Optus Submission to

Department of Communications, Information Technology and the Arts

on

Telecommunications Universal Service Obligation Review

November 2007

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1. Executive Summary

1.1 The current review of the USO arrangements offers a compelling opportunity to make fundamental changes to the way the USO is managed in Australia.

1.2 Optus believes that the debate should shift away from the contentious issue of cost towards a discussion on how best to meet the requirements of customers seeking connection in remote locations who would ordinarily be excluded from the benefits of competition since they are considered "uneconomic".

1.3 Optus recommends a paradigm shift in recent approaches to the USO. This should proceed from a recognition that for the vast majority of Australians, access to basic services is no longer an issue since their interests can be met by a range of competing fixed line, mobile and wireless networks.

1.4 The new approach to the USO should acknowledge some key facts. Firstly, providing access to customers in contestable areas provides a very attractive commercial proposition for Telstra, well in excess of its regulated rate of return. Secondly, even in the remotest of locations, Telstra's ongoing revenues are likely to outweigh the ongoing cost of serving existing customers. If these points are accepted then it is possible to narrow the focus of the current review onto the best way to promote and fund new connections in rural and remote Australia, that is those areas which do not today have access to competing networks.

1.5 In line with this approach Optus will argue that non-Telstra carriers should have the opportunity to seek to become a USP in respect of new connections in rural and remote areas and in new housing estates, and also that in such circumstances the universal service policy objective can be met via services supplied over alternative networks including mobile and fixed wireless networks. In rural and remote areas Optus considers that:

- subsidy vouchers should be allocated via a contestable tender process to the carrier who can provide new connections on the most cost-effective basis; and
- Government should fund any subsidy required for new connections.

1.6 Optus considers that it remains appropriate for Telstra to be responsible for providing a safety net voice service in all other circumstances.

1.7 Optus will contend that – contrary to Telstra's typical position – the USO does *not* impose any burden on Telstra. In particular, Telstra as the USP does not incur losses or net costs in serving existing connections in rural and remote areas – and so should not be subsidised for doing so – since:

- existing methods for calculating the cost of the USO are flawed and result in significantly inflated cost estimates;
- a significant proportion of the "costs" Telstra typically claims in respect of existing connections are not in reality costs faced by Telstra at all – the cost of serving existing connections should be estimated on the basis of ongoing operations and maintenance expenditure only;

- Telstra's typical analysis is incomplete, since Telstra receives substantial revenues from its customers in rural and remote areas besides retail and wholesale line rental charges – hence the cost of serving existing connections in rural and remote areas is likely to be outweighed by revenues received by Telstra (including indirect revenue and the substantial intangible benefits of universal service); and

- even if there were any net cost of providing the USO, which Optus considers unlikely:

  i) Telstra remains highly profitable and is more than capable of continuing its traditional internal cross-subsidy of rural lines; and

  ii) in any event it is inappropriate for Telstra to be subsidised by its rivals, given the significant advantages enjoyed by Telstra as the incumbent and the negative impact on competition resulting from the industry subsidy.

1.8 These submissions are developed further in the remainder of this submission, which is set out under the following headings:

- Nature of the Obligation;

- Costing; and

- Funding.

2. Nature of the Obligation

2.1 The key points made in this section are as follows:

- the emergence of competing networks provides scope for reassessment of the USO in order to bring the universal service regime up to date with the realities of the range of services and competitive options which Australian telecommunications networks offer consumers today;
- non-Telstra carriers should have the opportunity to seek to become a USP in respect of new connections in appropriate circumstances, including in new housing developments and in respect of new connections in rural and remote areas and in these circumstances,:
  - i) the universal service policy objective can be met via services supplied over alternative networks including mobile and fixed wireless networks; and
  - ii) a service obligation should be allocated contestably to the carrier who can provide connection on the most cost-effective basis[1]; and
- outside these particular circumstances, Optus considers that it remains appropriate for Telstra to be responsible for providing a safety net for voice service.

2.2 This section is set out in the following subsections:

- the universal service objective;
- alternative providers;
- alternative networks; and
- safety net.

The universal service objective

2.3 According to DCITA, the Australian Government's policy framework aims to provide reasonable and equitable access to telecommunications services for all Australians, wherever they live or carry on business.[2]

2.4 The universal service objective does not refer specifically to affordability, however it does contain the objective that access should be equitable. The current legislative structure satisfies this objective through the retail price cap regime which applies to Telstra's fixed line services and controls price increases in line rental charges and call costs.

[1] Note that Optus considers a subsidy should be available for infrastructure constructed to serve new connections in rural and remote areas, but not in respect of new housing developments in urban areas.
[2] DCITA, 2007, USO Review Issues paper, p.5

Alternative providers

2.5 In the Issues Paper DCITA has sought comments on whether it is still appropriate to have a single provider solely responsible for providing all Australians with a safety net voice service. This question is motivated by "the proliferation of voice platforms (wired, wireless and mobile networks) across Australia, and the rapidly emerging trend towards the delivery of voice services over broadband networks…"

2.6 Optus considers that the emergence of competing networks provides scope for reassessment of the USO in order to bring the universal service regime up-to-date with the realities of the range of services and competitive options which Australian telecommunications networks are offering consumers today. Leaving aside the safety net issue (which is discussed later in this section), Optus considers that in terms of the scope of the obligation, the current review should focus on two main areas:

- meeting the requirements of customers seeking connection in rural and remote locations who would ordinarily be excluded from the benefits of competition since they are considered "uneconomic"; and
- new housing developments, which offer an opportunity to take advantage of the diverse range of service provision on offer in a contestable manner.

2.7 Optus considers that in these circumstances non-Telstra carriers should have the opportunity to seek to become a USP in respect of new connections, and that the method chosen to establish a connection should be the most cost effective available – which may not necessarily involve the extension of Telstra's fixed copper network.

2.8 Optus proposes that the Department investigate ways in which a service obligation in respect of new connections in these circumstances could be allocated contestably via a tender process. In the case of new connections in rural and remote areas, a subsidy voucher could be allocated to the carrier who can provide connection on the most cost-effective basis. Further discussion of such a scheme is set out in Appendix 1.

2.9 Optus notes that a similar competitive process could also apply to the provision of payphone services. In the case of new housing developments, payphones could be required as part of the tender specifications. In rural and remote areas, payphones could be eligible for government subsidy.

2.10 Allowing alternative providers this opportunity would encourage the new infrastructure required to serve these new connections to be provided in the most efficient and cost-effective way possible (one of the stated aims of the universal service regime), and would also encourage investment by alternative telephony providers in rural and remote areas, which have traditionally been monopolised by the incumbent.

2.11 It follows that where an alternative provider has taken the opportunity to become the USP in respect of a particular housing estate or new connection, there should not be any residual obligation on Telstra to roll out its own network to the same area on request.

2.12 The key distinction between urban areas and rural and remote areas in this context is that service provision is generally profitable in the long run in urban areas, whereas this is less likely to be the case in rural and remote areas. This is reflected in the significantly greater number of competing networks operating in urban areas on a commercial basis. It is on this basis that Optus has proposed that the construction of infrastructure to provide new connections be subsidised in rural and remote areas, but not in urban areas.

2.13 Optus does not have a fixed view on the exact boundary separating urban from rural and remote areas. However, similar distinctions have been made in other government programs. In establishing such a boundary, Optus suggests that DCITA could have regard to the "Metropolitan Exclusion Area" defined in the context of the Broadband Connect program.

2.14 One of the advantages of the approach proposed by Optus is to ensure that customers in rural and remote areas have the opportunity to benefit from the rewards that metropolitan Australians routinely enjoy from competition. These are likely to take the form of improved service offerings and access to more services through the use of innovative technology.

Alternative networks

2.15 DCITA has sought comments on whether it appropriate for the universal service to be delivered by mobile networks or over a broadband data networks using VoIP.

2.16 Optus notes that a number of mobile and fixed wireless networks have been established in Australia in recent years. Appendix 5 contains a list of such networks, with stated coverage and subscriber numbers, and the year in which each network became operational.

2.17 While the USO has typically been viewed as relevant primarily to Telstra's fixed line network, Optus considers that in the circumstances discussed above (new housing developments and new connections in rural and remote areas), the universal service policy objective can be met via services supplied over alternative networks including mobile and fixed wireless networks, since voice telecommunications can be accessed via any of these networks.

2.18 It is important not to infer from this point that services supplied over alternative networks are necessarily perfect substitutes for fixed line voice services. Indeed, the differences between these alternative services and traditional voice services supplied over a PSTN may be of some importance to end users. These services are usually considered to be provided in separate markets. Nevertheless, all these services fulfil the objective of providing "reasonable and equitable access to telecommunications services" [3] and on this basis the universal service policy objective can be met via services supplied over alternative networks including mobile and fixed wireless networks.

2.19 This approach is subject to the proviso that services provided over alternative networks are reasonably equivalent to services provided over Telstra's fixed network. There is no requirement that the service provided be uniform;

[3] DCITA, 2007, USO Review Issues paper, p.5

however the requirement for equitable access implies that if the objective is met via alternative networks, the users of those alternative networks should be no worse off financially than if they were users of fixed line services.

2.20 Optus has carried out some initial analysis to determine whether mobile networks provide a reasonable equivalent to a fixed line voice service in terms of value for money for the customer. This analysis is set out at Appendix 7.

2.21 Optus considers that on average an end user in a new housing development or a new connection in a rural or remote area would not be likely to be disadvantaged if he or she became a subscriber of a voice telephony service provided over a mobile network, instead of the traditional connection over a fixed line network.

2.22 Nevertheless, if another provider became the USP in respect of a new connection in a rural or remote area, DCITA may wish to monitor the price charged to ensure customers continue to be at no disadvantage compared to the position if Telstra had continued to be the USP. This would require price records to be maintained. It is unlikely that such price monitoring would be necessary in respect of a new housing development in an urban area, since competition would act to constrain prices.

Safety net

2.23 For the vast majority of Australians, access to basic services is no longer an issue since their interests can be met by a range of competing fixed line, mobile and wireless networks.

