Optus Submission to ACCC in response to

Public inquiry into making an access determination for wholesale ADSL – congestion issues

October 2012

PUBLIC VERSION

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Section 1. Overview

1.1 Optus welcomes the opportunity to provide further comments on Telstra's submission to the wholesale ADSL consultation.

1.2 The Commission's approach to the regulation of wholesale ADSL should continue to place regulatory consistency and price stability as key objectives, consistent with recent fixed-line decisions.[1] In addition, the assessment of the long-term interest of end-users should consider what regulatory action best ensures that end-users are able to receive consistent, stable and equivalent broadband services during the disruptive migration from copper-based access to fibre access through the NBN.

1.3 Telstra argues that due to strong growth in end-user traffic, which is expected to continue, it is necessary to minimise congestion (usage) through pricing. Optus submits that this is not the optimal behaviour of a firm operating in an effectively competitive wholesale market. In an effectively competitive market, wholesale network operators would invest in a network design and capacity that its customers (and ultimately end-users) require. The ability to act in a manner without regard to end-user behaviour reflects monopoly power and would not occur in an effectively competitive wholesale market. It appears that Telstra is behaving in this manner for some end-users — Telstra is investing in transmission network upgrades to be able to supply the dark fibre capacity needed for the transit network of NBN Co. Telstra will receive almost $16 billion ($0.5 billion per year) post-tax from NBN Co over the next 30 years for access to dark fibre transmission, ducts and racks.[2]

1.4 The position put forward by Telstra appears to be: invest in sufficient transmission capacity to meet future demand of all Australian households and businesses through the NBN; and claim there is insufficient capacity in its transmission network for current levels of ADSL traffic.

1.5 Optus submits that such positioning appears to reflect an element of regulatory gaming – on the one hand providing adequate capacity to some access seekers; while claiming inadequate capacity for other access seekers relying on regulated access. Efficient cost-based access charges enable Telstra to recover fully the costs incurred in supplying greater ADSL capacity. There appears to be no economic or financial reason why Telstra should not invest in greater network assets if capacity is affecting end-user performance.

1.6 Optus does not believe there is any support for the propositions put forward by Telstra that reliance on a RMRC method would promote the long term interest of end-users. Optus cannot see how the adoption of the RMRC method, designed to stifle end-user demand in order to avoid efficient investment in capacity, is in the long-term interest of end-users — existing cost-based methodologies allow recover of these costs. Optus supports the use of the FLSM, without the ducts and pipes uplift to the initial RAB, to determine efficient wholesale ADSL charges.

1.7 In relation to the need to implement capacity pricing, Optus submits that:

(a) Existing wholesale capacity charging (AGVC/VLAN) provides ability to manage capacity and provides flexibility to access seekers to choose how to manage capacity for their end-users;

[1] ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final report*. July 2011.
[2] Discounted at 10% over an average 30 year lifetime.

(b) Removing the requirement to purchase Telstra transmission from ADSL access will provide access seekers the ability to move traffic onto self-supplied fibre links, thus alleviating congestion on the Telstra network;

(c) Congestion pricing is not accepted as a regulatory pricing principle in any market worldwide; further, concepts such as externality charges and Ramsey-based pricing has been specifically rejected by the ACCC and the Australian Competition Tribunal; and

(d) The FLSM is able to deal with congestion and capacity-related capital expenditure, ensuring that any forecasted efficient capital investment will be recovered from Telstra and access seekers.

1.8 In relation to the inability of Telstra to unbundle its current wholesale ADSL product, Optus notes the following:

(a) Many other markets allow access seekers the choice to request hand-over close to the exchange or to include a backhaul service. Australia is one of the only markets that does not allow access seekers choice as to where to hand-over traffic;

(b) There appears to be no major technology reason why an incumbent operator cannot provide hand-over at the BRAS, exchanges, and at national POIs; and

(c) Provisions should be made to allow access seekers that have backhaul infrastructure to local exchanges to be able to interconnect with Telstra at the local exchange, if so desired.

1.9 Further, if the Commission assesses capacity as a legitimate issue needing to be addressed, Optus submits it will be more efficient to allow access seekers to self-supply backhaul rather than to arbitrarily increase access prices.

Section 2. Capacity pricing should not be adopted

2.1 Telstra asserts that the long term interest of end-users would be promoted through the adoption of capacity-based charging for wholesale ADSL prices. Telstra argues that its retail ADSL pricing takes into account the social cost of congestion, and as such, a retail-minus costing approach (RMRC) would promote the long term interest of end-users.

2.2 In response, the Commission issued a further set of consultation questions requesting information on the role of network congestion in setting appropriate cost-based regulated pricing.

2.3 Optus submits that:

(a) The benchmark against which any assessment of cost methodology must be made is what would occur in an effectively competitive wholesale market;

(b) Current wholesale Telstra pricing (AGVC/VLAN) takes into account congestion pricing while allowing access seekers flexibility as to how to best take into account congestion in retail price plans;

(c) The appropriate cost methodology to set wholesale ADSL charges is the fully distributed cost model using historic costs (ie. applying the FLSM without ducts and pipes uplift); and

(d) Externality and Ramsey pricing has been rejected by ACCC and the Australian Competition Tribunal and should not be used for wholesale ADSL prices.

2.4 In summary, Optus does not believe there is any support for the position put forward by Telstra, that reliance of RMRC method would promote the long term interest of end-users. In particular, while Telstra's proposed response to capacity constraints is to increase prices to alter consumer behaviour, Optus submits that the efficient response would be to increase investment in backhaul capacity. Importantly, existing cost-based methodologies allow recovery of these costs.

2.5 Optus submits the long term interest of end-users is promoted by setting wholesale ADSL prices using the FLSM without the ducts and pipes uplift to the initial RAB.

Key test is what would occur in an effectively competitive market

2.6 Telstra argues that in ADSL markets, *"it would rarely make sense to invest so as to avoid congestion altogether. Consequently, there is likely to be some congestion that needs to be priced for a socially-optimal outcome"*.[3] Telstra also refer to an expert paper that argues *"competitive markets for congestion goods … will both price congestion appropriately given the current capacity level, and also generate socially-optimal investment in capacity."*[4]

2.7 The increasing use of data services by Australian consumers is not a new trend. Optus notes that significant growth in data usage across all forms of access technologies is occurring. Further, it is a general consensus that this growth is a long term trend that will continue — importantly, no one appears to be arguing the current level of demand is a spike which will soon decrease.

