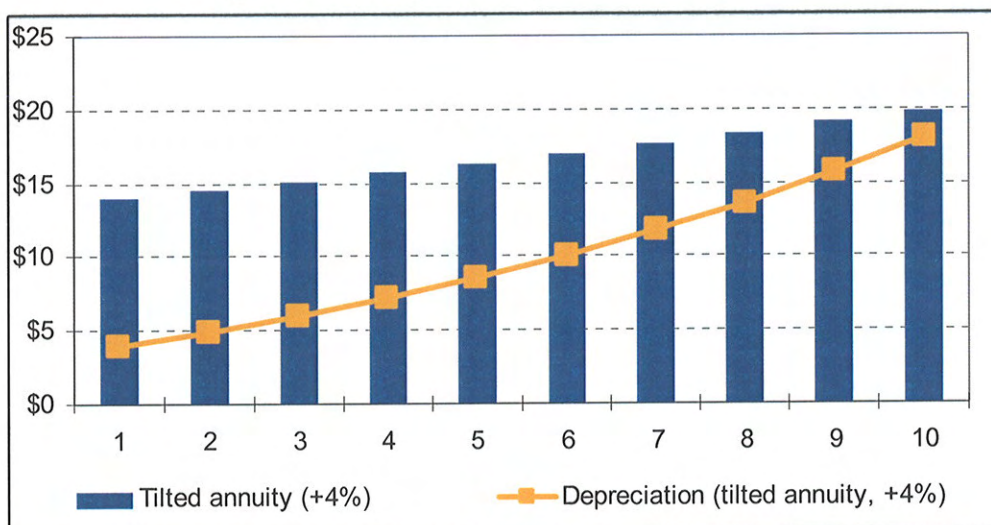


cost recovery for the asset in question is postponed far longer than Optus' calculation would suggest. For the short (10-year) time horizon considered here, only around 30 per cent of the cost of the asset will have been recovered half way through the asset's useful life (i.e. at the end of Year 5). Shifting cost recovery forward into an uncertain future creates a risk that, whenever conditions change so that Telstra must reduce its ULLS charges (e.g. because of competitive pressures or regulatory intervention), a significant portion of the cost of the assets that have not been recovered and will never be recovered. This point is illustrated in Section B.6.3 below.

Figure 6: Total capital charge versus the depreciation charge



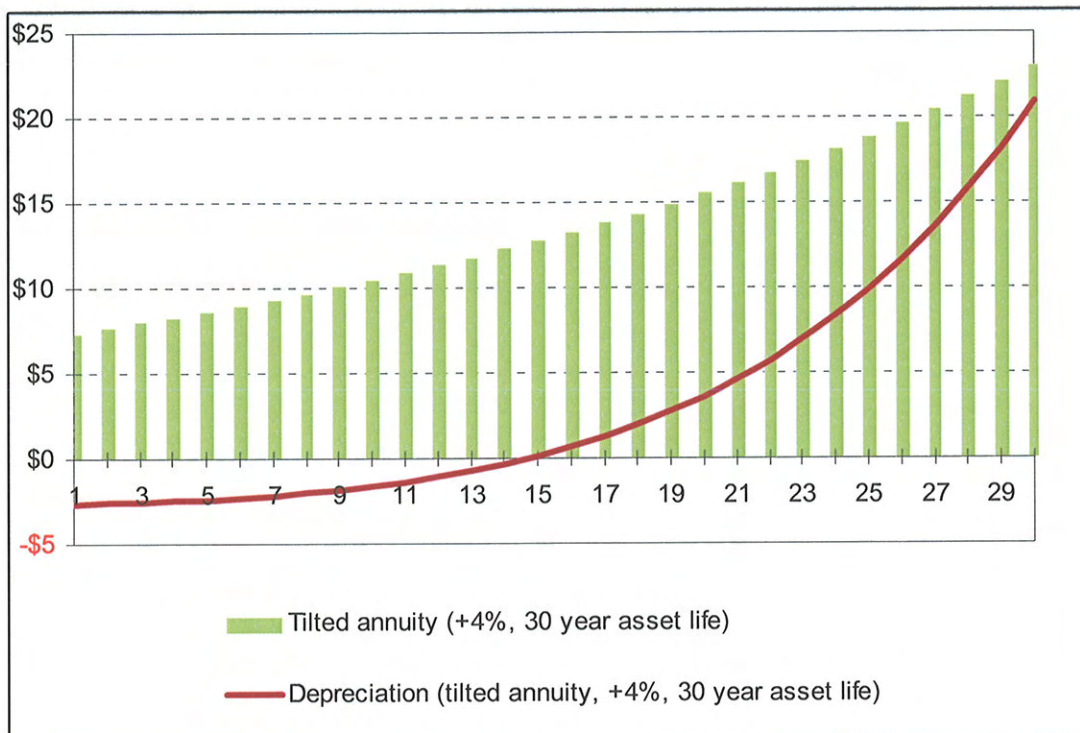
Notes: Same assumptions as Optus.

221. Second, Optus' calculation assumes a useful asset life of 10 years. In fact, only a small subset of IT-related ULLS assets have a useful life of 5 years or less. The great majority of ULLS assets have a useful life of between 10 and 40 years, for instance the useful life of:

- Copper cables is between 10 and 20 years;
- Optical fibre cables is 25 years; and
- Fixed installations, such as ducts/pipes and buildings, is between 30 and 40 years.

222. Delays in cost recovery become far more pronounced when real asset lifetimes are examined rather than misleading examples. Optus' illustration of the tilted annuity fails to highlight a central aspect of the ACCC's depreciation calculation. Under more realistic assumptions about the life of the relevant asset depicted in Figure 7, the depreciation charge is effectively negative for the first few years of the life of the asset, and only turns positive in Year 15.

Figure 7: Total capital versus the depreciation charge



Notes: Same assumptions as Optus.

223. What is equally striking, but not highlighted by Optus' example, is the steep increase in ULLS charges that is implied by the tilted annuity over longer timeframes. While the capital charge is just over \$8 in Year 1, it more than doubles over the life of the asset to more than \$19 by Year 30. In Optus' example customers would pay significantly more in 30 years' time (for what will then be aging assets) than the amount they pay today. Indeed, the implication of the tilted annuity that has been applied by the ACCC to date is set out in Figure 2 of Telstra's submission *Response to the ACCC's Draft Decision* dated 23 December. The network cost component of ULSL charges would increase from \$9.81 in 2005/06 to approximately \$68. If declines in demand are taken into account, the ULL price would increase to a greater extent.

224. Figure 8 below illustrates the implications of a depreciation charge that is effectively negative at the beginning of an asset's life. Figure 8 plots the *accumulated* depreciation corresponding to the depreciation charge for the 30-year asset shown in Figure 7. For an asset with an initial cost of \$100 (as assumed by Optus):

- In Year 14, the accrued depreciation and interest cost that would be owing to shareholders is (-)\$26.00;
- By Year 23, 0.02 per cent of the original cost of the asset would have been recovered;
- By Year 25, less than 20 per cent of the cost of the asset would have been recovered; and
- Only by the end of Year 28 (that is, two years before the end of the asset's useful life), would more than half of the asset's costs have been recovered.

225. The implications of a negative depreciation charge are therefore twofold:

- Telstra must effectively make additional payments towards the cost of the asset and cannot begin to recover any part of the up-front cost of the asset until very late in the asset's life; and
- By the same token, a significant financial burden will be placed on future generations of ULLS users, who will then have to pay for the cost of assets purchased more than twenty years ago, and whose useful life is all but over.

Figure 8: Accumulated depreciation charges



Notes: Same assumptions as Optus.

226. In summary, Optus' calculations entirely fail to illustrate two key points, namely, that the application of a tilted annuity:

- Results in a depreciation profile that is significantly more backloaded than the overall capital charge; and
- Results in a depreciation profile that significantly postpones cost recovery by postponing, not just when Telstra will have recovered any given proportion of the cost of the assets it has invested, but also when Telstra can even *begin* to recover the costs of these assets.

B.6.3 The tilted annuity approach leads to significant regulatory risk

227. As highlighted in the preceding discussion, the tilted annuity leads to a very substantial deferral in the timing of capital cost recovery. This effect is particularly insidious for longer asset lives. For instance, for a typical ULLS asset with a useful life of 30 years, Optus' approach of applying a tilted annuity with a +4 per cent tilt factor implies that actual cost recovery – when accumulated depreciation becomes positive – only begins in Year 23. This effect is compounded by the risk of forecasting error and regulatory intervention. This section shows that, contrary to what is claimed by Optus:

- No enterprise operating on commercial principles would adopt Optus' depreciation approach, since any subsequent change in the tilt would immediately ensure that the full cost of assets could no longer be recovered; and,
- These types of financial risks cannot be handled within the conventional CAPM framework applied by the ACCC.

228. In Footnote 68, Optus appears to recognise the problems that arise as a result of a reliance on uncertain input price trends, but then discounts them:¹⁵²

Issues of under and/or over compensation might only be posited to arise if forecast future prices (as derived by the price trends) are not equal to the actual future prices. It is correct that future price trends (and technological advancements) are extremely difficult to forecast. Inherent in the approach adopted by Telstra and the Commission is the potential for discontinuity in access prices as expectations change, but this is not inconsistent with what might be expected in a competitive market. Investors should not be concerned by the potential for forecasting error if prices are set based on the best unbiased estimate of future input price trends and technological development. Any residual uncertainty is fully diversifiable and is therefore factored into the equity betas used in the CAPM.

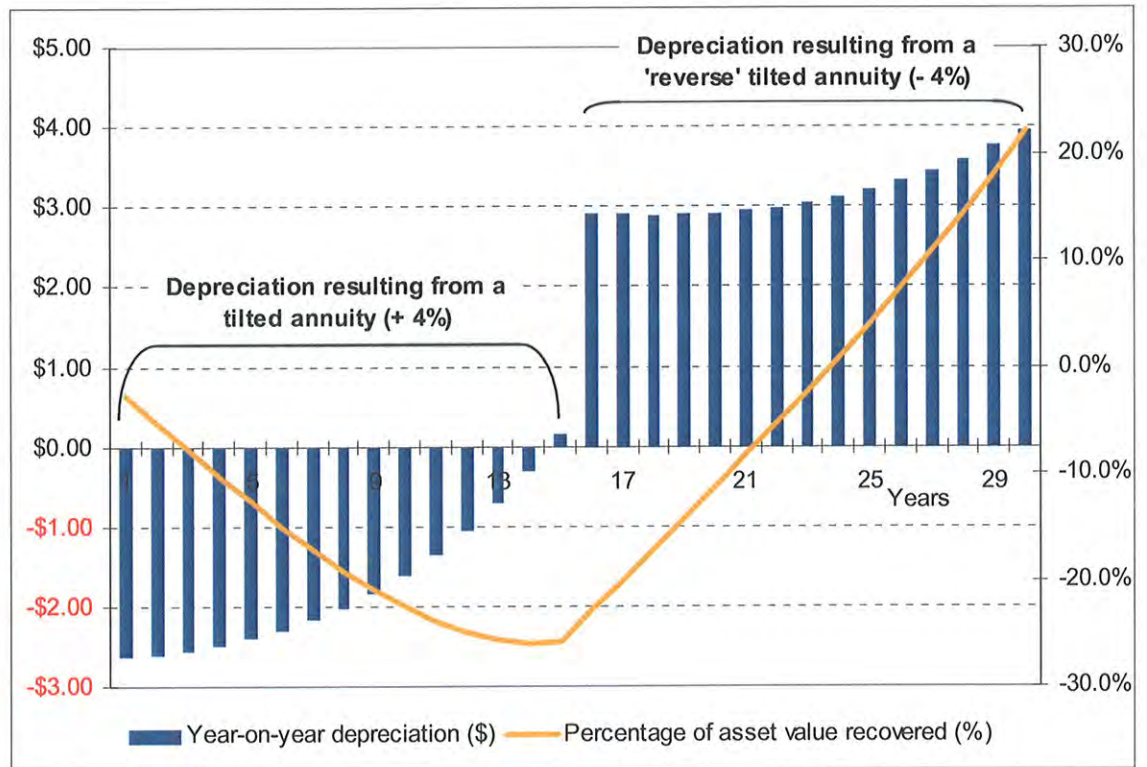
229. Optus attempts to persuade the reader of their submission that any error in predicting price trends is simply a risk, compensated for by the WACC. However, to classify error as a risk is incorrect. It is with a high degree of certainty that the ACCC has adopted a positive price trend for the tilted annuity while decreasing input prices in the models it adopted in successive rulings (see Table 3 above). The WACC does not compensate investors for certain losses associated with this approach to asset pricing.

230. In any case, the “discontinuity” to which Optus refers, represents very significant changes in asset valuations and, therefore, increases and decreases in capital charges, and ULLS charges. The ACCC's approach implies that a different tilt factor is applied to Telstra's ULLS assets with each revaluation for the purposes of deriving capital charges. Optus' recommends continuously revaluing Telstra's asset base (and changing ULLS prices accordingly) using uncertain and volatile prices of key ULLS inputs, such as copper.

¹⁵² Optus (2008), Response to Draft Decision, December 2008, footnote 68

231. Optus claims that Telstra's investors "*should not be concerned by the potential for forecasting error*" resulting from such a valuation approach, but this is neither a 'real world' outcome, nor correct from an economic perspective. No new entrant in a competitive ULLS and downstream market would invest billions of dollars constructing a CAN and then immediately defer recovery of its investment to the distant future. Unless there are some very unusual circumstances, a business operating on commercial principles would expect to recover the costs of the assets it has invested in when it sells the services provided by these assets, i.e. when those assets are used. Quite simply, a business that defers cost recovery far into an uncertain future risks not recovering these costs because either competition or the regulator prevents it.
232. Figure 9 below illustrates the '*discontinuity*' that Optus refers to, and that Telstra's shareholders would bear. It shows the effect on depreciation of changing the tilt of the annuity from (+)4 per cent to (-)4 per cent half way through the asset's life. Such an outcome would be entirely plausible if the ACCC acknowledged its forecasting errors and now expected upward trends in commodities prices to reverse into price falls. As per Figure 7 above, applying a tilted annuity to capital charges implies that depreciation is negative until Year 14 – the cost of the asset can only be recovered in the final (seven) years of the asset's life. In contrast, an annuity with a negative tilt (consistent with falling input prices) implies that depreciation is slightly frontloaded, so that just under 50 per cent of the asset's value would need to be recovered in the second half of the asset's useful life. If the ACCC were then to switch to an annuity with a negative tilt half way through the asset's life, the vast bulk of the asset's cost – almost 80 per cent – could not be recovered. In short, any type of regulatory intervention that would prevent Telstra from raising ULLS charges in the latter years of an asset's useful life to the very high levels that the ACCC's approach implies, simply means that only a fraction of costs can ever be recouped.

Figure 9: Changing the tilt half way through the asset's life – implications for cost recovery



Notes: Tilted annuity of (+)4% applied from Year 1 to Year 15. Tilted annuity of (-)4% applied from Year 16 to Year 30 of an asset's life. Percentage of asset value recovered is accumulated depreciation as a proportion of the initial cost of the asset (\$100).

233. Further, companies do not use tilted annuities in practice. Telstra has reviewed the financial accounts and annual reports for the year ending 30 June 2007 for the following companies operating in the Australian telecommunications market to determine the method of depreciation adopted by them:

- iiNet Limited;
- Primus Telecommunications Pty Ltd;
- SingTel Optus Pty Limited;
- Vodafone Australia Limited;
- NEC Business Solutions Ltd;
- PowerTel Limited; and
- Hutchison Telecommunications (Australia) Limited.

234. Each of those companies and Telstra calculated depreciation on a straight-line basis over the estimated useful life of the asset.