2.24 Nevertheless, there will always be exceptions, and access issues might emerge for some customers in the event that the USO was removed. For this reason, despite the recent proliferation of networks, arguably a universal service obligation remains appropriate as a safety net, to provide a measure of security to all consumers.

2.25 For reasons of administrative simplicity it is appropriate that the obligation continue to be placed on one carrier, and Optus considers that it is appropriate that the USP be Telstra.[4] There are two key reasons for this position.

2.26 First, the obligation is not a burden on Telstra. It is clear that providing new connections to customers in contestable areas provides a very attractive commercial proposition for Telstra, well in excess of its regulated rate of return. Telstra's voluntary rollout of its own 3G / 850 network to 98.8% of the population on a commercial basis demonstrates that the bulk of Australian consumers are likely to be profitable. With regard to rural and remote areas, Optus considers that Telstra's assertion that it makes substantial losses because of the USO is incorrect. This point is discussed further below in the section on Costing. Further, Optus notes that Telstra remains highly profitable and is more than capable of continuing its traditional internal cross-subsidy of rural lines. This point is discussed further below under the heading "Telstra's profitability" in the section on Funding.

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2.27 Second, Telstra has derived a number of advantages from its legacy position as the incumbent USP which imply that it is not competitively disadvantaged by bearing the USO. These advantages are discussed further below in the discussion on industry subsidy in the section on Funding. It is important to note that these advantages have been built up over a long period of time and cannot be removed from Telstra merely by removing the USP role. Indeed, such an act would remove the responsibilities of Telstra's privileged position while leaving the benefits largely intact.

2.28 Optus considers that it is appropriate for Telstra as the incumbent to remain responsible for providing a safety net voice service in respect of all existing connections including payphones and all new connections, other than in the circumstances discussed above (ie, where an alternative carrier has been selected to be the USP in respect of a new housing development or in respect of a new connection in a rural or remote area).

3. Costing

3.1 The key points made in this section are as follows:

- the USP may incur net costs from new connections in rural and remote areas, and this cost would be revealed by a competitive tender process;
- the USO does not impose a burden on Telstra and in particular, Telstra as the USP does not incur net costs – and so should not be subsidised – in serving existing connections in rural and remote areas since:
  - i) a significant proportion of the "costs" Telstra typically claims in respect of existing connections are not in reality costs faced by Telstra at all – the cost of serving existing connections should be estimated on the basis of ongoing operations and maintenance expenditure only;
  - ii) existing methods for calculating the cost of the USO are flawed and result in significantly inflated cost estimates; and
  - iii) Telstra's typical analysis is incomplete, since Telstra receives substantial revenues from its customers in rural and remote areas besides retail and wholesale line rental charges – hence the cost of serving existing connections in rural and remote areas is likely to be outweighed by revenues received by Telstra (including indirect revenue and the substantial intangible benefits of universal service).

3.2 Optus' contentions are in stark contrast to Telstra's typical position that it makes "losses" in serving existing customers (and so should be subsidised by its competitors). Telstra's typical position is highly misleading and Optus submits that DCITA should reject it.

3.3 If these points are accepted then it is possible to narrow the focus of the current review on the best way to promote and fund new connections in rural and remote Australia.

3.4 This section is set out in the following subsections:

- new and existing connections in urban areas;
- new connections in rural and remote areas;
- existing connections in rural and remote areas; and
- indirect and intangible benefits.

New and existing connections in urban areas

3.5 Optus notes that the USP is unlikely to incur net costs from service provision in urban areas (including new housing estates), since the high teledensity in such areas means that capital costs are relatively low and service provision is

generally profitable in the long run. Indeed, providing access to customers in contestable urban areas is an attractive commercial proposition.

3.6 Accordingly, the USO is not a burden on the USP in respect of such connections, and the cost of connection need not be calculated or funded.

New connections in rural and remote areas

3.7 In section 2 above it was submitted that a service obligation should be allocated contestably in the case of new connections in rural and remote areas via a tender process to allocate a subsidy voucher to the carrier who can build the infrastructure to provide connection on the most cost-effective basis.

3.8 The USP may incur costs in excess of forecast revenues from new connections in rural and remote areas, since the low teledensity in such areas means that the capital costs of the infrastructure required to establish new connections are likely to be relatively high. However, DCITA need not estimate these costs since under a contestable tender arrangement the true efficient cost would be revealed by the competitive process, as competing carriers would bid down the level of the subsidy to the lowest level required. The details of such a scheme are set out in Appendix 1.

3.9 Optus proposes that the subsidy should be capped at $3,000, which is the approximate level of subsidy required for a satellite connection.[5]

Existing connections in rural and remote areas

3.10 In section 2 above, Optus submitted that it is appropriate for Telstra as the incumbent to remain responsible for providing a safety net voice service in respect of all existing connections.

3.11 While Telstra is unlikely to incur net costs from service provision in urban areas, the situation may appear different in the case of rural and remote areas, where teledensity is much lower. Telstra typically argues that it is unable to recover its full network costs in high cost rural areas. The basis for this argument is that Telstra is not free to set prices for its copper network commercially due to the government–imposed retail pricing obligation and / or the availability of the regulated wholesale line rental service to Telstra's competitors. Telstra typically argues that its copper network was built in the expectation that costly rural connections could be funded through ongoing cross-subsidy from profitable urban areas, which is no longer possible due to increased competition in urban areas.

3.12 Optus considers that Telstra's typical position is incorrect, and that Telstra *is* able to recover all its costs, even in rural areas where the capital costs of establishing new connections are relatively high. Optus also considers that Telstra remains quite capable of maintaining the traditional cross-subsidy from profitable urban areas (this point is discussed further below in section 4).

[5] The subsidy for a two way satellite installation under Australian Broadband Guarantee, equipment and labour, is $2750 incl. GST. Under Broadband Connect the subsidy was $3300 incl. GST.

3.13 In order to make our position clear, it is first necessary to define the costs involved. When Telstra talks about unrecovered costs in this context, it is talking about long run costs that include not only operating and maintenance costs, but also capital costs (including a return on capital and the return of capital invested).

3.14 It is well recognised that in public utilities capital costs are very large and form a significant proportion of the annual cost of service.[6] The cost structure in telecommunications companies generally involves high fixed/capital costs and low variable/running costs.

3.15 The capital costs of telecommunications infrastructure (including a return on the capital invested and a return of the capital invested or depreciation) are typically annualised and recovered over the economic life of the asset. The relative magnitudes of annualised capital costs compared with operating and maintenance costs can be compared by observing Telstra's claimed rate of return on capital, around 18% pre-tax or 13% post-tax,[7] and its reported depreciation, approximately 6.8%,[8] and comparing these capital costs with the markup on capital costs assumed for operating and maintenance expenditure, which is typically around 7-15%.[9] It is apparent from these figures that capital costs represent a significant proportion of the costs typically claimed in respect of existing infrastructure, and a higher proportion than ongoing running costs.

3.16 Telstra is likely to argue that its legitimate business interests require that its original investment in the copper access network be recovered, and that this requires the inclusion of capital costs in the cost of rural service delivery.

3.17 This argument would be sound only if the capital originally invested in the network had not been recovered. Optus notes that the economic life budgeted for copper lines is typically around 15 years.[10] By contrast the vast majority of connections to Telstra's copper network were made many decades ago. Consequently, it is likely that the vast majority of existing connections have far exceeded their likely economic life and thus that the capital costs of

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[6] Kahn, 1988, *The Economics of Regulation, Principles and Institutions,* p87.

[7] According to Telstra's expert, Bowman, the nominal, pre-tax WACCs for ULLS and SSS for 2005/06, 2006/07 and 2007/08 are 18.02%, 18.45% and 18.45% respectively. Similarly, the nominal, post tax vanilla WACCs for ULLS and SSS for 2005/06, 2006/07 and 2007/08 are 12.81%, 13.13% and 13.13%. Bowman, Report on the Appropriate Weighted Average Cost of Capital for ULLS and SSS prepared for Telstra (Public Version), pp28-29

[8] According to Telstra's annual report, the total undepreciated cost value of Telstra's property, plant and equipment at 30 June 2006 was $48.6 billion, and depreciation of property, plant and equipment in the FY ended 30 June 2007 was $3.3 billion (Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p.158 and p.145), or 6.8%. . .

[9] Telstra's annual opex expenditure on the CAN is likely to represent a small proportion of total expenditure. Such information is likely to be contained in Telstra's PIE II model, however this information is not publicly available. Nevertheless, publicly available international cost models such as those produced by Analysys for European regulators may provide a reasonable benchmark to estimate the cost profile faced by a fixed-line operator. Although the models relate to mobile rather than fixed-line networks, they suggest that opex on assets is typically between 7 and 15 per cent of total capex. Optus submits that Telstra's opex is likely to be in similar proportions. A cost model and related documentation produced by Analysys can be accessed on the website of the Netherlands regulator OPTA (www.opta.nl).

[10] The average service life for copper main cabling globally is 15 years. PricewaterhouseCoopers (1999), *Telco Network Service Lives*, March 1999.

existing connections to Telstra's network have already been recovered in the past through Telstra's substantial revenues (including those from profitable urban areas).[11]

3.18 Consequently, a significant proportion of the "costs" Telstra typically claims in respect of existing connections are not in reality costs currently faced by Telstra at all. This fact underpins Optus' view that Telstra's claimed capital costs should *not* be treated as part of the cost of serving existing connections for the purposes of costing the USO.

3.19 Since Telstra's original investment in the CAN has already been recovered, the legitimate business interests of Telstra are not compromised by the exclusion of capital costs from the USO. As a result, Telstra's capital costs in respect of existing connections need not be considered in this context unless the connection is very recent.

3.20 Optus considers that the cost of providing the USO in respect of existing connections to Telstra's fixed line network in rural and remote areas should be estimated on the basis of the funds required to induce Telstra to continue to operate and maintain the network and provide service to existing connections in the time period before CAN becomes obsolete and is replaced. It is highly likely that these costs do not exceed the regulated line rental price received by Telstra. Accordingly, there should be no subsidy for existing connections – subsidy should be limited to new connections.