[3] Telstra Pricing Submission, p.14
[4] Telstra Pricing Submission, p.14

2.8 Optus submits that a wholesale network operator in an effectively competitive wholesale market would provide adequate capacity to meet the growth in data usage. Indeed, any capacity investment would be sufficient to take into account the future expected ongoing growth of data usage. It follows that such efficient investment would be recovered from all customers, including the network owner.

2.9 It appears that investment in additional backhaul capacity is happening for some access seekers. Telstra is investing in upgrades to its transmission network to supply the dark fibre capacity needed for the transit network of NBN Co — the transmission between Fibre Service Areas and Points of Interconnection. NBN Co has committed to lease capacity from Telstra for 35 years. The leasing of dark fibre is included within the infrastructure access payments along with duct and rack leasing — amounting to a net present value of $5 billion.[5] Converting to post-tax cash-flow shows Telstra will receive almost $16 billion ($0.5 billion per year) from NBN Co over the next 30 years for access to dark fibre transmission, ducts and racks.[6]

2.10 In an effectively competitive market, Telstra would also make this capacity — and where this capacity is not sufficient it would invest in more — available to all access seekers. At the minimum, Telstra would use some of the $16 billion post-tax windfall to ensure adequate investment to avoid congestion on its networks.

2.11 The current position of Telstra appears to be: invest in sufficient capacity to meet future demand of all Australian households and businesses through the NBN; and claim there is insufficient capacity in its transit network for current levels of ADSL traffic.

2.12 Optus submits that such positioning appears to reflect an element of regulatory gaming; on the one hand providing adequate capacity to some access seekers paying commercial rates; while claiming inadequate capacity for other access seekers relying on regulated access.

Current wholesale pricing takes into account congestion costs

2.13 Telstra argues that its ability to minimise congestion on its network is limited if it must *"make available resale services at a price that does not reflect the congestion costs."*[7] This is based on the argument that resellers would be able to market their retail propositions at a lower level than Telstra, and hence, would further increase congestion on Telstra's network.

2.14 First, Optus reiterates that Telstra has the ability to minimise congestion on its network by investing in adequate transmission capacity, as per an efficient operator in an effectively competitive wholesale market. All the costs of efficient investment would be recovered through access charges.[8]

2.15 The claim that current reseller prices do not reflect the cost of capacity is not consistent with the current structure of wholesale ADSL prices — especially the imposition of large VLAN/AGVC prices based on peak throughout capacity (Mbps).

2.16 The current VLAN/AGVC structure closely reflects capacity-based prices, which is recognised as being able to ensure efficient management of capacity costs. The concept of capacity-based pricing is that the access seekers purchase a block of capacity – ie. sufficient capacity throughput to meet peak demand.

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[5] See NBN Co, *NBN Co and Telstra Sign Binding Definitive Agreements*, Press Release, 23 June 2011 & Telstra, *Explanatory Memorandum for the resolution under item 2 at the AGM on 18 October 2011: Telstra's participation in the rollout of the national broadband network,* pp.37-8.

[6] Discounted at 10% over an average 30 year lifetime.

[7] Telstra Pricing Submission p.15

[8] These access charges also apply to Telstra's own use of capacity.

2.17 In other words, access seekers face the capacity cost incurred due to their peak demand through the current wholesale charges. Consider the following example in which two networks both have average daily throughputs of 100Mbps. One network sees peak demand of 200Mbps and another sees 150Mbps. The transmission capacity needs to be sufficient to supply 350Mbps peak usage, even though the combined average daily usage is 200Mbps. The first network requires greater peak capacity, and therefore will pay more in its AGVC charges, while the second network pays less in AGVC charges. The combined revenue from cost-based AGVC charges is sufficient to enable the access provider to recover the costs of providing adequate peak capacity. However, in any case, either network can reduce their AGVC charge by smoothing traffic demand and lowering the required peak throughput capacity.

2.18 This structure of current wholesale pricing encourages access seekers to choose the most efficient solution: either encourage end-users to smooth traffic usage and hence reduce peak demand; or pay for adequate peak capacity. The choice will be driven by end-user demand and whether the lost revenue due to restricting end-user behaviour is less or more than the reduction in AGVC costs.

2.19 Irrespective of whether Telstra wants to avoid investing in capacity, in an effectively competitive market, wholesale network operators would invest in a network design and capacity that its customers (and ultimately end-users) required. The ability to act in a manner without regard to end-user behaviour reflects monopoly power and would not occur in an effectively competitive wholesale market.

2.20 Optus cannot see how the adoption of a pricing mechanism designed to stifle end-user demand in order to avoid efficient investment in capacity is in the long-term interest of end-users.

2.21 Further, it is difficult to reconcile claims made by Telstra that wholesale ADSL prices need to increase to take into account increasing demand, and previous Telstra submissions stating that VLAN/AGVC rates will decline over time as demand grows. Telstra claimed during the development of its SSU that AGVC prices will fall as volumes increase:[9]

> *Increases in retail customer usage mean that more data needs to be transported from its sources to end users and, to replicate the offers made by Telstra's retail business units, wholesale customers would need to purchase more AGVC transmission. Therefore, th**e AGVC price component will need to fall as Telstra's retail customer usage increases.**[10]*
> [emphasis added]

2.22 The above quote is how one would expect pricing to be structured given the nature of telecommunications infrastructure — namely, the unit cost of traffic decreases as traffic grows.

2.23 However, in the current consultation Telstra is arguing it needs to increase wholesale ADSL charges to limit increasing throughput demand. Optus submits that such claims indicate that Telstra is attempting to game the current wholesale ADSL regulatory process.

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[9] Optus notes that the mechanism through which this is achieved remained unchanged between first draft of the SSU and the final accepted version. Namely, that AGVC prices will depend on Telstra's reasonable forecast of its own demand.