235. Accordingly, adopting the tilted annuity approach would be, quite simply, inconsistent with the commercial practice of the major companies in the Australian telecommunication market.
236. Beyond the fact that the tilted annuity cannot be reconciled with any 'real life' (commercial) outcomes, Optus' reference to the theoretical framework of the Capital Asset Pricing Model (CAPM) as a means for managing financial risks is also incorrect. Telstra earns a risk-adjusted rate of return on its assets that is derived by the ACCC on the basis of the commonly used CAPM. However, the CAPM assumes that regulated returns follow a very specific pattern, which is not the case here.
237. The CAPM assumes that cash flow risks are normally distributed. Any normal distribution can be completely characterised by its mean and variance. Moreover, the normal distribution is symmetric about its mean. Thus, the CAPM assumes that the probability of a particularly poor outcome for cash flows (below average cash flows) – is the same as the probability of a correspondingly good outcome for cash flows (above average cash flows), with the probabilities of each outcome determined by the parameters of the assumed normal distribution. The CAPM cannot take account of skewed distributions of cash flow risks such as 'downside asymmetric risk' whereby upside risks to a firm's cash flow and profits are capped, but the downside risks remain.
238. In reality, it cannot be assumed that regulation has a symmetric effect on the distribution of a firm's cash flows – asymmetry is, in fact, one of the most striking characteristics of regulatory risk.¹⁵³ Regulatory risk arises in two circumstances:
- Ex ante, i.e. before a regulated firm invests, in the rules of the regulatory regime that permit the write-down of regulated assets, so that a regulated firm faces strictly downside risk about the future regulatory asset base; and
 - Ex post, i.e. after a regulated firm has made a non-reversible (sunk) investment, since the regulator cannot commit itself to a certain course of action. A frequently cited case is one where the regulator changes the rules ex post to reduce rates of return that have turned out to be 'supernormal' without compensating for lower than normal rates of return at other times when returns turn out to be poor.
239. Individually and in combination, these risks imply that a regulated firm can expect its profits to be capped, while it will continue to bear the risk of poor business outcomes. Both types of regulatory risk apply to Telstra, which has seen its ULLS asset base written down substantially in successive regulatory determinations.
240. Ex ante or ex post regulatory intervention of this type shifts financial risks from customers to shareholders, and regulation with a downside bias introduces a skew in the distribution of cash flows. In the context of the CAPM, which assumes that cash flows are normally distributed, the effects of regulatory bias can only be compensated

¹⁵³ Pell, Burkhard (2006), 'Regulatory Risk and the Cost of Capital: Determinants and Implications for Rate Regulation', *Birkhäuser*, 2006, P.40ff.

for by adjusting the regulated rate of return by an additional risk premium.¹⁵⁴ This adjustment is potentially substantial, and has not, to date, been made by the ACCC. For instance, if the amount invested in regulated assets is \$100, the expected rate of return for alternative investments with a corresponding risk is 10 per cent and the probability of a \$10 disallowance of the rate base (so that neither depreciation nor interest is earned on the disallowed part of the rate base) is 50%, a risk neutral investor would require a compensatory rate of return of 15.79%.¹⁵⁵ If, all other things are equal, the possible disallowance is raised to \$25, the allowed rate of return is 25.71%.

241. Table 4 illustrates the rates of return required for different combinations of disallowance probabilities and magnitudes to exactly compensate a risk neutral investor for the impact of regulatory risk on the expected rate of return.

Table 4: Probability and percentage of disallowance and the required rate of return

Probability of disallowance	Percentage of disallowance			
	5 %	10 %	25 %	50 %
5 %	10.28 %	10.55 %	11.39 %	12.82 %
10 %	10.55 %	11.11 %	12.92 %	15.79 %
25 %	11.39 %	12.82 %	17.33 %	25.71 %
50 %	12.82 %	15.79 %	25.71 %	46.67 %

Source: Pell, Burkhard, *Regulatory Risk and the Cost of Capital: Determinants and Implications for Rate Regulation*, Birkhäuser, 2006, P. 43.

B.6.4 The tilted annuity approach creates significant commercial risks for Telstra

242. The ACCC's proposal, supported by Optus, raises a number of concerns fundamental to any business seeking to remain commercially viable (such as Optus itself). Quite aside from the risk of forecasting errors and regulatory intervention in general, capital cost recovery should not be pushed back 20 or 30 years for competitive reasons. There is a significant risk that expenditures on these assets will, in fact, never be recovered.

243. Competition for ULLS services is already shifting (and will continue to do so) to alternative technologies and away from ULLS. Revenues from ULLS investments will fall. The risk of competitive bypass to Telstra comes from a number of sources, including from the National Broadband Network, from Optus' hybrid fibre coaxial (HFC) cable network, from wireless voice and broadband services, and from new fixed wireless networks provided by alternative network operators. Additionally, CAN fixed line penetration has been falling in recent years and is expected to continue to do so. Under, the ACCC's approach ever fewer customers would need to pay ever greater depreciation charges for investment undertaken a long way in the past.

244. It is a matter of simple economics that no firm operating in a commercial environment in which competitive pressures will become more pronounced would adopt the charging profile that is recommended by Optus. Optus is effectively asking Telstra's shareholders to finance investments whose costs can likely never be recovered. Singtel's (Optus' parent) own statements in recent investor presentations emphasising its efforts to improve shareholder returns on invested capital only serve to further highlight this general point that no commercial business would embark on

¹⁵⁴ Pell, Burkhard (2006), 'Regulatory Risk and the Cost of Capital: Determinants and Implications for Rate Regulation', Birkhäuser, 2006, P. 41.

¹⁵⁵ The expected return on the regulated investment must equal the expected return of alternative investments so that: $0.5 * 100 * (1+x) + 0.5 * (100-10) * (1+x) = (100) * (1+0.1)$ where x denotes the allowed rate of return on the regulated asset base.

investments without the expectation of a commensurate rate of return.¹⁵⁶ In summary, Optus' approach is neither economically efficient, nor "fair", nor does it represent a commercial outcome.

B.6.5 The stated reasons for applying a tilted annuity do not necessarily apply

245. In its Draft Decision on Telstra's Undertaking, the ACCC stated that "the return on capital and the return of capital should be calculated consistently to ensure fair compensation over the life of the firm's assets."¹⁵⁷ The ACCC's draft view was to adopt a tilted annuity approach on the basis that "if a zero tilt is applied then Telstra may receive an abnormal return when its assets are re-valued upwards in future regulatory periods in response to price trends."¹⁵⁸ The stated reasons for applying a tilted annuity are to ensure against cost over recover when asset prices are increasing over time and the asset base is revalued periodically. However these reasons do not apply.

246. First, data yet to be provided by the ACCC, set out in Table 3, is likely to show that while the ACCC has applied a positive tilt for the tilted annuity, asset prices have actually decreased since the ACCC's 2000 decision. Thus, not applying a tilted annuity would likely underestimate costs. This evidence is likely to highlight that the use of a tilted annuity, and the associated deferral of cost recovery, creates two added sources of risk: the risk of the ex ante price trend forecast being incorrect (which does not exist under the TEA model approach to depreciation), and the risk that future recovery will not be possible, for example, because future competition prevents deferred costs being recovered. There are likely to be both firm-specific and systematic components to the first source of risk, requiring an uplift to the WACC. The extent of the uplift is then further increased by the second source of risk.

247. Second, it is open to the ACCC to ensure there is no asset price revaluation in the future so that the prices in the undertaking carry on beyond the period of the undertaking. The ACCC agrees that this would mean that a flat annuity (similar to Telstra's approach to depreciation) would be reasonable.¹⁵⁹

The ACCC considers that, in principle, an access price based on a recovery of the network asset value using either a tilted annuity or a flat annuity can be reasonable in circumstances where the term of the proposed undertaking matches the life of the assets or where the price trend for the network asset is flat.

248. Thus, Telstra does not consider that over-recovery is the necessary result of adopting a zero-tilt approach. Such a result is premised on the assumption that the ACCC has committed itself to re-valuing assets upwards in future regulatory periods.

249. It is also based on the assumption that in future regulatory periods, the ACCC will determine a price for the ULLS in a vacuum, without regard to the prices previously determined for the ULLS. In fact, one of the relevant considerations in setting the price of ULLS in the future, is the price that has been set in the past. In setting prices for ULLS, it is within the ACCC's power to have regard to how prices for the ULLS were determined in previous regulatory processes. For example, if a zero tilt was applied in a previous regulatory process before the ACCC, the ACCC could consider whether or not

¹⁵⁶ Francis Heng, Investor Presentation, "SingTel: Asia's Leading Communications Company", 8th January 2008.

¹⁵⁷ ACCC, Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking, Draft Decision, Public Version, November 2008, ("Draft Decision") p 114

¹⁵⁸ Ibid, p 123.

¹⁵⁹ ACCC, Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision, November 2008, at page 122

it would be appropriate in the current regulatory process before it, to re-value Telstra's assets upwards. Contrary to the ACCC's assumption, it is not bound to do so.

250. It is within the ACCC's power to take such a matter into account in both undertaking and arbitration processes, because the ACCC's discretion to consider matters other than the criteria listed in sections 152AH(1) and 152CR(1) respectively, is broad.¹⁶⁰ In both the Draft Decision and in its Statement of Reasons for the Final Determination in the PowerTel/Telstra ULLS access dispute ("**PowerTel Statement of Reasons**"), the ACCC not only took into account its previous decisions, but also purported to act consistently with those previous decisions. For example, in the PowerTel Statement of Reasons, the ACCC stated that it took into account "*analysis it has conducted on various issues in previous Part XIC processes*" including its decision in relation to Telstra's December 2005 ULLS Undertaking.¹⁶¹ Similarly, in the ACCC's Draft Decision on the Undertaking, the ACCC notes that it "*has also relied upon relevant information from sources other than submissions...[including] previous ACCC reports.*"¹⁶² Further, in both contexts, the ACCC has made decisions on particular issues which it notes are consistent with its previous decisions.¹⁶³

251. Accordingly, there is nothing to prohibit the ACCC from setting prices in the future so as to ensure consistency with its previous decisions, thus ensuring that Telstra does not over-recover its costs in adopting a zero-tilt approach. In this way the ACCC can ensure consistency between its decisions. Thus, it is open for the ACCC to adopt a zero tilt approach in the Undertaking process currently before it. Further, when the ACCC is setting the ULLS price in a subsequent period, it can take into account the manner in which it had previously set ULLS prices, and set the price so as to ensure that costs are not over-recovered.

B.7 Revised cost estimates

252. Optus changes the inputs into the TEA model to arrive at a cost estimate of \$22.73.¹⁶⁴ Optus had to assume extremely unrealistic assumptions to achieve this outcome. For example, it is patently unreasonable for Optus to assume that all trenches are in turf including across roads and driveways. Optus' result also fails to include ULLS specific costs of \$2.50 as determined by the ACCC.¹⁶⁵ As indicated in Telstra's recently filed materiality testing studies, many sets of reasonable inputs produce costs over the \$30 figure proposed by the undertaking.¹⁶⁶

B.8 Other claims by Optus

253. Optus make several assertions about the claimed benefits of the TEA model.¹⁶⁷ Most of Optus' assertions in relation to the TEA model are, indeed, in relation to the network base data in the TEA model not the TEA model itself. Telstra notes that the process of extracting the network base data from Telstra's engineering databases is documented in the expert statement of Frank Hatzenbuehler.

¹⁶⁰ See sections 152AH(2) and 152CR(2) of the TPA respectively.

¹⁶¹ PowerTel Statement of Reasons, at [64].

¹⁶² ACCC, Draft Decision, p 23.

¹⁶³ See PowerTel Statement of Reasons at [411], and Draft Decision p 110.

¹⁶⁴ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 3.77-3.79

¹⁶⁵ ACCC (2008), *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008; ACCC (2008), *ULLS Access Dispute between Telstra Corporation Limited and PowerTel (access seeker) Statement of Reasons for Final Determination*, April 2008, page 140; ACCC (2008), *ULLS Access Dispute between Telstra Corporation Limited and Primus (monthly charges) Statement of Reasons for Final Determination*, December 2007, page 130 and associated specific cost model.

¹⁶⁶ Telstra (2009), *Materiality Testing*, 23 March 2009

¹⁶⁷ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 3.82-3.107

254. Optus also claims that:¹⁶⁸

...if the TEA model is indeed based upon "actual cable routes", this may make it less likely to meet the 'efficient operator' standard, since it may demonstrate that the model's network design is not the design of an efficient operator, but instead is heavily influenced by the design of an inefficient legacy network (albeit that Telstra claims some cable routes have been removed).

255. Telstra has shown the extent of the efficiency of the TEA model in its submission titled *Measure of TEA Model Efficiency: ULLS Band 2*. That submission shows that the TEA model has 34% less trench distance than Telstra's actual network in Band 2. Clearly, the TEA model base network data and Telstra's legacy network are distinct.

256. Similarly, the updated efficiency study shows that the TEA model has 8.6% less trench distance than the hypothetical network of an efficient operator designed by the ACCC's model.¹⁶⁹ Further, adopting the same approach as Network Strategies to measure efficient network route distances, by reference to the length of roads, shows that the TEA model has 38% less network route distance than Network Strategies would consider efficient.

C Benchmarking evidence

C.1 International benchmarking

257. Telstra, following precedent set by the ACCC and the Tribunal, has outlined in its response to the ACCC's Draft Decision that:

- Many factors need to be considered in an international benchmarking analysis;
- Considering only a subset of these factors is insufficient;
- Considering only purchasing power parity and line density (incorrectly) is insufficient;
- Incorrect comparisons and conclusions are reached when only a subset of factors are considered and/or when those factors are considered incorrectly; and,
- If all factors are considered, this would be the equivalent to building a cost model such as the TEA model.

258. Since that report was lodged, the ACCC has stated:¹⁷⁰

¹⁶⁸ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 3.92

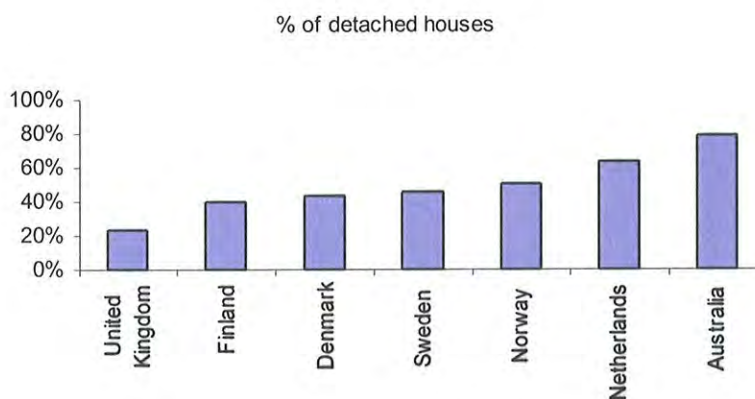
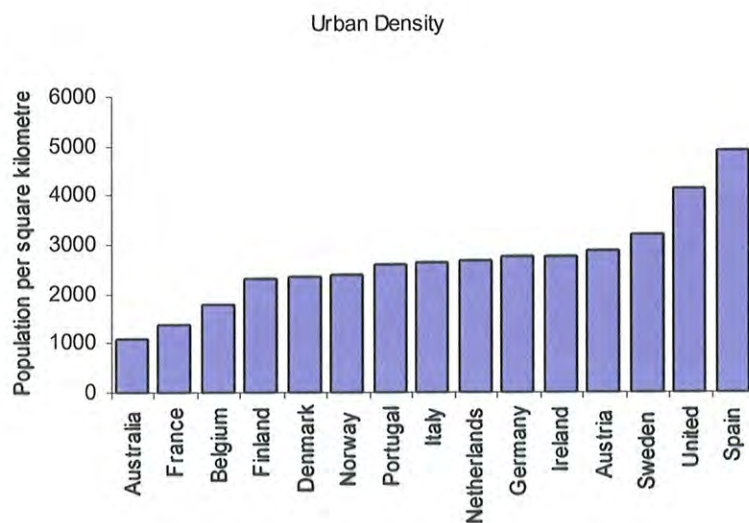
¹⁶⁹ Telstra (2009), *Measure of TEA Model Efficiency: Band 2 - Version 2*, 9 March 2009, section 5

¹⁷⁰ ACCC, *Domestic Mobile Terminating Access Service Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, pg 20.