Efficient investment incentives

3.21 In response to Optus' position above, Telstra is likely to argue that efficient investment incentives require that the costs recovered by itself as the USP include the costs of the future investment that will be required when the copper access network becomes obsolete and needs to be replaced. If not, it would have no incentive to replace the network.

3.22 But Telstra's argument implicitly assumes that A) when the copper access network becomes obsolete, *Telstra* will be the entity that replaces it; and B) when it does so Telstra will have to incur 100% of the cost of replacement of the network in rural and remote areas, and therefore requires full compensation for that future replacement in advance, through the USO.

3.23 This scenario is unrealistic, since there is no reason to assume that Telstra will be the builder of the access network that replaces the CAN in rural and remote areas. Such an assumption is unwarranted and unnecessarily prescriptive. With increasing competition and technological choice, another provider might well build the replacement for the rural CAN.

3.24 Optus considers that Telstra should continue to operate its network only so long as it is capable of delivering services desired by customers. Optus submits that DCITA should assume that in rural and remote areas, when the existing copper access network becomes obsolete it will be replaced through a competitive tender process similar to the process that resulted in the OPEL WiMAX network or one of the other processes for encouraging broadband

[11] Further, the launch of DSL services has provided a second form of revenue for many of these lines.

investment, with a government subsidy available.[12] It follows from this more realistic assumption that it is unnecessary for Telstra to receive revenue from rural lines sufficient to cover the replacement of those lines.

3.25 Even if this point were not accepted, Telstra's costing would be incorrect given that it is based on the PIE II model. In making such a costing, Telstra is assuming that it will be replacing the copper access network with another *copper* access network – an unrealistic assumption given the more efficient technologies likely to be available. Telstra's rollout of its own 3G / 850 network to 98.8% of the population on a commercial basis demonstrates that wireless technologies are viable and cost-effective and an equally credible technological option for service provision in the future.

Existing methods for calculating the cost of the USO are flawed and tend to overestimate the cost

3.26 Optus considers that existing methods for calculating the cost of the USO (including the ACA's cost model) are flawed and tend to overestimate the cost of service provision.

3.27 Optus submitted extensively on these flaws in its submission to DCITA's 2004 USO Review. Its arguments are reproduced at Appendix 4.

3.28 Optus also notes that the ACCC has repeatedly criticised Telstra's PIE II model and found that it results in inaccurate estimates of the cost of Telstra's copper access network (CAN). Further, the PIE II model has also been found inadequate by the Australian Competition Tribunal, which stated that it:

> *".. is not satisfied that [the PIE II model] does produce such an estimate of the efficient forward-looking costs of the CAN."*[13]

3.29 Consequently, Optus submits that DCITA should not rely on estimates produced by the ACA's cost model or by the PIE II model to draw any conclusions about the cost of the USO.

Intangible benefits and revenues from services other than line rental

3.30 Regardless of whether the above arguments are accepted, Optus considers that Telstra is still able to recover its full network costs, since Telstra's costs of rural service provision are likely to be outweighed by other sources of revenue.

3.31 First, Telstra's simple cost comparison typically does not take into account the substantial intangible benefits of service provision (which are discussed in Attachment F to DCITA's Issues Paper). In its previous submission to DCITA for the 2004 USO Review, Optus discussed extensively the intangible benefits

[12] In urban areas Telstra and other carriers have good commercial incentives to upgrade networks without subsidy in the expectation that all capital costs will be recovered commercially.
[13] Telstra Corporation Ltd (No 3) [2007] ACompT3 at [261]

Telstra receives as the USO provider.[14] This discussion is reproduced below at Appendix 3.

3.32 Consequently, Optus considers that Telstra's claim that it has substantial costs in serving customers already connected to its fixed copper network which it cannot recover is untenable. Such costs are likely to be outweighed by revenues received by Telstra (including indirect revenue and intangibles).

3.33 Telstra's argument amounts to the familiar claim of cream-skimming, that is, that Telstra's rivals are skimming the creamier parts of its business (in urban areas), leaving Telstra with only the less remunerative business in rural areas. When it comes to addressing this claim, Kahn notes that:

> *"…the question is whether the carrying of the less remunerative business is a burden on the regulated company… If it is not a burden, the cream-skimming case for protection can clearly be rejected. This will be the case so long as the less remunerative business covers its own marginal costs"* [15]

3.34 Optus submits that service provision in rural areas imposes no burden on Telstra. In fact, it is very likely that even in the remotest of locations, Telstra's ongoing revenues are likely to outweigh the ongoing cost of serving existing customers.

3.35 In its submissions with respect to the USO, Telstra typically claims that it faces "losses" in rural and remote areas since it is unable to recover its "costs" through either retail or wholesale line rental charges. Even putting aside Telstra's inflated estimates of the network costs it faces (most of which as noted elsewhere in this submission are not in reality costs faced by Telstra at all), Telstra's typical analysis is incomplete, since Telstra receives substantial revenues from its customers in rural and remote areas besides retail and wholesale line rental charges.

3.36 Telstra receives additional revenue streams from its rural and remote customers – from calling and broadband services – either on a retail or wholesale basis. Telstra typically does not take these revenues (and profits) into account in its calculations.

3.37 The relevance of revenues from services other than line rental has been noted by the Tribunal.[16,17]

3.38 Optus' analysis of Telstra's revenues in rural and remote areas from services other than line rental is set out in Appendix 6. We conclude from this analysis that Telstra receives substantial net revenues from customers in rural and remote areas that must be considered in any analysis of its supposed "losses" in these areas.

3.39 In summary Optus considers that the cost of the USO in respect of Telstra's existing connections in USO areas is likely to be zero or at least substantially

[14] Optus (2004), Submission to DCITA on Review of the Operation of the USO and Customer Service Guarantee, pp 28-34
[15] Kahn, 1988, *The Economics of Regulation, Principles and Institutions,* p.221
[16] ACT, ULLS case, at [88-89]
[17] ACT, ULLS case, at [114]

below current levels, so Telstra is likely to require no subsidy (or at the very least, a much reduced subsidy). This is in stark contrast to Telstra's typical position that it makes "losses" in serving existing customers (and so should be subsidised by its competitors). Telstra's typical position is highly misleading and Optus submits that DCITA should reject it.

3.40 If these points are accepted then it is possible to narrow the focus of the current review on the best way to promote and fund new connections in rural and remote Australia.

4. Funding

4.1 The key points made in this section are as follows:

- in respect of new connections in rural and remote areas funding should be via Government subsidy delivered by voucher (combined with carrier investment);
- Telstra should not be subsidised in serving existing connections in rural and remote areas since it does not incur net costs in serving these areas;
- even if there were any net cost of providing the USO, which Optus considers unlikely, Telstra remains highly profitable and is more than capable of continuing its traditional internal cross-subsidy of rural lines; and
- in any event it is inappropriate for Telstra to be subsidised by its rivals, given the significant advantages enjoyed by Telstra as the incumbent and the negative impact on competition resulting from the industry subsidy.

4.2 This section is set out in the following subsections:

- new connections in rural and remote areas and in new housing estates;
- funding in other circumstances;
- Telstra's profitability; and
- inappropriateness of industry subsidy.

New connections in rural and remote areas

4.3 In section 3 above, Optus concluded that in the case of new connections in rural and remote areas, in the event a contestable allocation process was adopted, the efficient cost of service would be revealed by the competitive process.

4.4 Optus considers that while the carrier that wins the contestable process would be likely to contribute some of the funding for new connections (since it is not expected that the new connection would be 100% subsidised), the remaining cost (that is, the subsidy) should be funded by Government. Given that the purpose of establishing new connections in rural and remote areas is to meet a government policy objective, it is appropriate that the cost of the policy should be funded by Government. The subsidy could be sourced from either on-budget funding or from the regional telecommunications fund.

4.5 Optus is unable to provide a precise estimate of the total cost of this subsidy, since it does not have access to the actual annual numbers of new connections in rural and remote areas where new infrastructure must be constructed to provide service. However, Optus' conservative (high) estimate is that the total cost of this subsidy would be in the order of $44 million annually. This figure is based on the maximum subsidy required for a new connection, $3,000,

multiplied by an estimate of the annual number of new houses constructed in minor rural and remote areas, 14,600.[18]

Funding in other circumstances

4.6 In section 3 above, Optus concluded that Telstra as the USP was unlikely to incur net costs from service provision in urban areas and was also unlikely to incur net costs from serving existing connections in rural and remote areas, since the cost of providing the USO should be estimated on the basis of ongoing operations and maintenance expenditure only, and such costs are likely to be outweighed by revenues received by Telstra (including indirect revenue and intangibles).

4.7 Consequently, Optus considers that the Telstra does not require any subsidy with respect to service provision in these circumstances and the issue of funding does not arise.

4.8 Optus notes that if its proposals are adopted, the Government could adjust or repeal much of the legislative machinery in Part 2 of the Telecommunications (Consumer Protection and Service Standards) Act, including the requirement for ACMA to carry out a cost study and run a cost model, ACMA's declarations of the USO levy and some of the miscellaneous machinery legislation, eg the Telecommunications (Universal Service Levy) Act.

Telstra's profitability

4.9 Even if Telstra did make losses in serving rural areas, it is misleading for Telstra to argue, as it does, that it is no longer able to cross-subsidise rural services due to increased competition in urban areas. Competitors have made some inroads into Telstra's market share in urban areas, however Telstra remains highly profitable and remains more than capable of continuing the traditional internal cross-subsidy of rural lines.

