scenario applications to existing networks."*

The WIK Report notes that the Access Pricing Guide requires that TSLRIC should not exceed the stand-alone cost, and that common costs (to the extent that they occur) must in fact be common to the relevant service and should not be over-recovered. The WIK Model addresses this by implementing a TSLRIC framework in the form of TELRIC ("E" for "Element")[32]. Telstra accepts the adoption of this approach.

Yet, in the context of determining Telstra's 2004 undertaking for the unconditioned local loop service, the Commission stated that the PIE II Model was a TELRIC Model. In the Commission's view this "*raised questions about PIE II's optimality*" such that, in the context of Telstra's position that the PIE II Model had to be taken as it is, the model could not "*reasonably be accepted as the appropriate model*".[33]

In that context, the Commission contrasted TELRIC and TSLRIC models stating that TELRIC models tended to allocate all costs to the set of services that are modelled. Telstra continues to disagree that this is a point of difference between TSLRIC and TELRIC models, and continues to disagree that TELRIC models tend to allocate costs only to the services that are being modelled. Properly constructed, each model is able to cost the range of services that use the network and allocate costs appropriately. Telstra's position accords with the WIK Report which states that (at p. 22):

> "*With the application of TELRIC it is assured that each service is allocated the shares of the costs of network elements in agreement with its relative use of these elements, both in respect of the immediately traffic-sensitive parts and the parts of costs that are due to lumpy investment. This ensures for one that there resulting cost figure will be below a stand-alone cost. What is more important, it ensures that common costs, ie the cost of joint production, are included in exact proportion to the relevant service's use of the various network elements thereby fulfilling the requirements stated in ACCC's principles that these common costs*

[31] WIK Report, p. 6.
[32] WIK Report, p. 21.
[33] See ACCC's Draft Assessment of Telstra's ULLS and LSS Monthly Charges Undertaking (August 2005), p. 101.

are indeed common to the services in the cost of which they are included, and that they are not be over-recovered".

7 Inputs and assumptions used in the WIK Model

7.1 Introduction

When developing a bottom up detailed cost model which uses a simplified, idealised, world in which to design a representative network for an efficiently scaled MNO, it is crucial that the model remains at least conceptually and operationally functional given all of the constraints and compromises that are unavoidably present and must be addressed in practice. The model needs to include appropriate mechanisms and allowances to ensure that the theoretical design produces results that reflect the outcomes that would be expected in reality – especially in respect of functionality and service delivery.

This means that the model needs to reflect the network design issues found in central city areas, as well as reflecting the service expectations of users when travelling along major highways or visiting major tourist attractions.

Potentially this could be done either as a second level exercise where network planning experts (experienced in actually planning and operating MNO networks in Australia) test the model in light of the practical reality of network design. In order, however, for this process to be efficacious it is necessary that the network design assumptions are transparent. In the present circumstances, the lack of transparency in the underlying data used by WIK means that it is not clear whether the unit rates used by WIK fully incorporate all costs involved in constructing, designing and planning the model.

Although Telstra has not been able to conduct a complete examination of the WIK model (as it has no access to the workings of the model), it's limited inquiries reveal fundamental flaws in the inputs and assumptions used in the WIK Model such that, in its current form, the WIK Model is unable to accurately model a realistic GSM network to any level of accuracy. It would be by pure chance, rather than design, if the model produced outcomes which reflected a GSM network that would be built in, and effectively operate in, Australia.

For example, the hypothetical WIK Model takes no account of mobile users visiting an area other than where they reside or where they are employed. Furthermore, in CBD areas where a large proportion of Australian's are employed, the WIK Model provisions suburban and rural base stations, rather than in building base stations (these issues are discussed in more detail below). The result is that the WIK Model provides an unrealistic view of how a mobile network in Australia would be constructed.

7.2 CBD areas

The hypothetical WIK Model fails to adequately provision mobile networks in most CBD areas in Australia. The WIK Model deploys Picocell base stations in POAs classified as urban, which, as stated specifically in the WIK Report, is for "*dense urban areas with high traffic or to cover special places like malls and airports*".[34]

However, none of the major capital city CBD postcodes are classified as urban in the WIK Model, and so, as far as can be ascertained, no Picocells are deployed in these CBD areas. For example:

- Sydney's CBD (postcode 2000) is treated as suburban;
- Melbourne's CBD (postcode 3000) is treated as suburban;
- Brisbane's CBD (postcode 4000) is treated as suburban;
- Adelaide's CBD (postcode 5000) is treated as rural; and
- Perth's CBD (postcode 6000) is treated as suburban.

7.3 Airports and shopping centres

The WIK Report states that Picocells are deployed at airports (at p. 65). However, it appears that the WIK Model does not operate consistently with its documentation. This could be confirmed if the Commission allowed access to the source code underlying the model.

In particular, the WIK Model classifies at least the following airports as rural areas:

- Sydney Airport - Mascot (postcode 2020);
- Melbourne Airport (postcode 3045);
- Brisbane Airport - Eagle Farm (postcode 4009);
- Perth Airport - Cloverdale (postcode 6005); and
- Adelaide airport (postcode 5950) could not be found in the input data and is presumably forgotten.

These classifications result in no Picocells being deployed at any major Australian airports, despite the report specifically mentioning that these types of BTSs were for airports. Indeed,

[34] WIK Report, p. 65.

the WIK Model provisions Macrocells which, according to the model's documentation, are suited for "*rural areas with low traffic*".[35]

Furthermore, while the WIK Model identifies Melbourne Airport as an area that requires provisioning, it does so for only 150 residents and 3315 employees. This is despite the fact that over 21 million airline passengers passed through Melbourne airport in 2005/06.

7.4 Major roads and highways

There does not appear to be any specific mention in the WIK Model of provisioning of base stations along main roads and highways. As the classification of postal areas (POAs) is based on residential population, with an adjustment for traffic due to employees in an area, this will not necessarily cover the extra number of people who may travel through an area. There is a general expectation of coverage on major highways; these may pass through remote rural areas where the model has deployed only enough sites to cover what population may be there, leaving possible black spots along main thoroughfares such the Hume or Princess Highways that don't exist in practice.

7.5 Other coverage deficiencies

The use of the residential population to derive the population density classification of a POA, and hence a district, appears to be flawed. The major transit areas are not the only regions to be misclassified, as there appear to be others which, due to either the nature of the methodology or the integrity of the data, receive inappropriate deployment in the model. Take as an example the POA 3693, the postcode for the Bonegilla military facility, located near Wodonga in country Victoria. Due to the small size attributed to this postcode, the population density is calculated such that this area is classified as urban, and hence would receive deployment of Picocells only.

As the WIK Model aggregates postcodes into districts, there may be other postcodes where the WIK model deploys the models' urban type of base station. However, it is difficult to understand how this could compensate for the lack of deployment in areas where there is a large transient population, not only due to employees travelling into these areas, but also recreational visitors there for shopping or tourist-type activities. Using the residential population for as a basis for deployment holiday destinations may also result in insufficient coverage or capacity for the influx of seasonal visitors to, for example, Queensland coastal resort areas or NSW snowfields.

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[35] WIK Report, p. 65.