However, substantive reliance cannot be placed upon international benchmarks in any arbitration proceedings or assessment of undertakings without making substantive adjustments to account for the differences between Australia and the benchmark countries as envisaged by the Tribunal in the Optus decision.

259. Rather than attempt to make any adjustments to the ACCC's international benchmarking analysis, Optus suggests that the socio economic, state of the relevant market and regulatory environments of the limited European countries surveyed by the ACCC are comparable to Australia.
260. However, as discussed in detail in Attachment 1, the evidence provided by Optus is insufficient and inconclusive. Indeed, socio-economic, state of the relevant market and regulatory environment conditions are not highly relevant factors in determining if the drivers of ULLS costs (and therefore prices) in other countries are comparable to Australia.
261. Instead, the following are two important factors in determining if the ULL cost drivers of countries are comparable (there are other important factors discussed in the report of Ingenious Consulting Network dated December 2008):
- Population density of urban areas — all things being equal, lower density results in higher unit costs. Australia's urban density is by far the lowest of the sample countries at 1089 people per urban square kilometre and a national density of just 3 people per square kilometre.
 - Type of housing mix — all things being equal, the unit cost to provide fixed telecommunications services to non-detached or shared buildings is lower than free-standing buildings. Australia has 16% more detached (free standing) homes than any country in the sample.
262. These two factors have not been adequately considered by the ACCC in its Draft Decision or by Optus. As shown below in Figure 10, Australia's population density in urban areas or mix of housing types do not resemble any country in the ACCC's ULL price international benchmarking exercise. Australia has a significantly lower urban density and a much higher proportion of detached freestanding houses. Thus, Australia's Band 2 ULL price should be notably higher than all other countries in the ACCC's sample.

Figure 10: Urban density and % of detached houses in Australia and overseas



263. Furthermore, the ACCC's benchmarking exercise excludes non-European nations. The ACCC's analysis is a European benchmarking exercise, not an international benchmarking.

C.2 Retail prices

264. Optus argues that:¹⁷¹

The ACCC has noted that in assessing the reasonableness of the terms and conditions in Telstra's undertaking, it may rely on various information including comparing the proposed access price with the access provider's retail price.

Optus agrees that useful information may be obtained by comparing the proposed access price with Telstra's retail price.

¹⁷¹ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 4.15-4.16

265. Optus then compares Telstra's line rental price (\$30) less its estimate of avoidable retail costs (\$4.84) with the ULLS price of \$30. Such a comparison is inadequate as it does not recognise all the services (e.g. voice and ADSL services) that access seekers and Telstra provide over a ULLS line.

266. Telstra prepared an analysis of Optus' margins for all services it delivers over ULLS lines. That analysis shows that:

- Optus' average revenue on ULLS lines is \$100 per line per month;¹⁷² and,
- Optus' cost of converting a ULLS line into retail services (not including ULSL rental) is \$13 per line per month.¹⁷³

267. Thus, the correct comparison is between \$87 per line per month retail price net of retail costs and the \$30 ULLS price.

C.3 PIE II cost model

268. Optus also claims that the results of the PIE II model are relevant to this undertaking and are considerably lower than the results of the TEA model.

269. Importantly, it is worthwhile reiterating that the PIE II model was developed approximately a decade ago and was best in use for its time. The PIE II model was a hypothetical cost model that underestimated trench lengths as it assumed, for example, that trenches could traverse natural obstacles such as rivers.¹⁷⁴ There is much material that goes to the limitations of the PIE II model that has been filed in respect of Telstra's 2005 ULLS undertaking. Telstra refers the ACCC to all that material to inform the ACCC of the strengths and weaknesses of the PIE II model. Telstra expects that the ACCC has that material available to it. If not, Telstra can provide it on request. Telstra also pointed out in arbitrations with Primus that the PIE II model did not account for numerous factors that have been accounted for in the TEA model. These included trenching in paved areas, lead ins, an uplift in trench distances for laying cable through hills and around obstacles, and additional customer locations.

270. Adding those adjustments to PIE II, Telstra stated that it would yield band II network costs between \$33.51 and \$42.04 for 2007/08 (excluding specific costs).¹⁷⁵ Notably, the ACCC's NERA model produced a monthly network cost estimate higher than Telstra's Undertaking proposes.¹⁷⁶

C.4 Analysys model cost estimates

271. Optus refers to the Analysys cost model for Australian fixed network services (**Analysys model**). Telstra notes that the inputs in that model are 'placeholders' and have not been subject to any process of verification. The ACCC makes this clear in documentation for that model. Therefore, it would be inappropriate for Optus to rely on the values produced by the Analysys model.

¹⁷² Telstra (2008), *Response to the ACCC's Draft Decision*, Attachment 2, 'Optus Data' worksheet, rows 64 to 66

¹⁷³ Telstra (2008), *Response to the ACCC's Draft Decision*, Attachment 2, 'Optus Data' worksheet, row 13

¹⁷⁴ A brief review of the PIE II model is included in *Summary of Telstra's Undertaking*, 21 December 2007, at Attachment 1.

¹⁷⁵ Telstra, *Submission to Arbitrations between Optus and Telstra: Part 3 – ULLS Monthly Charges*, section D.2.7

¹⁷⁶ Telstra, *Submission to Arbitrations between Optus and Telstra: Part 3 – ULLS Monthly Charges*, section D.3

272. Telstra also notes that errors have been discovered in the Analysys model and are yet to be remedied. The ACCC has been notified of these errors.¹⁷⁷

D Impact on investment by access seekers

273. In Section 5 of its submission Optus argues that an increase in the price of ULLS in Band 2 metropolitan areas would significantly discourage investment in DSLAMs and associated infrastructure by access seekers. However, this is not consistent with publicly available figures from Optus on the profitability of ULLS-based supply of services nor is it reflected in the pattern of DSLAM investment that has occurred to date. Indeed, as explained in further detail below, Optus' analysis of DSLAM rollout has errors that lead to Optus' incorrect and inconsistent conclusion.

274. Furthermore, even if the \$30 price proposed by Telstra did lead to a reduction in DSLAM investment, Optus does not explain why this would be inconsistent with the legislative criteria. In particular, Optus assumes that an access price that maximises investment by access seekers in DSLAMS is consistent with the legislation. In Telstra's view, this is incorrect. As confirmed by the Tribunal, the legislation is aimed at encouraging efficient investment both by access providers and access seekers, not maximising investment by access seekers, and certainly not encouraging inefficient investment by access seekers through below cost ULLS prices. Further, the LTIE would be better served by facilities based competition between networks than investment in DSLAMs, which is just one part of the end service provided to consumers.

D.1 Profitability of ULLS-based supply

275. Optus claims that the proposed substantial and rapid increase in the ULLS charge would significantly discourage investment in DSLAMs and associated infrastructure by access seekers.¹⁷⁸ This claim suggests that, at the ULLS price of \$30, there would be insufficient margin available for efficient access seekers to supply services to end-users by using ULLS together with their own DSLAM and associated equipment. Optus provides no evidence to support this.

276. Rather, publicly available information suggests that substantial margins would continue to be available to access seekers at the ULLS price of \$30. As set out in Attachment 1 of Telstra's response to the ACCC's Draft Decision, based on Optus' own figures, Optus could earn a substantial EBITDA margin of 56% and an EBIT margin of 47% at a ULLS price of \$30 per month. These results are reproduced below in Table 5. While these margins are lower than those Optus currently enjoys, they are viable and would not 'significantly discourage investment'.¹⁷⁹

Table 5: Optus Bundled ADSL and Voice Profitability – ULLS price of \$30 (June Qtr 2007 and June Qtr 2008)

¹⁷⁷ <http://www.accc.gov.au/content/index.phtml/itemId/858091>

¹⁷⁸ Optus Response to ACCC's Discussion Paper, paragraph 5.2, p.40.

¹⁷⁹ While these figures were published by Optus prior to recent changes to the Australian economy, those changes are not impacting telecommunications firms. For example, see Communications Day, *Vodafone Resilient to Credit Crunch*, 4 February 2009. Mr Paul O'Sullivan, Optus Chief Executive, stated "despite the difficult environment, Optus delivered strong results in all areas" – SingTel, 'SingTel Group's results for the third quarter and nine months ended 31 December 2008' News Release, 20 February 2009.

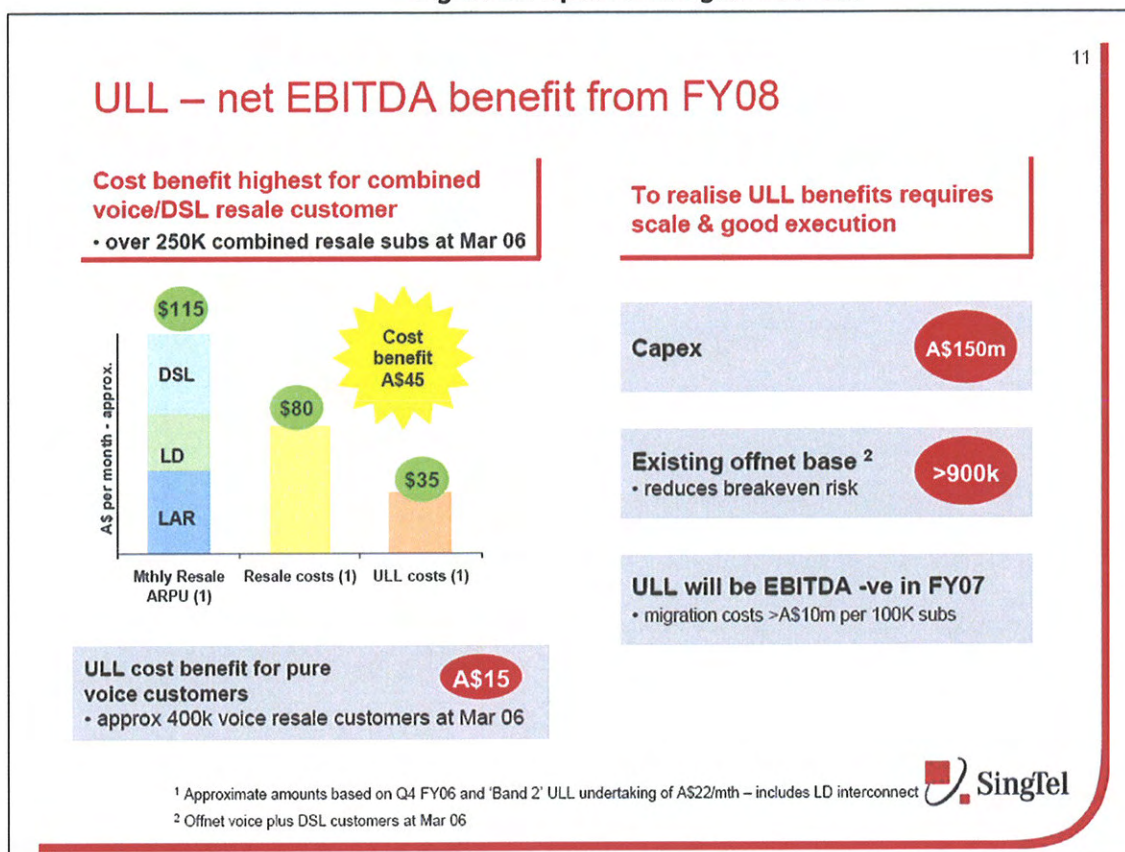
	June Quarter 2007	June Quarter 2008
Revenues	\$47,250,000	\$84,099,000
ULLS Monthly Rental Charges	\$14,175,000	\$26,010,000
Other COGS & Expenses (estimate)	\$6,142,500	\$11,271,000
Total COGS and Operating Expenses	\$20,317,500	\$37,281,000
EBITDA	\$26,932,500	\$46,818,000
EBITDA (%)	57.00%	55.67%
CAPEX charge	\$4,087,370	\$7,500,000
EBIT	\$22,845,130	\$39,318,000
EBIT (%)	48.35%	46.75%

Source: Publicly available Optus management reports, and SingTel Optus, Regulatory Update, SingTel Investor Day 2006, 29 June 2006 --Singapore, Paul Fletcher, Director, Corporate & Regulatory Affairs.

277. These substantial margins are also consistent with claims Optus has made in the past in relation to the benefits associated with ULL-based supply. For example, Slide 11 of SingTel Optus' Regulatory Update¹⁸⁰ (see below) claims a net EBITDA *benefit* of \$45 per month per customer as a result of moving from resale to ULLS and a total EBITDA margin of \$80 per customer per month. The notes to the slides state that this analysis was undertaken using a ULLS price of \$22 per month. Therefore, a ULLS price of \$30 would reduce these very large stated margins by just \$8 per month. It appears implausible that this relatively small reduction in Optus' substantial margin would 'significantly discourage investment' in DSLAM and associated infrastructure.

¹⁸⁰ SingTel Optus – Regulatory Update, SingTel Investor Day 2006, 29 June 2006 –Singapore, Paul Fletcher, Director, Corporate & Regulatory Affairs

Figure 11: Optus Briefing to Investors



278. While the Optus submission provides no margin analysis, it presents a graph of ACCC determined ULLS prices against DSLAM investment in an attempt to show that the total number of access seeker DSLAMs correlates to the indicative price set by the ACCC. Optus states:¹⁸¹

Allowing for a lag of a year or two for investment lead-time, it would appear likely that investment by access seekers in DSLAMs has been stimulated significantly by the ACCC's reductions in ULLS indicative prices in Band 2 first to \$22 and then later to \$14.30.

And¹⁸²

The message from this analysis should be clear: access seekers have made substantial investment in DSLAMs and associated infrastructure on the basis of a reasonable expectation that ULLS prices will remain close to the ACCC's indicative price, which is \$14.30 for the period 1 July 2007 to 30 June 2008 and \$16.00 for the period 1 July 2008 to 30 June 2009. It follows that Telstra's proposed substantial and rapid increase in the ULLS charge from \$14.30 (the regulated price at March 2008) to \$30.00 (the proposed undertaking price) would indeed significantly discourage investment in DSLAMs and associated infrastructure by access seekers.

¹⁸¹ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 5.11, p.46.

¹⁸² Optus (2008), *Response to Draft Decision*, December 2008, paragraph 5.14, p.46.

279. The price of ULLS undoubtedly has some influence over the demand for ULLS; indeed a zero price would stimulate demand even more. Sustainable, long term competition, however, is built upon access prices reflective of economic cost, which promote efficient investment. In any event, Optus' analysis is inaccurate. Figure 4 in the Optus submission implies that the ACCC reduced the Band 2 ULLS price to \$12.30 in mid-2005 and then increased the price by a small amount in each following year.¹⁸³ Paragraph 5.6 states that the roll-out of access seeker DSLAM networks commenced in 2005 and by 2007 the number of DSLAMs installed by access seekers in Band 2 areas increased by over 300 per cent. As noted in the quotes above, Optus then concludes that investment by access seekers in DSLAMs has been stimulated significantly by the ACCC's reductions in ULLS indicative prices.
280. However, Optus fails to note that the ACCC did not reduce the Band 2 ULLS price in mid-2005. As can be seen from Table 6 below, the ACCC's determination in relation to Band 2 ULLS prices at the levels indicated by Optus was first made in December 2007 and then backdated to July 2005. Therefore, access seekers would not have based DSLAM investment decisions for the period 2005 to 2007 on the basis of lower ACCC determined prices. In fact, if Optus' claims regarding the one to two year investment lead time are accurate then the price effect of the ACCC's December 2007 decision would affect DSLAM figures for December 2008 and January 2009, data not included in the Optus charts.
281. More likely, a range of other factors impacted the decision of access seekers to invest in DSLAM equipment, such as the significant margins available to Optus even at ULLS prices of \$30, the build-up of sufficient demand in particular Band 2 exchanges, and the reduction in DSLAM and associated equipment prices which made the transfer from resale to ULLS-based supply profitable.

¹⁸³ The exact figure of \$12.30 is not clear from the Optus chart but is inferred based on the ACCC determination rates for 2005/06.