[10] A guide to Telstra's price-related interim equivalence and transparency obligations – 5 September 2011, available at http://www.accc.gov.au/content/item.phtml?itemId=1007091&nodeId=4729a3b85d4adcb0d931c6a482ffcf92&fn=A%20Guide%20to%20Telstra's%20price-related%20interim%20equivalence%20and%20transparency%20obligations.pdf

Appropriate costing methodology for ADSL

2.24 Telstra notes that the Commission has generally adopted cost-based pricing methodologies, such as TSLRIC+ or historic top down models. Telstra, however, argue that these methodologies do not apply to services supplied on congested networks or for those supplied on a competing basis.[11]

2.25 However, such claims are not correct. An analysis of other regulatory costing decisions for networks that; (a) face congestion and require efficient investment; and (b) are wholesale inputs into competitive retail markets shows that existing cost-based pricing methods are appropriate.

2.26 Optus submits that both TSLRIC+ and FLSM approaches enable cost recovery of efficient investments required to provide additional capacity. It is unclear why Telstra claims these models do not apply to congested services.

2.27 Both methods are forward-looking and determine cost-based prices based on forecasted estimates of usage and expenditure.[12] As such, efficient investment costs in response to actual and forecasted growth in traffic is included within relevant costs to be allocated to services. Relevant expenditures (capital and operating) are included within the roll-forward mechanism in the FLSM. These values reflect the actual business forecasts supplied by Telstra.

2.28 Should the timing of updates to the FLSM be deemed too long to ensure inclusion of efficient investment in backhaul infrastructure due to capacity constraints, Optus recommends the Commission retain the right to alter the RAB more often — following a proper assessment of the efficiency of such investment. As such, this would be similar to the ability of regulators to adjust regulated costs in utility industries in the presence of unexpected changes in efficient investment levels.

2.29 In relation to the claim that existing methodologies do not apply to those sold on a competing basis, TSLRIC+ and FLSM methods are used to estimate the cost of regulated wholesale services which are subsequently sold in a competitive retail market. Indeed, the central justification for use of these methods is to set efficient cost inputs so as to facilitate and promote competition in related retail markets.

2.30 As outlined above, an efficient wholesale operator operating in an effectively competitive market would invest in adequate capacity to maintain quality of service (QoS) whilst meeting the forecasted increase in data usage. Telstra argues that traditional cost models will not promote the long term interest of end-users for wholesale ADSL.[13] However, such claims are false. Optus submits it is Telstra's refusal to invest in capacity and attempts to alter consumer behaviour through higher prices which is counter to the long-term interest of end-users.

2.31 Telstra claim that "*achieving a less-congested network will be difficult if the network owner must make available resale services at a price that does not reflect the congestion cost*".[14] An objective analysis of how prices are set using TSLRIC+ or FLSM clearly show that the efficient investment in additional backhaul capacity to alleviate congestion and provide adequate capacity and QoS will be included in the relevant cost base — and hence recovered through regulated access charges. Optus does not see any justification or evidence to support Telstra's claims.

[11] Telstra WADSL Pricing Submission, p.13

[12] The fundamental difference between the two approaches is the extent of efficiency adjustments. The FLSM approach, using historic costs, enables Telstra to fully recover actual costs.

[13] Op cit., n.11, p.13.

[14] Op cit., n.11, p.15.

2.32 Optus submits that congestion on Telstra's backhaul network (in the presence of long term increase in consumer demand) can be alleviated by efficient investment in additional capacity. Any increase in efficient network cost will be reflected in regulated prices going forward using either TSLRIC+ or FLSM method. Furthermore, if the Commission assesses capacity as a legitimate issue needing to be addressed, Optus submits it will be more efficient to allow access seekers to self-supply backhaul rather than to arbitrarily increase access prices.

FLSM should be used to set wholesale ADSL

2.33 Optus recommends that the Commission use the existing FLSM methodology to estimate the proper cost-based rate for the wholesale ADSL service. There are two central benefits to this approach:

(a) Consistency with other fixed-line decisions; and

(b) Appropriate treatment of sunk assets to maximise efficiency.

2.34 Recently, the Commission has placed significant value on promoting consistency and price stability for fixed-line access decisions.[15] The use of FLSM to estimate wholesale ADSL access prices will ensure consistency across all of the regulated fixed-line wholesale services. This should result in promoting the legitimate business interests of Telstra and at the same time ensure that there is no over-recovery of efficient costs across fixed-line services.

2.35 With regard to maximising economic efficiency (in the context of a government owned and funded roll-out of a next generation broadband network), Optus reiterates the comments from its earlier submission — that efficiency is maximised by focusing on static efficiency not dynamic efficiency given the current context of the Australian market.

2.36 To this end, Optus strongly recommends that the FLSM be adjusted to exclude sunk and depreciated assets from regulated prices. The FLSM contains an arbitrary $911 million (in 2009 terms) mark-up for duct assets to ensure price consistency — notwithstanding the acknowledgment by the Commission that Telstra's passive asset valuation was largely written down and fully depreciated.[16] Optus submits that this arbitrary adjustment be removed.

2.37 Optus further notes that this view is consistent with the view of Frontier Economics – the consultancy relied upon by Telstra — and the regulatory best practice put forward by European regulators (BEREC). We address these points below in more detail.

Retail minus not consistent with regulatory best practice

2.38 Telstra relies upon a report by Frontier Economics, commissioned by King & Wood Mallesons, stating that use of RMRC to set wholesale access prices is an appropriate methodology. Importantly, Frontier Economics was 'instructed' to assume that Telstra's current retail pricing reflect the social congestion cost (i.e. are efficient); and were provided background stating that the market was competitive.

2.39 However, outside the boundary of the restrictive terms of engagement, it should be noted that use of retail-minus is not supported by regulatory best practice or by Frontier Economics.