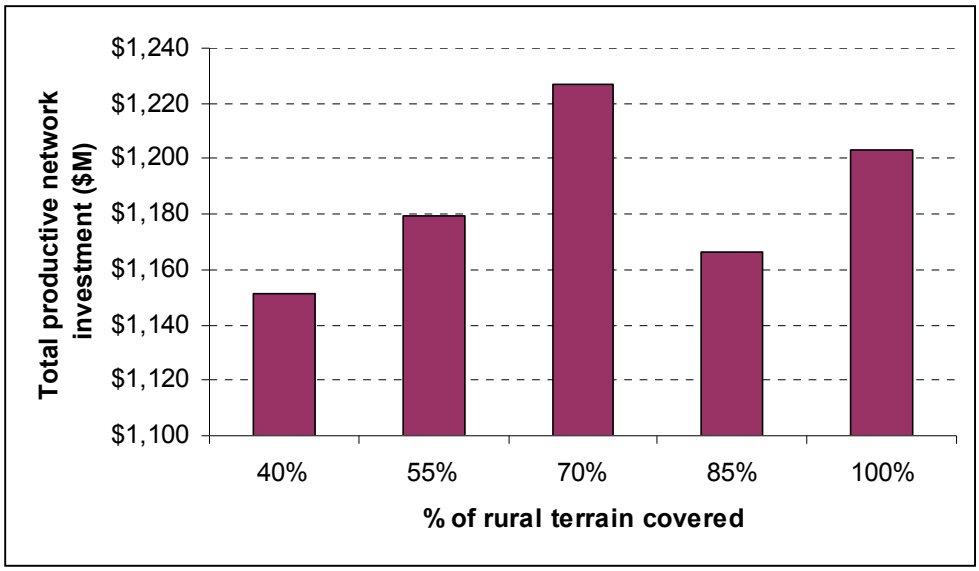
7.6 Economies of geographic coverage

Furthermore, it appears from an initial review of the outputs of the WIK Model that the cost of rural coverage is significantly understated. For example, a scenario was created to represent a mobile network with 25% market share, 96% penetration and 50% of rural terrain coverage. The direct cost for this mobile network is estimated to be $283 million and the operating cost is $121 million. The termination cost is 5.6 cpm.

Another scenario was created with the proportion of rural terrain coverage increased to 75% but all other things kept the same. The direct cost of the mobile network increased to $298 million and operating costs increase to $128 million. Therefore, the WIK Model implies that for a mobile network operator to increase terrain coverage in rural areas from 50% to 75% it would cost just $16 million in direct network costs per annum and operating costs would increase by just $7 million. The termination cost would increase from 5.6 cpm to 6.0 cpm.

Furthermore, if the percent of rural terrain coverage is increased from 75% to 100%, the direct cost increases by only an additional $15 million per annum (to $313 million) and operating costs increase by $7 per annum (to $135 million). The oddity of this outcome is best illustrated by the fact that when the rural terrain coverage is increased from 75% to 100% the termination cost *actually decreases* from 6.0cpm to 5.7 cpm.

The figure below illustrates the relationship between total productive investment cost predicted by the WIK Model and rural terrain coverage, illustrating the counterintuitive results from the WIK Model. For example, the WIK Model predicts that 100% rural terrain coverage requires less investment than 75% coverage and 85% rural coverage requires less investment than 55% coverage.



Note: All variables (except % of rural terrain covered) are set to the levels in the version of the WIK Model distributed by the Commission.

7.7 Traffic per customer and other parameters

It also appears from an initial review of the WIK Model that the traffic per customer inputs used in the WIK Model are understated. This results in a significantly higher MOU value in the basic demand parameter than that which Telstra would expect based on its experience.

Furthermore, in deriving aggregation network (transmission links from BTSs to BTSs to BSCs) parameters, WIK has significantly understated the following parameters: number of BSC locations, maximum number of BTS's/BSC location and number of channels used in the E1 group.

7.8 Price Differentiation

It would be inconsistent with the statutory criteria for MTAS prices in Australia to be differentiated on the basis of carriers' market shares. A differentiated pricing outcome is undesirable and unwarranted as, by and large, MTAS unit costs of carriers with national coverage are likely to be higher than those just competing in densely populated areas such as capital cities, where efficiencies and unit costs are more likely to be similar. To set prices on the basis of those proposed by the WIK Model would be contrary to the LTIE; that is, it would incent MNOs to minimise their market share, and to reward those who adopt insufficient and inefficient scale. Telstra provides more detailed submissions in relation to this issue in section 11 below.

The statutory criteria for MTAS prices are best served when MTAS prices are based on efficient costs. Efficient costs are the level at, or reasonably close to, the minimum efficient scale.

Notwithstanding the deficiencies of the WIK model, it shows that the minimum efficient scale can be achieved by an operator with approximately 30% market share.

8 Weighted Average Cost of Capital

The WIK Model has made certain assumptions regarding the Weighted Average Cost of Capital ("**WACC**"). Telstra have a number of comments on this analysis, which are summarised below.

8.1 Capital Asset Pricing Model

WIK has applied a form of an international version of the Capital Asset Pricing Model (CAPM). Its rationale for this is that three out of the four mobile operators are subsidiaries of foreign entities that will either access funding from the parent group or from international capital markets. In other words, this is implying that the 'efficient benchmark firm' is a multinational corporation, not a domestic firm. In reality the specification of the cost of capital should be independent of the firms that comprise the market.

The implications of the adoption of an international CAPM are that all parameters are then specified with reference to international market data, for example:

- the risk-free rate is based on an assumed proxy for the 'global' risk-free rate, as is the cost of raising corporate debt which is used to determine the debt margin;
- the market risk premium is estimated by comparing the global risk-free rate with the return on a global share market index; and
- beta is estimated by regressing the return on the firm's shares against the returns on that same global share market index.

Telstra have a number of concerns with the application of an international CAPM in this context.

First, the international CAPM is extremely difficult to implement in practice and a number of different versions have been specified (with these versions having implications for the methodology used to estimate the various parameters). There is currently no consensus view as to which version should be applied and as a consequence it is not widely used.

Moreover, it is not clear which method has been adopted by WIK. For example, the single factor ICAPM has been shown to not work well due to the concerns with incorporating foreign exchange (FX) issues, which more complex models include. The key point is that we do not have any idea of the approach that has been adopted here or how the methodological

concerns of the ICAPM (particularly relating to uncertainty over parameters and FX issues) have been addressed.

Not only is it not clear what version of the international CAPM has been applied by WIK, in fact it appears to apply a variety of approaches in estimating the individual parameters. For example, the risk-free rate is specified by taking a (historic) weighted average of the risk-free rates for the United States, Europe, Singapore and Australia. The market risk premium has been referenced to a number of different studies. Beta estimates have been obtained based on a study by Damodaran. However, WIK does not describe the methodology used by Damodaran.

Telstra believes that the added complexities associated with applying an international CAPM, and the current lack of consensus on the most appropriate version to apply, will increase the risk of regulatory error should it continue to be applied.

Second, there is a lack of empirical evidence to demonstrate that the international CAPM yields a better estimate than the application of a domestic CAPM. For example, a study by Koedijk et al found that the domestic CAPM only yielded a significantly different estimate from the international CAPM for three percent of firms in their sample. They attribute this to a dominance of country factors in individual stock returns. The key point is that the domestic CAPM has proven to be a more workable and less complex model than the ICAPM for assessing the cost of capital – producing comparable results that are by no means inferior. In the context of the asymmetrical impacts of regulation, it seems odd to ignore a far more tractable domestic CAPM model for pricing purposes.

This leads to the third concern, which is that in order for the international CAPM to apply, it needs to be able to be assumed that world capital markets are fully integrated. One of the key reasons that the international CAPM may not provide a superior estimate of the expected cost of equity is because of the continued existence of home country bias. That is, despite the globalisation of world capital markets, investors continue to favour domestic stocks. This may be partly due to the information asymmetries faced by domestic investors considering investments in overseas firms. A survey by Strong and Xu also revealed that fund managers' recommendations were biased towards their home market. [36]

The fact that home bias still exists does not mean that substantial integration of world capital markets has not occurred: what is evident is that the markets are not fully integrated. If markets are not fully integrated, then it is not necessarily appropriate to apply an

[36] N. Strong and X. Xu (2003), "Understanding the Home Equity Bias: Evidence from Survey Data", in Review of Economics and Statistics, vol.85, pp. 307-312.

international CAPM (notwithstanding the substantial empirical concerns that arise from attempting to apply the latter approach).

