TELSTRA CORPORATION LIMITED

Telstra's Ordinary Access Undertaking for the Unconditioned Local Loop Service:

Materiality Testing

DRAFT VERSION

23 March 2009

Contents

A Executive Summary

1. This report tests the materiality of the ACCC's position on the inputs into the TEA model. This analysis shows that it would be an error to reject Telstra's Undertaking since, even after adopting the ACCC's position on inputs into the TEA model, the TSLRIC+ of ULLS in band 2 is above the Undertaking price of $30. Only if the ACCC were to adopt extreme assumptions would the TSLIRC of ULLS be forced below $30.

2. The approach taken to measure the materiality involves measuring the cumulative impact of all changes proposed by the ACCC in the Draft Decision and, in cases where clear guidance was not provided by the ACCC in the Draft Decision, the most recent of the ACCC's other decisions in relation to ULLS. The cumulative impact of all changes is shown in Figure 1 and the sections below discuss the impacts of each change. Since, there are alternative ways that the ACCC could implement two of the elements (reinstatement costs and the tilted annuity), Figure 2 illustrates the materiality of these alternatives.

3. It is clear from Figures 1 and 2, that to achieve a price below $30, a user of the model must uniformly adopt the most extreme and unrealistic assumptions.

4. For instance, even though the use of a tilted annuity is unreasonable, because it only considers price trends and ignores the decline in demand for the CAN, its use still supports a price of $30, unless the ACCC adopts the most extreme application of this methodology that is possible. When using a tilted annuity, to achieve an outcome less than $30 one must consider only the cost in the first year of the tilted annuity. This is an extreme application, which is unreasonable because it ignores the fact that the tilted annuity puts off cost recovery far into the future (ULLS prices would be required to increase from $27.30 in the first year to $114.92 after 40 years) when the demand from which costs are supposed to be recovered will be significantly lower. As can be seen from Figure 2, when declining demand is taken into account, the average cost is over $30.

5. In the case of reinstatement costs, to achieve an outcome below $30 one must also adopt an extreme view and assume that all trenching is reinstated with turf, including road, footpath and driveway crossings. Clearly this is unreasonable as conduit must either be bored under these features or they must be reinstated with an appropriate surface to adhere to local council requirements.

Figure 1. The combined materiality of inputs into the TEA model

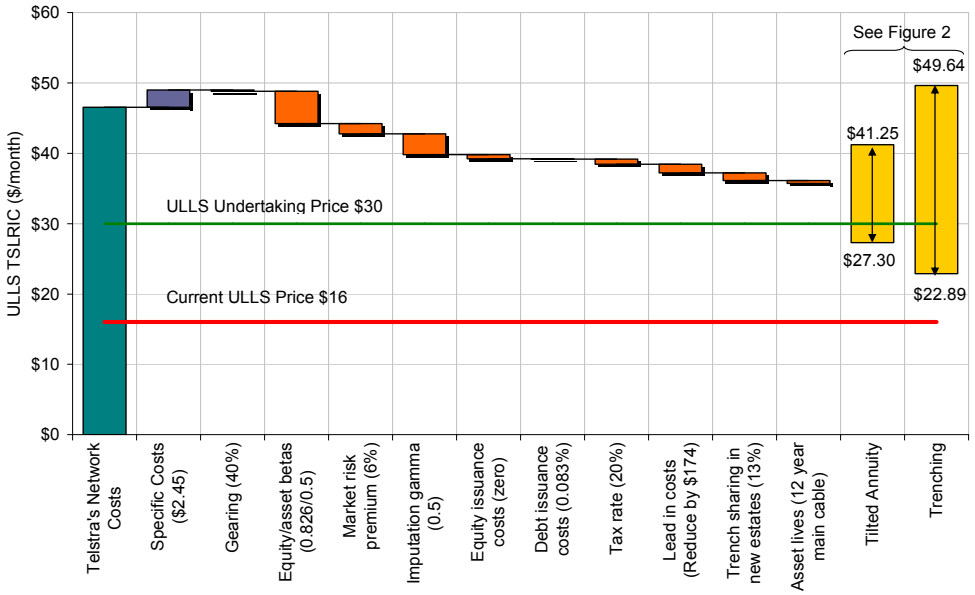
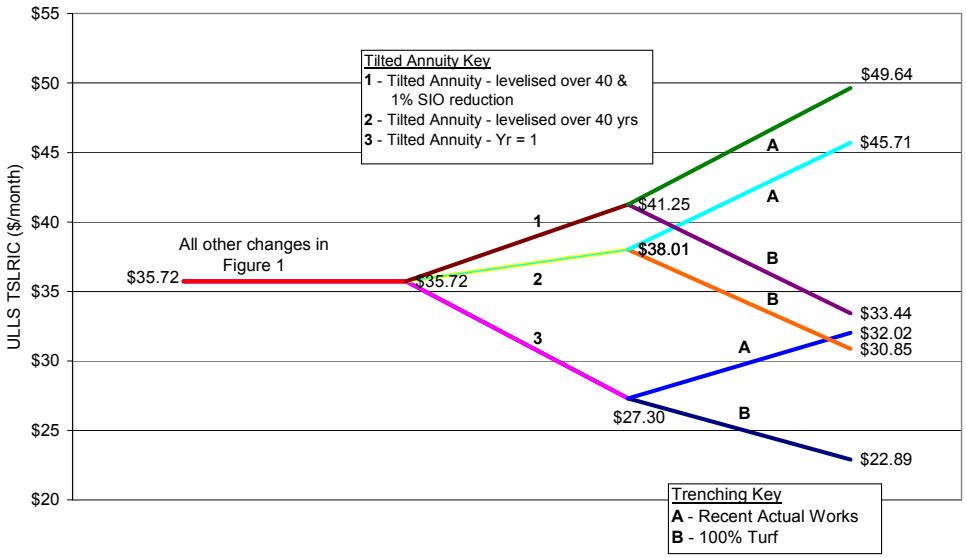


Figure 2. The materiality of alternative ways of implementing changes



6. The materiality of changing variables depends on whether or not other inputs have been changed and in which order they are changed, as the inputs are interdependent in the TEA model. Measuring the materiality of different combinations and orders of input

changes is a simple exercise that can be carried out with the aid of the spreadsheets that are attached to this report in Attachment A.