2.40 Optus directs the Commission to the recent public consultation undertaken by the European Commission in relation to costing methodologies for key wholesale access prices.[17] During that

[15] See for example, ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final report*. July 2011.
[16] ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final report*. July 2011.
[17] http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/cost_accounting/index_en.htm

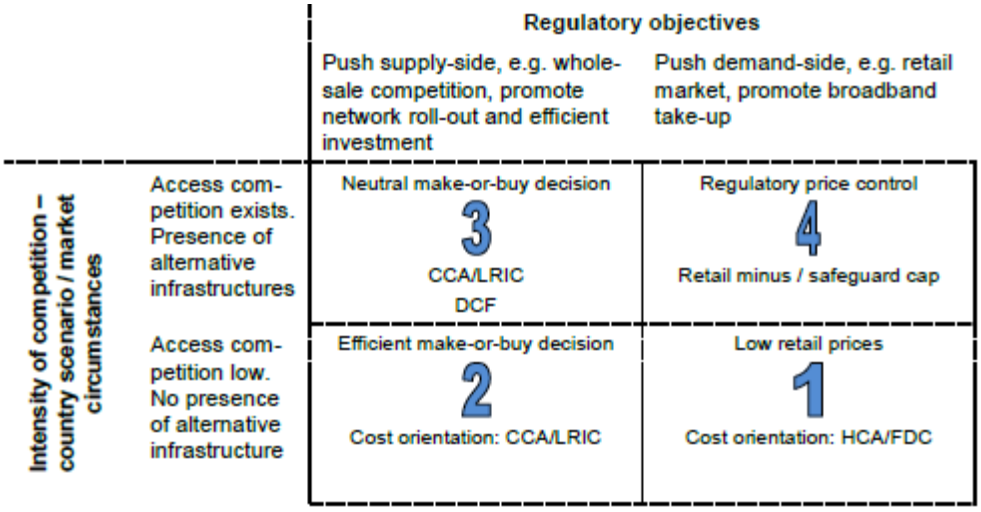
consultation, both Frontier Economics[18] and the Body of European Regulators for Electronic Communications (BEREC) supplied a submission. These views are discussed below.

2.41 The European Commission undertook a broad range review into costing methodologies for next generation broadband networks in 2011. In response, BEREC provided a detailed submission outlining the views of European Regulators on the relevant principles when deciding on the appropriate costing approach.[19]

2.42 BEREC stated that promoting effective competition, regulatory predictability and a proper cost-based wholesale access price regulation is the best way to facilitate transition toward next generation access networks.[20] BEREC stated that the choice of cost methodology fundamentally depends on two key factors: regulatory objective and prevailing market conditions.[21]

2.43 BEREC provide a useful matrix through which the appropriate cost methodology can be assessed. The BEREC matrix (shown below) distinguishes between two main objectives and two competitive scenarios to identify four scenarios, into which BEREC placed the main costing methodologies.

Figure 1



Source: BEREC

2.44 BEREC viewed that the above matrix allowed regulators to make a choice of cost methodology that fits national needs while at the same time following common principles to ensure consistency.

2.45 It would appear Telstra believes that the Australian market is best described as being within box four in the BEREC matrix. That is, there exists access competition and there are alternative infrastructures; and that the regulatory objective is to push demand-side factors. The assessment of Frontier Economics regarding the use of RMRC is based on the premise of effective competition and efficient retail prices.

[18] On behalf of Vodafone Group Plc.
[19] BEREC, BEREC's answer to the Commission's questionnaire on Costing methodologies for key wholesale access prices in electronic communications, BoR (11) 65, 9 December 2011.
[20] Ibid., p.2.
[21] Ibid., p.7.

2.46 Optus has submitted previously on the limited extent of effective competition in the wholesale ADSL market — and that any competition is likely to decrease due to removal of alternative DSLAM infrastructure due to NBN investment and re-monopolisation of access lines through Telstra's top-hat cabinetisation programme.

2.47 Optus submits that box one better reflects the forward-looking features of the Australian wholesale broadband market — namely, no or limited infrastructure competition and the regulatory objective to promote usage and consumer take-up of broadband. In such circumstances, regulatory best practice indicates that the adoption of cost orientation using historic costs and a fully distributed cost approach.

2.48 This advice is also consistent with the recommendation provided by Frontier Economics in relation to costing fixed infrastructure in Europe. We address this in more detail in the next section.

Retail minus not recommended by Frontier Economics

2.49 Telstra relies upon a report by Frontier Economics, commissioned by King & Wood Mallesons, stating that use of RMRC to set wholesale access prices is an appropriate methodology. Optus submits that one should not be surprised that the use of RMRC methodology is efficient assuming that retail costs are efficient and the access provider faces effective competition. Optus notes the warnings of Frontier Economics that its findings also depend on the proper implementation of the method.[22]

2.50 However, outside the boundary of the restrictive terms of engagement, the use of retail-minus is not supported by other papers prepared by Frontier Economics.

2.51 In the context of setting efficient regulated transmission prices, Frontier Economics advised the Commission[23] that a retail-minus approach (equivalent to ECPR approach) is useful in limited circumstances. Frontier states that a retail-minus approach is useful in situations where the regulator wishes to retain the access provider's monopoly profits in the upstream wholesale market. The retaining of monopoly wholesale profits may be beneficial in situations where recovery of sunk and fixed costs is important to encourage future investment by the monopoly wholesale provider.

2.52 Frontier comments that the main downside of retail-minus is that it does not address allocative efficiency by reducing monopoly rents in retail prices. Frontier state that the primary "usefulness" of retail-minus rules is where the regulator is not concerned about the price level but rather ensuring efficient entry.

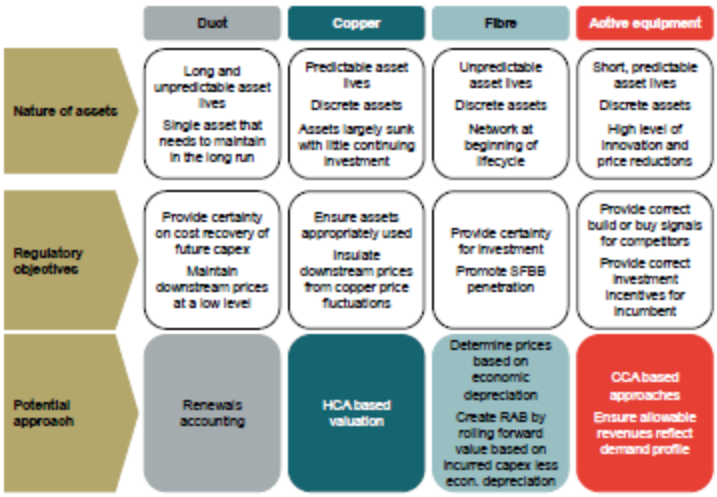
2.53 Optus submits that the terms of engagement for Frontier effectively bound it to conclude that RMRC is the appropriate choice — effectively the terms of engagement directed Frontier to assess RMRC assuming away its central downside. Optus believes that Frontier's independent advice directly provided to the Commission in relation to transmission pricing is more instructive. Specifically, the conclusion that RMRC is not appropriate where there are concerns surrounding the efficiency of the monopoly wholesale input.