Finally, there is no regulatory precedent for the application of an international CAPM (the domestic CAPM continues to be applied in practice). Further, regulatory analysis is focused on establishing the 'efficient benchmark firm' on a stand-alone basis. That is, the ownership structure is not considered. Hence, Telstra considers that there is no theoretical or practical justification for adopting a weighted average market risk premium.

It has also been suggested that if an international CAPM is not adopted, then all CAPM parameters would need to be respecified as if foreign investors had no influence on the Australian market. However, this suggests that the Australian market is completely segmented from the world market. Given that in reality foreign investors exert significant influence, this is not only virtually impossible to do, but would also abstract from the reality of the practical influences on asset pricing in today's domestic market. Again, it is emphasised that the domestic CAPM model has proven to be a far more reliable and tractable approach than the ICAPM.

The rate of return established in the WIK Report is being used to determine prices and will drive investment decisions that are made with regard to current and expected market conditions. It should therefore reflect the rate of return that an investor would require, rather than the theoretical return that an investor would command in either a fully segmented or fully integrated market. That is, these parameters should be estimated "as they are", within a domestic CAPM framework.

8.2 Conclusion on CAPM

In conclusion, at least at the current time, there is insufficient evidence to support the replacement of the domestic CAPM with an international model. In particular, there are a number of estimation issues associated with the application of such a model, which compound the existing uncertainties that are inherent in WACC estimation, and there is no consensus view as to which version should be applied.

Recognising the asymmetric consequences of regulatory error, the application of such a complex and unproven model significantly increases the risk that the WACC is under-estimated, which could stifle incentives to invest. The very adoption of an unproven and complex capital pricing model will increase regulatory risk, irrespective of the results it

produces. Similar conclusions were drawn by Lally in his report to the Queensland Competition Authority:[37]

> *"...in the face of an issue like this in which the truth lies somewhere between two models, a conservative approach is desirable, i.e., choosing the model yielding the higher estimate for the cost of capital, on the grounds that understating the cost of capital may lead to businesses failing to invest, and this is the more serious of the two possible errors... Taking account of all these points, I recommend the use of a domestic version of the CAPM."*

Telstra also does not believe that the ownership structure of other mobile operators in Australia provides adequate support for the application of an international CAPM. Even if such a model could be practically specified based on a generally accepted approach (which is important to reduce the risk of regulatory error), a necessary pre-condition for its application would be evidence of complete integration of global capital markets for sufficient duration to enable statistically robust estimates to be drawn out. In any case, doubts also exist as to whether it would yield a more accurate estimate of the WACC.

8.3 Risk-free rate

The preceding discussion has established that the application of an international CAPM should be rejected, which would require the re-specification of parameters based on Australian market data. For the risk-free rate, this would mean relying on the ten-year Commonwealth Government bond rate.

Another key difficulty with WIK's analysis is their use of such a long historical averaging period for the risk-free rate (8 year) based on a hypothetical risk free security comprising UK, US, Singapore and Australian government bonds. Such an approach is unprecedented and unsupported by finance theory. Apart from all of the other difficulties associated with long term historical averaging, it does not address foreign exchange movements over the period.

Certainly, one of the inherent difficulties in applying the CAPM is coming up with reasonable forward-looking expectations for each parameter. However, for parameters such as the risk-free rate, the risk of taking such a long-term historical average is that the resulting estimate is not reflective of current expectations of the long-term risk-free rate. Given the liquidity of the Commonwealth Government bond market, and the relative stability of the risk-free rate through time (particularly compared to other parameters, such as the return on the market), it is not necessary to use such a long-term average to come up with a reasonable estimate.

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[37] Lally, *The Cost of Capital for Regulated Entities: Report prepared for the Queensland Competition Authority*, (26 February 2004) ("**Lally Report**"), p. 31.

The current risk-free rate is assumed to reflect investors' current expectations for the long-term risk-free rate. This is also consistent with the application of the CAPM. The risk-free rate should therefore be re-specified based on standard regulatory practice, which is a short-term average of the ten-year Commonwealth Government bond rate.

8.4 Market risk premium

There are substantial difficulties with the approach adopted by WIK, not the least of which is that there has been an insufficient period of global market integration for a robust estimate of the global MRP to be made. For example, Lally notes that the methodologies employed by Ibbotson and Siegal to estimate the market risk premium, which are based on a long-term historical average, cannot be applied for the global MRP.[38] This is because world capital markets have only been integrated for the last twenty-five years which is too short a time horizon to yield a reliable estimate of the market risk premium.

Telstra submits that the market risk premium should also be respecified based on Australian market data. It is generally accepted that the long-term estimate for the market risk premium (which is inherently volatile in the short-term) ranges between 6 and 8%. Notwithstanding that most reputable Australian studies have produced estimates in excess of 7%, a value of 6% has become regulatory precedent.

The assumption of 6% has been driven by the view that the value of the market risk premium has fallen, based on a number of structural changes that have occurred in the market in more recent times. However, there is currently no empirical evidence to clearly demonstrate the impact this may have had on the value of the market risk premium, including the likely extent of this impact (that is, if it can be shown that it has fallen, has it resulted in a significant reduction, or has it only fallen slightly).

Telstra is therefore of the view that a value of 6% remains at the lower bound of the reasonable range and was a premature response by regulators to a possible reduction in the value of the market risk premium. Given the asymmetric consequences of regulatory error, these assumptions need to be supported by robust empirical evidence. Where there is inherent uncertainty, estimates should ideally be selected from the upper bound of the reasonable range, or at minimum, the mid-point.

[38] Lally Report, pp. 46-47.

8.5 Beta

In this regard, WIK have relied upon an analysis by Damordaran. The methodology that has been employed has not been detailed, and hence it is not possible to make an assessment as to whether or not this might be an appropriate estimate for an entrant MNO. For example, such an assessment would typically involve a first principles analysis, which is a qualitative assessment of the key drivers of systematic risk for an entrant MNO. This can also be used to determine where an entrant MNO's beta may be positioned within a range (given a comparable companies analysis will typically yield a range of estimates for beta).

The other key method is a comparable companies analysis, which is in effect what WIK have relied upon in referencing the data from Damordaran. However, as noted above, there is insufficient information to assess whether this data should be applied here. For example:

- there is no description of the companies provided, which is necessary to inform an assessment of whether they are in fact appropriate comparators for Telstra's mobile termination services; and
- it is not clear how the estimates have been calculated. Unfortunately, beta estimation is highly imprecise and is fraught with estimation error. One of the recommended means of dealing with this is using at least five years of monthly returns data. In addition, measures should always be reported to inform an assessment of the statistical reliability of the estimates (for example, t statistics, R2 and standard errors). If the data does not meet certain thresholds (such as a t statistic of 2, and an R2 of at least 0.1), it cannot be relied upon and should therefore be rejected from the sample.

Details of the methodology that has been applied here should therefore be provided.

Telstra also notes that, as evident in Table 3-3 on page 33 of the WIK Report, WIK uses the effective tax rate for the de-levering of equity betas. This is despite some of those rates looking decidedly low. WIK itself acknowledges that the rates are low and seeks to justify this as being due to impairment losses recognised by tax authorities. In Telstra's view it is wrong to bias the calculation of betas by including once-off or unusual tax effects. The investor is interested in the likely tax burden over the investment horizon and this should educate the tax rate relevant in de-levering. It should not be impacted by short-term effects especially if those effects are unlikely to re-occur in the future.