Table 6: Summary of ACCC published arbitration determinations (available on ACCC's website as of January 2009)

Participants	Type of Determination	Date of Det.	Band 2 ULLS prices	Period effective
Chime Telstra	Interim Determination	10 April 2006	264 per annum (i.e. \$22 per month)	10 April 2006 until 12 months after April 2006
Chime Telstra	Revised Interim Determination	11 August 2006	\$17.70 per month	11 August 2006 until 10 April 2007
Chime Telstra	Final Determination	21 April 2008	\$14.30 per month	"Commencement: For the purposes of this schedule the price calculation date is 5 December 2007." (¶3 of Schedule to Determination)
Optus Telstra	Final Determination	21 April 2008	2005-06: \$12.30 2006-07: \$13.70 2007-08: \$14.30	"Commencement: For the purposes of this schedule the price calculation date is 18 November 2005." (¶3 of Schedule to Determination)
PowerTel Telstra	Final Determination	20 March 2008	2005-06: \$12.30 2006-07: \$13.70 2007-08: \$14.30	"Commencement: For the purposes of this schedule the price calculation date is 20 January 2006." (¶3 of Schedule to Determination)
Primus	Final Determination	20 Dec 2007	2005-06: \$12.30 2006-07: \$13.70 2007-08: \$14.30	"For the purposes of this determination the price calculation date is 3 February 2006." (¶16 of Determination)

Source: Published arbitration determinations (available on ACCC's website as of January 2009).

282. More importantly, Optus' argument appears to suggest that simply because a price rise would result in less DSLAM investment it should not be implemented. As discussed further below, the price for ULLS should be set at a level that best meets the legislative criteria not at a level that maximises access seeker investment in DSLAMs.

D.2 Maximising access seeker investment

283. Section 5 of Optus' submission focuses on investment by access seekers and implies that any reduction in access seeker investment is harmful. Optus argues that ULLS prices should be set to maximise access seeker investment in equipment dependent on ULLS such as DSLAMs. In Telstra's view, this clearly violates the legislative criteria and the interpretation of those criteria by the Tribunal.

284. In considering the efficient investment criterion set out in the legislation, the Tribunal states that access pricing must be considered from the perspective of both the access provider and the access seeker.¹⁸⁴ Further, from a societal viewpoint, only efficient investment should be encouraged.

285. Regarding efficient investment by the access provider the Tribunal states:¹⁸⁵

In general terms, efficient investment by an access provider in the infrastructure necessary to supply telecommunications services will be achieved when the firm is just able to recover the costs of such investment (inclusive of a normal return on its investment). If the firm is unable to recover the costs of efficient investment, it will not undertake such investment. If the firm is able to recover more than the costs of its investment, it will have an incentive to expand investment beyond efficient levels. An access charge should be one that just allows an access provider to recover the costs of efficient investment in the infrastructure necessary to provide a declared service.

286. In considering the efficient investment principle in relation to access seekers the Tribunal states:¹⁸⁶

An access seeker will have an incentive to make efficient "build or buy" choices if access charges are set to recover the efficient costs of investing in the infrastructure necessary to provide the declared service. If access charges are set at levels below those necessary to recover efficient costs, a potential access seeker may be encouraged to acquire access to a declared service when it would be more efficient for it to build its own infrastructure and bypass access to the declared service. This may also encourage inefficient investment in other infrastructure necessary to provide telecommunications services. For example, in the case of access to the ULLS, it may lead access seekers to deploy more DSLAM equipment in more of Telstra's exchanges than it would if access charges were set to allow recovery of efficient costs. It may lead to inefficiently high levels of investment in other infrastructure by access seekers.

287. Overall, the Tribunal concludes that:¹⁸⁷

Overall, therefore, efficient investment by both access providers and access seekers would be expected to be encouraged in circumstances where access charges were set to ensure recovery of the efficient costs of investment (inclusive of a normal return on investment) by the access provider in the infrastructure necessary to provide the declared service.

288. However, Section 5 of the Optus submission on investment fails to discuss access prices with respect to efficient costs and the efficient level of investment by both access providers and access seekers. Instead it incorrectly assumes that the more investment undertaken by access seekers in DSLAMs, connected to the Telstra network, the better the outcome for end-users. This ignores the need to stimulate investment in competing networks and facilities based competition and to assure that access prices promote *efficient build or buy choices*.

¹⁸⁴ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [158].

¹⁸⁵ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [159].

¹⁸⁶ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [162].

¹⁸⁷ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [164].

289. Optus concludes Section 5 by noting that Telstra and other incumbents frequently argue that regulated access leads to lessened investment. Optus counters with a single study by Fontenay and Savin to represent recent research stating that international benchmarks do not support claims linking mandated unbundling and wholesale pricing to lessened investment.¹⁸⁸
290. However, according to Optus, the author of the Fontenay and Savin study has instructed that the article is a working paper and cannot be passed on to Telstra in its current unfinalised form. Therefore, at this stage Telstra has not had any opportunity to consider the detail and, therefore is unable to comment on the claims made by Optus with respect to the Fontenay and Savin study. However, the fact that it is not finalised means that its conclusions might well change. The ACCC, therefore, should certainly not have regard to it.
291. Other publicly available studies which have not been commissioned by Telstra support the contrary view – that regulated access has in fact reduced investment incentives.
292. Most notably a report by Waverman et al. (2007), prepared with the support of the European Telecommunications Network Operators' Association (ETNO), found that the approach to regulation in Europe, and particularly lowering of LLU prices, decreased investment in competing networks. They summarise their results as follows (¶1.11 to 1.14):¹⁸⁹

Our results demonstrate that lower local loop prices cause a strong substitution from broadband offered over alternative access platforms towards LLU-based broadband offerings. The substitution is marked even though our econometric analysis controls for several other key variables (such as the cost of deploying alternative access networks) that also help to explain the share of alternative access in total broadband. This substitution ultimately results in substantially lower investment in these alternative access platforms.

Our econometric analysis shows that, all else equal, a reduction of 10 percent in LLU price causes an 18 percent fall in the subscriber share of alternative infrastructure. This 18 percent fall in subscriber share results in hundreds of thousands less broadband subscriber lines that utilise alternative access technologies. Thus intense access regulation (as measured through the LLU price) weakens facilities-based competition and the benefits that such competition delivers.

This fall in subscriber levels has the impact of reducing investment in alternative access platforms in both the short-term and the long-term. In the short-term, investment associated with connecting customers and upgrading networks is foregone, while in the longer term, the very substantial investment associated with expanding network footprints is also jeopardised.

Based on a set of reasonable assumptions, we calculate that for a hypothetical "Europe" (defined in Section 5), the lost long-term investment

¹⁸⁸ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 5.15, page 46.

¹⁸⁹ LECG (2007), *Access Regulation and Infrastructure Investment in the Telecommunications Sector: An Empirical Investigation*, September 2007, Professor Leonard Waverman, Professor Meloria Meschi, Benoit Reillier and Kalyan Dasgupta, prepared with the support of European Telecommunications Network Operators' Association (ETNO).

in alternative access platforms exceeds 10 billion Euros as a result of just a 10 percent LLU price reduction.

293. In concluding, the authors note that “while access regulation may promote short-term competition based on the existing PSTN network, it does so at a substantial cost. This cost is the potential reduction in alternative infrastructure investment by both incumbents and entrants” (§1.16).

294. In addition to the econometric analysis undertaken by Waverman et al. (2007), less formal empirical analysis and case studies also suggest that investment has been hindered by aggressive access regulation. Thus, Aron and Crandall have argued in a paper (prepared with funding by Telus) that:

This aggressive attitude toward regulation of ILEC broadband facilities is undoubtedly partly responsible for the lack of investment in new facilities in Europe. The European ILECs have lagged substantially behind their North American counterparts in fixed-wire network investment.

295. The authors' base their views on analysis of data derived from company annual reports, indicating that, over the five year period, 2002-06, nine EU ILECs (Telekom Austria, Belgacom, BT, Deutsche Telekom, KPN, Telecom Italia, TDC, Telefónica, and Telia-Sonera) invested an average of 12.8 percent of annual fixed-wire revenues in their networks while the surveyed large U.S. ILECs invested an average of 16.6 percent of revenues.¹⁹⁰ Crandall (2007) also provides informal empirical evidence that suggests EU regulation has inhibited capital spending.¹⁹¹

296. Access regulation has also been found to affect investment behaviour in the United States. In particular, Crandall, Ingraham and Singer (2004) find that, in the United States, facilities-based line growth relative to unbundled network element (UNE) growth was faster in states where the cost of UNEs was higher relative to the cost of facilities-based investment.¹⁹²

E Impact on competition

297. In Section 6 of its submission, Optus claims that Telstra retains a dominant position in the fixed line telecommunications market and secures higher margins than its competitors, while the margins of resellers have been progressively squeezed. Based on these claims, Optus argues that an increase in the ULLS price would have the effect of reducing competition and strengthening Telstra's monopoly position in fixed line telecommunications, thereby reversing the competitive gains that ULLS has delivered.

298. There are a number of difficulties with these claims:

- First, Optus confuses the concept of the promotion of competition with maximising the number of ULL services and minimising retail prices.

¹⁹⁰ Debra J. Aron and Robert W. Crandall, undated, *White Paper: Investment in Next Generation Networks and Wholesale Telecommunications Regulation*, p. 35.

¹⁹¹ Ex Ante or Ex Post? The Change in Telecom Regulation in the EU and North America, Robert W. Crandall, Criterion Economics and the Brookings Institution, Presentation at the London Business School Global Communications Consortium Conference, 12-13 November, 2007.

¹⁹² Do Unbundling Policies Discourage ILEC Facilities-Based Investment, Robert W. Crandall, Allan T. Ingraham and Hal J. Singer, An Article Submitted to The B.E. Journals in Economic Analysis & Policy.

- Second, in presenting and drawing conclusions regarding Telstra’s profitability, Optus fails to take into account Telstra’s high level of capital investment compared with its competitors. To recover the cost of higher levels of investment, any company would need to earn a higher EBITDA.
- Third, Optus incorrectly suggests that the level of Telstra’s profitability implies it is “dominant” and hence there should be no increase in the price of ULLS.
- Fourth, Optus fails to consider that the most obvious explanation for Telstra’s high market share in the local access market is inefficiently low access prices for ULLS.

E.1 The promotion of competition

299. The competition criterion in the legislation is not aimed at achieving particular outcomes such as increasing the take-up of ULLS or minimising retail DSL prices as implied by Optus’ submission. Rather, as explained by the Tribunal, the competition criterion is concerned with the process of competition:¹⁹³

Competition is a process, rather than a situation: Re Queensland Co-Operative Milling Association and Defiance Holdings (1976) 8 ALR 481 at 514-515. It is the way in which firms interact, and respond to each other, to ensure they best achieve their individual objectives. Under traditional economic theories of the firm, firms are normally considered to operate with the objective of maximising profits. In general, it is assumed that firms with this objective will compete to win market share from each other. In turn, competition between firms in this way is desirable from a consumer perspective because it creates incentives for firms:

- to lower their prices towards their costs of production in order to attract more consumers to their business so that they can expand their market share; and

- to seek greater productive efficiencies (now and over time) so that they may lower their costs of production. In turn, this enables them profitably to lower prices for consumers in ways that will attract more consumers to their business in order to increase their share of the market.

And¹⁹⁴

Accordingly, we believe it is important not to confuse the objective of promoting competition with the outcome of ensuring the greatest number of competitors. That is, the Act aims to promote competition because of the benefits that result from the process of competition, such as lower prices for consumers and the displacement of inefficient suppliers by efficient suppliers of services. As the Tribunal observed in Sydney International Airport (supra) at par [108]:

¹⁹³ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [97].

¹⁹⁴ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [99].

“The Tribunal is concerned with furthering competition in a forward looking way, not furthering a particular type or number of competitors.”

(See also Sydney Services Pty Limited [2005] ACompT 7 at par [136]).

300. Effective competition is likely to be promoted when access prices are set at efficient costs so access providers and access seekers must compete on the basis of their relative efficiencies and to ensure access providers can recover their costs over the long-run. Setting access prices below the level of efficient costs will not promote the competitive process. Rather, it will encourage inefficiently high take-up of ULLS and force retail prices to levels that are unsustainable in the long-run.
301. The information put forward by Optus regarding the large increase in the number of competitor DSLAMs, the number of ULL services taken-up, the average cost of ULLS and the take-up of retail DSL services does not imply that the very low prices set for ULLS are consistent with the legislative objectives. It simply demonstrates that if something valuable is given away at very low prices then more of it will be purchased.
302. However, in the longer-run, which is the focus of the legislation, uneconomic, excessively low prices for ULLS are unsustainable and inconsistent with the objective of promoting competition. In particular, prices set below long-run efficient costs will prevent Telstra competing on its merits. Telstra will be forced to subsidise the supply of its own services from elsewhere while access seekers face artificially low ULLS prices, a situation that is unsustainable over the long-run. Access seekers will have no incentive to be efficient; and investment in competing local access networks will never occur even when it would be efficient and in the long-term interests of end-users.
303. If the price of ULLS is not set at the efficient cost of supply then the process of competition will be harmed and there will be no incentive for any significant investment in local access infrastructure.

E.2 Profitability and dominance

304. Optus presents a table of financial data for a number of telecommunications companies in an attempt to illustrate Telstra’s “dominance” in the fixed line market. Optus only presents EBITDA margins which do not take into account the costs associated with capital expenditure. Given the very large investments undertaken by Telstra in local access infrastructure compared with its competitors this gives a highly distorted view of profitability. A more appropriate comparison would be EBIT results, which would take into account the relative capital intensity of the companies that Optus is attempting to compare.
305. Optus provides no explanation why Telstra should not be rewarded for the very substantial investments it has undertaken. Shareholders should be rewarded for committing funds to risky infrastructure projects. If Optus and Telstra’s other competitors were willing to undertake significant investments in local access infrastructure then they might also be rewarded in the form of higher EBITDA margins. However, Telstra’s competitors have made the decision, driven largely by extremely low ULLS prices, to rely on Telstra’s local infrastructure to supply services to end-users.
306. The financial data and other information presented by Optus do not demonstrate dominance in an anti-trust sense and, hence, cannot be used to draw conclusions regarding Telstra’s market power. However, even if Optus’ claims regarding dominance were supported by a proper competition analysis (which they are not),

Optus does not explain why dominance implies that ULLS prices should not be increased to a level that reflects efficient cost, as this standard follows the relevant statutory criteria. Instead, Optus simply asserts “*the proposed charge in the undertaking would thus have the effect of reducing competition and strengthening Telstra’s monopoly position in fixed line telecommunications*”¹⁹⁵.

307. Optus’ arguments cannot be reconciled. Telstra’s high share of the local access market is driven by inefficiently low prices for ULLS set by the ACCC. The ACCC’s pricing of ULLS has made it more profitable for companies to use ULLS rather than undertake their own investment. Consequently, only Telstra substantially invests in local access infrastructure. This effect is noted by the Tribunal:¹⁹⁶

If access charges are set at levels below those necessary to recover efficient costs, a potential access seeker may be encouraged to acquire access to a declared service when it would be more efficient for it to build its own infrastructure and bypass access to the declared service. This may also encourage inefficient investment in other infrastructure necessary to provide telecommunications services. For example, in the case of access to the ULLS, it may lead access seekers to deploy more DSLAM equipment in more of Telstra’s exchanges than it would if access charges were set to allow recovery of efficient costs. It may lead to inefficiently high levels of investment in other infrastructure by access seekers.

308. Optus also claims that the resale margins available to Telstra’s competitors are tight and have been progressively squeezed.¹⁹⁷ However, Optus provides no evidence to support this claim. The imputation test results that Telstra must submit to the ACCC every quarter under the accounting separation record keeping rules (RKR) suggest that the margins available to Optus and other access seekers across fixed line telecommunications services are substantial and have not been “progressively squeezed”.