2.54 In a recent report for a European operator[24], Frontier Economics looked at the appropriate costing methodology for broadband fixed access networks. The Frontier Economic advice is largely consistent with the views of BEREC outlined above — that efficiency is promoted by

[22] See Frontier Economics, *ADSL network congestion pricing and use of RMRC: A report prepared for King & Wood Mallesons*, August 2012, section 3.3.
[23] Frontier Economics, June 2009, *Economics of Transmission Capacity Services: A report prepared for the ACCC*. See section 4.3.3.
[24] Frontier Economics, June 2011, *Access Network Costing: A report for Vodafone*.

adopting methodologies to reflect the characteristics of the assets and the regulatory and market constraints.[25] Frontier Economics' summary of recommendation is presented below.

Figure 2



Source: Frontier Economics

2.55 In relation to duct pricing, Frontier Economics recommends that a renewals accounting approach is most appropriate using an opening book value using historic costs (HCA). As such, a HCA approach is likely to result in relatively low prices in the future *"which is consistent with the objectives of ensuring high penetration and* ***ensuring productive efficiency by making full use of sunk assets****"*.[26] [emphasis added]

2.56 Frontier Economics' analysis supports Optus' position that wholesale ADSL prices should be set using the FLSM with an appropriate adjustment to reflect the sunk nature of duct and copper assets.

Retail minus pricing will enable Telstra to effectively control the market

2.57 Telstra argues that the retail-minus (RMRC) methodology is best suited to account for congestion prices in the regulated wholesale ADSL charge. Telstra states that when retail prices are *"efficient and competitively set, a properly specified retail minus WDSL price would also be efficient and competitive"*.[27]

2.58 Telstra further argue that adoption of RMRC would enable "equivalence" in the market, so that the results where a vertically-integrated operator controls wholesale pricing would be equivalent to pricing imposed by a wholesale-only network provider.

2.59 Optus disagrees with both of these points. As outlined above, cost-based AGVC/VLAN pricing using the FLSM ensures that the cost of capacity investments is fully taken into account and recovered from access seekers. Further, Optus has shown that a wholesale-only network provider operating in an effectively competitive market would not price in the manner proposed by Telstra.

2.60 In addition, the adoption of RMRC will enable Telstra to control the whole market through its strategic manipulation of retail ADSL prices — in effect retail price competition will be

[25] Ibid., section 3.
[26] Ibid., p.14.
[27] Op cit., n.11, p.20.

removed. Optus raised objections to the use of RMRC in earlier submissions[28] noting that Telstra's ADSL retail prices are significantly above the current prices put forward by competitors. The use of RMRC reduces the ability of access seekers to enter into price competition against the dominant incumbent access provider. During the transition to NBN, network differentiation will be removed as a competitive issue, with price being the sole driver of consumer behaviour.

2.61 Optus also notes that the Commission has previously commented on Telstra's market power in relation to retail ADSL market, especially in rural areas.[29] Removing the ability of access seekers to compete against Telstra through price is not in the long-term interests of end-users.

Externality and Ramsey pricing rejected by ACCC and ACT

2.62 Telstra relies on the concept of externalities to justify the adoption of congestion pricing — where congestion produces a negative externality on telecommunications end-users. Telstra argue that this social cost should be reflected in the charges levied on the creators of the externality, access seekers and end-users.

2.63 In addition, Telstra also notes that use of RMRC is the best way through which Ramsey pricing principles could be adopted into regulated prices. This is based on the assertion that retail prices set in a competitive market will reflect elements of Ramsey pricing, and the use of RMRC will enable the Ramsey mark-up to flow down to wholesale charging.

2.64 Optus strongly disagrees with both of these claims. For example, irrespective of the theoretical appropriateness of externality and Ramsey pricing, the Commission and the Competition Tribunal have consistently refused to apply the principles to regulated rates. Neither of the principles have been applied, nor currently apply, to any regulated rate in Australia. In addition, Telstra has provided no evidence to satisfy the Tribunal's evidentiary burden prior to the adoption of externality or Ramsey pricing.

Use of externality pricing

2.65 Altering cost-based access charges to take into account wider social costs (ie. externalities) is not new in Australia, and has been the subject of extensive debate in relation to the efficient pricing of mobile termination.

2.66 There are three components to externality pricing:

(a) Whether externalities actually exist (including all related externalities);

(b) Whether market participants have internalised some or all of the external value[30]; and

(c) Actual measurement of the extent of the externality.

2.67 The position in Australia seems clear — robust empirical evidence for all three aspects must be present before one could consider applying externality pricing.[31] While the Australian Competition Tribunal has accepted in principle the possibility of applying externality pricing,

[28] See for example, Optus submission to draft FAD April 2012.

[29] ACCC, *Assessment of Telstra's Structural Separation Undertaking and draft Migration Plan*, Discussion Paper, 30 August 2011, p.80

[30] We note that Telstra has argued in relation to MTAS that any network externality is internalised and any calling externality is also internalised. Telstra has therefore argued that there is no justification to rely on externalities to apply an above cost, or a below cost, MTAS rate.