8.6 Capital structure

Telstra notes that an assumption of 17.2% debt has been adopted, which was based on an average of the capital structure assumptions made in other overseas regulatory decisions. Estimation of capital structure is also highly imprecise. WIK's assumption of 17.2% implies an unrealistic level of precision that cannot be prescribed.

9 Approach to mark-up for common costs

9.1 Introduction

The WIK Model adopts an "equi-proportionate mark-up" ("**EPMU"**) for common costs in determining the costs of supplying the MTAS.

Common costs include various business overheads and organisational level costs that are common to the provision of a number of services the incurrence of which cannot be specifically attributed to any one of those services. For example, costs associated with accounting, financing, management, and human resources may all be necessarily incurred by a mobile operator but are not specifically attributable to any one of the services it provides. It is not controversial that these common organisation-level costs need to be recovered or that they should be recovered across all business activities or services that they are supporting.[39]

WIK describes the way in which it allocates common costs as follows:[40]

> *"WIK-Consult proposes an EPMU approach in the WIK-MNCM to allocate business overhead costs. Under this approach business overheads are allocated in proportion to the incremental costs of each business activity or service. The TSLRIC of a particular service is then increased by a certain percentage mark-up to cover business overheads."*

In determining the quantum, or level, of common costs to be allocated, WIK adopts is a percentage based figure - namely, 10% of total network costs - which is said to have been determined by reference to international benchmarks.[41] In this regard, WIK states:[42]

> *"Given that the WIK-MNCM is not calibrated with carrier-specific accounting information to identify and value the level of business overheads relative to network costs, for conceptual reasons WIK-Consult applies a percentage mark-up approach to the relevant TSLRIC of the MTAS.*
>
> *...*

[39] Cf. WIK Report, pp. 17-18.
[40] WIK Report, p. 18.
[41] WIK Report, p. 116.
[42] WIK Report, p. 18.

As regards to the value for the mark-up, WIK-Consult has relied on international benchmarks that are applied in costing exercises for networks of comparable size."

9.2 The need to recover common costs in the MTAS price

Telstra agrees that common costs need to be recovered and that an allocation in respect of common costs needs to be included in the price for the provision of a declared service such as the MTAS. As the Commission itself has recognised, failing to account for these common costs could violate the legitimate business interests of the access provider, reduce incentives to maintain and invest in infrastructure and distort the choice of technology towards technologies with low common costs.[43] This was also recently recognised by the Tribunal in relation to its consideration of Optus' recently rejected undertaking in respect of the MTAS (referred to as the "DGTAS").[44]

9.3 Approaches to the allocation of common costs

The critical issue concerns the manner in which common costs should be allocated. Broadly speaking, there are two well recognised ways in which this can be done. The first is by way of an EPMU for common costs (as adopted by WIK and preferred by the Commission). The second is to allocate common costs according to what are commonly referred to as Ramsey-Boiteux ("**R-B**") principles.

As noted above, the WIK Model adopts an EPMU in allocating common costs to the MTAS. The EPMU approach adopted by WIK is consistent with the preferred approach of the Commission.[45] According to the Commission, this is because of the "overwhelming information requirements of the alternatives" and the "need to devise efficient mark-ups for all services simultaneously, whereas the actual application is only to the regulated service while prices of other services sharing the common costs find their own level".[46]

In the ACCC Request for Tender, it was stated:[47]

"The ACCC has previously used equi-proportionate mark-up (EPMU) approaches to allocating organisational-level costs over services in its approach to fixed-line cost modelling and in its response to suggestions that it adopt Ramsey-Boiteux allocations."

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[43] ACCC, *Reference Paper: to accompany the release of the WIK Mobile Network and Cost Model*, (February 2007) ("**ACCC Reference Paper**"), fn. 10.
[44] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at paras [139]-[140] and [146] and see also at para [150].
[45] See ACCC Reference Paper, pp, 9-10
[46] ACCC Reference Paper, pp. 9-10.
[47] ACCC Request for Tender, p. 7.

Telstra considers it inappropriate for the Commission, in a request for tender, to make such statements which have the potential to influence what should be the independent view of an expert.

That aside, the WIK Report offers little by way of principled discussion as to why it has adopted an EPMU in the present context. Nor, as discussed in more detail below, does the WIK Report consider alternative approaches or what the result of alternative approaches might be in order to arrive at a considered position as to the best approach in the present circumstances. In the previous report WIK prepared for the Commission in relation to the rejected Optus and Vodafone undertakings ("**WIK Undertakings Report**"), WIK did consider this issue but only in relation to its critiques of the R-B models adopted by CRA (for Optus) and Frontier (for Vodafone). In that report, WIK indicated its preference for EPMU largely by default - that is, as the informational demands to properly implement an R-B model were great and may prove prescriptive. Consistent with its views in the WIK Undertakings Report, it appears that an EPMU has been adopted in the WIK Model as a rule of convenience rather than due to any inherent characteristics of this approach consistent with considerations of efficiency or consumer welfare.

9.4 Conclusion

The ACCC Request for Tender specifically called for "advice on the means of assessing the quantum of efficient organisational-level costs and of the alternative ways of allocating these to particular services."[48] However, the WIK Report makes no attempt to discuss alternative approaches to mark-ups for common costs (including by way of R-B principles and principal-agent models) in the present context or to consider the results of such alternative approaches. The WIK Report, having earlier flagged the possibility of allocating common costs on a R-B basis,[49] simply dismisses the need to even consider alternative approaches by stating a conclusion that "*there are no good reasons for the application of the Ramsey-Boiteux allocation mechanism in determining these mark-ups*".[50] This is despite WIK's previous recognition of the efficient properties of R-B pricing and the conceptual correctness of principal-agent models in the WIK Undertakings Report.

WIK's failure to consider alternative approaches is particularly disappointing given the Tribunal's recent observation that, while noting the practical implementation difficulties, it

[48] ACCC Request for Tender, p. 7.
[49] WIK Report, p. 14.
[50] WIK Report, p. 18.

accepted the "in-principle attraction in appropriate circumstances" of R-B pricing and emphasised that it had "no preference for EPMU in principle".[51]

10 Relevance of network externalities

10.1 Introduction

Telstra notes that the ACCC's Request for Tender did not explicitly request the successful consultant to address the reasonableness of including an allowance for a network externality surcharge (NES - that is, the model was only specified as a TSLRIC+ model rather than a TSLRIC++ model).

Telstra notes and concurs with the Tribunal's finding in the recent Optus decision[52] that while Optus' claim was justifiably rejected, the option of allowing the possibility of accepting such an externality in coming to a decision on a reasonable price should not be rejected out of hand. Accordingly, Telstra believes that the failure of the request for tender to require this issue to be addressed undermines the robustness of the consultancy as this would have provided the opportunity to assess whether in fact a positive externality surcharge was reasonable.

As set out below, it is Telstra's view that a NES may be appropriate to be included, however, given the level of mobile penetration in Australia (which is at or near saturation levels), the capacity for internalisation and fixed-line impacts, any NES would be equal to or close to zero, or potentially even negative.

10.2 Nature of externalities

In essence, a NES arises when existing subscribers (fixed and mobile) attribute some value to a new subscriber joining a telecommunications network; but the private value placed on subscribing by a new subscriber (that is, the new subscriber's willingness to pay the price of subscription) does not take into account this external benefit to existing subscribers. In terms of economic efficiency, the rationale of a NES mark-up on MTAS charges is that the addition of a new subscriber to a mobile network will bring a benefit to society (or the community of telephone users) greater than the cost, because the benefit to existing subscribers is not factored into the decision of the new subscriber. Thus, there would be a welfare gain (benefit exceeding cost) to society if the potential new subscriber did in fact join the network. There would be a welfare benefit if the potential subscriber's unwillingness to pay more for what he or she would personally obtain could somehow be overcome. By including a NES any

[51] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at para [241].
[52] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at para [291].

additional revenue can be used to lower the price of mobile subscription below what it would otherwise be.[53]

10.3 Adoption of a NES

The WIK Model does not incorporate any allowance for a network externality surcharge ("**NES**"). Furthermore, the WIK Report does not offer any discussion of the relevance of a NES to contemporary Australian circumstances.