B Discussion of each element materiality tested

B.1 Specific costs

7. Telstra's view is that the network costs on their own support a $30 monthly charge for ULLS. The ACCC stated (at page 39 of the Draft Decision):

> *Network Strategies submits that a correct TSLRIC calculation requires all costs specific to the ULLS to be included. In addition, Optus submits that in order to achieve certainty, access seekers need to know the full monthly charge. Optus therefore believes that all parts of the ULLS charge should be submitted as part of the 2008 Undertaking and that the ACCC should not consider part of the whole charge.*

8. Consequently, Telstra adds $2.45 of ULLS specific costs determined by the ACCC to the network costs to derive a total ULLS monthly cost.[1] Cumulatively, this changes the ULLS price from $46.54 to $48.99, as illustrated in figure 1 above.

B.2 Gearing

9. Telstra's view is that a reasonable gearing assumption would be 30%. However, the ACCC stated:[2]

> *The ACCC notes that according to Telstra's benchmarking approach, appropriate comparator firms have a debt proportion of 37.6 per cent. This is also similar to Ovum's latest regulatory benchmark of regulatory decisions for regulators that employ (LRIC) cost-based CAPM regulation of 38.3 per cent. Ovum's report also indicates preferred debt proportions of European regulatory bodies in a range of 25 to 50 per cent*
>
> *The 30 per cent rate is below the target debt proportion claimed by Telstra in their recent financial accounts of (an average) 34 per cent (as opposed to their current gearing)*
>
> *The ACCC historical debt proportion benchmark is close to the book value of gearing of Telstra at privatisation of 41.3 per cent and*
>
> *The ACCC considers that the benchmarks of firm wide capital structure to be conservative estimates of the benchmark debt gearing for the CAN assets and the ULLS as the CAN should be lower risk than Telstra's operation overall and should be able to service more debt in its efficient capital structure.*

10. In its ULLS pricing principles, the ACCC adopted a 40% value for gearing.[3] More recently, the ACCC's consultants recommend a gearing ratio of 34%.[4]

11. Consequently, for the purposes of this report, Telstra tests a 40% level of gearing, which is higher than the level recommended by the ACCC's consultants Ovum. Cumulatively, this changes the ULLS price from $48.99 to $48.82, as illustrated in figure 1 above.

---

[1] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative* Prices, June 2008, at page 14
[2] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 106
[3] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, at page 18
[4] Ovum, *Review of the economic principles, capital cost and expense calculations of the Telstra Efficient Access cost model*, 6 August 2008, page 40

B.3 Equity and asset betas

12. Telstra adopts an asset beta of 0.725 and calculates the equity beta (1.03) using the Monkhouse formula and a 30% value for gearing. However, the ACCC states:[5]

> *The ACCC notes that direct estimation method yields an asset beta lower than 0.5. It also notes that these beta benchmarks and direct estimation regressions estimate the systematic risk of Telstra overall (the whole company) and not just the CAN. The ACCC also notes that an asset beta of 0.50 equates to an equity beta of 0.71 at Telstra's preferred gearing ratio of 30 per cent debt to 70 debt to equity.*

13. In its ULLS pricing principles, the ACCC adopted a 0.50 value for asset beta.[6]

14. Consequently, for the purposes of materiality testing, Telstra adopts the 0.50 asset beta determined by the ACCC. Using the ACCC's gearing of 40%, the corresponding equity beta is 0.826. Cumulatively, this changes the ULLS price from $48.82 to $44.23, as illustrated in figure 1 above.

B.4 Market risk premium

15. Telstra adopts a market risk premium of 7%. However, the ACCC states:[7]

> *As such, the ACCC supports Ovum's view that a 6 per cent MRP is a reasonable estimate for the use in an Australian domestic CAPM and notes that this is consistent with recent regulatory decisions.*

16. Consequently, for the purposes of materiality testing, Telstra adopts a market risk premium of 6%. Cumulatively, this changes the ULLS price from $44.23 to $42.79, as illustrated in figure 1 above.

B.5 Imputation gamma

17. Telstra's view is that a reasonable imputation gamma would be zero. However, the ACCC states:[8]

> *Under an Australian domestic CAPM framework, it might be assumed that all investors are Australian residents and therefore entitled to the accompanying taxation benefits. As such, imputation credits should be fully valued in the share price. This supports the ACCC's view that gamma is significantly above zero.*

18. In its ULLS pricing principles, the ACCC adopted a 0.5 value for gearing.[9]

19. Consequently, for the purposes of materiality testing, Telstra adopts the 0.5 level of gearing determined by the ACCC. Cumulatively, this changes the ULLS price from $42.79 to $39.81, as illustrated in figure 1 above.

B.6 Equity issuance costs

20. The ACCC states: [10]

---

[5] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 105
[6] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, at page 18
[7] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 100
[8] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 109
[9] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, at page 18

Therefore, the ACCC does not consider Telstra's argument for an allowance for equity raising costs in the WACC will lead to fair estimate of Telstra's vanilla and pre tax WACCs.

21. Consequently, for the purposes of materiality testing, Telstra removes equity issuance costs from the WACC calculation. Cumulatively, this changes the ULLS price from $39.81 to $39.24, as illustrated in figure 1 above.

B.7 Debt issuance costs

22. Telstra's view is that a reasonable amount of debt issuance costs to include in the WACC is 0.15%. However, the ACCC states:[11]

As such, the ACCC does not support Telstra's view that a mid-point of 15 basis points per annum is a fair estimate of the transaction cost it would incur to raise debt. On this basis, the ACCC considers that Telstra's debt issuance costs would be at the lower end of Telstra's proposed range.

23. In its ULLS pricing principles, the ACCC adopted a 0.083% value for debt issuance costs.[12]

24. Consequently, for the purposes of materiality testing, Telstra adopts the 0.083% value determined by the ACCC. Cumulatively, this changes the ULLS price from $39.24 to $39.18, as illustrated in figure 1 above.

B.8 Tax rate

25. Telstra's view is that a reasonable tax rate assumption would be 30%. However, the ACCC stated:[13]

Primarily for this reason, in Australia the average effective tax rate of large corporations is estimated to be around 20 per cent even though the statutory tax rate is 30 per cent.

The ACCC considers that the effective tax rate is the appropriate tax rate for determining the pre tax WACC as the use of a higher tax rate will over compensate firms for the present value of their expected future tax liabilities.

26. The ACCC's pricing principles proposed a tax rate of 30%.[14] Further, the ACCC's consultant, Ovum, quotes more recent estimates of the effective tax rate to be 26.7%, although recommending an average rate of 24%.[15]

27. To test the scenario that produces the lowest cost estimate, Telstra adopts a 20% tax rate for the purposes of materiality testing. Cumulatively, this changes the ULLS price from $39.18 to $38.44, as illustrated in figure 1 above.