4.10 Optus believes that there is sufficient evidence to suggest that competition in low cost areas is not constraining Telstra's ability to fund the USO through cross-subsidisation. Therefore, given the fact that the USO does not comprise a cost to Telstra, USO compensation from other carriers is not required. Evidence of Telstra's ability to fully recover the costs of the USO provision through uniform pricing is as follows:

- Telstra's massive profitability indicates that it is not being subjected to pricing constraints sufficient to prevent it from fully cross-subsidising between high and low cost areas. Indeed, the fact that other service

[18] According to the most recent statistics available (ABS (2007), *4102.0 – Australian Social Trends*), the number of new houses completed nationally is approximately 146,000 per year. Assuming that 10% of these were in rural and remote areas, the number of new connections eligible for subsidy under the USO scheme would be approximately 14,600. The 10% assumption is based on data published by ACMA. According to ACMA, approximately 10% of new service connections that are provided within CSG Standard timeframe as reported to ACMA are classified as being in "minor rural" or "remote" areas (ACMA (2006), *ACMA Communications Report 2005-06*, page 276.) Optus assumes that the connection data relating to 'minor rural' and 'remote areas' would be most applicable to connections requiring USO subsidy, and at the very least provide an over-estimate.

providers are struggling to return positive profits indicates that Telstra is constraining the prices of its competitors, rather than the other way around;

- Telstra's dominant share of industry profits would allow it to easily absorb the additional cross-subsidisation requirements that would arise following the withdrawal of USO compensation from other carriers; and

- Telstra's competitors have not made sufficient inroads into Telstra's market share to prevent it from being able to cross-subsidise. Indeed, the revenues and benefits arising from Telstra's advantaged structural position far outweigh any cost advantages that competitors might have potentially achieved in low cost areas.

4.11 Optus believes that the 2003 decision by the ACCC concerning the access deficit contribution (ADC) offers a signpost on these issues. The ADC was a cross-subsidy in the form of additional charges imposed on Telstra's competitors through interconnect charges. The ADC was intended to compensate Telstra for its losses in providing line rental access to its retail customers (since its retail line rental charges were capped).

4.12 The ACCC undertook its own PSTN profitability study based on RAF data which considered Telstra's revenue from all services using the PSTN. It found that removing the industry cross subsidy of Telstra's ADC met the statutory criteria, namely that it was in the interest of end users and would promote competition.[19] In its decision the ACCC found that even though the price caps on line rentals may have *potentially* restricted Telstra's ability to recover its net CAN costs, this had *not* eventuated in practice. The ACCC stated that:

> *The financial viability of the PSTN would not be threatened by removing the ADC because the AD is substantially outweighed by surpluses on key call services.*[20]
>
> *Prima facie, it would appear that the level of Telstra's profitability with or without the ADC would be sufficient to provide it with the incentive to invest in the maintenance of the productive capacity of the PSTN. Apparent rates of return from the PSTN are well in excess of Telstra's weighted average cost of capital.*[21]
>
> *The Commission considers there is sufficient profit easily to cover even the highest estimates of the loss in revenue if the ADC were removed completely.*[22]

4.13 Optus notes that even though this decision was taken four years ago, it remains relevant today. Since that study, Telstra has continued to increase line rental prices. It has also benefited from the explosion of broadband services which

[19] ACCC, *Final Determination for model price terms and conditions of the PSTN, ULLS and LCS services*; October 2003.
[20] Ibid. page 52
[21] Ibid. page 45
[22] Ibid. page 51

allows it to recoup its line costs twice over. In particular, Telstra's returns are still well in excess of normal rates of return, and accordingly its argument that it is unable to cross-subsidise rural connections is grossly inaccurate. Telstra's profitability is examined further in Appendix 2, in which we consider whether Telstra is able to cross-subsidise rural service delivery out of its above normal profits. In that appendix we conclude that Telstra makes sufficient above normal profits from the provision of services over its CAN, other than line rental, to balance any losses it may make from the provision of below cost retail line rental services in remote and rural areas.

4.14 In this regard, Optus notes that the current costing method implicitly makes the extreme assumption that Telstra has lost *all* of its urban customers to competition and therefore no cross-subsidy is possible (since the costing method aims to recover 100% of net costs of serving rural areas) *or* priced its urban voice services to the level of competitive entry. Neither of these is evident. Telstra has substantial market share in all areas including metropolitan areas. In addition, there is no evidence to suggest Telstra is pricing at the entry cost of competitors. Telstra's pricing of services suggests that it has ample profit to cross-subsidise and the threat of entry is marginalised by Telstra's significant economies of scale.

An industry subsidy for Telstra is inappropriate

4.15 Nevertheless, in the event that Optus' arguments as to Telstra's costs are not accepted, Optus contends that self-funding by the USP is appropriate. It is inappropriate for Telstra to be subsidised by its rivals, given the significant advantages enjoyed by Telstra as the incumbent and the negative impact on competition resulting from the industry subsidy.

Advantages enjoyed by Telstra as the incumbent

4.16 Far from promoting competition, the current USO funding mechanism amplifies the existing competitive imbalance by reducing Telstra's costs and increasing the costs of its competitors in a manner that disproportionately favours Telstra.

4.17 Telstra maintains profound structural advantages in the telecommunications industry. They include:

- Incumbency;
- Ubiquity;
- Control over key natural monopoly infrastructure; and
- Vertical integration.

4.18 These structural characteristics provide Telstra with a variety of downstream benefits, including:

4.19 Strong economies of scale and scope, providing Telstra with a lower average cost base than that of its competitors as a result of the ability to spread certain costs, such as marketing, administration, and common network costs, across a

much wider revenue base. Economies of scale and scope also affords competitive advantages in dealing with suppliers, including the purchase of high cost network infrastructure components;

4.20 High market share, particularly in rural and remote areas of Australia with low population density;

- Protection of market share afforded by consumer inertia. Consumer inertia describes the inherent stickiness of customers arising from the fact that in order to change providers, consumers will need to go through the inconvenience of researching options, analysing them, and acting upon this analysis. The inconvenience and time-consuming nature of these administrative tasks represent a significant transaction cost which acts as a disincentive to alter existing choices. The consumer also faces uncertainty: the search may or may not find a better option. The general implication of this is that the market share of the incumbent will be eroded only slowly and perhaps never completely to a level consistent with relative competitive price/ quality offerings;

- Established brand recognition, which can provide strong downstream financial benefits through its ability to promote customer acquisition. This is best seen through Telstra's use of the 'countrywide' brand;

- Pricing advantages in that in the short to medium terms, Telstra need only recover the variable cost of provision of competitive services (sunk costs are already incurred) and can undercut competitors' prices (or spend a lot more on promoting its services) because the new entrant must cover both variable and fixed investment costs for entry to be viable;

- First mover advantage, meaning that Telstra was able to develop a strong customer base prior to the advent of competition, and therefore at relatively low cost. Today, to acquire customers, new entrants must maintain significant marketing budgets in order to overcome factors such as customer inertia and brand loyalty;

- Access to infrastructure at rates significantly below those faced by its competitors. For example, a vertically integrated player such as Telstra can price access to itself at marginal cost, whilst competitors pay average cost, and often more. It also affords itself non-price terms and conditions, systems access and service levels far better than those offered to downstream competitors; and

- Unique market knowledge arising from years of experience in the Australian market. This market knowledge means that Telstra is more likely to have, among other things, broader customer databases for marketing purposes, more effective billing and administration practices, and better awareness of prices across the various input suppliers.

4.21 The effect of these structural advantages is best demonstrated by Telstra's continued dominance of market share (for example, Telstra's market share of retail local telephony services stood at 75.3% in 2004-2005, with Optus,

Australia's second largest fixed telephony service provider accounting for 16.3%[23]) and disproportionate share of the national telecommunications industry profit pool (as set out in Appendix 2).

4.22 The highly concentrated nature of the fixed-line voice telephony market results from significant barriers to entry, as was recognised by the Australian Competition Tribunal in Application by Optus Mobile Pty Limited & Optus Networks Pty Limited [2006]: "*there are significant barriers to entry to the fixed-line market which include high sunk costs and the existence of Telstra's legacy position as the incumbent*".[24]

4.23 It is important to note that these advantages have been built up over along period of time and cannot be removed from Telstra merely by removing the USP role. Indeed, such an act would remove the responsibilities of Telstra's privileged position while leaving the benefits largely intact.

Negative impact on competition resulting from the industry subsidy

4.24 The USO scheme in its current form compounds this competitive disparity which gives rise to a number of distortions in the market. In particular, the requirement for carriers to subsidise Telstra's USO provision:

- Discourages market entry by reducing carrier returns and therefore reducing the financial viability of market entry;
- Promotes market exit by increasing the costs of remaining in business;
- Reduces the ability of carriers to raise capital in the financial markets required for infrastructure investment or expansionary investment;
- Discourages infrastructure investment by reducing the returns on investment; and
- Increases the costs of expanding market share.

4.25 The key structural benefits Telstra has inherited, combined with its massive profitability, ownership of the CAN, and low marginal costs relative to the rest of the market, mean that at current price levels Telstra is largely immune to any of the effects outlined above.

4.26 In this sense, the current design of the USO funding regime cements and strengthens Telstra's competitive advantages in the market. In turn, it undermines the Government's objectives of achieving effective competition in the telecommunications industry in order to promote the long term interests of end users.

4.27 This has implications for the provision of innovative telecommunications services in rural and regional areas as they emerge. As the USO operates on the assumption of the existence of a single network, it does not grant relief from contribution to the subsidy scheme to new entrants which seek to invest in their own infrastructure, despite the positive effect that investment may

[23] ACCC (2005), *Telecommunications Market Indicator Report 2004-2005*, page 6.
[24] *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited [2006]* ACompT 8, para 88.

have on competition and consumer welfare. By corollary, the funding mechanism:

- Increases the cost of investment for Telstra's competitors by reducing returns and increasing the cost of capital, thereby discouraging investment in rural and regional areas;
- Provides no incentives for Telstra other than to maintain its existing network. Telstra continues to receive a subsidy from its competitors without any real incentive for innovation on its part, despite the notional forward looking element to the costing methodology;
- Tends to discourage Telstra from rolling out new infrastructure and offering new services, where doing so will reduce the likelihood of receiving USO funds from other carriers in future regulatory periods.

4.28 Concerns are also raised by the fact the current USO arrangements have the result that competition is firmly tipped in Telstra's favour in rural areas. The arrangements operate as an automatic anti-competitive stabiliser for Telstra: if it loses market share in rural and regional areas, it gains in the USO compensation it receives. This 'stabiliser effect' works in two ways:

- Every time Telstra loses a customer in a so-called net loss area, its revenues drop more than its costs, meaning that its net loss – and hence the compensation it is entitled to – increases.
- Every time Telstra loses a customer and hence its revenue market share declines, the proportion of the total cost borne by Telstra declines, and the proportion paid by the rest of the industry increases.