As submitted by Telstra in other contexts, in principle, Telstra supports the concept of including valuation of a NES within the estimate of an efficient cost for the MTAS. The legitimacy of including a NES within the price for the MTAS was recently recognised by the Tribunal, which stated:[54]

> *"We do not rule out the possibility that taking account of externalities may be a valid part of coming to a reasonable price."*

Regulators in other jurisdictions, particularly in the United Kingdom, have allowed a NES in determining MTAS rates.

Notably, the WIK Undertakings Report considered the relevance of a NES in determining MTAS rates in Australia. While the WIK Undertakings Report did not regard the NES mark-up contained in the Optus and Vodafone cost models to be reasonable (due to the manner in which the mark-ups were calculated), it did recognise NES on a conceptual level and appeared to acknowledge that a NES mark-up may be acceptable if the assumptions and methodology are correct. In its recommendations to the Commission in relation to the CRA model, WIK states:[55]

> *"The externality related assumptions in the CRA model seem to be plausible to us. The way in which the externality surcharge is calculated does, however, not allow identification of the magnitude of the externality mark-up…Given our analysis we believe that the implicit externality surcharge is overestimated if it exists at all."*

However, as submitted by Telstra on previous occasions, the estimation of any NES would need to take into account a number of significant factors including:

(a) fixed line impacts;

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[53] The description of a NES as set out in this paragraph is adopted from the description and logic accepted and adopted by the Tribunal in *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at paras [255]-[257].
[54] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at para [291].
[55] WIK Undertakings Report, p. 111.

(b) the level of mobile penetration in the Australian market;

(c) the need to ascribe any impact of the externality to fixed line services; and

(d) the likelihood that some proportion of the externality will be internalised by either parties known to the subscriber or by MNOs themselves.

10.4 Fixed line impacts

Telstra submits that any material increase in MTAS charges relative to incremental cost will cause a reduction in the demand for fixed line subscriptions and that this will impose a social cost that would need to be included in any NES calculation.[56]

However, Telstra notes that fixed line subscriptions have declined in recent years (having peaked at 10.4 million SIOs in 2002)[57] whereas mobile subscriptions have increased (to some 92% as at 30 September 2005).[58] This is further evidence of the growing substitutability between fixed and mobile subscriptions.

Telstra expects that the substitutability of fixed and mobile telephony will continue to increase. Factors that are currently reinforcing the substitutability of fixed and mobile services include:

(a) virtual saturation of mobile phone penetration suggesting that all residents in any particular household are likely to have access to a mobile phone; and

(b) improvements in the quality of mobile service. That is, while early mobile telephony was not a particularly good substitute for fixed lines as transmission quality and geographic coverage were limited and early handsets were not particularly portable, factors such as the roll-out of digital technology in 2G and 3G networks, increased network coverage and higher quality transmission have improved the substitutability of mobiles. Moreover, with the advent of video calling, mobile telephony arguably provides superior call functionality to fixed lines. Importantly, mobile call prices have also substantially decreased.

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[56] See similarly: Cave and Chambers, *Commentary on the Optus and Vodafone Undertakings in Relation to the Domestic Digital Mobile Terminating Access Service*, (3 June 2005) ("**Cave & Chambers Commentary**"), at pp. 16-18; WIK Undertakings Report, at pp. 47-49; AAPT, *Submission to ACCC: An Economic Critique of the Submission by Charles River Association (CRA)*, (June 2005), at pp. 12ff.; J. Gans, *Report to the ACCC: A Critique of the Statement of Professor Jerry Hausman on Mobile Termination Pricing: A Report on behalf of AAPT*, (May 2005), at pp. 16ff ; Marsden Jacob Associates, *Comments on Discussion Paper, Vodafone's Undertaking in relation to the Domestic Digital Mobile Terminating Access Service: A report prepared by Marsden Jacob Associates for Allens Arthur Robinson*, (17 August 2005) ("**MJA Report**"), pp. 61-63.

[57] WIK Undertakings Report, p. 48.

[58] ACCC, *Optus's undertaking with respect to the supply of its Domestic GSM Terminating Access Service (DGTAS) - Final Decision (Public version)*, (February 2006), ("**Optus Undertaking Decision**"), p 110.

Proper allowance would need to be made for any negative effects arising from any NES - such as from further reducing the attractiveness of fixed lines as a mode of communication.

The importance of considering all relevant externalities and impacts was recently recognised by the Tribunal which stated:[59]

> *"We have come to the view that if externalities are to be considered in pricing services, they need to be surveyed with some degree of thoroughness. It is not sufficient to include some externalities in the analysis and ignore others purely on an a priori basis that they matter less. This is especially the case where the possibility of countervailing effects is being ignored, and where major changes in the telephony market are likely to be altering demand patterns and levels of substitution between services."*

WIK appeared to have concurred with Telstra's view in the WIK Undertakings Report, where fixed line impact was recognised as one of the most relevant externalities:[60]

> *"In our context financial mobile subscription subsidies by means of FTM prices above costs would have a negative impact on fixed-line subscription. Overpricing FTM calls to increase mobile subscription would at the same time [sic] due to the fixed-line externality decrease fixed-line penetration. Such externality effects do not simply balance out.*
>
> *...*
>
> *Empirical analysis normally identifies low price elasticities of fixed-line subscription and relatively high mobile subscription price elasticities. At the same time we can observe a gradually increasing trend to substitute fixed access lines by mobile subscriptions. The number of telephone users which give up their fixed-line subscription and become mobile-only users is increasing."*

Further, in its recommendations to the Commission, WIK stated:[61]

> *"Although fixed-mobile substitution currently is at a lower level in Australian than in Europe, that only indicates that process to accelerate in the next few years. We believe that given the relative developments of penetration, regulatory policy should be more concerned with the decline of fixed-line penetration than with further increasing mobile penetration."*

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[59] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at para [289].
[60] WIK Undertakings Report, p. 48.
[61] WIK Undertakings Report, p. 109.

10.5 Mobile penetration levels

Telstra submits that the value of any network subscription externality will decrease as market saturation occurs. This is because the private marginal benefit of subscription is likely to increase as penetration increases due to the fact that the marginal subscriber is able to contact via MTM calls more of the users on which they place a high benefit. Thus, the gap between the net marginal social benefit and marginal private benefit will progressively close.

Mobile penetration rates were estimated by Optus to be approximately 89% as at 31 March 2005[62] and 92% at 30 September 2005.[63] More recent materials from Optus suggest that mobile termination rates have since increased even further, from an estimated 95% as at 31 December 2005 to as high as 97% as at 31 December 2006.[64] This view is supported by Cave and Chambers who state:[65]

> *"Given the current high penetration levels of mobile telephone in Australia, it is unlikely that the addition of a marginal mobile subscriber would alter the calling behaviour of most subscribers to fixed networks. In other words, the marginal network externality is probably very small in magnitude at present (if it exists at all)."*

WIK also previously recognised the extent of mobile penetration in Australia when it commented in the WIK Undertakings Report that:[66]

> *"The current trend of substitution gives less rationale for regulators to tax fixed network users (via high termination rates) in favour of* ***increasing mobile penetration at levels which are already at saturation****."* (Emphasis added)

10.6 Internalisation of externality

Furthermore, many marginal mobile subscriptions have been undertaken on the basis of the internalisation of subscription benefits by the person funding the subscription (such as family relatives). In addition, MNOs are well positioned to internalise some network benefits through the development of targeted pricing arrangements.[67]

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[62] SingTel Optus, *Management discussion and analysis of financial condition and results of operations 2002-03, 2003-04, 2004-05*, p. 45.
[63] Optus Undertaking Decision, p 110.
64 SingTel Optus, *Management discussion and analysis of financial condition, results of operations and cash flows for the third quarter and nine months ended 31 December* 2006, p. 42.
[65] See Cave & Chambers Commentary, pp. 20-21 (quote at p. 20).
[66] WIK Undertakings Report, pp. 48-49.
[67] See MJA Report, pp. 53-54; WIK Undertakings Report, pp. 42-43; and Optus Undertaking Decision pp. 100-101.

