

FINAL REPORT – PUBLIC

Prepared For:

Mallesons Stephen Jaques

Governor Phillip Tower

Sydney, NSW

Expert Report by
Dr Paul Paterson of Concept
Economics for Mallesons
Stephen Jaques on the
responses to the ACCC
Discussion Paper 'Telstra's local
carriage service and wholesale
line rental exemption
applications' August 2007

Prepared By:

Dr. Paul Paterson

Concept Economics

Level 7, 107 Pitt St

Sydney NSW 2000, Australia

Date: 3 April 2008

3 April 2008

3 April 2008

Mallesons Stephen Jaques
Governor Phillip Tower
1 Farrer Place
Sydney NSW 2000

RE: Expert Report by Dr Paul Paterson of Concept Economics for Mallesons Stephen Jaques on the responses to the ACCC Discussion Paper 'Telstra's local carriage service and wholesale line rental exemption applications' August 2007

Please find enclosed the final Expert Report on the ACCC Discussion Paper as outlined above.

Yours sincerely
Concept Economics

A handwritten signature in black ink, appearing to read 'Paul Paterson', with a long horizontal flourish extending to the right.

Paul Paterson
Executive Director, Operations
Head of Telecommunications Consulting

3 April 2008

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3 April 2008

TABLE OF CONTENTS

1. BACKGROUND	1
2. OVERARCHING VIEWS.....	4
3. IS THE USE OF AN ENTRY-BASED DECISION RULE APPROPRIATE?	5
4. IS THE 'ONE ENTRANT DSLAM' RULE THE RIGHT TRIGGER FOR EXEMPTION? 10	
5. WILL EXEMPTION RESULT IN MORE EFFICIENT INVESTMENT IN AND USE OF INFRASTRUCTURE?	32
6. WHEN SHOULD EXEMPTION COMMENCE AND FINISH?	39
7. CONCLUSIONS: IS THERE A SOUND ECONOMIC BASIS FOR GRANTING THE EXEMPTIONS?.....	41
APPENDIX A : COMPARATIVE VIABILITY MODELING	42
APPENDIX B : INSTRUCTION FROM MSJ	43
APPENDIX C : CURRICULUM VITAE	44

3 April 2008

1. BACKGROUND

My name is Dr Paul Paterson. I am employed in a senior role as an economist with Concept Economics, an Australian-based economic consulting firm. My curriculum vitae, including qualifications, experience and publications, is included in Appendix A.

In August 2007, the Australian Competition and Consumer Commission ('the Commission') released a discussion paper ('Discussion Paper') on Telstra's local carriage service and wholesale line rental ('LCS and WLR' or 'LCS/WLR') exemption applications.¹ Subsequently Telstra, AAPT, Optus and Frontier Economics ('Frontier' – prepared for the Competitive Carriers' Coalition) lodged responses to this Discussion Paper.²

I have been asked by Telstra, through the offices of Mallesons Stephens Jaques ('MSJ'), to provide an expert report on the economic issues raised by these responses and, in the context of the long term interests of end users (LTIE) focus required, the merits of the economic arguments put forward. My instructions from MSJ are reproduced in Appendix B. These instructions indicate that my report is to be prepared with regard to the Federal Court's 'Guidelines for Expert Witnesses and Proceedings in the Federal Court of Australia', which I have done. I note from these Guidelines that my overriding responsibility as an expert witness is to be of assistance to the body charged with considering the matter at hand (the Commission in the first instance). I note that I have benefited from helpful drafting, discussions and suggestions from Concept Economics Network Associate Eric Ralph. Nonetheless the views expressed in this report are entirely my own.

Prior to the preparation of the current report, I prepared for MSJ three earlier expert reports relating to Telstra's LCS/WLR exemption applications:

¹ ACCC, "Telstra's Local Carriage Service and Wholesale Line Rental Exemption Applications", Discussion Paper, August 2007 ('Discussion Paper').

² "Submission by AAPT Limited & PowerTel Limited to the Australian Competition and Consumer Commission in response to *Telstra's local carriage service and wholesale line rental exemption applications Discussion Paper*", 1 November 2007; "Telstra Response to Questions from ACCC Discussion Paper of August 2007", November 2007; "Optus Submission to the Australian Competition and Consumer Commission on Telstra Application for LCS and WLR Exemptions", November 2007; Frontier Economics, "Telstra's applications for WLR and LCS exemptions: a report prepared for the Competitive Carriers Coalition", October 2007.

3 April 2008

- My original report ('original report') on this matter, in which I address in detail the question of whether Exemption Orders for LCS and WLR in the metropolitan areas of Australia would be in the LTIE;³
- A supplementary statement ('supplementary statement') in which I consider the implications for the conclusions reach in my original report of some additional data provided by MSJ; and
- A supplementary report ('supplementary report'), in which I address specific issues raised by the Commission in its Discussion Paper.⁴

In responding to my instructions I am of the view that I can be of most assistance to the Commission by first recapping the overarching views on LCS/WLR exemption I put forward in my original report (Section 2), and in subsequent sections engaging on the broad range of issues made in submissions in the framework of the specific questions I believe the Commission needs to address in reaching its conclusions, as listed below.