4.29 This outcome is highly detrimental to promoting competition.

4.30 These impacts have the combined effect of reducing Telstra's exposure to competitive pressures in rural markets, which would otherwise drive innovation and the introduction of new services.

Competitive neutrality

4.31 Arguments have been espoused in the past that USO compensation to Telstra is justified on the grounds of competitive neutrality. The main flaw in this argument, however, is that it ignores the fact that Telstra experiences significant cost advantages from being both the historical monopoly operator and therefore beneficiary of the wide range of structural advantages, primarily economies of scale and the primary USP. As discussed above, these factors provide Telstra with a clear competitive advantage over the rest of the market. Seen in this light, any claims that being the USP diminishes Telstra's ability to compete appear unconvincing. Further, whilst Telstra acquires intangible benefits from being the USP, competing carriers who are required to contribute to its upkeep get nothing in return.

4.32 Optus considers that competitive neutrality does not justify levying fees on the remainder of the industry given Telstra's continued dominance and disproportionate profitability.

Appendix 1: A Proposed Voucher Scheme for the USO

4.1 Many of the problems with the current USO funding arrangements arise from the lack of contestability.

4.2 Telstra is the USO provider and annually receives a large contribution towards its costs from other carriers. There are little if any incentives on Telstra to ensure that services are provided efficiently – rather it has every incentive to inflate its cost calculations to increase the subsidy it receives. Consumers are short-changed since they are denied the benefit that might accrue from access to alternative technologies and competition.

4.3 Optus proposes to address this by focusing funding on the provision of infrastructure required to serve new connections in rural and remote areas, which should be open to contestability.

4.4 In respect of the obligation to serve new customers, Optus proposes that a voucher scheme should be implemented along the lines of the following model:

- A customer requesting connection in a rural / remote area would register their details and requirements with a central database. This should include not only details of their request for connection to the voice network but any other service requirements (e.g. broadband or dial-up internet access).
- Any carrier or Service Provider could then bid for a once-off USO contribution towards the costs of connecting that customer.
- a SP being able to provide a service that meets the specified requirements (which, in the case of services provided over alternative networks, should include reasonable equivalence with a fixed line service) and b) the lowest claimed USO contribution.
- Telstra would operate as a carrier of last resort in the event that there are no offers of service from alternate suppliers to a customer. Telstra would be entitled to separately bid to connect a customer. In the event of no bids it would be entitled to a predetermined amount.
- A customer can only qualify for one voucher every 5 years.
- The voucher is to be funded from the income of the BBC fund.
- The voucher would be for a maximum of $3,000, which is the approximate level of subsidy required for a satellite connection.[25]
- A similar competitive process could also apply to the provision of payphone services. In the case of new housing developments, payphones could be required as part of the tender specifications. In rural and remote areas, communities could apply for a payphone

[25] The subsidy for a two way satellite installation under Australian Broadband Guarantee, equipment and labour, is $2750 incl. GST. Under Broadband Connect the subsidy was $3300 incl. GST.

voucher/subsidy from Government, which could then be used to purchase payphone services via a tender.

4.5 Advantages of the scheme:

- Introduces contestability
- Provides an incentive for carriers/service providers to choose low cost options to service customers.
- Helps to ensure that the costs of the USO are kept low.
- Helps promote the provision of services other than fixed line services
- Inherently recognises the longer-term value of acquiring customers.

Appendix 2: Telstra's Above Normal Profits

4.1 In this appendix we consider whether Telstra is able to cross-subsidise rural service delivery out of its above normal profits. In particular, we consider:

- Does Telstra make above normal profits from the provision of services over its CAN?
- Are Telstra's above normal profits from the provision of services over its CAN other than line rental sufficient to balance any losses it may make from providing line rental services in rural and remote areas?

4.2 In this regard, it may be relevant to note that the Australian Competition Tribunal identified as a key issue "whether Telstra makes sufficient above normal profits from the provision of services over its CAN, other than line rental, to balance any losses it may make from the provision of below cost retail line rental services" in its assessment of averaging and the promotion of competition in its 2007 judgement on Telstra's 2006-2008 ULLS Undertaking.[26]

Does Telstra make above normal profits from the provision of services over its CAN?

4.3 In the year ended 30 June 2007 Telstra's EBITDA was $9,861 million[27]. Telstra's return on average equity was 26.1%.[28]

4.4 In the year ended 30 June 2007 Telstra's EBITDA margin on sales revenue was 41.7%.[29] By comparison, BT Group's EBITDA margin for the year ending 31 March 2007 was 27.8%.

4.5 Telstra's profits are substantially above the norm for incumbent telecommunications companies internationally. This is demonstrated by the following table, which provides 2006 EBITDA and adjusted ROE figures. Telstra's EBITDA and adjusted ROE are both exceptionally high by comparison with others in the sample.

	EBITDA % 2006	Adjusted ROE 2006
AT&T Inc.	32%	10.5%
Deutsche Telekom	32%	7.9%
France Telecom	36%	16.9%
Singapore Telecom	33%	16.6%
Telecom NZ	38%	40.4%
Telstra	**42%**	**24.3%**
Verizon	32%	17.3%

[26] ACT, ULLS case, at [114]
[27] Telstra's 2007 annual report
[28] Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p7
[29] Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p6

4.6 Telstra's profits are also substantially above the norm for Australian telecommunications companies. This is clear from annual financial reporting for the year ended 30 June 2007 as set out in the following table.

Profitability of Telstra and Access Seekers in FY 2007

	June ended 2007	
	EBITDA (million)	EBITDA margin (%)
Telstra	$9,861[30]	41.7%[31]
Optus	$1,991[32]	26.4%[33]
Macquarie Telecom	$11[34]	4.4%[35]
Primus	$65[36]	6.9%[37]

4.7 By way of comparison, a normal return on assets is in the range of 11.2-12.5%, which is Telstra's cost of capital as determined by the ACCC in the context of PSTN OTA.[38] Telstra's return on average equity at 26.1% is way above its cost of capital. It follows that approximately half of Telstra's profits may be regarded as supra-normal.

4.8 The extent to which Telstra's above normal profits are due to services provided over the CAN is not clear from Telstra's financial statements. However, given that services provided over the PSTN (including the CAN) are traditionally "higher margin" as Telstra has noted, it seems likely that the profits, margins and return on assets due to services provided over the CAN are at least as high as the Telstra average.[39]

[30] Telstra's 2007 annual report
[31] Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p6
[32] Singapore Telecommunication (2007), Management Discussion and Analysis, first quarter ended 30 June 2007, Singapore Telecommunication (2007), Management Discussion and Analysis fourth quarter and full year ended 31 March 2007, Singapore Telecommunication (2006), Management Discussion and Analysis third quarter ended 31 December 2006, Singapore Telecommunication (2006), Management Discussion and Analysis second quarter ended 30 September 2006
[33] Singapore Telecommunication (2007), Management Discussion and Analysis, first quarter ended 30 June 2007, Singapore Telecommunication (2007), Management Discussion and Analysis fourth quarter and full year ended 31 March 2007, Singapore Telecommunication (2006), Management Discussion and Analysis third quarter ended 31 December 2006, Singapore Telecommunication (2006), Management Discussion and Analysis second quarter ended 30 September 2006
[34] Macquarie Telecom (2007), Annual Report for the year ended June 2007 p4
[35] Macquarie Telecom (2007), Annual Report for the year ended June 2007 p4
[36] Primus Telecommunications Reports Second Quarter 2007 Financial Results, Primus Telecommunications Reports First Quarter 2007 Financial Results, Primus Telecommunications Report Fourth Quarter and Full year 2006 Financial Results, Primus Telecommunications Report Third Quarter 2006 Financial Results
[37] Singapore Telecommunication (2007), Management Discussion and Analysis, first quarter ended 30 June 2007, Singapore Telecommunication (2007), Management Discussion and Analysis fourth quarter and full year ended 31 March 2007, Singapore Telecommunication (2006), Management Discussion and Analysis third quarter ended 31 December 2006, Singapore Telecommunication (2006), Management Discussion and Analysis second quarter ended 30 September 2006
[38] ACCC (July 2000) A report on the assessment of Telstra's undertaking for Domestic PSTN Originating and Terminating Access Services, p94
[39] Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p12

4.9 On this basis Optus submits that Telstra makes above normal profits from the provision of services over its CAN.

Are Telstra's above normal profits from the provision of services over its CAN other than line rental likely to be sufficient to balance any losses it may make from the provision of below cost retail line rental services?

4.10 In the year ended 30 June 2007 Telstra received from its customers revenue of $7,190 million from PSTN services provided over the CAN including basic access ($3,333 million), local calling ($845 million), value added services ($257 million), long distance calling ($808 million), fixed to mobile calling ($1,487 million) international calls ($184 million) and interconnection ($276 million). It also received revenue of $1,945 million from internet services (the majority of which are provided over the CAN). [40] Excluding mobile broadband revenue of $284 million, revenue from internet services is $1,661 million. Total CAN revenue including PSTN and internet is $8,851 million (including basic access revenue). Adjusting for basic access revenue, Telstra's annual revenue from the provision of services over its CAN, other than line rental, is $5,518 million.

4.11 For the purposes of estimating the extent of Telstra's profits from CAN services other than line rental, we will estimate the proportion of total profits made up by CAN services other than line rental. Based on revenue share, one could assume that approximately 23% of Telstra's above normal profits are due to services provided over the CAN, other than line rental. [41] However, this is a conservative (low) estimate given that the PSTN is traditionally a "higher margin product", as Telstra has noted, it seems likely that the profits, margins and return on assets due to services provided over the CAN are higher than the Telstra average.[42]

4.12 In the year ended 30 June 2007 Telstra's EBITDA was $9,861 million, its profit before tax was $4,692 million and its profit after tax was $3,275 million.[43] Assuming a 23% share, in the year ended 30 June 2007 Telstra's EBITDA from the provision of services over its CAN, other than line rental was $2,295 million, its profit before tax from the provision of services over its CAN, other than line rental was $1,092 million and its profit after tax from the provision of services over its CAN, other than line rental was $762 million. As noted above, approximately half of Telstra's profits may be regarded as supra-normal.