[31] See Application by Optus Mobile Pty Limited & Optus Networks Pty Limited [2006] ACompT 8.

the Tribunal has also stated that it is ultimately an empirical question as to whether the externality exists:

> *… it is an empirical question whether in each case there is in fact an external benefit (or cost). If the potentially arising external benefit is in fact taken into account in the willingness to pay of the relevant party, the externality is said to be internalised. An internalised externality is extinguished, that is, it does not exist; it no longer arises, or did not arise in the first place, except as a theoretical possibility.*[32]

2.68 The Competition Tribunal rejected Optus' modelling of the extent of possible mobile network externalities fundamentally due to the use of assumptions with respect to cross-price elasticities and the general lack of specific evidence as to the level of all relevant externalities.[33]

2.69 The Tribunal stated:

> *We have come to the view that **if externalities are to be considered in pricing services, they need to be surveyed with some degree of thoroughness**. It is not sufficient to include some externalities in the analysis and ignore others purely on an a priori basis that they matter less. This is especially the case where the possibility of countervailing effects is being ignored, and where major changes in the telephony market are likely to be altering demand patterns and levels of substitution between services.*[34] [emphasis added]

2.70 The Commission has accepted and applied the reasoning of the Tribunal in relation to pricing of regulated services. The Commission stated:

> *However, the ACCC agrees with the Tribunal's conclusion that if externalities are to be considered in pricing services, they need to be thoroughly surveyed with some attention given to the possibility of other potential externalities, such as fixed subscription network externalities or calling externalities.*[35]

2.71 Irrespective of the theoretical possibility that there may be some level of externality due to capacity in Telstra's ADSL network, Telstra has provided no rigorous and independently defensible estimation as to the precise nature of the externality; the level of internalisation by networks and consumers; nor have Telstra considered other possible related externalities.

2.72 Further, Telstra argues that its retail pricing (peak and off-peak limits) seeks to internalise these external costs. Furthermore, the structure of the wholesale ADSL VLAN/AGVC charge enables access seekers to internalise the cost of peak usage across all its end-users. Even if an externality can be proven, and its precise level estimated, it appears that the current structure of market pricing (pricing based on peak capacity) internalises any external cost due to peak usage.

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[32] Application by Optus Mobile Pty Limited & Optus Networks Pty Limited [2006] ACompT 8, at [262]
[33] Ibid., see section 13.3 & 13.4.
[34] Op cit., n.32, at [289]
[35] ACCC, *Domestic Mobile Terminating Access Service Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, p.16. Available at: http://www.accc.gov.au/content/index.phtml/itemId/848783

Use of Ramsey pricing

2.73 Frontier Economics, on behalf of Telstra, argue that the use of RMRC has an advantage because it is based on competitively set retail prices, which by definition includes an element of Ramsey pricing.[36]

2.74 First, Optus notes this argument largely reflects the argument previously put forward by Optus during its MTAS appeal. Optus argued that *"this negotiated competitive price reflected all of the relevant elasticities of demand and therefore reflected R-B prices and any relevant network effects".*[37]

2.75 The Tribunal accepted that an unregulated multi-product firm would mark up its incremental costs in a way that has the least impact on demand — that is, it will apply greater mark-ups to services with inelastic demand.[38] But the Tribunal did not accept that this means rates based on commercial outcomes were preferable to regulated cost-based rates. The Tribunal noted that an unregulated monopolist may have the same price relativities as the regulated Ramsey outcome, but with higher price levels. This argument assumes that price elasticities were constant across all price levels. One cannot make such a claim without knowing all the own price and cross price elasticities at all the relevant levels of demand.[39] Optus submits that relying on 'competitive' retail prices to make observations regarding application of Ramsey pricing principles does not hold.

2.76 Second, the Commission has consistently refused to apply Ramsey pricing for any of its regulated pricing decisions.[40] Further, notwithstanding the theoretical efficiency benefits of applying Ramsey mark-ups, in practice there is no guarantee of any efficiency benefits.

2.77 Optus refers to the guidance provided by the Australian Competition Tribunal in relation to the application of Ramsey pricing principles to MTAS.[41] The Tribunal noted that Ramsey principles were designed with a single market supplier, supplying a single service. The Tribunal had difficulty in applying Ramsey pricing within a multi-product firms. The Tribunal noted it made little sense to speak of the welfare-maximising level of just one price without regard to all other prices in the related markets.[42] The Tribunal also had difficulty in applying Ramsey pricing to regulated wholesale prices when the end retail price was unregulated and acknowledged:[43]

> *If a set of R-B mark-ups were calculated but only one was applied, leaving the monopolist to choose its own mark-ups on the other products, there is no guarantee that the overall result would be welfare-optimising.*[44]

2.78 The Commission has consistently refused to apply Ramsey pricing in the context of setting regulated pricing. In relation to its application to MTAS, the Commission stated that the ability to utilise Ramsey pricing is dependent on the access provider having some market power and

[36] Frontier Economics, *ADSL network congestion pricing and use of RMRC: A report prepared for King & Wood Mallesons*, August 2012, p.11
[37] Op cit., n.32, at [226]
[38] Op cit., n.32, at [230]
[39] Op cit., n.32, at [231-235]
[40] See for example MTAS, LSS.
[41] Op cit., n.32.
[42] Op cit., n.32, at [220].
[43] Op cit., n.32, at [222].
[44] Op cit., n.32, at [225].

is not consistent with competitive market.[45] The Commission also commented on the application of Ramsey pricing in relation to LSS regulation:

> *Ramsey pricing argues that welfare is maximised where common costs are recovered in a way that minimises distortions to demand. Ramsey pricing does this by distributing a greater proportion of common costs to goods that are more price inelastic. The ACCC agrees that, in theory, Ramsey pricing would be an efficient and appropriate approach to distributing common line costs. However, the ACCC has noted in the past in the context of MTAS prices that Ramsey pricing has significant informational and practical difficulties. Telstra submits the same point in the context of this review. Notably, Ramsey pricing requires robust and up-to-date price elasticity information. Robust and up-to-date price elasticity information has not been provided to the ACCC and it is unaware of any alternative sources for such information.*[46]

2.79 These views are consistent with views worldwide on the application of Ramsey-based allocation of common costs. Namely, in order for it to be an efficient cost allocation, the regulator must:

(a) Have actual and reliable estimates of the relevant super-elasticities; and

(b) Apply Ramsey pricing to all regulated services in all related telecommunications markets (fixed, mobile, broadband).

2.80 All objective evidence fails to support an argument for RMRC due to an applied application of Ramsey pricing principles.

[45] ACCC, 2004, *Mobile Services Review – Mobile Terminating Access Service, Final Decision*, pp.157-169
[46] ACCC, 2007, *Review of the Line Sharing Service Declaration: Final Decision*, p.96.

Section 3. DSL access and backhaul should be separate services

3.1 Optus submits that the access and backhaul components should be considered separate services for the purposes of delivering a wholesale ADSL service. There appears to be few, if any, legitimate business reasons why this cannot be done. The ability of access seekers to separate wholesale access and backhaul is a feature of most other markets' regulated access to wholesale broadband.