---

[10] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 111

[11] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 98

[12] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, at page 18

[13] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 108

[14] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, at page 18

[15] Ovum, *Telstra Efficient Access cost model – economic issues*, 5 February 2009, figure 3.3

B.9 Lead in costs

28. Telstra's view is that the cost of $282.91 for a 2 pair lead-in is reasonable. However, the ACCC states:[16]

> *The ACCC's preliminary view is that this cost should not be included in the cost of providing the ULLS. As noted in the 2005 Undertaking Final Decision, Telstra has previously submitted that the cost of lead-ins is recovered through connection charges. Further, and consistent with the ACCC's views in recent arbitral final determinations the ACCC does not consider that lead-in costs should be included in network costs as:*
>
> *-the ACCC considers that lead-in costs, being once-off costs associated with connecting a service are more appropriately recovered through connection charges;*
>
> *-the ACCC in not satisfied that the cost of lead-ins is not already fully or partially recovered by Telstra's connection charges and*
>
> *-lead-in costs may already be recovered in O&M costs.*

29. Any expenses associated with lead ins have been removed from calculation of the O&M factors that are included in the TEA model, so that is not an issue. In the arbitral determination referred to by the ACCC, the ACCC stated:[17]

> *In particular, Telstra charges a $299 fee for every service that is connected at premises where a telephone service has not been connected previously, or where the connection requires a technician to visit and undertake cabling work. This compares to a $125 fee where a previous service existed and a technician must visit, but no cabling is required. The ACCC considers that the $174 difference in the fees represents the cost of undertaking cabling work at the customer premises and accordingly allows recovery of the cost of lead-ins.*

30. Consequently, for the purposes of materiality testing, Telstra reduces the Lead-in costs by $174. Cumulatively, this changes the ULLS price from $38.48 to $37.24, as illustrated in figure 1 above.

B.10 Trench sharing in new estates

31. Telstra's view is that the assumption that 1 per cent of trenches are available nationally in new estates each year is reasonable and conservative as it understates the cost of a forward-looking, efficient entrant in Band 2. This figure is significantly greater than the percentage of new SIOs in new estates annually that are located in Band 2 and also significantly greater than the annual percentage of the SIOs in new estates in Band 2 that are provisioned with a full copper loop (and are therefore capable of supporting ULLS).[18]

32. However, the ACCC states:[19]

> *The ACCC view is that network construction would generally be planned a significant time in advance and would most likely occur in conjunction with other operators and utility providers resulting in the use of open trenches in new estates at*

---

[16] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 76

[17] ACCC, *ULLS Access Dispute Between Telstra and Primus (Monthly Charges): Statement of Reasons for Final Determination*, December 2007, at paragraph 510

[18] Telstra, *Response to the ACCC's Draft Decision*, 23 December 2008, section E.5; and Telstra, *Response to the ACCC's Discussion Paper dated June 2008*, 12 August 2008, at page 23 and following.

[19] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 87

no cost to Telstra. The ACCC considers that based on a pragmatic application of TSLRIC, it is appropriate to maintain its position that the best available proxy for trench sharing in new estates is the cumulative (historic) trench sharing measure. In this regard the ACCC considers that a trenching sharing value of between 13-17 per cent approximates cumulative trench sharing potential in new estates.

33. Consequently, for the purposes of materiality testing, Telstra adopts the trench sharing value of 13 per cent. Cumulatively, this changes the ULLS price from $37.24 to $36.14, as illustrated in figure 1 above.

B.11 Asset lives

34. Telstra's view is that the main cable asset life of 10 years is a reasonable assumption. However, the ACCC states:[20]

The ACCC believes that asset lives need to primarily be determined by their expected operational (physical) life. As such, while the regulatory asset lives might be less than the physical asset lives, they should not be substantially less.

35. In its ULLS pricing principles, the ACCC adopted 12 year asset life for main cable.[21]

36. Consequently, for the purposes of materiality testing, Telstra adopts a 12 year asset life for main cable assets. Cumulatively, this changes the ULLS price from $36.14 to $35.72, as illustrated in figure 1 above.

B.12 Tilted annuity

37. Telstra considers the adoption of a straight line depreciation profile to determine the return of capital is reasonable. The TEA model annualises costs using a straight-line depreciation profile then levelises the depreciation over the lives of assets using a standard annuity. However, the ACCC states:[22]

The ACCC considers that the application of a tilt to regulated cash flows under the TSLRIC regime is appropriate for fair compensation because assets are re-valued periodically by the regulator to reflect a current hypothetically efficient network in each regulatory period. The ACCC considers 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. In particular, Telstra will receive ex-ante over compensation due to the expectation of this revaluation. This view is consistent with ACCC's [sic] approach in developing ULLS indicative prices.

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.

Consequently, the ACCC does not consider the use of a zero tilt as reasonable.

38. Consequently, for the purposes of materiality testing, Telstra calculates the monthly costs using one of three different methods of implementing the tilted annuity approach.

---

[20] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 123

[21] ACCC, *Unconditioned Local Loop Service Pricing Principles and Indicative Prices*, June 2008, at page 21

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

All three methods require a price trend for assets. Telstra used the price trends from the ACCC's arbitral determination, as listed below.[23]

Assets in the TEA model	Nominal Price Change[24]
Ducts and Pipes-Main	5.02% (XC)
Copper Cables-Distribution	4.13% (XD)
Ducts & Pipes-Distribution	5.11% (XN)
Copper Cables-Main	4.46% (XU)
Lead-Ins	4.13% (LI)
Multiplexing Systems	-3.14% (XP)
Network Management	-18.28% (NM)
Support Structures	1.49% (Prp)
Building Fitouts	1.49% (Prp)
Power Systems	0% (not available)
Network Buildings	1.49% (Prp)
Other Indirect (Fleet, etc.)	-1.52% (Ind)
Information Technology	-1.52% (Ind)
Software	-5.14% (SLS/STS)
Optical Fibre Cables	-7.01% (BO)
Local Switching	-7.01% (SL)

39. To implement each of the three tilted annuity methods, the TEA model is adjusted using the following steps (which are implemented in Attachment A):

- Step 1: The Capital charge factor for each asset type was recalculated by applying the following formula :

  Capital Charge Factor = (1+ P)^((y -N) - 1)*(WACC - P) / (1 - ((1+ P)/(1+ WACC))^L)*(1+ P)^N

  where:

  P = nominal price change of asset

  Y = year that the capital charge factor is being calculated for

  L = life of asset

  N = INT((y - 1)/ L)* L = number of generations for the asset that have completed (that is, in year 11, an asset with a life of 5 years would have completed 2 generations).