4.13 Optus does not know the level of Telstra's claimed losses in 2006/07, however we do know that the level of net costs assumed for the purposes of the USO levy was approximately $145 million in 2007/08.

[40] Telstra (2007), Results and Operations Review, Year ended 30 June 2007, p11. Total revenue was $23,709 million.
[41] Telstra (2007), Results and Operations Review, Year ended 30 June 2007, p11. Total revenue was $23,709 million.
[42] Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p12. Also see Telstra, August 2005, The Digital Compact & National Broadband Plan, p11
[43] Telstra's 2007 annual report

4.14 Even though Optus considers that the level of net costs assumed for the purposes of the USO levy overstates the true net costs, this amount is outweighed many times over by Telstra's above normal profits.

4.15 Consequently, Optus considers it likely that Telstra makes sufficient above normal profits from the provision of services over its CAN, other than line rental, to balance any losses it may make from the provision of below cost retail line rental services in remote and rural areas.

Appendix 3: Offsetting benefits to Telstra from providing universal services

4.1 Telstra receives substantial additional benefits from being the universal service provider which are not captured by the NUSC formula. This has the effect of enhancing the competitive disparities arising from the USO scheme.

4.2 These inherent offsetting benefits can be classified as follows:

(a) *Lifecycle benefits*: Life cycle effects refer to benefits that accrue to the USP through retaining customers that are initially unprofitable, but become profitable over time. Effectively, the ownership of customers in unprofitable areas provides the USP with a commercial benefit because these customers are likely to stay with the USP when (or if) those customers become profitable.

(b) *Ubiquity*: Ubiquity benefits result from the USP (typically the incumbent) having complete coverage of the country, such that when a customer moves away from a net cost area, the USP can use the inherent stickiness in customer relationships to continue serving those customers.

Ubiquity benefits also arise when the USP is able to market the organisation to business customers as being able to serve them in any location Australia-wide. This may be important in the case of government and business customers with extensive branch networks or with operations that are inherently likely to be in sparsely populated or remote locations.

(c) *Brand enhancement and corporate reputation*: This category of benefits refers to the increase in current and future profitability that arises from the positive impact that serving uneconomic customers has on the USP's brand image and corporate reputation. It can be thought of as the benefit the USP derives from gaining or retaining more profitable customers than it otherwise would have, because of the favourable perception of the USP's brand resulting from the fact that it is the USP.

Given that companies spend large amounts of money and expend considerable time enhancing brand image and corporate reputation, it is logical to assume that those benefits that accrue to the USP hold some commercial value. This is best seen through Telstra's use of the 'countrywide' brand.

(d) *Advertising benefit of payphones:* The advertising benefit addresses the value the USP receives from advertising the company's logo on call boxes and the consequent enhancement of corporate reputation.

(e) *Volume discounts:* This set of benefits describes to the potential value derived from volume discounts received by the USP for its non-USO

operations by virtue of the increment of the volume contributed to its purchase levels by USO operations.

(f) *Non-USO services:* Conceptually, this is the benefit that accrues to the USP in being able to provide non-USO services in USO areas, by virtue of having a presence and infrastructure already in place in these areas. Examples of such services including: value-added services such as messaging and 'Easycall' services, facsimile, internet and mobile services.

(g) *Network effects:* Network effects describe the increase in profitability of carriers due to communications between economic customers and customers in USO areas. If the USP were not required to serve the unprofitable customers, then the profitability of economic customers would fall.

It is worth noting at this point that a justification which is sometimes offered for the existing USO arrangements is that Telstra is funding uneconomic lines. This, it is argued, generates a benefit to other carriers such as Optus, because Optus can capture revenue from calls made by Optus customers to customers on the uneconomic lines. Hence, it is said, it is only fair that Optus contribute to the costs of the uneconomic lines. This argument is fallacious for several reasons.

Firstly, as we have seen, while it is true that Optus does benefit from the existence of these lines, Telstra captures a much larger benefit. Secondly, this phenomenon is just a specific example of the general benefits resulting from the network effect.

Network externalities created by interconnecting two networks are two-way and relate to the size of the combined network. Whilst Optus gets a benefit from the existence of the Telstra network, Telstra benefits by getting access to Optus' growing network. Hence, it is no more logical to argue that Optus should contribute to the cost of the Telstra's uneconomic lines than it is to argue that Telstra should contribute to the cost of Optus' uneconomic lines – or indeed of all Optus lines!

To illustrate this point, consider that there are approximately 450,000 lines subsidised by the USO. The existence of these lines generates incremental revenue on the 24 million or so lines not subsidised, as customers on the non-subsidised lines can make calls to the subsidised lines. Telstra has the lion's share of the non-subsidised lines (around 10 million non-USO fixed lines and 7 million mobile lines), and hence Telstra captures the lion's share of the benefit. Almost certainly, the incremental revenue captured by Telstra on those 17 million lines will cover its loss on the USO lines.

4.3 While the cost of the USO is offset by both incoming and outgoing call revenues under the current mobile, the cost is not offset by the value of the inherent offsetting benefits that accrue to Telstra.

4.4 By way of illustrative example to highlight the flawed nature of this approach, Telstra has provided sponsorship for Sydney's Olympic Stadium and Melbourne's Telstra Dome to the tune of $60 million over ten years. Around $6 million per year has been directed to the National Rugby League, while Big Pond provides substantial sponsorship for the V8 Supercars. In addition, Telstra also provides funding to a wide variety of other events and community interest groups[44].

4.5 Using the logic of the current NUSC formula, this sponsorship expenditure would be considered loss making. In reality, however, this is far from being the case. Substantial financial benefits accrue to Telstra as a result of this sponsorship. For example, the funding delivers customer goodwill towards Telstra, and greater recognition of the Telstra brand. Indeed, very clearly the judgement of Telstra management is that Telstra receives offsetting benefits which exceed the related costs of sponsorship. If this were not the case, then Telstra would not undertake such an exercise.

4.6 Likewise, the inherent offsetting benefits arising from USO provision, as outlined in this submission, generate significant revenues for Telstra. Because these revenues would cease to accrue to Telstra if it stopped providing USO services, they clearly fall under the 'revenue foregone' category of the NUSC formula.

4.7 By implication of the failure of the current USO mechanism to take account of this form of revenue foregone, the amount Telstra can recover from its competitors is based on an inflated assessment of its net cost in providing the USO.

4.8 In 2000, Ovum produced a report for the Australian Communications Authority (ACA) which estimated the value of these additional benefits received by Telstra as a result of the being the universal service provider.

4.9 This investigation estimated the benefits to be valued somewhere between $74 million and $128 million in 1998/99, and between $80 million and $136 million in 1999/00.

4.10 The ACA's response to this report was that while it acknowledged that Telstra does potentially receive a material benefit from being the USP, the study was not sufficiently robust to justify reform of the USO costing methodology. This was attributed to the short time frame Ovum had to complete its investigation.

4.11 In 2003, Optus engaged consultants Dandolopartners to, amongst other things, re-estimate the value of the inherent offsetting benefits using more robust calculation methodologies. [45]

4.12 Specifically, they estimated the value of three types of benefits: lifecycle, non-USO and pay phones.

4.13 In order to estimate the value of the lifecycle benefits, Dandolopartners estimated the quantity and value of NCAs that make positive contribution for

[44] "*Putting the money on the market*", Australian, 5/2/2004.
[45] Dandolopartners consortium '*Review of the USO scheme costs, intangible benefits and funding structures for SingTel Optus'*, March 2003.

the first time each year due to exogenous improvement in cost structure and possibly also revenue growth. They noted that these areas have only limited competition at the retail level, and essentially zero competition at the wholesale level. Customers in these NCAs were divided into those loyal to Telstra, and those less loyal to Telstra, who shift provider after a relatively short period. Contribution (calculated using the NUSC formula) was discounted to present value at WACC.

4.14 To measure the value of the non-USO services benefit, the consultants' approach was to establish the differential between the market share in USO areas and in the non-metro market, and estimate the proportion of this differential which can be attributed to Telstra being the USP (the "USO factor").

4.15 While Dandolopartners conceded that the USO factor was the most subjective of the inputs into their valuation model, they maintain that there are compelling reasons to believe that USO provision is a significant determinant of the differential. These reasons include:

- The ability to share costs between USO and non-USO services, including marketing and administration, provides Telstra with a relatively low cost base;
- USO provides Telstra with additional capacity for bundling; and
- Telstra's monopoly provider/ USP status was a key factor in the establishment of its analogue mobile network, which it has been able to leverage into widespread national CDMA and GSM coverage.

4.16 They also stated that the value of these benefits are amplified by the reduced level of competition that is commonplace in USO areas because the second tier telecommunications operators do not market heavily in rural and remote areas. Dandolopartners attributed between 50 and 75 per cent of the difference in market share between the regional market as a whole and the USO area market to USO provision.

4.17 Finally, the advertising benefit of payphones was estimated through comparison with the revenue from, and the cost of, small poster ads and bus-stop advertising.

4.18 In determining the comparability of value between payphone advertising and the above mentioned forms of advertising, the consultants took into account the following matters:

- Payphones as advertising media carry the advantage of being functionally related to the brand;
- Payphones are located in areas deemed to be useful to the public; and
- Payphones are generally very prominent, standing alone and clearly identifiable on the street, and usually lit at night.

4.19 The consultants also made various conservative assumptions regarding the advertising value based on the location of the payphone. This was done in

recognition of the fact that many locations would have relatively low value, some moderate and some high.

4.20 The following table provides the values that Dandolopartners have estimated Telstra receives by virtue of being the USP in relation to: lifecycle benefits, non-USO services, and payphone advertising.