3.2 In addition, if the Commission assesses capacity as a legitimate issue needing to be addressed, Optus submits it will be more efficient to allow access seekers to self-supply backhaul rather than to arbitrarily increase access prices. Failure to separate wholesale ADSL access and backhaul risks stranding significant amounts of competitive backhaul investment as access-seekers transition from infrastructure-based access to wholesale re-selling during the migration to NBN.

3.3 Irrespective of the Commission's view on capacity, Optus submits that separation of the wholesale ADSL service into regulated access and backhaul services should occur.

The provision of wholesale ADSL services

3.4 Optus disputes Telstra's contention that it is not possible to unbundle a wholesale ADSL service on the basis that internationally, wholesale ADSL services can be provided on both a bundled and unbundled basis.

3.5 Telstra's main contention is that irrespective of where the PoI is located it is not possible to unbundle the wholesale ADSL service.

> *Simply put, it is not possible to "unbundle" a WDSL service in order to allow interconnection between the DSLAM and the BRAS/IGR. ADSL traffic cannot be split or separated at a DSLAM. The DSLAM is not capable of providing any of the header information required for authenticating and terminating end user sessions. The essential network "smarts" required for the provision of a WDSL service reside in the BRAS devices in the network. In addition to a BRAS device, an IGR is required to split the traffic to an appropriate point of interconnection in the network. In addition to providing routing and traffic management services, IGRs provide the physical port infrastructure necessary for a PoI.*[47]

3.6 Notably, this is contrary to wholesale ADSL offerings in other jurisdictions where access seekers may be given several handover options for interconnection with the access provider's broadband network.

3.7 For example, the British Telecom (BT) IPStream product is a wholesale ADSL product which consists of two components (i.e. the End User Access and the BT Central / BT Central Plus aggregate access) bought separately, which must be used together.[48] The End User Access is the access component connecting the end user to either a local exchange or BRAS in the BT network. It uses a dedicated DSL and can only be supported over a PSTN line. In contrast, the BT Central is the aggregation component connecting the service from the BT BRAS to the service provider's hub (ie. it can be connected to any PoP on the broadband network).

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[47] Telstra, Response to the Commission's Issues Paper (a second discussion paper) into the public inquiry to make a final access determination for the wholesale ADSL service – Non-Price Terms, Public Version, 24 August 2012, p.46

[48] BT Wholesale, *BT IPstream*, https://www.btwholesale.com/pages/static/Products/Broadband/BT_IPstream/featuresandbenefits.htm [accessed 14/9/12]

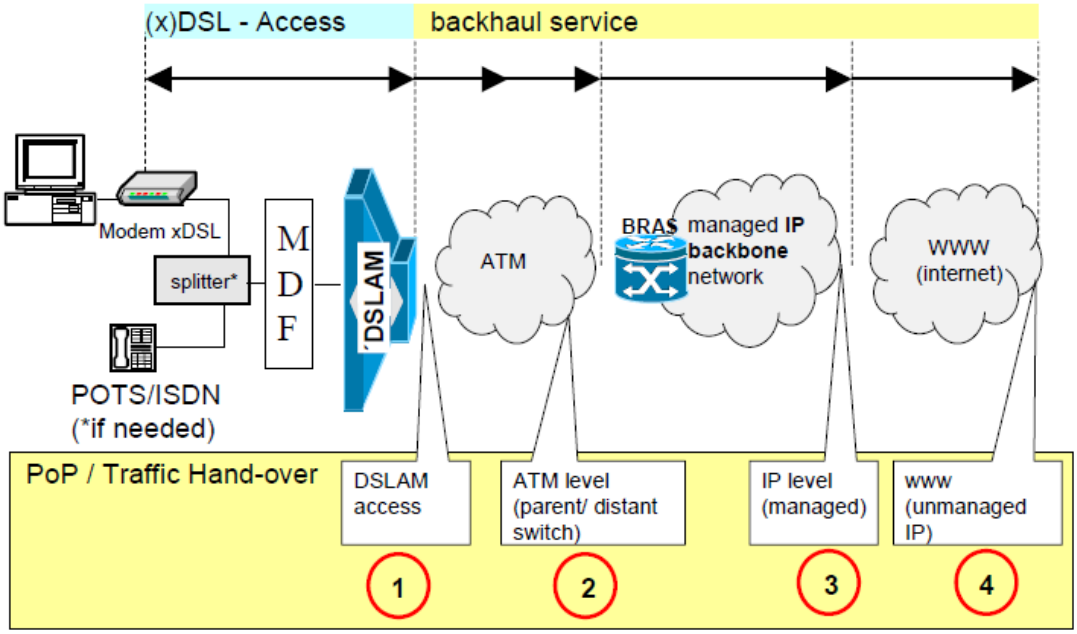
3.8 This decoupled nature is also supported in the Explanatory Memorandum accompanying the determination, under which the Wholesale ADSL service was declared noted that:

> *Subsection 4(1) of the Determination provides that for the purposes of subclause 71(4) of Schedule 1 to the Act, 'Wholesale ADSL Layer 2' is determined as a regulated service.*
>
> *Subsection 4(2) of the Determination defines Wholesale ADSL Layer 2 for the purposes of subsection 4(1). Wholesale ADSL Layer 2 is a carriage service that uses copper or aluminium based wire to carry data between the boundary of the end user's premises and the local exchange, but not necessarily to the exchange where the data traffic is aggregated and where Telstra's network is interconnected with the network of a wholesale customer. The definition recognises that the carriage of data to the exchange may utilise other technologies or means of transmission.*[49]

3.9 This infers an important distinction that the provision of the access and backhaul components need not be mutually exclusive. It follows that handover does not need to be limited to the BRAS, and as a result the decoupling of wholesale ADSL service components should be provided.

International approach

3.10 Internationally, the European Regulators Group (BEREC) has long held a Common Position on Wholesale Broadband Access (WBA) or bitstream access which takes into account handover points at several demarcations in the network, as illustrated in the diagram below.[50]



3.11 It follows the ability for access seekers to offer a differentiated service for end users (e.g. better quality of service through backbone networks or a better backhaul product) declines the further the handover point occurs from the end user (i.e. the first point of aggregation from the end user to the DSLAM).