10.7 Conclusion on NES

For the reasons stated above, Telstra considers that any NES is likely to be near zero. Indeed, having proper regard to fixed line impacts, it may even be that any NES in relation to the MTAS should be negative.

On that basis, Telstra submits that WIK is justified in not including any amount for a NES in the costs of supplying the MTAS. Nevertheless, this issue ought properly to have been considered by WIK in its consultancy, especially given that the issue was considered extensively in the WIK Undertakings Report and it was recognised that a NES might be acceptable.

11 WIK Model outputs - estimates of the costs of supplying the MTAS in different scenarios

11.1 Introduction

Part 6 of the WIK Report considers the costs of supplying the MTAS under various different scenarios. These scenarios include two "reference case" scenarios based on an hypothetical efficient operator operating in the Australian context, as well as various other scenarios adjusted for such factors as market share, coverage, fixed / mobile integration and 3G network costs. The appropriate benchmark against which to assess costs and the different scenarios considered in the WIK Report are discussed in more detail below.

The different scenarios considered by WIK were in direct response to specific requirements set out in the ACCC Request for Tender. In particular, the WIK Model was required to be flexible so that it could be adjusted to test for different scenarios in relation to integration, 3G costs and scale issues (such as market share). WIK was also asked for advice on these issues.

In this regard, the ACCC Request for Tender stated (at p. 4):

> *"The ACCC interprets the legislative criteria as requiring it to have regard to the most efficient operator when making decisions relating to access prices. The rationale for this, as stated in the Access Pricing Principles (p. 18) is because*
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> > *an access price consistent with these principles will also promote productive efficiency. As the price will be based on the cost of providing the service using the most efficient means commercially available it will encourage access providers to continually improve their performance with the aim of achieving best practice.*
>
> *However, the ACCC is also conscious of the concept of achievability by existing mobile carriers, and therefore seeks to have the ability to determine the costs of operators with, say, a 25 per cent market share as well as those of the most efficient operator. The ACCC requires to have the ability to estimate the costs in terms of foregone productive efficiency*

through deviating from the most efficient operator standard in circumstances where this could be required in the light of the various legislative criteria the ACCC must have regard to."

While Telstra agrees with the need to consider the relevance of different scenarios against the background of the relevant statutory provisions, Telstra disagrees that these provisions involve any deviation from the benchmark operator in any given circumstance. Rather, for reasons discussed in more detail below, Telstra considers that these provisions compel adherence to the benchmark operator standard and in that light the different scenarios considered by WIK are irrelevant.

11.2 Statutory considerations

As foreshadowed above, a consideration of the appropriate benchmark against which to model costs, and the applicability of different scenarios (including in relation to integration and market share) cannot take place divorced from the relevant terms of Part XIC of the TPA. The terms of these provisions have significant implications for the way in which costs should be assessed and measured, as well as the way in which economies of scale and scope should be treated, for the purposes of Part XIC of the TPA. They are equally significant in considering the benchmark operator against which the costs of supplying the MTAS should be assessed and the various output scenarios detailed in the WIK Report.

As discussed in section 3 above, the object of Part XIC of the TPA is expressed in terms of the promotion of the long-term interests of end-users. Subsection 152AB(2) of the TPA provides that, in determining whether a particular thing promotes the LTIE, regard must be had, inter alia, to the objective of encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which listed services are supplied and any other infrastructure by which listed services are, or are likely to become, capable of being supplied.

The objective of encouraging the economically efficient use and investment in telecommunications infrastructure places the focus of assessing the costs of supplying a declared service on efficiently incurred costs. The concern of Part XIC with efficiently incurred costs has been emphasised many times by the Tribunal.[68] It should not, therefore, be in question that the appropriate benchmark is the efficient operator. Equally, it should not be contentious that an operator, functioning efficiently, will possess the scale and scope achievable by all MNOs.

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[68] Cf. *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8; *Application by Vodafone Network Pty Ltd & Vodafone Australia Limited [2007] ACompT 1; Seven Networks Limited (No 4)* (2005) ATPR ¶42-056.

Furthermore, subsection 152AB(6) of the TPA expressly provides that in determining the extent to which a particular thing is likely to result in the achievement of the objective of encouraging the economically efficient use and investment in telecommunications infrastructure, regard must be had to:

> *"the legitimate commercial interests of the supplier or suppliers of the services, including the ability of the supplier or suppliers to exploit economies of scale and scope".*

In so doing, the TPA expressly recognises the right of MNOs supplying the MTAS to legitimately exploit and retain benefits accruing from any economies of scale and scope. In practical terms, this means that a MNO should be able to retain the benefits accruing from any economies of scale and scope it has achieved beyond those achievable by all MNOs. For example, there is no basis to impose on an operator with such additional economies prices different to those applicable to the benchmark operator.

As discussed in more detail below, this has been expressly recognised by the Tribunal in relation to its consideration of Optus' MTAS undertaking. In considering this matter, the Tribunal accepted that it was appropriate to consider the costs of supplying the MTAS on the basis of a standalone operator, ignoring any additional economies of scope achieved by Optus as an integrated operator. As both economies of scale and scope are treated in like terms under the relevant provisions of section 152AB of the TPA, the Tribunal's reasoning in respect of economies of scope must equally apply to the treatment of economies of scale under the terms of the TPA.

The sum of these considerations is that the same prices are applicable to all operators. All operators are judged by the same benchmark. In the present context, what this means in practice is that it is contrary to the objects of Part XIC of the TPA to adopt differentiated MTAS prices for different operators depending on a given operator's degree of integration and market share.

11.3 The benchmark operator

Telstra submits that the appropriate benchmark operator against which to consider the costs of supplying the MTAS is an efficient operator operating at or close to minimum efficient scale. As discussed in more detail below, a standalone mobile operator with minimum efficient scale represents the practical application of that standard in the Australian context.

The WIK Report adopts a similar position stating that: [69]

[69] WIK Report, p. 118.

> *"In the experience of WIK-Consult, a typical reference point for regulatory policy decisions on the TSLRIC of a regulated service is a hypothetical operator which may be an operator newly entering the market."*

In *Assessment of Vodafone's mobile terminating access service (MTAS) Undertaking: Final Decision (public version)*, (March 2006) ("**Vodafone Undertaking Decision**"), the Commission stated its view that "the appropriate costs to recover when determining the costs of supplying the MTAS are likely to be those of an 'efficient operator'."[70] WIK refers to the Commission's consideration of this issue, stating:[71]

> *"The ACCC has put the competitive standard in the forefront of its identification of an efficient operator by arguing '[…] in an effectively competitive market, it could be expected that prices would reflect an efficient level of costs. In such circumstances, MNOs could not maintain inefficient practices and would have to replicate (or supersede) other MNOs cost advantages in order to survive in the market. Thus, the competitive level of prices could be taken to being equal to efficiently-incurred costs (including a normal rate of return on investment)'. The ACCC expressed its expectation that economies of scale may be relevant to determine the optimal size and structure of an efficient operator, but was not able to further evaluate them at that time. In this context the ACCC considered that where efficiencies are achievable by all MNOs, it is appropriate to reflect these in the efficient costs of the MTAS price. We fully share this view."*

WIK's view is also consistent with the position of the Tribunal as expressed in *Application by Vodafone Network Pty Ltd & Vodafone Australia Limited* [2007] ACompT 1 where it stated in relation to its consideration of the benchmark operator (at para [68]):[72]

> *"The starting point in assessing the submissions on this issue is, as throughout this proceeding, the principle that* ***prices should be based on the forward looking costs of an efficient operator****. The basic objective is to set prices that promote economic efficiency, which is the outcome that could be expected in a competitive market. It is because mobile termination has been declared as a service that inherently lacks the discipline of competitive forces that it is subject to Pt XIC of the Act."* (Emphasis added)

Although the Tribunal accepted that the relevant benchmark was the efficient operator, it did not offer any conclusions as to the characteristics of the efficient operator in the Australian context.[73] It came to the view that there was inadequate evidence before it to assess this issue and the degree generally and, more particularly, the economies of scale and market share achievable by all MNOs. As a result, this issue has been left at large and is considered in more detail in the next section.