- Step 2: A tax correction was applied to the Capital Charge factor for each asset type by applying the following formula :

[23] ACCC, *ULLS Access Dispute between Telstra and Primus: Statement of Reasons for Final Determination*, December 2007, paragraph 419

[24] ACCCC, *ULLS Access Dispute Between Telstra and Primus (Monthly Charges): Statement of Reasons for Final Determination*, December 2007, at paragraph 419

Tax Corrected Capital Charge Factor = (C - ((1/L)+D * I)*(T * (1- G)))/(1-(T*(1-G)))

Where:

C = Capital charge factor as calculated in Step 1 above

L = life of asset

D = Debt Ratio

I = Interest rate

T = Company tax

G = Gamma

- Step 3: The Net Present Value for each asset type was recalculated for the period beginning in the "start year" and ending in the "levelisation period". The "start year" and "levelisation period" are new user inputs that allow the user to determine the period over which the tilted annuity is levelised. Setting the levelisation period to 1 year would mean that no levelsation is carried out. Setting the start year to 1 and the levelisation period to 3, would match the period of Telstra's Undertaking.

- Step 4: The Cost of Capital Including Tax (also labelled PMT EOP) for each asset type was calculated by applying the following formula :

  Capital Cost Factor = -PMT (WACC, Levelisation Period, NPV)

  Where:

  NPV = net present value of asset as calculated in Step 3

40. The unlevelised ULLS network costs for the tilted annuity are shown in Figure 3 below (blue bars), assuming no other changes to the TEA model. As shown, applying the tilted annuity results in lower prices in earlier years and higher prices in later years as depreciation is deferred (backloaded) into future years.

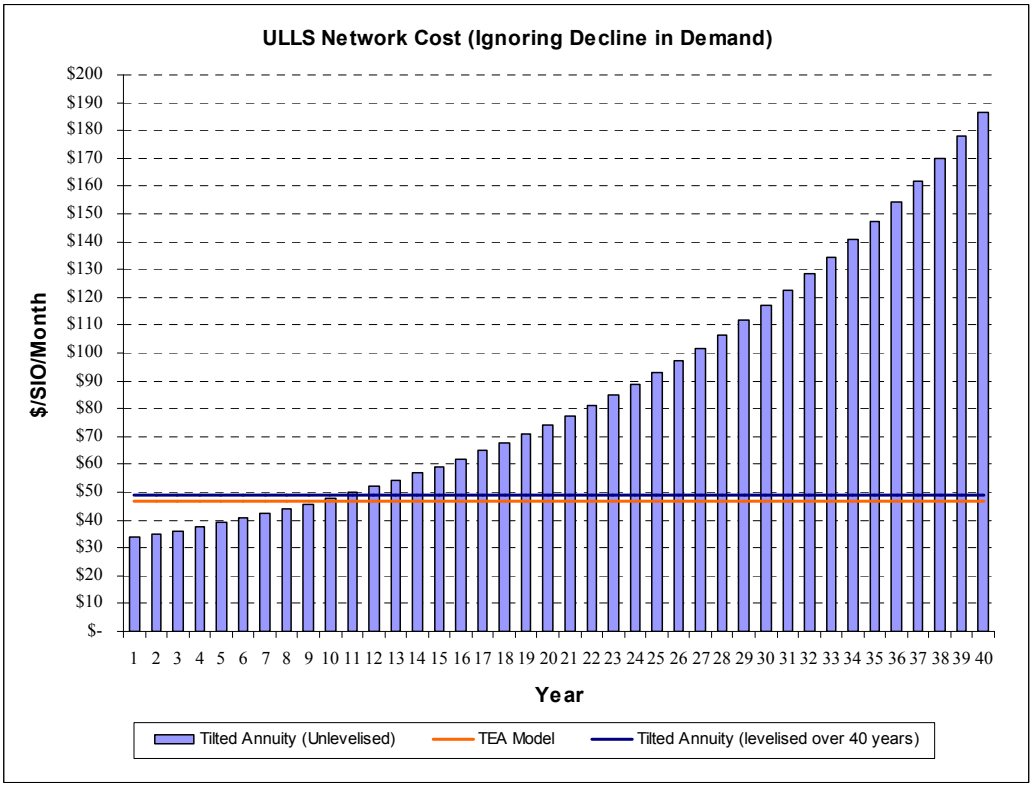
41. For the purpose of materiality testing, there are three methods to implement the tilted annuity.

42. The first method, which is the most extreme, involves taking only the first year of the tilted annuity payments. Under this method, the monthly ULLS price that would be charged to access seekers would be $33.64 in year 1, $34.87 in year 2 and $36.18 in year 3 of Telstra's Undertaking, assuming no other changes to the TEA model, as shown by the blue bars in Figure 3.

43. However, these is an extreme method of implementation since, as can be seen in Figure 3, the monthly ULLS price that would be charged to access seekers would increase to $186.30 in year 40. This is because cost recovery is delayed far into the future by the tilted annuity. There is no possibility of charging such a high amount in the future, particularly given the likelihood of increased bypass of Telstra's network and greater substitution from fixed to mobile. In fact, such bypass suggests a front-loaded economic depreciation profile is more appropriate. It is reasonable to spread the recovery of costs more evenly over time, which is the basis for the second method.

44. The second method of implementing the tilted annuity involves levelising the tilted annuity payments over the life of the longest asset in the TEA model (40 years). This approach is consistent with the ACCC's comment that "*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 [emphasis added]*".[25] This method results in a monthly ULLS monthly charge of $49.02, assuming no other changes to the TEA model, as shown in Figure 3 (the horizontal blue line).

Figure 3. Monthly ULLS network costs with a tilted annuity



45. A problem with these two methods of implementing the tilted annuity is that neither considers reductions in future demand that should also be taken into account. Whilst the TEA model does not take into account forecast reductions in demand, Telstra submits that the approach adopted in the TEA model tends to under-estimate true costs. This is because the number of active lines is predicted to fall, and as the CAN is predominantly made up of fixed costs, this would increase unit costs for the remaining lines because the total costs of the network must be recovered over fewer active lines.