Value of inherent offsetting benefits received by Telstra for USO provision

Benefit	**Low $M**	**High $M**
Lifecycle	54	74
Non-USO services	6	14
Advertising benefits of payphones	11	14
Total	**71**	**102**

4.21 The consultants also acknowledged that the remaining additional benefits (i.e. ubiquity, brand enhancement and corporate reputation, etc.) most likely do provide financial benefits to Telstra. Due to time constraints and lack of reliable data sources, they were unable to estimate the value of these benefits, although they did present a range of evidence of their existence. In particular, they pointed to Telstra' heavy reliance on advertising featuring rural and remote locations as evidence of the high value Telstra places on being able to demonstrate its ubiquity. Indeed, research performed by Optus in rural and regional areas indicates that Telstra's brand is more attractive than the Optus brand[46]. This may be, at least in part, a result of Telstra's USP status.

4.22 Further, the consultants cited Optus qualitative research indicating that a large corporate and government market exists for which a ubiquitous provider is highly preferred for reasons of efficiency. Such customers include large agri-businesses and extractive industries, government departments, utilities, and postal services, which require service in USO areas. Therefore, Telstra would have a clear advantage when tendering for these customers as a result of its ubiquitous USP status.

4.23 Optus believes that given the large value of the inherent offsetting benefits that Telstra reaps from being the USP, the logical approach by Government would be to conclude that Telstra almost certainly does not lose money as a result of being the universal service provider.

4.24 The implication of the existence of these benefits is that the industry is currently subsidising Telstra to a much larger degree than acknowledged by the Government, thereby intensifying the competitive disparity enjoyed by Telstra. This gives rise to a further competitive disparity, as it effectively enables Telstra to undercut other carriers in pricing for services Australia-

[46] Jones Donald, *A report about demand for a satellite based telecommunications service in remote and rural Australia,* Cable and Wireless Optus, January 2000.

wide. This clearly undermines competition and harms the long-term interests of end users for whom the benefits of a competitive market are muted.

4.25 The approach of making allowance for these inherent offsetting benefits in costing the USO has been adopted in a number of other countries, such as the United Kingdom and France.

4.26 Carrier behaviours in other jurisdictions suggest that USPs recognise the value of the additional benefits associated with USO provision. For example, Swiss USP status was awarded to Swisscom as a result of a competitive tendering process. Swisscom did not seek compensation for the costs of USO provision in its tender application. This suggests that Swisscom valued the additional benefits of USO provision to be higher than the NUSC.

4.27 In Germany, universal services are provided without a subsidy by the incumbent operator, Deutsche Telekom, despite the fact that it is not legally required to do so. Similarly, the Danish incumbent USO provider, Tele Danmark, has the ability to claim compensation for losses incurred in delivering universal services. However, to date, it has not attempted to access any such compensation.

Appendix 4: Costing flaws

4.28 The cost modelling that underpins the USO funding arrangements is fundamentally flawed, and has been the subject of significant controversy for many years.

4.29 The funding mechanism is based on the Net Universal Service Cost formula (NUSC), which is as follows:

NUSC = Avoidable Cost (AC) – Revenue Foregone (RF)

4.30 Avoidable cost describes the costs that the USP could avoid if it were to cease providing the USO, while revenue foregone includes all the revenue that would be lost if the provision of service to an area was terminated, and encompasses both direct revenue (outgoing traffic) and indirect revenue (incoming traffic) related to the service.

4.31 There are a variety of flaws in the logic behind this formula. These are discussed in more detail below, and include factors such as the exclusion of the significant inherent offsetting benefits Telstra enjoys as a result of the being the universal service provider. Notwithstanding this, even if the basic logic of the formula was accepted, calculating the NUSC in accordance with this framework has been impossible to do in a satisfactory way, when:

- Telstra faces strong incentives to overstate the costs of USO provision. With the asymmetry of cost information in favour of Telstra, regulators have consistently faced difficulties in ascertaining and verifying what costs should be attributed to the USO, but also in assessing the reasonableness of the distribution of those costs among the services. For example, the unique characteristics Australia's geography render international USO cost comparisons problematic[47]; and
- The substantial level of costs associated with the USO that are joint or common to a range of other services means that arbitrary rules are used to apportion them among those services.

4.32 The implication of this is that considerable flaws have arisen with respect to the estimation of the avoidable costs of USO provision, and also of the offsetting revenue foregone. Specific areas of concern include:

- The sampling exercise used to determine the costs of USO provision was highly inadequate; and
- The estimate of the rate of change of revenue foregone that has been adopted by government is most likely incorrect. While it has been assumed that revenue foregone is reducing over time, there is substantial evidence to suggest that it is actually increasing.

[47] We note that in New Zealand, even though Telecom NZ was required by legislation to develop a cost model for costing the NZ USO equivalent, the regulator rejected Telecom's model in favour of its own independent modelling

4.33 Further, we believe that use of Telstra's cost model, PIE II, for the purposes of estimating the NUCS would exacerbate the costing flaws due to its highly inaccurate design, and should accordingly not be relied upon.

4.34 Each of these points will now be discussed separately.

Inadequacy of sampling exercise used to determine the costs of USO provision

4.35 The original exercise to define the cost of providing universal services was carried out by Telstra, with input from the ACA and technical advice from various consultants, using a three phase sampling exercise. The sampling exercise derived ratios of the total population of services deemed to inhabit specific ranges of positive and negative accounting contribution. This was intended to provide a basis for estimating the number of SIOs in net cost areas (NCAs) in various geographic categories, and also of the average cost per SIO in each category.

4.36 It is therefore clear that the efficacy of the sampling is a crucial factor in obtaining an accurate and reliable estimate of the NUSC.

4.37 However, the sampling exercise undertaken has been demonstrated to be highly inadequate. The sampling procedure was firstly reviewed by the Statistical Consulting Centre (SCC) of the University of Melbourne in 1999. Optus subsequently engaged an academic statistician, George Argyrous, to assess the potential error in the approach used to sample exchanges and estimate USO costs. Both the SCC review and the Argyrous evaluation concluded that the NUSC procedure was built on inadequate methodological foundations.

4.38 In particular, Argyrous established that the NUSC was based on samples that were far too small, with the number of exchanges included in the analysis being less than a quarter of what was required to provide a reliable estimate. As a result, the results yielded by the costing exercise were completely unreliable.

4.39 To illustrate, for the NUSC cost model the NCAs were divided into groups called "small" and "non-small"; the former having less than 150 SIOs. SIOs in the non-small category were further divided into those being built up or non built up.

4.40 A count was then conducted of the number of SIOs in each category in the sample areas, which was subsequently used as a basis for estimating the cost of the USO Australia-wide.

4.41 Problems have arisen because the original sample included only 39 areas in total, with just 15 of these areas being in the more variable non-small category. While the survey found that the average non built up SIOs per non-small NCA was 110, the SCC estimated that the size and distribution of results in the sample suggested a 95% confidence interval of 74.7 – 155.4. This interval is 80.7 and represents 74% of the sample mean.

4.42 A further two samples of 11 and 9 areas were later carried out. The average counts for non built up SIOs in these samples were 146 and 208 respectively. Interestingly, the latter result was 52.6 higher than the top end of the original

95% confidence interval, which the SCC indicated might be a result of random sampling variation. The SCC also raised the possibility that there may have been an unconscious bias during the discretionary process of allocating SIOs to the different categories, pointing to Telstra's direct conflict of interest in conducting this exercise.

4.43 Overall, Argyrous concluded that:

> *"the USO cost estimate of $290 million is based on a fundamentally flawed sampling process and statistical analysis."*;

and that these flaws:

> "*render the results unreliable for policy purposes*".

Inadequacy of Telstra's PIE II cost model

4.44 In 1998, Telstra estimated the cost of the USO at $1.8 billion. This was rejected by the ACA and the Minister at the time but is demonstrative of the unreliable nature of incumbent cost models. With the outcome of the costing exercise likely to have a substantial negative impact on competitors it is entirely inappropriate to rely on Telstra's cost modelling.

4.45 Optus suspects that Telstra will suggest that the Government adopt the PIE II model. This would not be appropriate for the following reasons:

- Many aspects of the PIE II model have been rejected by the ACCC and the model is still subject to regulatory scrutiny.
- The ACCC has not accepted the PIE II model's estimation of CAN costs (an important component of the USO calculation) in arriving at its indicative prices for PSTN interconnect services.
- The PIE II model estimates that the access deficit is not eliminated until 2009-10, far beyond Government and ACCC projections on rebalancing. This might indicate that CAN costs have been overestimated in the model.

4.46 Whilst Optus personnel have access to the PIE II model, Optus may only use the confidential information for approved purposes. These do not include an assessment of the USO. Nevertheless, using the non-confidential information relating to PIE II available on the ACCC website, we can make the following observations:

- The PIE II model architecture is flawed in its estimation of CAN and inter-exchange costs, particularly in rural areas.
- The design rules imposed in PIE II do not allow use of the most efficient technology for providing services in geographically disperse areas.
- The PIE II model's use of minimum spanning tree algorithms is unique in PSTN cost modeling around the world. Typically models use least cost cluster algorithms to determine CAN costs. Telstra's approach

will lead to inefficient network design and provisioning and higher cost in rural areas.

- This and other technical issues with the model have been the subject of independent expert advice to Optus by n/e/r/a London, the developers of the ACCC PSTN cost model.
- The ACCC has rejected many economic assumptions in the PIE II model including the weighted average cost of capital, network planning costs, the level of trench sharing and other variables.
- The PIE II model has not been independently audited.

Estimation of value of revenue foregone

4.47 Revenue foregone measures the revenue that would be lost if the provision of service to an area was terminated. Elements of revenue foregone are as follows:

- Line access;
- Outgoing local calls;
- Outgoing long distance;
- Outgoing fixed-to-mobile;
- Incoming long distance calls (including interconnection revenue from calls by customers of other service providers);
- Incoming calls from mobiles;
- Directory assistance;
- Other value-add call services (call waiting, conference calls, etc.);
- Retail narrowband ISP income; and
- Wholesale narrowband ISP income.

4.48 In the NUSC formula, revenue foregone is offset against the avoidable costs. Clearly then, the higher the value of revenue foregone, the lower the cost of the USO. The ACA's 2000 Advice to the Minister estimated revenue foregone per SIO to be $1205.