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[70] Vodafone Undertaking Decision, p. 33.
[71] WIK Report, p. 119.
[72] It is to be noted that, although the Tribunal did enter into some discussion in relation to the assumed characteristics of the benchmark operator, it reached no conclusions on this issue.
[73] However, as discussed in more detail below, in its decision in respect of Optus' MTAS undertaking, the Tribunal did accept that the proper basis to model the costs of supplying the MTAS were those of a standalone operator.

11.4 Application of the hypothetical efficient operator standard

As stated above, Telstra submits that a standalone mobile operator with 25% market share represents the practical application of the efficient operator standard in the Australian context. It is submitted that an operator with these characteristics reflects a MNO with the scale and scope achievable by all operators. This proposition involves consideration of two issues: (1) whether the reference point should consider a standalone operator or an integrated operator; and (2) the relevant market share of the operator. These issues are considered in turn below.

Fixed / mobile integration

Telstra submits that a standalone mobile operator should be used to assess the costs of supplying the MTAS. This is consistent with what would be expected of a new market entrant. That is, it would not be expected that a new market entrant to the mobiles market[74] would establish a fixed-line network as well as a mobile network.

This position is consistent with that adopted in the WIK Report, which states:[75]

> *"A stand-alone mobile network operator, in WIK-Consult's view, should be the reference case for a hypothetical efficient mobile operator because it represents the likely characteristic of a new market entrant. If there are economies of scope from operating a fixed and a mobile network, modelling stand-alone costs will result in a higher (more conservative) unit cost. A carrier-specific modelling approach to reflect any economies of scope would be dependent on the structure and scale of the fixed-line business of the relevant integrated mobile operator. The (potential) cost advantages therefore become carrier-specific and dependent on the business model of the relevant carrier, as well as the business activities and performance of an integrated mobile operator in their fixed line business. Assume that the hypothetical efficient mobile operator can minimise the cost of its mobile operations if, say, it is operating a nationwide fixed-line network with a market share in the fixed-line business of (significantly) more than 50 per cent. In WIK-Consult's view, this scenario is not an appropriate reference point for an efficient mobile operator, because it is impossible for every mobile operator to reach such a market position in Australia."*

In the context of considering Optus' MTAS undertaking, Analysys (acting as the Commission's consultant) also adopted the view that MTAS costs should be on a stand alone mobile operator. Analysys stated:[76]

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[74] By adopting the term "mobiles market", Telstra is not seeking to advocate any precise or particular market definition. Rather, it is used as a term of convenience to denote the market in which the MTAS is supplied by a mobile operator without any attempt to define the boundaries of that market.
[75] WIK Report, p. 46.
[76] Analysys, *Review of the Mobile Terminating Access Service Cost Model Submitted by Optus: Final Report for the ACCC*, (14 October 2005) (as quoted in *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at [121].

> *"Presenting a standalone operator cost can be considered consistent with the prices that would occur if the market were competitive, since competing operators would be required to incur those standalone costs. The benefits that Optus gains from operating as an integrated fixed and mobile provider would be realised at its retail level rather than the wholesale termination level. Therefore it would not seem appropriate to reflect Optus's fixed and mobile economies of scope in its directly regulated mobile termination rate…".*

In that context, Optus modelled its costs based on a standalone mobile operator; thereby ignoring any economies of scope from its fixed-line operations. Optus maintained that this approach was reasonable having regard to the specific terms of paragraph 152AB(6)(b) of the TPA. The Commission opposed this view. The issue was resolved authoritatively by the Tribunal in favour of Optus. The Tribunal stated:[77]

> *"We consider that determining the costs of a stand-alone mobile operator, for the purpose of determining whether the price terms of the undertaking in relation to Optus' DGTAS are reasonable, is more consistent with the matters set out in s 152AH and the objectives in s 152AB than requiring Optus to take into account the cost consequences of it being an operator of a fixed-line network and a mobile network. If the objective of regulating a particular industry is to replicate, as far as possible, the environment of a competitive market, then it is desirable to use as a benchmark criteria or principles which would exist in a competitive market, such as determining the costs of an operator operating in that market.*
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> *Determining Optus' DGTAS costs as a stand-alone mobile operator would, all things being equal, be likely to result in the achievement of the objective of promoting competition in markets for listed services: s 152AB(2)(c). That is, in competing with mobile operators who do not operate a fixed line network, Optus may gain a competitive advantage by having access to economies of scale and scope. And Optus will not be at a disadvantage when it is competing against an integrated operator such as Telstra.*
>
> *Further, s 152AB(2)(e) requires us to have regard to the extent to which Optus' price is likely to result in the achievement of the objective of encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which listed services are supplied. In turn, in determining the achievement of this objective, s 152AB(6)(b) requires us to have regard to the legitimate commercial interests of Optus, including its ability to exploit economies of scale and scope. Determining Optus' DGTAS costs on a stand-alone mobile operator basis promotes these objectives."*

Market share

Telstra submits that in ascertaining the characteristics of the benchmark operator, the focus should be placed on the minimum efficient scale of an operator in the market, rather than on market share. Accordingly, the MTAS price should be based on an operator that is at, or is close to reaching, minimum efficient scale. That minimum efficient scale will imply a particular market share given the size of the market assumed in the WIK Model. The market share of the operator which reflects the minimum efficient scale should then be implemented into the WIK Model. While there are flaws in the WIK Model that make the determination of

[77] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at [122]-[124].

minimum efficient scale questionable, the WIK Model appears to imply a market share of approximately 30% for an operator with minimum efficient scale (as discussed in section 7 above).

Telstra submits that all operators in the Australian context have had sufficient time to achieve minimum efficient scale. In the Australian context, each of the existing operators have now been operating in the Australian market for a considerable period of time. Telstra, Optus and Vodafone all launched their GSM networks in 1993 and Hutchison launched its CDMA network in 2000.[78] All operators have clearly had sufficient time to establish themselves in the market and achieve minimum efficient scale.

In addition, in the Australian context, all operators have had the benefit of the glide path adopted in the Current Pricing Principles. This in itself has provided a buffer over a significant period of time from cost based pricing based on an operator with minimum efficient scale.