46. Optus stated in its response to the ACCC's discussion paper (at paragraph 4.57):

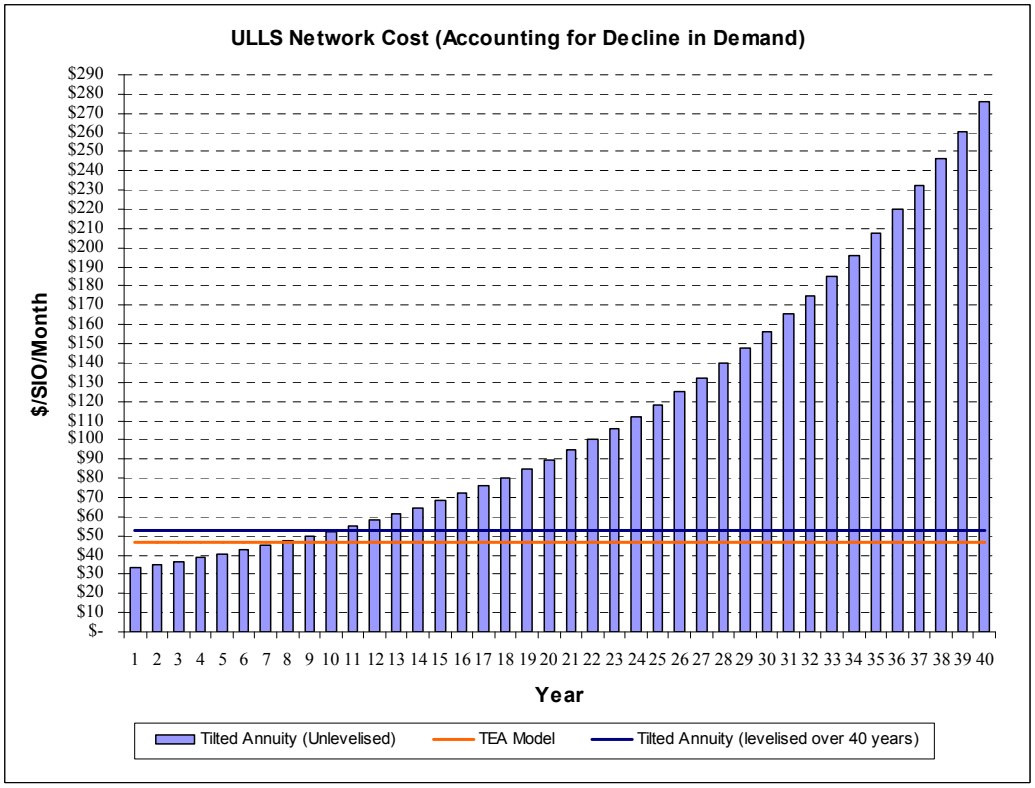
[25] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 122

Optus observes that the TEA Model uses a fixed level of customer demand. It does not model for different years – it models a fixed point in time. Telstra does not say which point in time (year) this level of demand represents. It does not consider future demand. The TEA Model cannot be used in its native form to estimate TSLRIC+ costs for changing demand or future years.

47. Consequently, for the purpose of materiality testing, the third method of implementing the tilted annuity involves levelising the tilted annuity over 40 years, as in the second method, but also adopting a 1% per annum decline in demand. The figure of 1% per annum decline is consistent with external demand forecasts, regulatory reports on declines of SIOs, and analyst forecasts (as set out in Attachment B).

48. The third method of implementing the tilted annuity results in a monthly ULLS price of $52.84assuming no other changes to the TEA model, as illustrated in Figure 4 (the horizontal blue line). Figure 4 also shows the monthly charges that would result from the unlevelised tilted annuity assuming a 1% per annum decline in demand, but no other changes to the TEA model. The ULLS monthly charge increases from $33.64 in year 1 to $275.70 in year 40.

Figure 4. Monthly ULLS network costs with a tilted annuity and accounting for decline in demand



49. The impact of the three methods of implementing the tilted annuity, after considering all other changes discussed above, as illustrated in Figure 2 above, are:

    - The first method (first year of tilted annuity only): changes the ULLS price from $35.72 to $27.30 in year 1 and $114.92 in year 40;

- The second method (levelising the tilted annuity over 40 years to avoid unrealistic future ULLS price rises): changes the ULLS price from $35.72 to $38.01; and,

- The third method (levelising the tilted annuity over 40 years and 1% pa decline in demand): changes the ULLS price from $35.72 to $41.25.

50. Figure 5 illustrates the results that are derived from the first two methods of implementing the tilted annuity and Figure 6 illustrates the results from the third method, both after making all other changes to the TEA model discussed above.

Figure 5. Monthly ULLS network costs with a tilted annuity and ignoring decline in demand