309. While margins vary from quarter to quarter, the latest results (September quarter 2008) indicate a margin of 11.02% across the fixed voice bundle for residential customers (see Figure 12 below). This margin was higher than the September quarter results for 2007 (10.48%), 2006 (8.10%) and 2004 (9.44%). While the September quarter results for 2003 (15%) and 2005 (14.30%) were higher than the September 2008 margins, the level and pattern of margins do not support Optus claim that resale margins on fixed voice services are tight and have been progressively squeezed. In fact, the most recent report on imputation testing and non-price terms and conditions, concludes:

*On the whole performance for wholesale customers has generally improved during the reported quarter. The ACCC will continue to monitor Telstra’s performance in ensuing quarters to ensure results remain appropriate.*¹⁹⁸

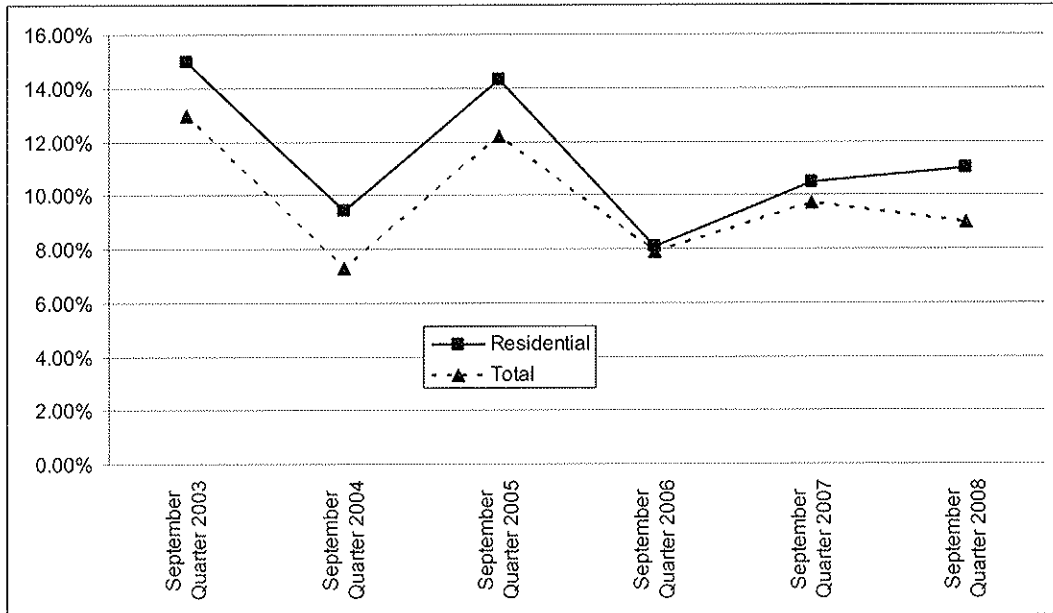
Figure 12: Imputation Test Margins for Fixed Voice Services: September Quarter 2003-2008

¹⁹⁵ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 6.25, page 55.

¹⁹⁶ Telstra Corporation Ltd (no 3) [2007] ACompT 3 at [162].

¹⁹⁷ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 6.9, page 50.

¹⁹⁸ ACCC (2008), *Imputation Testing and Non-Price Terms and Conditions Report relating to the Accounting Separation of Telstra for the September Quarter 2008*, December, page 5



Source: ACCC Imputation Testing and Non-Price Terms and Conditions Reports relating to the Accounting Separation of Telstra for: December Quarter 2004 (issued March 2005), September Quarter 2004 (issued December 2004), September Quarter 2005 (issued December 2005), September Quarter 2006 (issued December 2006), September Quarter 2007 (issued January 2008) and September Quarter 2008 (issued December 2008).

310. In considering the margins available to access seekers using resale services it is important to note that the imputation test margin reported is over and above any normal commercial return, as the ACCC requires Telstra to include the cost of capital (i.e. the return on capital) as a cost item within the imputation test. Consequently, the “margins” measured by the imputation test measure return in excess of the normal commercial returns, which the ACCC uses to measure Telstra’s “legitimate business interest.” Further, the costs that the ACCC requires Telstra to use in the imputation test are Telstra’s actual fully allocated historic costs prepared in accordance with the record keeping rules. Therefore, to the extent that access seekers recover common costs from other services or are more efficient than Telstra in the supply of fixed telecommunications services, the margin available on fixed voice services is even larger than that indicated by the imputation test results.

Attachment 1 European Benchmarking Analysis

[Contains partial Optus CiC throughout]

311. Precedent set by the ACCC and Tribunal with respect to international benchmarking shows that simplistic European benchmarking provides no guidance on whether a ULL price is reasonable. Following this precedent Telstra has outlined in its response to the Draft Decision (see section C.3 of Telstra's response to the Draft Decision) that:

- Many factors need to be considered in an international benchmarking analysis;
- Considering only a subset of these factors is insufficient;
- Considering only purchasing power parity and line density for ULL is insufficient;
- Incorrect comparisons and conclusions are reached when only a subset of factors are considered; and,
- If all factors are considered, this is the equivalent to utilising a cost model such as the TEA model.

312. The set of comparators used by the ACCC and supported by Optus in its response to the Draft Decision are insufficient and inappropriate.

313. The ACCC has submitted to the Tribunal factors which *might* be needed to ensure relevant comparator countries are included in any benchmarking exercise. However the ACCC has not limited itself to only these factors, stating that:¹⁹⁹

Before international benchmarking could be resorted to, [The Australian Competition Tribunal], must be satisfied that, notwithstanding the differences between Australia and the relevant international jurisdictions, those benchmarks were reasonable comparators. It submitted that relevant differences might include matters such as the definition of the regulated service, the applicable regulatory framework, the geographical price structure, the cost of capital, the prescribed cost standard (if any) and population concentration (as opposed to population density).

314. Optus has sought to provide evidence that the comparators provided by the ACCC are appropriate. Optus in its response to the Draft Decision has stated that:²⁰⁰

However, whilst Optus has no doubt that the proposed countries are appropriate comparators for Australia, there may currently be insufficient evidence before the ACCC to demonstrate this, particularly if Telstra were to appeal the ACCC's rejection of its undertaking to the ACT. The ACT has considered international benchmark evidence in the past and set a high standard for how evidence should be taken into account.

¹⁹⁹ Telstra Corporation Limited (No 3) [2007] ACompT 3, at [383-385]

²⁰⁰ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 4.4, pg 34

315. Optus appeals to the (non-exhaustive) list of criteria for international benchmarking outlined by the Tribunal's rejection of the reasonableness of its MTAS price, where the Tribunal concludes:

We do not consider that the international benchmarking analysis proffered by Optus is of any assistance to us in determining the issue as to the reasonableness of Optus' price. The range of prices derived by CRA is so broad as to be of little assistance. Further, the nature of the adjustments made by CRA and the adjustments to which it gave no consideration, render the figures derived an inadequate comparator for Australian conditions.

In any event, the nature of the international benchmarking exercise was such that it teaches very little, or nothing at all, as to whether Optus' price terms are reasonable having regard to the matters set out in s 152AH and the objectives in s 152AB. In order to place any reliance upon the international benchmarking analysis it would be necessary to know much more about the regulatory environment within which they were determined, the state of the relevant markets and the socio economic environment in which the mobile services were operative.²⁰¹

316. Based on the Tribunal's statement, Optus concludes that the only factors that the Tribunal will consider as evidence for determining the appropriate comparator countries in a benchmarking exercise are those relating to market conditions, socio-economic, regulatory environment and population density.²⁰²

Optus has taken the guidance provided by the ACT into account in assembling its international benchmarking evidence, in order to demonstrate the relevance of the benchmark countries as comparators to Australia. Optus refers the ACCC to Appendix B for a detailed comparison of the countries; however in summary, Optus would make the following observations.

317. However, the Tribunal has established that, in an international benchmarking exercise and with specific reference to ULL, more than just market conditions, socio-economic, regulatory environment and population density should be considered.²⁰³

We are not satisfied that Telstra has provided sufficient evidence to support the use of international benchmarking. Although Telstra's benchmarking report contains summary information regarding ULLS regulation in other jurisdictions, in order to place any reliance upon the international benchmarking analysis it would be necessary to know much more about the regulatory framework, the cost of capital and the price structures employed in other jurisdictions. The summary tables provided by Telstra did not provide us with sufficient information to determine whether the benchmarks were reasonable comparators for Telstra's ULLS monthly charges. In addition, we are not satisfied that the adjustment of the benchmark ULLS charges only for purchasing power parity and line density takes into account all the adjustments that need to be made to the benchmark ULLS charges for them to be reasonable comparators. The costs of providing the ULLS (or similar services) can vary between jurisdictions for a myriad of reasons and we need to be

²⁰¹ Optus Mobile Pty Ltd & Optus Networks Pty Ltd[2006] ACompT 8[296-297]

²⁰² Optus (2008), *Response to Draft Decision*, December 2008, paragraph 4.9, pg 35

²⁰³ Telstra Corporation Limited (No 3) [2007] ACompT 3, at [385-386]

careful when comparing cost estimates across different jurisdictions. The benchmarking analysis conducted by Telstra only makes adjustments for a small number of the possible differences that might exist to generate cost differences in the surveyed jurisdictions. Telstra has not provided us with sufficient evidence to satisfy us that the cost estimates from other jurisdictions considered by Telstra in its international survey do not require further adjustment before we can rely on them to assist in determining the reasonableness of a proposed access charge for the ULLS.

318. The comparator countries included in the benchmarking exercise undertaken by the ACCC in the context of Telstra's current undertaking only include European Union nations. Telstra, in its response to the Draft Decision, raised the concern that no justification for the exclusion of other countries is given.²⁰⁴

Indeed, no justification is given as to why these 14 countries were selected as appropriate comparators in the first place, or why other countries were not selected.

319. The exclusion of non-European nations lends no support to the ACCC's international benchmarking as being truly international, rather it is European benchmarking. Conclusions drawn from the ACCC's ULL price benchmarking provide an incomplete view of international ULL prices and should not be relied upon as evidence of an international benchmarking exercise.

320. In any case, as set out below, the evidence provided by Optus in support of the comparator countries in the ACCC's ULL price benchmarking exercise is insufficient and the conclusions reached by Optus are incorrect.

Population density and mix of housing type

321. Two of the most important drivers of CAN costs have not been considered by the ACCC or Optus in the European benchmarking exercise. The ACCC has implicitly acknowledged the importance of population density as a driver of per loop ULL costs in its Draft Decision by including 'Population per square km' figures in its table of benchmark ULL prices. As discussed in the Ingenious Consulting Network's report attached at Appendix 3: International Benchmarking Report of Telstra's response to the Draft Decision, these figures are misleading as they are averages of national density for other countries but only band 2 densities for Australia.

322. Table 7 provides both national and urban densities per square kilometre of each country in the ACCC's table of benchmark ULL prices. Australia's densities are significantly lower than those in the other countries sampled, with an urban density of 1089 people per square kilometre and a national density of 3 people per square kilometre. This difference implies that Australian prices should be significantly higher than the prices overseas, all other things being equal.

²⁰⁴ Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service: Response to the ACCC's Draft Decision. December 2008, pg 116.

Table 7: Urban and national population densities

	Urban Density per square km 2008*	National Density per square km 2008*
Australia	1089	3
France	1393	111
Belgium	1801	345
Finland	2317	16
Denmark	2353	126
Norway	2391	14
Portugal	2587	115
Italy	2642	196
Netherlands	2671	393
Germany	2750	231
Ireland	2761	60
Austria	2866	99
Sweden	3184	20
United Kingdom	4145	249
Spain	4897	87

Source: Calculations from Demographia World Urban Areas: Population & Density

Source: <http://www.oecd.org/dataoecd/36/57/38449405.xls>

323. The mix of house type is another factor that drives the cost of the CAN. All things being equal, the unit cost in an area dominated by apartment blocks or shared buildings is lower than for areas dominated by detached housing. Table 8 provides the housing mix by type for countries in the ACCC benchmarking sample where data is available. Australia has substantially more detached (free standing) homes than any country in the sample for which data is available (16% more than the next highest country the Netherlands). Further, Australia has substantially lower portion of its housing mix comprised of flats and apartment blocks (11%) than the rest of the ACCC benchmarked countries.

Table 8: Type of housing mix

	Detached	Semi-Detached	Flat / Apartment	Other/ Attached/ Terrace
Australia ²⁰⁵	79%	9%	11%	1%
Austria	--	--	--	--
Belgium	--	--	--	--
Denmark ²⁰⁶	43%	15%	42%	--
Finland ²⁰⁷	40%	--	44%	16%
France	--	--	--	--
Germany	--	--	--	--
Ireland	--	--	--	--
Italy	--	--	--	--
Netherlands ²⁰⁸	63%	--	37%	--
Norway ²⁰⁹	51%	11%	24%	14%
Portugal	--	--	--	--
Spain	--	--	--	--
Sweden ²¹⁰	45%	--	55%	--
United Kingdom ²¹¹	23%	32%	18%	26%

324. Therefore based on both urban and national population density measures and housing mix the benchmarked countries in the sample are not appropriate comparators to Australia

Socioeconomic environment

325. Optus in its response to the Draft Decision states:²¹²

The countries in the sample are all comparable to Australia in terms of the socio-economic environment, because in all sample countries (including Australia):

-GDP per capita in 2000 prices was above US\$11,445 (millions) in 2008;

²⁰⁵ [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/E2DF5B5D85C716FACA25748E00125614/\\$File/41020_housing_indicators_2008.xls#Table 2!A1](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/E2DF5B5D85C716FACA25748E00125614/$File/41020_housing_indicators_2008.xls#Table 2!A1)

²⁰⁶ http://www.dst.dk/HomeUK/Statistics/focus_on/focus_on_show.aspx?sci=1009

²⁰⁷ http://tilastokeskus.fi/til/asu/2007/asu_2007_2008-05-21_tie_001_en.html

²⁰⁸ <http://www.vrom.nl/pagina.html?id=37366>

²⁰⁹ http://www.ssb.no/english/subjects/02/01/fobolig_en/tab-2002-09-23-01-en.html

²¹⁰ http://www.scb.se/templates/tableOrChart_237370.asp

²¹¹ <http://www.statistics.gov.uk/StatBase/Expodata/Spreadsheets/D7520.xls>

²¹² Optus (2008), *Response to Draft Decision*, December 2008, paragraph 4.11, pg 35

-GDP PPP (Absolute) International Dollars was above \$18,590 (millions) international dollar [sic] in 2007;

-Consumer price indices were in the range of 113 to 126 in 2007;

-Gini index was in the range of 0.27 to 0,41 in 2008;

-Literacy rate was above 98% in 2008; and

-Unemployment rate was lower than 10% of population in 2008.

326. Optus provides insufficient evidence that the socio-economic environment of the comparator countries is properly comparable to Australia for the reasons outlined in the following sections.

CPI measures

327. The column headed 'CPI in 2007' in Table 9 summarises the national CPI figures as provided by Optus in Appendix B: International Benchmarking in its response to the Draft Decision. The CPI is a measure of the percentage change in the price of a common basket of consumer goods and services in relation to the base year of the index.²¹³

²¹³ OECD, *Sources and Definitions: Consumer Price index*, <http://stats.oecd.org/mei/default.asp?lang=e&subject=8>

Table 9: Consumer price index and relative labour cost index

	CPI in 2007	Base year of CPI = 100	CPI Q3:2007 Base 2000	CPI Q3:2008 Base 2000	2007-08 Inflation rate	Relative labour Cost Index Base 2000
Australia	██████	1989-90	123.52	129.70	5.00%	145.32
Austria	██████	2005	114.68	118.95	3.73%	101.39
Belgium	██████	2004	115.07	121.50	5.59%	110.02
Denmark	██████	2000	113.97	118.70	4.15%	127.87
Finland	██████	2005	110.55	115.61	4.58%	89.25
France	██████	1998	113.55	117.25	3.25%	107.75
Germany	██████	2005	112.38	115.83	3.07%	93.15
Ireland	██████	2006	130.56	136.23	4.35%	103.37
Italy	██████	1995	117.49	122.16	3.97%	141.17
Netherlands	██████	2006	116.25	119.93	3.16%	120.92
Norway	██████	1998	111.94	117.22	4.71%	128.26
Portugal	██████	2002	123.44	127.19	3.03%	104.64
Spain	██████	2006	124.46	130.56	4.91%	127.51
Sweden	██████	1980	111.35	116.11	4.28%	86.72
United Kingdom	██████	2005	112.45	117.86	4.81%	93.53

328. The countries in the ACCC sample are not appropriate comparators for several reasons.

329. First, CPI does not measure the cost of inputs to production of firms (supply side inflation) and is therefore not relevant for determining if the comparator countries in the ACCC's benchmarking exercise are comparable to Australia. The column headed 'Relative labour Cost Index Base 2000' shows the inflation of labour costs (or the price at which people in a nation are willing to sell their labour) as reported by the OECD as an input to a firms production since 2000. This index directly captures the costs of labour involved in producing goods and services for firms and therefore directly measures the costs of producing products such as ULL. Australia has the highest reported increase in labour costs since 2000 with an increase of over 45% (above the base of 100). This increase is clearly above that in all the other countries surveyed by the ACCC.