[49] DBCDE, *Telecommunications Act 1997 – Telecommunications (Regulated Services) Determination (No. 1) 2011*, Explanatory Statement, p.3

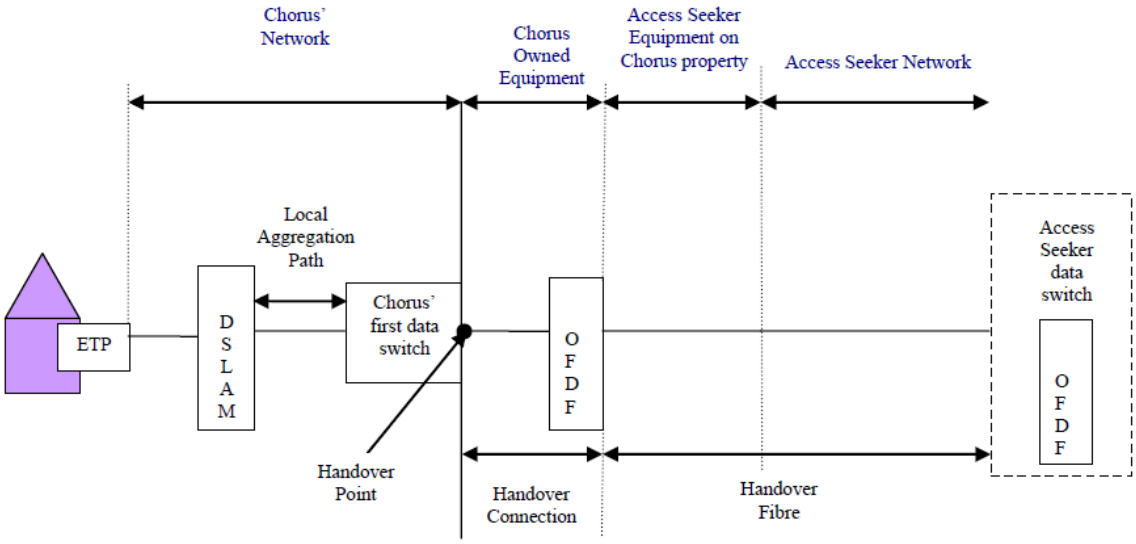
[50] European Regulators Group (ERG), Bitstream Access, ERG Common Position – Adopted on 2 April 2004, ERG(03) 33rev1, p.4

3.12 As such, the ERG has acknowledged that:

> *With bitstream access the new entrant has the possibility to differentiate the xDSL product bought from the incumbent, which means he is legally allowed (by contract) or technically capable of changing the technical parameters (features/profile) in such a way as to create his own end user service which differs from the incumbent's xDSL retail product. This generally goes together with the use of his own network in order to complete the service, in other words the new entrant manages the access service.*
>
> …
>
> *To sum up this part, it became clear that different points of access (points of handover of traffic) exist and that the different points of access entail different degrees of differentiating the product offered to the end user for the new entrant and thus the degree of adding value to the final service (value chain concept).* [51]

3.13 As a result, congestion pricing for broadband is not required given that the backhaul component may be dimensioned accordingly to usage or expected usage by the end user, i.e. the size of the required backhaul may differ between the DSLAM and the BRAS.

3.14 The European view is also consistent with the approach adopted by the New Zealand Commerce Commission in its declaration of the unbundled bitstream access (UBA) service. The UBA service is shown in the diagram below.[52]



3.15 The UBA service is a DSL enabled service that connects end-users' premises to the first data-switch, or equivalent facility, other than a DSLAM.[53] The UBA service can then be combined with other wholesale services provided by the incumbent operator:

> *The basic UBA service is a wholesale access service which the Access Seeker can combine with other wholesale access services offered by Chorus such as the UBA backhaul service to deliver DSL enabled service to end users.*[54]

[51] European Regulators Group (ERG), Bitstream Access, ERG Common Position – Adopted on 2 April 2004, ERG(03) 33rev1, pp.6-7

[52] Commerce Commission, Standard Terms Determination for Chrous' Unbundles Bitstream Access Service, Schedule 1 UBA Service description, as amended 30 November 2011.

[53] Ibid., section 2.1.

3.16 Any doubt as to whether UBA service includes a backhaul service is dispelled in section 3.27, which states:

> *The UBA Backhaul Service is not part of the UBA Service and additional terms and charges will apply where the Access Seeker purchases this service*.

3.17 It is clear that the access seekers are able to either utilise its own backhaul service, or utilise the UBA backhaul service provided by the incumbent operator. In addition, the STD makes it clear that it is up to the incumbent to supply and install the handover point if requested to do so by an access seekers. The STD states:

> *Chorus must supply the Handover Connection. Chorus is also required to install and interconnect the Handover Fibre and the Handover Connection. The Access Seeker or Chorus will supply the Handover Fibre.*[55]

3.18 Chorus must have at least one handover point, and must also provide a handover point for each coverage area. The UBA Operations Manual makes it clear that the nearest handover point will be the exchange closest to the relevant DSLAM.[56]

3.19 Optus reiterates that it appears to be technically possible to separate the wholesale ADSL access and backhaul services — as demonstrated by international experience. Optus further submits that such handover points may happen within the exchange where the DSLAM is located. The ability to hand-over at the closest point to the relevant end-user will help to ensure that Access Seekers do not face transmission network stranding during the migration to NBN. That is, where Access Seekers have a DSLAM installed within an exchange, backhaul links will also have been installed. As Access Seekers transition from relying on competitive infrastructure to supply DSL towards relying on wholesale ADSL services, these backhaul links will become stranded. Optus submits that should the ACCC not allow self-supply of backhaul there will be a significant loss of economic value.

3.20 For these reasons, Optus submits that allowing Access Seekers to separately purchase wholesale ADSL access and backhaul will promote consistency and certainty during the migration to NBN access.

[54] Ibid., section 3.2.
[55] Ibid., section 3.24.
[56] Commerce Commission, Standard Terms Determination for Chrous' Unbundles Bitstream Access Service, Schedule 4 UBA Operations Manual, as amended 30 November 2011. Appendix F.