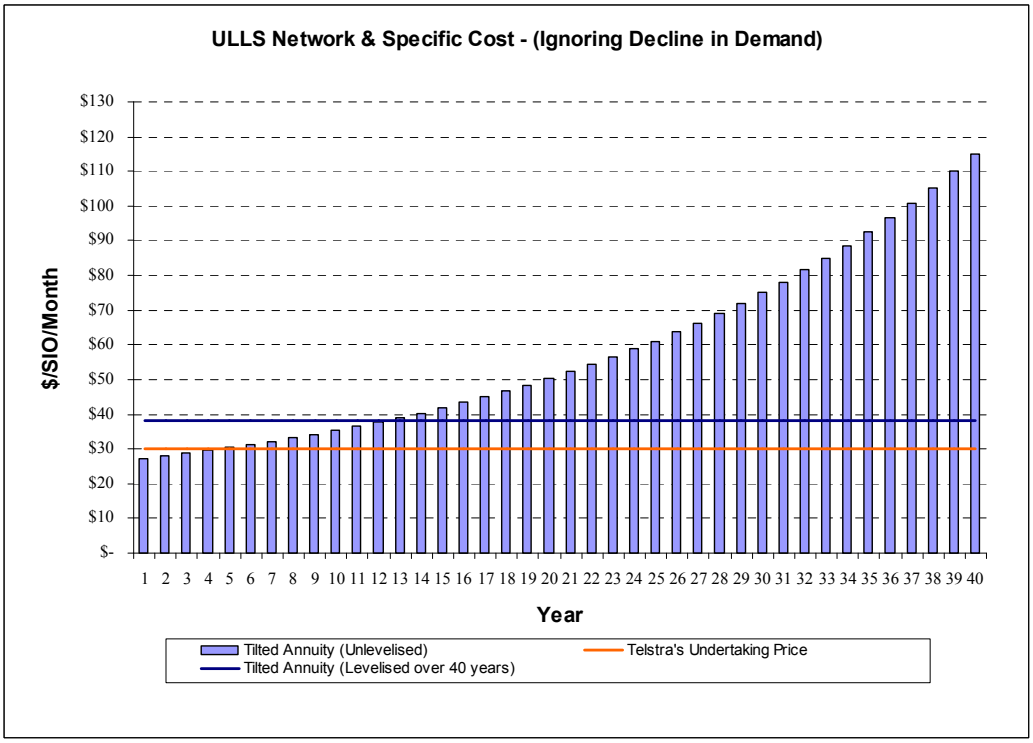
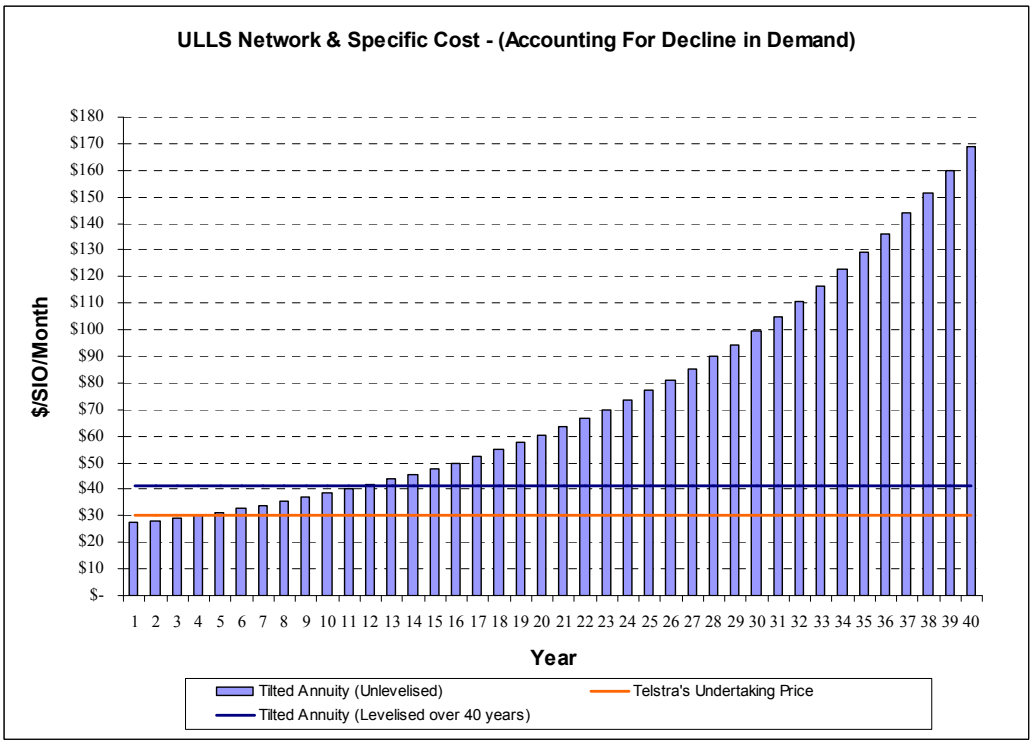


Figure 6. Monthly ULLS network costs with a tilted annuity and accounting for decline in demand



B.13 Reinstatement costs

51. Telstra has used forward-looking trenching and reinstatement assumptions in the TEA model. However, the ACCC stated:[26]

> *In conclusion, the ACCC believes that the inclusion of trenching costs, where they have not been incurred by Telstra, will lead to access prices which discriminate between access seekers and access providers which is not in the LTIE. Access prices should be set so as to allow more efficient sources of supply to displace less efficient sources of supply in dependent markets. In this regard, if an incumbent is allowed to recoup surface barrier costs that it does not incur, it will have little incentive to efficiently invest in infrastructure.*

52. The ACCC seeks to use inputs for trenching and reinstatement that reflect Telstra's historic trenching activity and costs rather than forward-looking costs. The ACCC also sets out a scenario whereby it was assumed that all reinstatement was costed at the price of reinstating turf. Consequently, two different ways of testing the materiality of the TEA model's reinstatement cost are used: (i) recent actual works undertaken by Telstra and (ii) the most extreme ACCC scenario of 100% turf.

[26] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 80

B.13.1 Recent actual work

53. Telstra has analysed its recent contractor works to calculate ratios for trenching and reinstatement that reflect Telstra's recent trenching activities.[27] Two types of data were sourced, a) payments made to external contractors and b) reimbursement made to local councils for reinstatement work they insisted on completing with their own workforce. Payment records were extracted for the Schedule of Rates (SoR) items specified in the TEA model. Items from the SoR used in this analysis include those for:

    - Trenching in turf,
    - Trenching a road crossing,
    - Boring under footpaths,
    - Boring under road crossings,
    - Reinstatement of turf,
    - Reinstatement of concrete, by depth,
    - Reinstatement of asphalt, by depth,
    - Reinstatement of kerbs, and
    - Reinstatement of paving.

54. The quantity of each category identifiable from Telstra's contractor management systems over the period October 2000 to January 2009 for Band 2 activity was used to calculate trenching and reinstatement ratios. The ratios feed into the calculation of the weighted cost per metre of conduit and trenching, and per square metre of reinstatement for both trenches and pits/manholes in the TEA model.

55. Results of the analysis on the activities for breakout, reinstatement and placement, based on the payment records extracted, are set out in Tables 3, 4 and 5 of Telstra's response to the ACCC's information request.[28]

56. Cumulatively, the impact of using Telstra's recent contracting work to derive reinstatement costs, after considering all other changes discussed above, are:

    - After the first method of implementing the tilted annuity (first year of tilted annuity only) the ULLS price changes from $27.30 to $32.02;
    - After the second method of implementing the tilted annuity (levelising the tilted annuity over 40 years so that prices to not rise unrealistically in the future) the ULLS price changes from $38.01 to $45.71; and,

[27] Telstra, *Response to the ACCC's request for further information on Telstra's Band 2 ULLS undertaking made pursuant to s152BT of the Trade Practices Act dated 16 December 2008*, 13 March 2009

[28] Telstra, *Response to the ACCC's request for further information on Telstra's Band 2 ULLS undertaking made pursuant to s152BT of the Trade Practices Act dated 16 December 2008*, 13 March 2009

- After the third method of implementing the tilted annuity (levelising the tilted annuity over 40 years and 1% pa decline in demand) the ULLS price changes from $41.25 to $49.64.