330. Second, even if CPI was relevant for determining the appropriate comparator countries for benchmarking, the OECD warns against the dangers of international comparisons of CPI stating:²¹⁴

²¹⁴ *ibid.*

Consumer Price Indices (CPIs) measure the average changes in the prices of consumer goods and services purchased by households. In most instances, CPIs are compiled in accordance with international statistical guidelines and recommendations. However, national practices may depart from these guidelines, and these departures may impact on international comparability between countries. Key methodological issues which can have an impact on the international comparability depending on the approach used by individual countries are...

331. Third, Optus fails to acknowledge that the relevant base year of each nation's CPI is different. The second column of Table 9 'Base year of CPI = 100', is the official year to which each national CPI figure is referenced as reported by the OECD. Thus, for example, the CPI measure for Australia represents the change in consumer prices from 2989-90 to 2007 (26.95%). Without knowing the exact base year of each country, the CPI figures reported by Optus cannot be relied upon as being directly comparable.
332. Fourth, CPI measures adjusted to a common base year show that only two countries (Spain and Portugal) have remotely similar inflation to that of Australia. For example, OECD CPI figures reported in the columns headed 'CPI Q3:2007 Base 2000' and 'CPI Q3:2008 Base 2000' of Table 9 have the year 2000 as their respective base year. Only Spain (124.46 and 130.56) and Portugal (123.44 and 127.19) have remotely similar inflation figures to Australia (123.52 and 129.70) in each respective year.
333. Fifth, CPI measures alone hide differences in the growth rate of inflation from year-to-year. The column headed '2007-08 rate of inflation' gives the calculated change in inflation from 2007 to 2008. The change in inflation highlights even greater differences between Australia and all other countries in the sample. Australia's change in inflation is 5.00 percentage points between 2007 and 2008. Only Spain has a similar rate of 4.91%.
334. In terms of inflation measures, the countries in the sample are not relevant comparators to Australia.

GDP per capita

335. The column headed 'GDP per Capita US\$' in Table 10 summaries the national GDP per capita figures as provided by Optus in Appendix B: International Benchmarking in its response to the Draft Decision. Telstra has added the remaining column. GDP is a measure of the value of the total production of good and services in an economy by the workforce of the nation.²¹⁵ GDP per capita is simply the division of this value by the respective total population.

²¹⁵ <http://stats.oecd.org/glossary/detail.asp?ID=1163>

Table 10: GDP per capita, real GDP per capita and hours worked for GDP per capita

	GDP per Capita US\$ 2000	National average rate of income taxation 2007^
Australia		31%
Austria		42%
Belgium		44%
Denmark		49%
Finland		43%
France		44%
Germany		36%
Ireland		32%
Italy		43%
Netherlands		38%
Norway		43%
Portugal		37%
Spain		37%
Sweden		48%
United Kingdom		37%

^Source: OECD .Stats Extract. The reported rate of GDP that is earned as taxation.

336. The countries in the ACCC ULL price benchmarking based on simple GDP per capita comparisons are not appropriate comparators for three reasons.

337. First, the GDP per capita figures reported by Optus (reported in the column headed 'GDP per capita US\$') in Table 10 shows a range between countries of \$32,485. Norway has the highest reported figured (US\$43,930) and Portugal the lowest (US\$11,445). These differences are significant. Only Belgium (\$25,833), France (\$23,619) and Germany (US\$25,444) have a reported real GDP per capita figure similar to that of Australia (\$24,432).

338. Second, the test that Optus applies implicitly to determine if the countries in the sample are appropriate comparators is insufficient. Optus concludes that countries in the sample are relevant comparators to Australia because their "GDP per capita in 2000 prices was above \$US11,445 (millions) in 2008".²¹⁶ This test implies that any nation in the world with a GDP per capita in 2000 prices above \$US11,445 is comparable to Australia. For example Trinidad and Tobago in 2008 had a report GDP per capita of \$US11,596²¹⁷ making Trinidad and Tobago a relevant comparator to Australia using Optus' test for determining relevant comparator countries to Australia based on GDP per capita. However, Trinidad and Tobago was not included in the benchmarking analysis, potentially making the sample biased according to Optus' standard.

339. Third, if the average rates of income taxation charged to each worker in earning the given levels of GDP per capita in each nation is studied (the third column in Table 10), then very large disparities between the ACCC's proposed set of comparators are seen.

²¹⁶ Ibid

²¹⁷ IMF reported figure in 2008 is US\$18,864, and the reported 2008 CPI figure with base in 2000 is 162.26. Therefore US\$11,596 = US\$18,862/1.6226

Australia has the lowest reported level of average income tax in the entire sample (31%). Only Ireland has a similar rate of income tax with 32%. All other nations have reported average rates of income tax greater than 36%.

340. Therefore, based on GDP per capita and average rates of taxation for the GDP per capita earned, the countries in the sample are not relevant comparators to Australia.

Gini Coefficient

341. The column headed 'Gini Coefficient' in Table 11 below is a summary of the national (income) Gini coefficient figures as provided by Optus in Appendix B: International Benchmarking in its response to the Draft Decision. The Gini Coefficient is most commonly used as a measure of how evenly a nation's income is distributed amongst its population.²¹⁸ However it can also be used to measure the equality of distribution of many things such as wealth or social services such as health. As presented by Optus, the Gini coefficient is used to represent only income equality (or inequality).²¹⁹ The Gini coefficient is bounded between 0 and 1, where 1 would imply that a single household or person in a nation receives all (100%) of a nation's income and 0 would represent a pure egalitarian society (in terms of income distribution).

Table 11: Gini coefficient, income distribution and wealth

	Gini Coefficient (income)	Multiple of top to bottom income earners^	Household net savings as % of disposable income (wealth)*
Australia		3.1	-0.70
Austria		--	9.40
Belgium		--	7.10
Denmark		2.6	-2.70
Finland		2.4	0.60
France		2.9	11.80
Germany		3.3	10.70
Ireland		3.6	10.10
Italy		2.4	--
Netherlands		2.9	6.90
Norway		2.1	2.50
Portugal		--	1.80
Spain		3.5	3.80
Sweden		2.3	-0.10
United Kingdom		3.6	0.60

[^]Source: http://stats.oecd.org/wbos/Index.aspx?DatasetCode=DUR_I

^{*}Source : OECD Factbook 2008: Economic, Environmental and Social Statistics

342. The comparator countries suggested by the ACCC and Optus, based on Gini coefficient comparisons, are not appropriate comparators to Australia because the Gini coefficient does not capture the degree of wealth equality (or inequality) within a nation, or any number of other forms of inequality. For example Sweden has a Gini

²¹⁸ <http://stats.oecd.org/glossary/detail.asp?ID=4842>

²¹⁹ Optus (2008), *Response to Draft Decision*, December 2008, Appendix B: International Benchmarking December 2008, page 3

coefficient for income distribution of 0.30 (a relatively egalitarian income distribution), yet Sweden's Gini coefficient of wealth distribution is 0.89 — the top 10% of income earners hold 66% of the nation's wealth.²²⁰ The column headed 'Household net savings as % of disposable income (wealth)' in Table 11 is a measure of the level of household savings for the average household in a nation after taking into account expenses. A negative measure suggests that the average household's spend is greater than income earned.²²¹ The level of savings or ability to save is a proxy for the level of wealth creation in a nation.²²² Australia's average savings rate (-0.7%), is negative and clearly much lower than all countries in the sample except Denmark (-2.7%). This rate implies that the average household is creating a negative wealth position, highlighting a greater wealth disparity between the top wealth and income earners and the average, despite a relatively healthy Gini coefficient of income.

343. Therefore based on Gini coefficients and wealth measures the countries in the sample are not relevant comparators to Australia.

Unemployment Rate

344. The column headed 'Unemployment rate as a proportion of population' in Table 12 summarises the unemployment figures as provided by Optus in Appendix B: International Benchmarking in its response to the Draft Decision. The 'Unemployment rate as proportion of population' is a measure of the number of unemployed people in a nation divided by the national population and is one measure of a nation's unemployment rate.²²³

²²⁰ http://www.scb.se/templates/Publikation____193443.asp

²²¹ <http://www.oecd.org/dataoecd/53/48/32023442.pdf>

²²² *ibid.*

²²³ <http://stats.oecd.org/mei/default.asp?lang=e&subject=10>

Table 12: Unemployment rates, discouraged workers and duration of unemployment

	Unemployment rate as % of population	Discouraged workers as % of labour force [^]	Portion of unemployed by duration of unemployment [*]	
			< 6 months	> 6 months
Australia		0.005²²⁴	73%	27%
Austria		0.14	56%	44%
Belgium		0.3	32%	68%
Denmark		0.06	70%	30%
Finland		--	62%	38%
France		0.29	41%	59%
Germany		0.18	29%	71%
Ireland		0.04	50%	50%
Italy		4.09	35%	65%
Netherlands		1.09	41%	59%
Norway		--	74%	26%
Portugal		0.34	32%	68%
Spain		0.95	57%	43%
Sweden		2.11	73%	27%
United Kingdom		0.12	58%	42%

[^]Source: http://stats.oecd.org/wbos/Index.aspx?DatasetCode=DW_I

^{*}Source: http://stats.oecd.org/wbos/Index.aspx?DatasetCode=DUR_I

345. Comparator countries based on Optus' unemployment rate comparisons are not appropriate comparators to Australia for several reasons.

346. First, the unemployment rates presented by Optus are not similar and the differences among countries are not trivial. Optus' figures range between a high of 9.54% to as low of 3.85%. The nearest unemployment rate to Australia's reported rate of 5.85% is 4.27% (Norway) — a difference of 1.58%. With Australia's total population in 2007 of approximately 21 million people, a reduction in the unemployment rate of 1.58% (to equal Norway's) corresponds to the creation of approximately 332,000 new jobs, hardly a trivial figure.

347. Second, Optus' definition of unemployment is not appropriate and can hide major differences in a nation's unemployment rate and socio-economic makeup. Optus defines unemployment as the portion of people unemployed to the total population.²²⁵ However, unemployment is most commonly measured as the proportion of people actively seeking employment (the unemployed) to the total labour force (unemployed plus employed).²²⁶ Optus' definition can hide major differences in a nation's unemployment rate. For example, two nations may have the same number of unemployed people and same total population, but one nation has a large retired population and small total labour force and the other a small retired population and large total labour force. Under Optus' definition both nations will have the same unemployment rate. However under the former more common definition of the unemployment rate, the underlying differences in socio-economic and

²²⁴ Calculation based on data from <http://www.abs.gov.au/ausstats/ABS@.nsf/7d12b0f6763c78caca257061001cc588/B3E86B3B58FAFCF4CA2573D20010F230?opendocument>

²²⁵ Optus (2008), *Response to Draft Decision*, December 2008, December 2008, page 36

²²⁶ See Survey Based, Key Statistical Concept <http://stats.oecd.org/mei/default.asp?lang=e&subject=10>

demographic make-up will be evident. That is, the former nation will have a higher calculated unemployment rate (due to a small total labour force) than will the latter nation.

348. Third, when comparing the level of discouraged workers in Table 12 in each nation as a proportion to the total labour force, Australia has the lowest rate (0.005%) to that of the nearest nation (Ireland – 0.04%) by a multiple of 8. Discouraged workers are people who are not seeking employment because they believe that there is no work available, but who nevertheless would like to work.²²⁷

349. Fourth, comparing figures on the duration of unemployment in Table 12 makes clear that the labour market in Australia is much more fluid than that of the majority of countries in the sample. Unemployment duration is defined as the length of time a job seeker spends unemployed from the time he or she begins seeking employment.²²⁸ 73% of people who become unemployed in Australia spend less than 6 months being unemployed. Only Denmark, Norway and Sweden have similar figures. This table highlights the major differences in the flow of job seekers (into and out of the job market) and labour market policies in Australia relative to the rest of the countries in the sample.

350. Therefore, based on the unemployment rate as percentage of population, the level of discouraged workers and tenure of unemployed, the countries in the sample are not relevant comparators to Australia.

State of the market

351. Optus in its response to the Draft Decision states:²²⁹

The countries in the sample are all comparable to Australia in terms of the state of the relevant markets, because in all sample countries (including Australia):

-incumbents still own the majority market share in the fixed line market;

-fixed line telephone penetration was high in 2008;

-internet user percentage of total population was high in 2007;

-fixed line calling costs (local) were in the range of 0.29 to 1.15 Euro in 2005.

- fixed line calling costs (national) were in the range of 0.29 Euro to 1.15 Euro in 2005

352. Optus has not provided sufficient evidence that the regulatory environment of the comparator countries is comparable to that in Australia for the reasons outlined in the following section.

Incumbent fixe line market share

²²⁷ <http://stats.oecd.org/glossary/detail.asp?ID=645>

²²⁸ See Unemployment Duration found in http://www.oecd.org/document/15/0,3343,en_2649_33729_38938959_1_1_1_1,00.html

²²⁹ Optus (2008), *Response to Draft Decision*, December 2008, paragraph 4.10, page 35

353. Incumbent fixed line market share in Australia is not comparable to that in the countries in the ACCC international benchmarking sample. Table 13 provides the incumbent fixed line market share as reported by Optus in Appendix B: International Benchmarking in its response to the Draft Decision.

Table 13: Fixed line incumbent market share as provided by Optus

	Fixed Line Market Share
Australia	
Austria	
Belgium	
Denmark	
Finland	
France	
Germany	
Ireland	
Italy	
Netherlands	
Norway	
Portugal	
Spain	
Sweden	
United Kingdom	

354. Fixed line market share of incumbent providers provided by Optus for the comparator countries shows that the not all countries in the sample are appropriate comparators to Australia. The incumbent fixed line market shares are not similar and the differences among counties are not trivial. Optus' figures range between a high of 90% (Norway) to as low as 0% (UK). Also because of the size of the markets (Australia has approximately 10 million fixed lines)²³⁰, even just a 5% change in market share of any incumbent is not a trivial figure (approximately 500,000 fixed line customers for Australia).

Fixed telephone penetration is high

355. The fixed telephone penetration in Australia is not comparable to all countries in the ACCC international benchmarking sample. The second column in Table 14 titled 'fixed line telephone penetration per 100 inhabitants' gives the fixed line penetration per 100 inhabitants as reported by Optus in Appendix B: International Benchmarking in its response to the Draft Decision.