In that light, Telstra submits that all operators have had sufficient time to achieve minimum efficient scale and should not be granted any allowance for a failure to achieve such market share. To do so would be to reward inefficiency which would be inconsistent with the object of Part XIC as set out in section 152AB of the TPA. As the Tribunal has recognised, in a competitive market no exemption would be given by the forces of competition to existing operators who might be smaller and consequently, or for other reasons, have higher costs than some other operators. For that matter, competitors would not allow a new entrant the luxury of charging in accordance with the higher unit costs associated with starting up a new venture.[79]

Conversely, operators who have reached minimum efficient scale should not be penalised for their success in winning customers with lower MTAS prices than those that have not been as successful. To do so would be to punish successful competitive conduct which is nothing other than the rivalrous behaviour between firms to win market share which the TPA is intended to promote. It would be wrong, to paraphrase the words of a distinguished American judge, to condemn the resultant of those very forces which is the TPA's prime object to foster; the successful competitor, having been urged to compete, must not be turned upon if he wins.[80]

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[78] See MTAS Final Decision, p. 73.
[79] See *Application by Vodafone Network Pty Ltd & Vodafone Australia Limited* [2007] ACompT 1 at para [71].
[80] *United States v Aluminium Co of America* 2 Cir 148 F 2d 416 (1945) at 431-432 per Learned Hand J. See also *Queensland Wire Industries Pty Ltd v Broken Hill Proprietary Co Ltd* (1989) 167 CLR 177 at 191, and see at 202 per Dawson J; and *Boral Besser Masonry Ltd v Australian Competition and Consumer Commission* (2003) 195 ALR 609 at 632 per Gleeson CJ and Callinan J and at 663 per McHugh J. .

11.5 Outputs for the reference point scenario

Adapting the principle of the hypothetical operator to Australian market conditions, the WIK Report goes on to consider a "25% reference-case" for a hypothetical efficient mobile operator in Australia. This operator is defined by three key characteristics: (1) the efficient operator has a market share of 25 per cent; (2) the operator operates a 2G mobile network; and (3) the operator's network is determined as a stand-alone mobile network.

The WIK Report goes on to indicate that the efficient mobile operator with 25 per cent market share produces the MTAS at a cost of 5.9 cpm.[81] The WIK Report also considers an alternative reference case where the efficient operator has a market share of 31% which results in an estimate for the costs of supplying the MTAS of 5.3 cpm.[82]

As discussed above, while there are flaws in the WIK Model that make the determination of minimum efficient scale questionable, the WIK Model appears to imply a market share of approximately 30% for an operator with minimum efficient scale. On the basis of that implied estimate, it would appear that the second reference-case (adopting 30% market share) is the appropriate one to adopt for the purposes of estimating MTAS costs.

Notwithstanding the many concerns with the WIK Model which Telstra has identified in this submission (albeit without the source code required to conduct a proper review of the model), it does appear that the outputs of the WIK Model are consistent with several other sources which indicate that the efficient costs of the MTAS are at the lower end of the Commission's previous 5-12 cpm estimate. These sources include:

(a) ***the Commission's previous analysis undertaken in relation to the making of the Current Pricing Principles*** - as discussed above, in that context the Commission recognised that the cost of supplying the MTAS could be as low as 5-6 cpm. Indeed, by selecting the target price adopted in the Current Pricing Principles, the Commission expressly recognised that it could well have been adopting "*a target price above existing TSLRIC+ levels (and possibly even further above what TSLRIC+ will be in 3 years time)*"[83];

(b) ***the cost model presented by Optus in support of its recently rejected MTAS undertaking*** - in that context, the Commission indicated that:[84]

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[81] WIK Report, p. 121.
[82] WIK Report, p. 124.
[83] MTAS Final Decision, p. 215.
[84] Optus Undertaking Decision, p. 120.

> *"Optus's own [LRIC + EPMU] cost estimate appears to fit comfortably within the Commission's previously determined range of 5 – 12 cpm. In fact, CRA's own model reveals that Optus's 'LRIC+EPMU' estimate of supplying the MTAS lies comfortably in the middle of the Commission's estimated range."*

This does not take account of any of the empirical errors identified by the Commission and other interested parties in respect of the LRIC component referred to in the above passage; for example: the failure to allocate any network costs to SMS and data services; the use of inappropriate routing factors; and the use of anchored costs and volumes. Many of the criticisms made of these elements were also accepted by the Tribunal in its review of the Commission's decision rejecting the undertaking.[85] Once these and other factors are properly taken into account, a further reduction in the LRIC component would occur with the result that the LRIC + EPMU estimate would inevitably trend closer towards the bottom end of the 5-12 cpm range;

(c) ***recent international benchmarks*** - in the Commission's decision rejecting Optus' MTAS undertaking, it stated (at p. 123):

> *"the Commission notes that at this stage, there is still no credible or relevant cost estimate available above 12 cpm when adjusted to Australian currency. An international cost benchmarking analysis which includes cost estimates from the increasing number of jurisdictions where transparent bottom-up cost models have been developed (i.e. New York, California, Florida, UK, Sweden, Malaysia, South Korea and Israel), and adjusting for exchange rates differences, yields a range of 4 to 12 cpm for supplying the MTAS in Australia, with more recent estimates tending towards the lower end of the range."*

Of some of the more recent examples, it is indicated that results from Israel yielded an estimate for the MTAS equivalent to 5.45 cpm and results from South Korea produced an estimate of 4.49 cpm.[86]

Moreover, a recent article from Communications Day suggested that Australia's MTAS rates were significantly more expensive than international benchmarks:[87]

> *"In 2005, Australia was judged to have the 76th most expensive mobile termination rates in the world in a Switzernet survey. Mobile termination prices in Singapore, Optus' home country, are less than one Australian cent per minute and are only slightly higher in Hong Kong and China."*

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[85] See *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8 at paras [104] to [136].
[86] See Optus Undertaking Decision, p. 123.
[87] *ACCC flags more cuts to mobile termination prices*, Communications Day, Issue 2296 (Thursday 15 March 2007).

Accordingly, while Telstra recognises that the WIK Model does contain flaws which raise serious concerns over its appropriateness in determining an MTAS price, it also acknowledges that the outputs generated by the WIK Model for the key reference case scenario appear to be corroborated by other sources which indicate that the efficient cost of the MTAS is indeed at the lower end of the range of the Commission previous estimates of the cost of supplying the service.

11.6 The scenarios considered in the WIK Report

The WIK report outlines a limited number of high level scenarios which effectively are limited to changes in the coverage or market share proportions and some assessment of fixed/mobile combined business and 3G/2G comparison.

Although Telstra concurs with the use of a 25% market share as the most appropriate reference case, Telstra is concerned that the scenario analysis undertaken by WIK fails to adequately test the model for the impact of changes in critical parameters on the preferred reference case.

The approach adopted by WIK has been to limit sensitivity analysis to one or two high level inputs such as coverage and market share. Telstra considers that this is only useful where the underlying model relationships have been proven to be robust. Given that Telstra has been unable to test the robustness of the WIK model due to the lack of transparency in the construction of the model, it submits that scenario analysis should include assessment of the impact of sensitivity analysis applied to key input parameters. These would include:

- parameter values for the tilted annuity formula (this effectively addresses both the return of capital and return on capital issues as well as taxation impacts;)
- WACC – the WACC used by WIK is likely to be materially different to that proposed by stakeholders;
- demand growth rates; and
- change in unit asset values – on average, the impact of a material change in the change in value of component assets.

In addition, the following parameter values are considered to be critical to the establishing the robustness of the model and need to be better understood:

- unit asset values – whether the model fully incorporates interest during construction and the impact of recent capital cost increases and the nature of the impact of the additional capital cost changes;

- unit numbers – the impact of a material increase in unit number for specific assets such as BTSs; and
- given the failure of WIK to use a bottom up approach to establish the common organisational-level costs, the impact of a material change in such costs.

Telstra is increasingly of the view that the combined impact of changes in the key parameter values for the tilted annuity formula may mean that the appropriate profile for the recovery of the annuity is no longer so front loaded. That is, that on average future network costs may in fact be increasing given the impact of construction costs, leasing and land related costs etc. This is especially critical in the context of the WIK model given the concerns over the approach used to establish the WACC.

Telstra Corporation Limited
16 March 2007