57. These changes are illustrated in Figure 2.

B.13.2 100% turf

58. Alternatively, the ACCC presented an extreme scenario whereby 100% of trenching and reinstatement was assumed to be carried out with turf.[29] Consequently, for the purposes of materiality testing, Telstra uses the ACCC's suggested reinstatement costs and conduit placement costs as set out by the ACCC in a letter to Telstra.[30]

59. Cumulatively, the impact of using the assumption that 100% of trenching and reinstatement is carried out in turf, after considering all other changes discussed above, are:

    - After the first method of implementing the tilted annuity (first year of tilted annuity only) the ULLS price changes from $27.30 to $22.89;

    - After the second method of implementing the tilted annuity (levelising the tilted annuity over 40 years so that prices to not rise unrealistically in the future) the ULLS price changes from $38.01 to $30.85 and

    - After the third method of implementing the tilted annuity (levelising the tilted annuity over 40 years and 1% pa decline in demand) the ULLS price changes from $41.25 to $33.44

60. These changes are illustrated in Figure 2.

B.14 O&M and indirect factors

61. Telstra has used the 2005-06 RAF data to derive the O&M costs in the TEA model. However, the ACCC states (at page 92) :

> *The ACCC considers that in order to reflect efficient, forward looking costs the TEA model should use the most recent RAF data available when calculating cost factors and therefore considers the use of 2005-06 RAF data in the TEA model as an indication that the O&M costs in the model are inefficient and not reasonable.*

62. Telstra updated the O&M costs in version 1.3 of the TEA model based so that they are based on the 2006_07 RAF data, which is the most recent at the time Telstra's Undertaking would begin. Therefore, no change in materiality is tested.

B.15 Entrance facility costs

63. The ACCC stated:[31]

---

[29] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 41

[30] Attachment A: Issue 2 - Variable Inputs" of ACCC's letter dated 18th December 2008

[31] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 76

The ACCC also notes that the TEA model includes entrance facility costs to total network costs. These costs should not be included in total network costs of providing the ULLS as these costs are already recovered in TEBA charges.

64. Subsequent to the ACCC's Draft Decision, Adam Internet, Chime and Agile filed a supplementary submission, which confirms that entrance facility costs should be included in the TEA model.[32] Consequently, Telstra does not remove entrance facility costs for the purpose of materiality testing.

B.16 Cable and equipment prices

65. Telstra considers the cable and equipment prices used in TEA are reasonable as those rates reflect Telstra's competitive external contractor rates for plant and equipment. However, in relation to equipment costs, the ACCC states:[33]

Ovum concludes that the other equipment prices in the TEA model should be lower as they should be valued at current cost of a modern equivalent assets and if the cable costs are adjusted with international benchmarks and other equipment prices are reduced by 10 per cent, then the final ULLS cost falls by 6 per cent

66. However, subsequently Ovum corrected the ACCC's Draft Decision and concluded:[34]

Ovum previously believed that the costs in the TEA model were historic. In light of further information provided in the submissions to the ACCC, Ovum believes these costs are at today's cost.

67. In relation to cable, ACCC stated:[35]

In contrast, Ovum's comparison of the cost of the modern equivalent asset to historic costs used in the TEA model indicates that overall the cost of cable is broadly in line with international benchmarks.

68. Consequently, Telstra makes no changes to the cable and equipment prices for materiality testing.

---

[32] Adam Internet, Chime and Agile, *Further Submission*, 19 January 2009
[33] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 73
[34] Ovum, *Telstra Efficient Access cost model – economic issues*, 5 February 2009, section 2.1
[35] ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 Monthly Charge Undertaking: Draft Decision*, November 2008, at page 80

Attachment A: TEA model worksheets

[**Materiality Test Attachment A-All Elements+TEA Trenching Assumptions.xls**]

– This file contains all elements of the materiality test except changes to trenching costs (that is, it adopts the TEA model trenching cost assumptions)

[**Materiality Test Attachment A-All Elements+100% Trenching in Turf.xls**]

– This file contains all elements of the materiality test and the assumption that 100% of trenching is in turf

[**Materiality Test Attachment A-All Elements+Recent Trenching Works.xls**]

– This file contains all elements of the materiality test and trenching assumptions reflect Telstra recent works

Attachment B: Forecasts of Telstra's Fixed Line Demand

Analyst Reports

ABN Amro Telco Services

- "We expect total PSTN revenue to continue decline at an average annual rate of 1.5% over the next three years, more slowly than in FY08 as ULL migration rates slow. Over this period we consider Telstra will focus on ensuring a strong fixed-line customer base ahead of NBN migration through the next decade" - . 3/08/2008
- "The bulk of FY09F decline, in our view, is related to wholesale PSTN line loss through migration to DSL, and is partly offset by marginal ongoing retail flowback. The bulk of line loss occurs in 1H09F, in particular 1Q09F as Optus and other competitors complete their DSLAM rollout; in our view, this is then followed by slower migration in the hiatus before NBN becomes operational. " - 13/10/2008
- "The key near-term downside risks for Telstra are the outcome of an impending regulatory review and outlook for wholesale revenues. An acceleration of line migration from wholesale tariffs to ULL would adversely impact PSTN and internet revenues. In the longer term, there are downside risks associated with the delivery of OSS systems (timeframe FY09) and acceleration of PSTN revenue decline due to VOIP technologies." - 29/10/2008
- "At this early stage, we consider the highlights will be strong HS 3G mobile sales, slow erosion of PSTN revenue as rival DSL over ULL rollout slows, good sales growth in broadband, IP and data. We expect directory and advertising revenue to hold up well in the early stage of an economic slowdown given the advance nature of annual sales and the A$ effect of Sou Fun sales in China". - 31/10/2008
- "Other risks include more rapid erosion of fixed line services or slowdown in mobile and broadband growth". - 14/11/2008
- "We have not reduced our PSTN revenue forecasts (FY09F a decline of 2.5% and FY10F a decline of 1.3%), but we note that a slower economy is likely to mean slower erosion to mobile, broadband and competing services." - 17/11/2008

Citi Group Telecommunications Services

- "We have increased our FY09e/FY10e estimates by 2%/3%, to reflect FY08 results guidance above our below consensus estimates, with an expected continued strong mobile performance to offset further PSTN declines." - 13/08/2008
- "Growth has been driven by mobile (wireless broadband growth) and data & internet (increasing broadband penetration) with fixed line voice expected to continue its decline despite an improved FY08a." - 14/09/2008
- "Greater-than-expected deterioration in PSTN revenues due to competition / regulation" - 3/09/2008
- "The low level adoption of video calling on 3G mobile services does not bode well for incremental revenues in PSTN, but may slow the rate of decline." - 4/11/2008
- "Our more detailed modeling assumes a smaller fixed line pie and value leakage from Telstra to the second tier operators". and "Greater-than-

expected deterioration in PSTN revenues due to competition/regulation" - 15/12/2008

Deustche Bank Global Markets Research

- "We expect Fixed line decline to remain manageable in FY09 despite increased migration to ULL. We also expect Internet growth to slow as market demand for wireless b'band compensates for fixed network issues due to capacity constraints (due to FTTN delay)". - 14/08/2008
- "Forecast PSTN churn for 2015 to reach "0.48" percent" - 15/12/2008
- "Proliferation of VOIP: Australia is still a nascent market in relation to the broad adoption VOIP technologies. A large scale marketing of VOIP alternatives by select competitors would place additional pressure on Telstra's declining PSTN revenues". - 6/11/2008