²³⁰[http://www.accc.gov.au/content/item.phtml?itemId=794173&nodeId=10ddd4aa662b4614c52f4f68236d8a51&fn=Telecommunications%20market%20indicator%20report%202005-06%20\(released%20August%2007\).pdf](http://www.accc.gov.au/content/item.phtml?itemId=794173&nodeId=10ddd4aa662b4614c52f4f68236d8a51&fn=Telecommunications%20market%20indicator%20report%202005-06%20(released%20August%2007).pdf)

Table 14: Fixed line telephone penetration per 100 inhabitants as provided by Optus

	Fixed line telephone penetration per 100 inhabitants 2008	Total number of fixed lines 2008 (approx.)
Australia		9,247,040
Austria		3,499,860
Belgium		4,732,650
Denmark		3,058,160
Finland		1,804,380
France		37,722,400
Germany		53,801,800
Ireland		---
Italy		24,717,420
Netherlands		7,539,400
Norway		2,071,080
Portugal		4,248,000
Spain		20,383,060
Sweden		6,502,890
United Kingdom		33,596,750

Source: Estimates calculated based on reported OECD total population figures:
<http://oecd.p4.siteinternet.com/publications/doifiles/01-01-01t1.xls>

356. The total number of fixed lines per nation is a more appropriate measure than fixed line penetration. The total number of fixed lines per nation is a proxy for the economies of scale of the fixed network required for each nation. This is extremely relevant in the case of ULL as it is expected that, all else being equal, if a country has a greater number of fixed lines than another country, then its average cost of lines is lower.

357. The third column in Table 14 gives the number of fixed telephone lines²³¹ in each nation of the ACCC's sample in 2008. Table 14 shows that the range in the sample based on total fixed lines in 2008 is extremely large ranging from a high of 53,801,800 for Germany to a low of 1,804,380 lines for Finland, a difference of 51,997,420 lines.

358. The United Kingdom has over 260% more lines than Australia making it a very poor comparator to Australia.

Fixed line telephone prices (basket)

359. The comparator countries based on Optus' fixed line local and national calling costs are not appropriate comparators to Australia for the following reasons.

360. First, Optus does not provide a complete picture of prices based on calling distance, destination (fixed, mobile or international) or time of day.

361. Second, Optus does not provide the price associated with access fees or any indication of access fee prices in relation to calling fees.

²³¹ Total fixed lines are estimated using OECD reported total populations for each nation and the Optus reported lines per 100 inhabitants as Total fixed lines = (Total population/100)*(No. of fixed lines per 100 inhabitants).

362. Third, Optus does not provide any indication of the price differences (if any) of access or calling fees for residential versus business consumers.

363. The countries in the ACCC's benchmarking sample are not relevant comparators when compared on a basket of both access and calling fees paid over the course of one year. Table 15 is the OECD constructed basket of access and calling fees for a residential low spend customer. The basket consists of 600 calls per year broken down according to distance, destination (fixed, mobile and international), and time of day. All prices are given in USD purchasing power parity (PPP) 2006.

Table 15: Basket of yearly prices for access and calling fees for low spend customers

	Low spend US\$ 2006		
	Access fees per year	Calls per year	Total price per year
Australia	\$298	\$152	\$450
Austria	\$220	\$178	\$398
Belgium	\$255	\$190	\$445
Denmark	\$198	\$202	\$400
Finland	\$190	\$200	\$390
France	\$205	\$195	\$400
Germany	\$205	\$180	\$385
Ireland	\$320	\$78	\$398
Italy	\$220	\$183	\$403
Netherlands	\$290	\$110	\$400
Norway	\$220	\$125	\$345
Portugal	\$405	\$145	\$550
Spain	\$330	\$115	\$445
Sweden	\$195	\$108	\$303
United Kingdom	\$225	\$170	\$395

Source: Approximations from OECD Telecommunications Outlook 2008.

364. Not all OECD figures for different OECD defined spend baskets for residential or consumer have been presented as trends appear to be approximately similar across most baskets. Table 15 shows that comparator countries differ greatly in both access and calling prices charged.

Regulatory environment

365. Optus in its response to the Draft Decision states:²³²

The countries in the sample are all comparable to Australia in terms of the regulatory environment because in all sample countries (including Australia):

-the local loop unbundling service was regulated around the late 1990s to early 2000;

²³² Optus (2008), *Response to Draft Decision*, December 2008, paragraph 4.12, page 36

-regulatory practise followed the European Union unbundling regulation to review the tariffs and conditions offered by the incumbent in its reference unbundling offer (RUO);

-tariff charges were set based on cost; and

-tariff charges were informed by a LRIC model.

366. Optus has not provided sufficient evidence to support its contention that the regulatory environment of the comparator countries is comparable to that of Australia for the reasons outlined in the following section.

Regulatory practices followed the European Union unbundling regulation (recommendation)

367. The OECD has stated in regard to the regulatory practices for pricing ULL that:²³³

When it comes to charging for unbundled local loop there is greater variation in what countries say they do than in what they do in practice. A large group of countries claim that their prices for ULL are “cost based”. The EU unbundling recommendation requires that the prices for unbundled access to the local loop shall be “on the basis of cost-orientation”. Consistent with geographically-averaged end-user prices, the regulated tariffs for unbundled local loops are usually geographically averaged (see Table A.7). In fact ULL access prices are usually geographically averaged even in those countries which claim that they are using a “cost-based” or “cost-oriented” approach to the regulation of ULL. The Netherlands, for example, which pursues cost-oriented access prices, unbundles local loop on a geographically averaged basis.

368. The OECD has clearly expressed that it views the stated regulatory objectives and the regulatory practices actually applied within European Union countries to be vastly different.

369. The regulatory practices applied within the sample countries, regardless of the European Union regulatory recommendations, are sufficiently different to Australia as to not be comparable with Australia. This is further highlighted by Table 16, which outlines the regulatory objectives of the nations in the sample and whether deaveraged ULLS prices are applied.

²³³ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

Table 16: Clarity of regulatory objectives

	Clarity of regulatory objectives	Deaveraged ULL prices
Australia		Yes
Austria	(2) The regulatory measures are designed to serve the following objectives: 1. to create a modern electronic communications infrastructure in order to promote high-level locational quality; 2. to ensure equal opportunities and operative competition in the provision of communications networks and communications services by a) ensuring that all users derive maximum benefit in terms of choice, price and quality; b) preventing distortion or restriction of competition; c) encouraging efficient investment in infrastructure and promoting innovation; d) ensuring efficient use and effective management of frequencies and numbering resources; 3. to promote the interests of the citizens by a) ensuring that all citizens have access to universal service; b) ensuring protection for consumers, in particular by simple and inexpensive dispute resolution procedures as well as a high level of protection of personal data and privacy; c) providing information, in particular in the form of transparent tariffs and general terms and conditions; d) ensuring the integrity and security of public communications networks. ²³⁴	No ²³⁵
Belgium	English version unavailable ²³⁶	No ²³⁷
Denmark	"On the one hand, such regulation affords new market players the possibility of using existing networks until they have achieved a volume that makes such access uninteresting, without any need to pay for inefficiency, bad investments etc. on the part of the former monopoly provider. On the other hand, the regulation provides an incentive for them to invest in new alternative networks as soon as their business can bear such costs." ²³⁸	No ²³⁹
Finland	The regulator does not make any clear statements, other than that price must reflect costs and can include a reasonable return on capital. ²⁴⁰	No ²⁴¹
France	There is no clear statement of why the specific methodology was chosen. There are however specific principles that guide ART (from ART decision notes): cost orientation of tariffs; the principle of efficiency; the principle of non-discrimination; and the principle of fair and long-lasting competition. ²⁴²	No ²⁴³
Germany	Telecoms regulation aims to promote competition and to guarantee defined levels of service across the country. Price regulation is therefore a requirement for dominant companies. The price determinations themselves have to be made within a set of constraints anchored in the Telecommunications Act (TKG) and the Telecommunications Rates Regulation Ordinance (TEntgV). ²⁴⁴	No ²⁴⁵
Ireland	It must be remembered that LLU has a wider national importance: electronic communication services are essential to the development of the information-based economy in Ireland. It is also generally recognised that an advanced, thriving electronic communications sector, characterised by healthy competition, is highly important for maintaining and enhancing Ireland's international economic competitiveness. ²⁴⁶	No ²⁴⁷
Italy	Reasons for using the current methodology have not been explicitly stated. ²⁴⁸	No ²⁴⁹
Netherlands	Role of OPTA 27. The amended ONP Voice Telephony Directive specifies that in the	Yes ²⁵¹

²³⁴ http://www.rtr.at/en/tk/TKG2003/TKG_2003_eng.pdf

²³⁵ <http://www.rtr.at/de/komp/Fachpublikationen/GeographicallyLocalLoop.pdf>

²³⁶ <http://www.ibpt.be/ShowDoc.aspx?objectID=1682&lang=en>

²³⁷ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

²³⁸ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²³⁹ <http://www.rtr.at/de/komp/Fachpublikationen/UnbundlingLocalLoop.pdf>

²⁴⁰ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²⁴¹ <http://www.rtr.at/de/komp/Fachpublikationen/UnbundlingLocalLoop.pdf>

²⁴² Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²⁴³ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

²⁴⁴ http://www.bundesnetzagentur.de/en/id/8bb4af2e6084a9c7900aa96d8c21375a,0/Telecoms_Regulation/Analytical_Cost_Model_17h.html#local_loop

²⁴⁵ <http://www.rtr.at/de/komp/Fachpublikationen/GeographicallyLocalLoop.pdf>

²⁴⁶ http://www.comreg.ie/_fileupload/publications/ComReg0856.pdf

²⁴⁷ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

²⁴⁸ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²⁴⁹ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

	context of special access, the national regulatory authorities may intervene at any time on their own initiative when this is justified to ensure effective competition and/or the interoperability of services. These authorities may also take measures at the request of either (contracting) party, in order to lay down non-discriminatory conditions which are fair and reasonable for both parties and the most favourable for the users. ²⁵⁰	
Norway	1. access of households and firms nationwide to basic telecommunications services of high quality at a reasonable price and 2. optimal value-added from and efficient utilisation of resources in the telecommunications sector, by securing access to and efficient use of public telecommunications networks and public telecommunications services through effective competition. ²⁵²	No ²⁵³
Portugal	Regulator indicates that ULL charges should promote the development of a sustainable and fair competition. The "info inclusao" is explicitly mentioned as an objective to be achieved through ULL. Geographically averaged charges (as opposed to charges by geo-type) are preferred. This is because they would not only promote the "info-inclusao", but they would also provide an incentive for operators to roll out alternative infrastructure in densely populated areas. ²⁵⁴	No ²⁵⁵
Spain	"The fostering of a sustainable level of competition; The provision of incentives for building alternative infrastructure; The need to avoid distortions of competition and, in particular, margin squeezes between wholesale and retail charges." ²⁵⁶	No ²⁵⁷
Sweden	To develop a reliable model, that is supported by the industry, to calculate costs for access and interconnection according to the LRAIC method recommended by the Commission; to create a regulatory tool for PTS to be used to establish cost-oriented prices for access and interconnection; to encourage the use of existing facilities of the SMP operator where this is economically desirable, avoiding inefficient duplication of infrastructure costs by new entrants (incentive to buy); to encourage investment in new facilities where this is economically justified by new entrants investing in competing infrastructure rather than the SMP operator upgrading and expanding its networks (incentive to build); to increase the transparency of the cost calculations underlying the access and interconnection charges; and to increase predictability of access and interconnection charges for both the SMP operator and other operators. ²⁵⁸	No
United Kingdom	Permit recovery of an appropriate attribution of common costs; permit the recovery of long run incremental costs reasonably and necessarily incurred by BT in or as a result of the provision of these services; and include a reasonable return on capital employed. ²⁵⁹	No

370. All stated regulatory objectives differ even though the European Union unbundling regulation has been reported as adopted by the nation.

371. Only two of the nations in Table 16 applied geographically deaveraged ULL prices, Australia and the Netherlands, further highlighting that the countries in the sample are not appropriate comparators.

Tariffs were set by costs and informed by a LRIC model

372. The comparator countries in the sample are not comparable to Australia purely because tariffs were set by reference to costs and informed by a LRIC model. Table 17 outlines the differences in the cost base, cost standard and type of model used to determine ULL prices in each country.

²⁵⁰ <http://www2.opta.nl/download/codo%2Epdf>

²⁵¹ <http://www.rtr.at/de/komp/Fachpublikationen/UnbundlingLocalLoop.pdf>

²⁵² <http://www.npt.no/iKnowBase/Content/1381/1381-E9971259.pdf>

²⁵³ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

²⁵⁴ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²⁵⁵ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

²⁵⁶ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²⁵⁷ <http://www.oecd.org/dataoecd/26/6/27767944.pdf>

²⁵⁸ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report

²⁵⁹ Ibid.

Table 17: Cost base, standard and model used to calculate ULL costs

	Cost standard used	Type of model used to calculate ULL costs
Australia ²⁶⁰	TSLRIC+	Bottom-up
Austria ²⁶¹	LRAIC	Bottom-up
Belgium ²⁶²	Retail minus	Top-down
Denmark ²⁶³	LRAIC	Hybrid
Finland ²⁶⁴	Varies by company	Varies by company
France ²⁶⁵	LRAIC	Hybrid
Germany ²⁶⁶	LRAIC	Bottom-up
Ireland ²⁶⁷	FDC	Bottom-up
Italy ²⁶⁸	Benchmarking based on HCA	N/A
Netherlands ²⁶⁹	EDC	Bottom-up
Norway ²⁷⁰	Not specified	Not specified
Portugal ²⁷¹	FDC	Top-down
Spain ²⁷²	LRAIC	Top-down
Sweden ²⁷³	FDC	Hybrid
United Kingdom ²⁷⁴	LRAIC for BT and FDC for Kingston	Top-down

HCA=Historic cost accounting, FDC = Fully distributed cost, LRAIC = long run average incremental cost

373. Of the countries in the sample, there are several countries that use a fully distributed cost standard for determining ULLS prices, which is likely to produce substantially different outcomes to TSLRIC+ and LRAIC.

374. Additionally, even if the cost models were identical across countries, the inputs and assumptions to the models in different countries would not be consistent with those appropriate in Australia.

375. Therefore, the countries in the international benchmarking study are not appropriate comparators to Australia based purely on the fact that tariffs were set by reference to costs and informed by LRIC models. Further, numerous differences between cost

²⁶⁰<http://www.accc.gov.au/content/item.phtml?itemId=753844&nodeId=67d981616f9b33f50cb4fa62d116638b&fn=Pricing%20of%20unconditioned%20local%20loop%20services%E2%80%94final%20report.pdf>

²⁶¹ Local Loop Unbundling in Austria Summary of the decisions Z 12/00, Z 14/00, Z 15/00 of the Telekom-Control Commission (TKK) of March 12, 2001.

²⁶² Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report, page 73

²⁶³ Report On: Characteristics of the top-down and bottom-up cost analyses. Pg. 34

²⁶⁴ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report, page 77

²⁶⁵ ART Decision no. 00/1171 of the Autorité de Régulation des Télécommunications dated 31 October 2000 in application of article D. 99/24 of the Post and Telecommunications Code.

²⁶⁶ Wissenschaftliches Institut für Kommunikationsdienste GmbH Analytical Cost Model Local Loop Consultative Document 2.0.

²⁶⁷ http://www.comreg.ie/_fileupload/publications/ComReg0856.pdf

²⁶⁸ Europe Europe, Op. cit., pg. 88 and Cullen International Table 6 Pricing regulation and cost accounting system for fixed wholesale services as provided via private email correspondence with AGCOM.

²⁶⁹ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report, pg. 90

²⁷⁰ OECD Developments in Local Loop Unbundling. Pg.50

²⁷¹ Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report, pg. 92

²⁷² Europe Economics Pricing Methodologies for Unbundled Access to the Local Loop Final Report, pg.94

²⁷³ Hybrid Model Documentation(PTS Hybrid model v 2.1)

²⁷⁴ <http://www.ofcom.org.uk/consult/condocs/llu/llu.pdf>

bases, standards and types of models exist such that the countries in the sample are not appropriate comparators to Australia.

Attachment 2 Responses to Network Strategies' reports

376. This Attachment responds to specific issues raised in the Network Strategies report:
Review of the Telstra TEA model version 1.1.

Network Strategies Section 2: Summary of cost structures and drivers

377. Network Strategies argues that there is an unusual difference in the total costs between various exchanges in the model and that such differences would not be anticipated for a model of band 2 exchanges because they have such similar characteristics:

...but the range of variation of line costs in this version of the TEA model is surprising and not what would be expected from an efficient operator.