4.49 In 2003, Optus engaged consultants Dandolopartners to, among other things, review the accuracy of the ACA's revenue foregone estimate. The consultants compared the ACA's figures to estimates of revenue foregone based on Jones Donald market research data of telephony spend in rural and remote regions, commissioned by Optus and carried out in July 1998 and January 2000. The Jones Donald study found the average annual phone bill for survey respondents in the January 2000 survey was $1,864, while average ISP spend totalled $464 per SIO.

4.50 Dandolopartners estimated that, under plausible assumptions regarding Telstra's market share and call patterns, Telstra's retail call revenue foregone per SIO would be in the range $2000 - $2500. The addition of interconnection and ISP revenue would plausibly add an additional $200 per SIO per annum to this figure.

4.51 Further, the consultants pointed to a variety of evidence that revenue foregone is actually increasing over time, rather than reducing at a rate of 2% per annum as assumed by the NUSC accounting process.

4.52 For example, the Jones Donald market research data showed that between July 1998 and January 2000, average quarterly telephone bills rose from $401 to $464, an annualised growth rate of over 10%.

4.53 Further, computer and internet penetration have risen dramatically, pointing to new retail and wholesale sources of revenue for Telstra. The Optus market research found that between July 1998 and January 2000, household modem penetration doubled and business modem penetration increased by 40%. This is consistent with ABS data revealing that the proportion of homes in regional areas with internet access grew from 11% to 26% between July 1998 and July 2000[48]. A 2001 survey of telecommunications in Queensland suggested that interest in high speed internet amongst business was higher, at 35%, in the regional and remote areas than in metro areas[49].

4.54 Analysis of Telstra's financial accounts by Dandolopartners reinforced their hypothesis that revenue may be increasing. In particular, the combination of all Telstra revenue streams applicable to 'revenue foregone' has grown 2% per annum in nominal terms, although it is plausible revenue foregone in USO areas will be growing at a higher rate than this due to:

- A possible lag in take up of some services in rural and regional areas, translating to a higher level of revenue growth in USO areas going forward as demand from rural and regional customers "catches up"; and
- A greater level of market share retention by Telstra in rural and regional areas, meaning that revenue foregone is likely to be growing less rapidly in non-USO areas as competitors grow market share.

4.55 Further, Dandolopartners cited data showing that prices for PSTN services in non-capital cities has not fallen by as much as the prices charged in capital cities[50].

4.56 The consultants concluded overall that if Optus' market research does in fact provide a fairly accurate reflection of actual consumption patterns, then the total amount of revenue foregone will significantly reduce or even eliminate NUSC.

4.57 Optus submits that on the basis of the arguments outlined above relating to the costing of the USO, as well as the measurement of the USO revenues received

[48] ABS 8146_2000 household IT
[49] Gibson Quai, *Customer Access Network Study*, Queensland Government, 2001, p10 to Appendix B.
[50] ACCC, *Changes in prices paid for telecommunications services in Australia*, 2000-2001.

by Telstra, the Government has no option but to disregard the current USO costings, and to accept that the accurate costings are likely to be substantially lower than those set in past and current regulatory periods.

4.58 The impact of basing USO funding levies on incorrect NUSC costings is potentially troubling. Not only would this reinforce Telstra's dominance across the entire range of telecommunications services, but it would also result in unnecessarily inflated prices for end-users Australia-wide. This is because these prices ultimately include some allocation of the cost of the USO.

Appendix 5: Mobile and Fixed Wireless Networks

Network	Year in which network became operational	Claimed population coverage / geographical coverage	Subscriber numbers
Mobile networks			
Telstra GSM	April 1993[51]	96% population coverage	5,947,000[52]
Telstra CDMA	Sep 1999[53]	98% population coverage	1,262,000[54]
Telstra 3G	2003[55]	>50% population coverage[56]	2,003,000[57]
Telstra next G	Oct 2006[58]	98.8% population coverage (> 2 million square kilometre)	
Optus 2G	May 1993[59]	96% population coverage (650,000 square kilometre)	6,802,000[60]
Optus 3G (planned)[61]	Nov 2005[62]	96% population coverage (650,000	

[51] AMTA, Ten years of GSM in Australia, www.amta.gov.au
[52] Telstra Annual Report 2007, subscribers for year ended 30 June 2007
[53] http://www.amta.org.au/AMTA/default.asp?ID=365
[54] Telstra Annual Report 2007, subscribers for year ended 30 June 2007
[55] http://www.amta.org.au/AMTA/default.asp?ID=365
[56] AMTA, Australian Mobile Telecommunications Industry: Economic Significance & State of the Industry, July 2007, p5
[57] The number of mobile subscribers include both 3G and Next G. Telstra Annual Report 2007, subscribers for year ended 30 June 2007
[58] Telstra Annual Report 2007, p22
[59] http://www.amta.org.au/AMTA/default.asp?ID=365
[60] The number of mobile subscribers includes both 2G and 3G mobile subscribers for the quarter ended 30 June 2007. *Source: SingTel, Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the first quarter ended 30 June 2007, p41*
[61] On 30 January 2007, Optus announced plans to expand its 3G mobile network across a wide national footprint. The new network will replicate the coverage of Optus' existing national 2G mobile network. The plan will be carried out over a period of 3 years. *Source: SingTel, Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the fourth quarter and financial year ended 31 March 2007, p46*
[62] SingTel, Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the fourth quarter and financial year ended 31 March 2006, p51

		square kilometre)	
Vodafone 2G	Oct 1993[63]	95% population coverage[64]	3,367,000[65]
Vodafone 3G	Oct 2005[66]	55% population coverage[67]	
Hutchison CDMA	March 2000[68]	98% population coverage[69]	-[70]
Hutchison 3G	April 2003[71]	56% population coverage[72]	1,405,000[73]
Fixed wireless networks			
Unwired	Aug 2004[74]	Metropolitan areas of Sydney and Melbourne	69,592[75]
Opel (planned)	June 2009 (targeted)	638,000 Square kilometres	-
Personal broadband (iBurst network)	Sep 2003[76]	75% population coverage[77]	

[63] http://www.amta.org.au/AMTA/default.asp?ID=365
[64] http://www.vodafone.com.au/Personal/CoverageRoaming/index.htm
[65] The number of mobile subscribers include both 2G and 3G customers in Australia as at 31 March 2007. There were 171,000 3G customers registered on the Vodafone network by 31 March 2006 *Source: Vodafone Group Plc, Annual Report for the year ended 31 March 2007, p13, Vodafone Group Plc, Annual Report for the year ended 31 March 2007, p50*
[66]. Vodafone Group Plc, Annual Report for the year ended 31 March 2007, p50[66]
[67] AMTA, Australian Mobile Telecommunications Industry: Economic Significance & State of the Industry, July 2007, p5
[68] Hutchison launched CDMA in Sydney and Melbourne in March 2000. AMTA, Ten years of GSM in Australia, www.amta.gov.au
[69] AMTA, Australian Mobile Telecommunications Industry: Economic Significance & State of the Industry, July 2007, p13
[70] Hutchison CDMA closed in August 2006
[71] Hutchison Annual Report 2006, p2
[72] AMTA, Australian Mobile Telecommunications Industry: Economic Significance & State of the Industry, July 2007, p5
[73] Hutchison Telecoms, Half year report 30 June 2007, p5
[74] Unwired Annual Report 2007, p28
[75] Unwired Annual Report 2007, p28
[76] http://www.pba.com.au/index.php?page_id=102
[77] http://www.iburst.com.au/?faq=technology&services=faq&main=services&appCode=&

Appendix 6: Telstra's net revenues from services other than line rental

4.59 This appendix contains analysis of Telstra's revenues in rural and remote areas from services other than line rental.

4.60 In the year ended 30 June 2007 Telstra received from its customers revenue of $7,190 million from PSTN services provided over the CAN including basic access ($3,333 million), local calling ($845 million), value added services ($257 million), long distance calling ($808 million), fixed to mobile calling ($1,487 million) international calls ($184 million) and interconnection ($276 million). It also received revenue of $1,945 million from internet services (the majority of which are provided over the CAN). [78] Excluding mobile broadband revenue of $284 million, revenue from internet services is $1,661 million. Total CAN revenue including PSTN and internet is $8,851 million (including basic access revenue). Adjusting for basic access revenue, Telstra's annual revenue from the provision of services over its CAN, other than line rental, is $5,518 million.

4.61 Telstra typically does not take any of these revenues (other than basic access revenues) into account in attempting to quantify its supposed under-recovery of rural costs. For the purposes of taking these revenues into account in quantifying Telstra's supposed under-recovery of rural costs, it would be necessary to estimate the proportion of these revenues that are due to rural and remote customers. In doing so, one would need to take into account the fact that rural customers are known to be high users of calling services in that they make many long distance calls.

4.62 Let us assume that the proportion of revenues that are due to rural and remote customers is 10%. Assuming a 10% share, Telstra's annual revenue from the provision of services over its CAN, other than line rental, in rural and remote areas, is $552 million. This sum would need to be combined with Telstra's revenues from retail and wholesale basic access services to find Telstra's total revenue from services provided over the CAN in rural and remote areas.

4.63 Note that for the purposes of a complete comparison, it is also necessary to consider the *costs* from the services provided over the CAN other than line rental. We do not have actual figures for these costs. We have estimated these costs using Telstra's reported margins. In the year ended 30 June 2007 Telstra's EBITDA margin on sales revenue was 41.7%.[79] Assuming that this margin applies to services provided by Telstra over its CAN, other than line rental, in rural and remote areas, the costs associated with these services are $230 million. Note this is a conservative (high) estimate of costs, since Telstra's EBITDA margin is likely to include an allowance for capital costs (so the Optus estimate provided here effectively double-counts the capital costs associated with rural CAN).

[78] Telstra (2007), Results and Operations Review, Year ended 30 June 2007, p11. Total revenue was $23,709 million.
[79] Telstra (2007) Results and Operations Review, Year ended 30 June 2007, p6

4.64 In conclusion, Telstra's typical analysis is incomplete. Telstra receives substantial net revenues from customers in rural and remote areas that must be considered in any analysis of its supposed "losses" in these areas.

Appendix 7: Value for money analysis: fixed vs. mobile

4.65 This analysis will be provided as a separate document.