Goldman Sachs JBWere Telecommunications Services

- "Industry structure: In recent results, we have seen strong momentum in Telstra's business (e.g. growing broadband market share, improving fixed line metrics, improving mobile KPIs, explosive growth in wireless broadband). However, despite this, we remain cautious on the industry structure outlook. In particular, we are focused on the threats (ULL, wireless broadband, F2M, capped calling plans, etc) to Telstra's highly profitable fixed line business and the subsequent implications for profitability and returns". - 13/08/2008
- "Wholesale decline accelerated but should improve: Wholesale revenue decline worsened, dragging down the overall PSTN result. Revenues -23.3%, -13.7%, -8.4% and -2.5% in 2H08, 1H08, 2H07 and 1H07. The main driver of the decline was the migration of wholesale customers to ULL. While ULL lines have increased 288k, wholesale lines declined 480k during FY08. We expect the migration to ULL should be largely complete and therefore migration should slow in 2009" - 24/09/2008
- "In our view, areas most at risk from a severe slowdown are:
Fixed line volumes, given substitution should accelerate." - 4/11/2008

J.P. Morgan Asia Pacific Equity Research

- "Accelerated Fixed ARPU erosion, Loss of Bband market share, PSTN share loss" - 15/12/2008

Macquarie Research Equities

- "PSTN: Fixed to mobile substitution has been an ongoing trend in the telco industry and an economic slowdown may see this accelerate as fixed subscribers look to save money by switching to mobiles for all calls and benefiting from their capped plans. Broadband has buffered the access substitution trend with a fixed line required for ADSL, however, faster wireless broadband products with increasing data limits may see users replace their broadband connection as well. " - 6/10/2008
- "PSTN calling weakness will be offset by price rises that kicked in on Saturday (refer our article Price rises to relieve pressure on PSTN, 28 October)" - 5/11/2008

Nomura Telecom Services

- "Fixed line subscriber forecasts of "9.2m" and "9.0m" for 2009 and 2010 respectively". - 4/11/2008

- Forecast PSTN subscribers to approximately "8 million" 2012 - 6/11/2008

Ovum - Fixed-to-mobile substitution in Australia

- "Telstra's recent results gave a gloomy prognosis on the outlook for its PSTN business. However, the decline in fixed voice is not limited to Telstra – recent results from Optus and AAPT also showed signs of a struggle. One of the main causes is the increasing number of calls placed on mobiles rather than fixed connections. An increasing number of users are also taking the next step of 'cutting the cord' completely and going mobile-only. Ovum investigates Australia's fixed-to-mobile substitution (FMS) and discovers a clear acceleration trend". - October 2005

Research and Markets - "Market Demographics and Forecast Series - The Australian Fixed Voice Services Market"

- "Consumer demand for the second line is falling".- 2006

UBS Investment Research

- "In particular, in Australia the competitive environment in the mobile space and available access to Telstra's fixed line network place Telstra under greater competitive threat than many other regions" - 13/11/2008

Regulator reports

ACMA Communications Infrastructure and Services Availability Report 2007-08

- "There has been an increase in retail (own network) lines from 8.69 million to 9.40 million over 2007-08. This can be explained by the trend for CSPs to supply services using ULLS, which allows them to install MSANs in Telstra exchanges and offer voice and broadband services over copper lines without relying on Telstra wholesale services. This has resulted in significant decrease in Telstra Wholesale lines..."
- "Overall, the Telstra figures are consistent with past trends; both residential and business lines have increased slightly, and wholesale lines have continued to decrease significantly".

ACMA Communications Service Availability Report 2005-2006

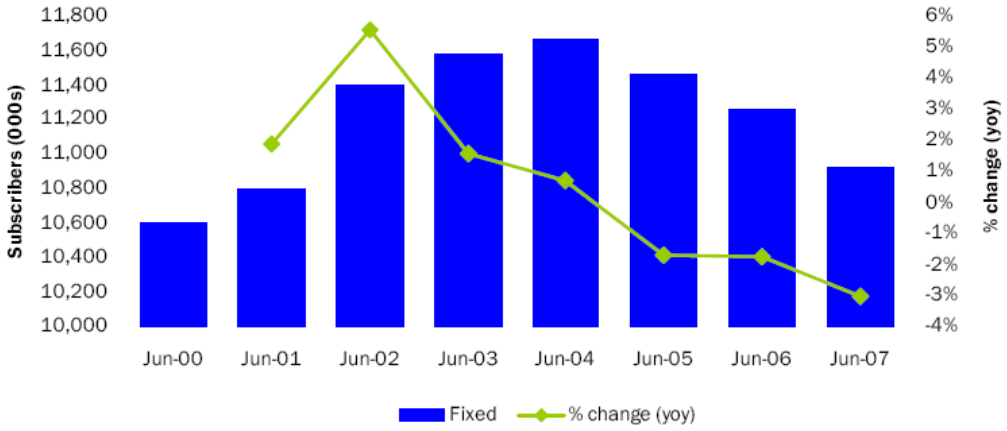
- "Telstra, Australia's largest provider of fixed-line voice services, has experienced a decline in its fixed voice customer numbers and revenues".

ACMA Telecommunication Today Report 5: Consumer choice and preference in adopting services

- "Nearly a quarter of consumers who have both a fixed-line and mobile phone would consider substituting their fixed-line phone with another form of communication". - April 2008

ACMA Fixed-Mobile Substitution and Fixed-Mobile Convergence in Australia

- Australian Fixed Lines and Percentage Change Year-On-Year



ACCC Communications Infrastructure and Services Availability in Australia 2008

- Number of fixed-line telephone services in operation (million), 2005–06 to 2007– 08

All CSPs	**2005–06**	**2006–07**	**2007–08**
Retail (own network)	8.75	8.69	9.40
Wholesale	2.50	2.23	1.60
Total	11.25	10.92	11.00
Telstra services only	**2005–06**	**2006–07**	**2007–08**
Residential (retail)	5.46	5.53	5.56
Business (retail)	2.32	2.25	2.31
Wholesale	2.16	1.98	1.50
Total	9.94	9.76	9.36

ACCC Snapshot of Telstra's customer access network

- Total Telstra SIOs

	As at 31 Dec 2007	As at 31 Dec 2008	Compound Annual Growth Rate
Band 2	6,933,814	6,816,695	-1.4%
All bands	10,264,732	10,115,537	-1.2%