378. As shown by Network Strategies²⁷⁵ approximately 90 percent of both the main and distribution network costs are attributed directly to conduit and cable. The primary drivers of these categories of costs are the length of the conduit required to provide service and the number of customers in an exchange. The length of these facilities is directly correlated to the customer density in the serving area. Customer density by exchange ranges from less than 300 to more than 4000 customers per square kilometre. Such large disparities between the customer densities in various exchanges will lead to significant differences in the costs to serve the areas.

Network Strategies Section 2.1: Main network capital

379. In this section Network Strategies discussed the network components that comprise the main network. In discussing these components, Network Strategies notes that there are costs for fibre and multiplexing systems in the ULLS main network. As discussed in the Telstra's original response to the Access Seekers²⁷⁶, the average costs for all lines (including fibre fed lines) are included in the calculation of the ULLS and basic service products to insure that the model accounts for any trench sharing that occurs between the main fibre and copper cable facilities.

Network Strategies Section 2.1.1: Main network structure costs

380. In this section Network Strategies identifies what it perceives as two problems with the model:

...the per metre trenching costs are higher than we had expected...the total distance of main ducting is almost twice the length of main cable²⁷⁷

381. First, the total distance for main conduit is not twice the length of main cable it is roughly the same. The TEA model does place an additional conduit duct in the main network for maintenance and repair purposes. This maintenance duct, however, has no effect on the overall length of conduit. The reasons for placing an additional conduit are discussed in detail in the Statement of [REDACTED] filed in this

²⁷⁵ Network Strategies, Review of the Telstra TEA model version 1.1 pages 3 and 5 respectively

²⁷⁶ Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service: Response to Access Seeker Submissions (Telstra Response to Access Seekers Submissions), Public Version, 18 November 2008, Section F.1.1, P. 44

²⁷⁷ Network Strategies, Review of the Telstra TEA model version 1.1, page 4

Undertaking²⁷⁸. As explained in the statement, the additional conduit is often required to avoid long service outages when replacing or repairing main cable runs.

Network Strategies Section 2.2.1: Distribution network structure costs

382. In this section, Network Strategies points out that the density zone characteristics which are used to segregate DA's into the five density groups appears reasonable:

We note that TEA density zones are similar to those used in other access network models we have reviewed. (Page 7)

383. They also say that the line counts that define the density zones should not be user adjustable inputs because:

Typically this would not be the case as the zones must be carefully aligned with the assumptions used to differentiate costs in each zone. These assumptions are separate inputs to the TEA costing module. (Page 7)

384. Telstra agrees with Network Strategies that the density parameters and the inputs that differentiate costs between the density areas are inextricably linked and changes to one set must be accompanied by corresponding changes to the other set. Although many models do not make the density parameters user adjustable inputs, Telstra decided to maximise the users' ability to make changes to the model.

Network Strategies Section 2.2.2: Distribution network cable and lead-in costs

385. Network Strategies argues that the TEA model uses a standard average cost for lead-ins:

All lead-ins are costed at an average price per lead-in. This is common in access network models based on operator line databases as lead-in information may not be available. (Page 11)

386. Network Strategies concludes:

Given that the figures are averages, Network Strategies is not fully able to determine whether the cost figures are reasonable and efficient. (Page 11)

387. The cost for a two pair lead-in in the TEA model is not based on a calculation of an average price as indicated by Network Strategies. As explained in the Confidential Access Network Modelling Costing Information (the Costing Document)²⁷⁹, the A & AS Contracts have a standard negotiated price for all 2-pair lead-ins up to 20 metres in length. As stated in this Document, the standard cost per lead-in includes:

[REDACTED]

²⁷⁸ Statement of [REDACTED], Dated 3 March 2008, Para 196 to 199, Pgs. 72 thru 74

²⁷⁹ Access Network Modelling Costing Information (the Costing Document) Issue 1.1, attachment [REDACTED] to the Statement of [REDACTED], dated 3 March 2008, P. 36

[REDACTED]

388. The costs include provision and placement of all the conduit, cable, terminating equipment and wiring at the customer premise. All contract labour required placing the facilities and jointing those facilities to the equipment at the customer premise are also included in the standard price. The standard price is [REDACTED] per lead-in. Additional costs are charged for lead-ins that travel farther than 20 metres between the customer boundary and building entrance [REDACTED] and for distances greater than 2 metres between the customer boundary and the serving pit [REDACTED].

389. Telstra adopted the conservative (i.e. cost minimising) assumption that the standard price would apply even when the length of the lead-in exceeded the maximum allowable 20 metres.

Network Strategies Section 3.1: Model Transparency

390. Network strategies argues that in the TEA model there are a “number of areas involving key inputs and model structure which are not as transparent as we would normally expect in a model used for regulatory pricing purposes.” They then argue that the derivation of the network structure costs illustrates this point.

391. Network Strategies argues that the trenching, duct placement and surface breakage/reinstatement comprise a significant portion of the network investment. They then identify the source of these model inputs as being:

...drawn directly from the average costs for the relevant items of supply and/or installation contained in Telstra's three Access and Associated Services (“A & AS”) contracts. (Page 14)

392. Network Strategies then list criteria that needs to be met to justify the prices including they must apply to Band 2, they should be extracted from a large sample of invoices, should not be skewed to a particular density zone and they should be prices applicable to large projects²⁸¹.

393. The trenching prices were taken directly from the A & AS vendor contracts. The prices can be traced directly to these contracts. There is no sampling or skewing of prices. Tracing prices to contracts is as transparent as it can get in the world of costing.

Network Strategies Section 3.2.1: TEA Model Database

394. Network Strategies states:

Telstra submits that the model optimises cables [sic] dimensioning between the structure points, and that this is sufficient to meet the requirement that the model implements an efficient network. (Page 18)

²⁸⁰ Ibid

²⁸¹ Network Strategies, Review of the Telstra TEA model version 1.1, September 2008, Section 2.2.2, pg. 11

395. Telstra has never said that dimensioning cables between structure points is all that is required to meet the requirements of TSLRIC+. In fact, the TEA model does not just resize cables. As discussed extensively in the Telstra Response to Access Seeker Submissions²⁸², the TEA model reconfigures the location of pits and manholes and completely redesigns the cable network to more efficiently serve customers.

396. This fact that the TEA model optimises the number of pits and manholes in the model was acknowledged by OVUM in their network review when they concluded:

Pits and manholes are placed according to a very clean outside plant design and at least one feature in the placement of manholes is not implemented in the model. The overall effect is to underestimate the number of pits and manholes needed for an actual network. (Section 2.6 Conclusion)

397. The model also eliminates unnecessary conduit and cable runs. Again, all of the efficiencies built into the TEA model are discussed extensively in the statement of Frank Hatzenbuehler.

398. Network Strategies points to the existence of 'null' structure point in the network data as further evidence that the use of network data "anchors the design to a historic design..."²⁸³. In discussing the "null" structure points, Network Strategies states:

...'null' structure points – structure points that probably had some function in the historic network but in this model they have no lead-ins or route merges and therefore serve no purpose apart from defining a waypoint on the cable route. (Page 18)

399. A 'null' structure point in the network database is the point at the end of the customer lead-ins at the customer's premise. These points are used for one purpose in the model, to determine the average length of lead-ins. These structure points are never used to identify:

- a location for the placement of a pit or manhole; or
- a waypoint along the modelled cable run.

400. Indeed, there are no assets in the TEA model associated with null structure points, other than to signal where the end of a lead-in is.

Network Strategies Section 3.2.3: The efficiency of the scorched node models

401. In this section, Network Strategies argues that the TEA model does not reflect the level of optimisation and efficiency that can be achieved using a scorched node approach. As discussed extensively in the Telstra Response to Access Seeker Submissions²⁸⁴ the TEA model incorporates significant efficiencies into its network design. Ovum finds that, with respect to the TEA model, the "overall effect is to underestimate the number of pits and manholes needed for an actual network"²⁸⁵.

²⁸² Telstra Response to Access Seekers Submissions, Public Version, 18 November 2008, Section F.1

²⁸³ Network Strategies, Review of the Telstra TEA model version 1.1, September 2008, Section 3.2.1, pg. 18

²⁸⁴ Telstra Response to Access Seekers Submissions, Public Version, 18 November 2008, Section F.1

²⁸⁵ Ovum Consulting, Review of the network design and engineering rules of the Telstra Efficient Access cost model, (Engineering Review), Dated 6 August 2008, Section 2.6

402. In a recent filing Ovum goes on to state:

*Ovum agrees that the routes are now populated in the model database in the way Telstra originally intended. That is, the cable paths represent the shortest paths among the existing paths present in Telstra's cable plant records.*²⁸⁶

Network Strategies Section 3.3: Efficient Network design

403. Network Strategies argues that the use of best practice network design is not appropriate when determining efficient forward looking costs:

In fact, "best practice" may often contradict the requirements of efficiency because it has different aims (such as future-proofing or gold plating the network infrastructure). (Page 22)

404. Telstra's best practice engineering rules are adopted because they are the most efficient practices for building and operating a network over the long run. Best practice procedures also comply with the legal and regulatory requirements in the environment in which the company operates. These practices and the reason they were adopted are laid out in detail in the Access Network Dimensioning Rules and supporting Statement of [REDACTED]²⁸⁷. Network Strategies has not provided any information that illustrates that these rules are not in fact best practice and efficient.

Network Strategies Section 4.1: Network database

405. Network Strategies again argues that the TEA database "preserves much of Telecom Australia's historical network design philosophy." As discussed above, all major components of the network (i.e. conduit and cable runs, pits and manholes, joints, etc.) have been completely redesigned in the network. The only major cost driver from the actual network that is retained by the TEA model is the location of the existing rights of way.

Network Strategies Section 5.3.1: 'Input cost and rules' worksheet

406. Network Strategies makes the following observations regarding this worksheet:

-installed copper cable costs appear to be significantly higher than we have seen in other jurisdictions

-joint costs appear high

-the indirect overhead costs 'loading factor' is not clearly explained. (Page 41)

407. In regards to the capitalised indirect costs, Network Strategies goes on to say "it is unclear whether all of the costs mentioned (such as network management) are required for the provision of ULLS. It is also unclear whether there is any double counting with the indirect factors also listed on this sheet."²⁸⁸

²⁸⁶ Ovum Consulting, Telstra Efficient Access cost model-engineering issues, An Advisory Note to the ACCC, Dated 2 February 2009, Section 3.2.1

²⁸⁷ Statement [REDACTED], Dated 3 March 2008

²⁸⁸ Network Strategies, Review of the Telstra TEA model Version 1.1, Section 5.2.4, Page 42

408. Subsequent to the Network Strategies submission in this undertaking, Telstra filed the Statements of [REDACTED] and [REDACTED]. In these statements the authors:

- Identify the functions of the various lines of business that participate in capital related functions and have costs assigned to capital projects;
- Explain the Telstra process for identifying and assigning the capital related costs to the various capital projects; and
- Explain the derivation of the capital loading factor used in the model.

409. The types of functions that have these costs assigned to the capital accounts include:

- Managing vendor contracts;
- Organizing and coordinating work with Telstra's outside contractors;
- Project management services for major initiatives;
- Planning network additions and establishing and managing capital budgets for the projects; and
- Materials and resource management for capital projects.

410. Each of these functions is a critical component in building the Telstra network, including the customer access network. All efficiently run construction projects require network design and planning, materials management, vendor oversight and project management. A detailed description of these functions and the organisations that perform them are incorporated into the Statements of [REDACTED] and [REDACTED].

Network Strategies Section 5.3.3: 'Inputs capital costs' worksheet

411. Network Strategies makes the following observation:

Sharing revenues: it is not normal to use revenue to take into account sharing between operators. TSLRIC is supposed to represent the cost to an efficient forward-looking operator of providing a service, and unless the sharing revenue exactly offsets savings made by such an operator when sharing, then using actual revenue figures cannot be correct. (page 43)

412. Network Strategies is correct when it states that TSLRIC is to represent the cost an efficient provider would incur to provide a given service. If the efficient provider was required by law to lease conduit to other providers at rates established by a regulatory body, the cost savings the company would get for leasing these facilities is the amount of the compensation paid by the party leasing the facilities. These revenues are the only savings an efficient provider could achieve by leasing the

facilities and are equivalent to the revenues that the TEA model deducts to account for this sharing.

Network Strategies Section 5.3.11: 'Investment Summary' worksheet

413. In this section Network Strategies briefly describes the functions performed on this worksheet concluding in part:

*The TSLRIC+ methodology is implemented correctly by using the following steps:
(Page 48)*

414. The submittal then explains how the TSLRIC+ method was implemented.

415. Network Strategies identifies what they believe are two errors in the calculations on this sheet.

Distribution Network: The model allocates the total cost of the network to the ULLS service...

Main Network: The model allocates the entire cost of the main network to all lines. This means that the main network cost is essentially a weighted average between the ULLS service and basic service. (page 51)

416. The TEA model does not allocate the total cost of the distribution network over copper fed (ULLS) distribution lines. The TEA model only calculates costs for distribution areas served by copper main cables when determining the cost of ULLS. The total cost for all copper fed distribution areas (i.e. areas that are capable of providing ULLS) is spread over the total number of lines in copper fed distribution areas. Distribution costs for all exchanges are only used in the calculation of the wholesale basic service.

417. In the TEA model the average main network cost for all lines is used in calculating the cost of both the wholesale basic service and ULLS. This approach insures that the ULLS cost incorporates any savings from main network trench sharing between fibre fed and copper fed exchanges.

Network Strategies Section 5.4: O&M and indirect costs

418. Network Strategies points out that in Version 1.1 of the TEA model the copper cable and ducts and pipes O&M factors were derived by dividing book cost by the forward looking investment from the TEA model. They go on to conclude:

This adjustment is highly unusual. In effect, it insures that these O&M costs are not in fact a proportion of the investment costs but are the original O&M expenses taken from the RAF... (Page 54)

419. Network Strategies goes on to say that in making the forward looking adjustment the factor calculation uses the copper cable and ducts and pipes costs for the Blackburn exchange as opposed to all of band 2. Network Strategies goes on to point out several problems with this approach.

420. The TEA model factors were updated in version 1.3 of the TEA model. The updated factors were based on June 2007 operating results. In this updated filing, the copper cable factor is no longer derived using forward looking investment as the denominator

in the equation. In addition, where forward looking investment was used in the denominator of the factor calculation (i.e. ducts and pipes) total Band 2 as opposed to Blackburn forward looking investment was used to derive the factor. These updates address all the concerns raised by Network Strategies with the exception of the use of forward looking investment in developing the denominator for the ducts and pipes factor.

421. Forward looking investment was used in the denominator of the ducts and pipes factor because it is a conservative (i.e. cost minimising) assumption.

422. Network Strategies also discusses the fact that the O&M factors are applied to investments in the TEA model that include capitalised planning costs. They go on to say:

If the RAF investment costs do not include such planning costs then the factor is a pre-planning cost factor, and should be applied to the model pre-planning investment costs, to ensure that the planning costs do not have O&M expenses added to them. (Page 55)

423. The RAF investment costs do include capitalised indirect overhead costs (planning costs), so the development and application of the factors are consistent.

Network Strategies Section 5.4.2: Indirect Expenses

424. Network Strategies concern with the indirect expense factors used in the TEA model is that they include costs that are not incurred by the provision of the service being costed. Network Strategies goes on to identify two indirect categories of costs in the TEA model that they believe are not incurred in the provision of ULLS:

-retail costs: marketing, sales, billing, bad debt, interconnection, international settlement costs

*-network support costs: power systems, network management systems.
(Page 56)*

425. The retail costs included in the TEA model factors are only those product and customer costs that are assigned to the internal and external wholesale operations in the RAF reports. Network Strategies acknowledges, at footnote 38, that there are legitimate wholesale billing costs. As with billing, there are other product related costs that must be incurred solely for the benefit of wholesale providers such as order processing, dispute resolution etc. No company can run a wholesale operation without some customer contact organisation.

426. Similarly, network management systems are required to build, maintain and operate the access network. Telstra could not operate its network without these systems.