The approach I take to addressing the industry submissions in the framework of these key questions is to first briefly state the position I have taken on the particular matter in my earlier reports, then outline the position and supporting evidence advocated in submissions and finally consider whether the evidence presented in submissions, and other evidence that has become available since submitting my earlier reports, cause me to change my views on this matter. As Telstra's exemption applications and supporting evidence relies heavily on my earlier reports, this is in effect equivalent to me opining on whether I continue to believe that the LCS/WLR Exemption Orders sought by Telstra meet the LTIE criterion.

The specific questions I address are as follows:

- **Is the use of an entry-based decision rule appropriate?** In my original report, I proposed the use of an entry-based decision rule for deciding if and where exemption should apply. In Section 3 below I consider whether submissions in response to the Commission's Discussion Paper cause me to change my view. I find that there is general support for an entry-based decision rule and do not find grounds for changing my approach.

³ Telstra, "Statement by Dr Paul Paterson of CRA International for Mallesons Stephen Jaques on the Economic Considerations for LCS and WLR Exemptions", Annexure A to "Telstra's Local Carriage Service and Wholesale Line Rental Exemption Applications – Supporting Submission", July 2007.

⁴ Telstra, "Supplementary Statement by Dr Paul Paterson of CRA International for Mallesons Stephen Jaques on the Economic Considerations for LCS and WLR exemptions", annexure to "Telstra Response to Questions from ACCC Discussion Paper of August 2007", November 2007.

3 April 2008

- **Is the 'one entrant DSLAM' rule the right trigger for exemption?** The decision rule I proposed in my original report is that LCS/WLR be exempted from access regulation in all ESAs where one or more competitor DSLAM has been deployed. In Section 4 below I consider the merits of additional requirements proposed in submissions, including that these DSLAMs be ULLS-capable, that at least one operator have ULLS-capable DSLAMs deployed in a substantial number of ESAs, that the Commission should not grant an exemption until the current ULLS-related regulatory proceedings and legal challenges are concluded, and that exemption should not be granted until the arrangements for transferring a customer from LSS to ULLS becomes more streamlined. Economic reasoning leads me to conclude that the rule I originally proposed remains appropriate.
- **Will exemption result in more efficient investment in and use of infrastructure?** In my original report I conclude the LCS/WLR exemption would not compromise, but rather enhance, efficient use of and investment in infrastructure. In Section 5 below I consider views contrary to this position put forward in submissions, concluding that my original position on this matter remains the more compelling view.
- **When should exemption commence and finish?** It is proposed in submissions that once exemption is granted, it should not come into effect for 12 months to give industry time to adjust, and should only be granted for 3 years. In my original report I was silent on when exemptions should start and finish. However, there are useful economic perspectives that can be brought to bear on these issues, which I consider in Section 6. I conclude that it would be inappropriate to delay implementing exemption once the Commission is satisfied the necessary LTIE considerations are met, or to truncate the life of the exemption.
- **Overall, should exemption be granted?** In light of the above, in section 7 I return to the overarching question of whether there is a sound economic basis for granting the LCS/WLR exemptions sought by Telstra. I conclude that the various arguments and evidence put forward in submissions do not lead me to change my view that exemptions should be granted on the basis of the 'one entrant DSLAM' decision rule.

3 April 2008

2. OVERARCHING VIEWS

In my previous reports I concluded that Telstra's LCS/WLR services should be exempted from access regulation in ESAs where one or more competitive DSLAM has been deployed. Two prime considerations led me to this view:

- First, as was intended, the mandated supply of ULLS at cost based prices has allowed competitive supply of communications services.⁵ ULLS-based supply is widespread and growing, demonstrating that (at least in those locations where entry has occurred) such entry is not blocked by entry barriers, but rather is demonstrably feasible. Such supply is not only cost-based, but is at this time widely considered to be the most flexible and hence effective possible form of entry outside of full facility-based investment.

Further, it is likely to be even easier to switch from LSS to ULLS-based provision than it is to engage in *de novo* ULLS-based entry. Since, beyond ULLS entry, a wide range of entrants rely on, at least to some extent, LSS-based provision, this strongly suggests that there is effective competition in those exchanges where DSLAM deployment has occurred.

In short, regulation of ULLS has rendered at least those ESAs where DSLAMs have been deployed effectively contestable.

- Second, regulation carries its own high costs, so should be avoided wherever it may not be necessary. Consequently, in those exchanges where ULLS regulation has manifestly achieved its basic goal of unhindered and flexible cost-based entry, other forms of access regulation, notably of LCS/WLR, should be abandoned.

In my view, any claims for continued regulation of LCS/WLR where entrant DSLAMs have been deployed must address both these issues. In particular, it must be explained why present and potential entry based on regulated access to ULLS expressly intended to allow for effective competition, is not working in the LTIE. In my submissions I have identified a range of costs of LCS/WLR regulation, with continued regulation of LCS/WLR only justified if the benefits of such regulation can be clearly demonstrated to outweigh these regulatory costs. Furthermore, if it is concluded that competition is not fully effective in exchanges with actual DSLAM deployment (and I am of the view that this is contrary to the facts), then it must be demonstrated that, in the light of the costs of regulation, competition is sufficiently ineffective that continued regulation of LCS/WLR is in the LTIE.

⁵ I do not address the issue of whether the Commission's view on the cost of ULLS is realistic or an underestimate as claimed by Telstra. Telstra claims that ULLS prices are currently below cost – see for example: Telstra, 'Telstra response to "Fixed Services Review: Further Consultation on draft ULLS pricing principles" of October 2007', November 2007.

3 April 2008

3. IS THE USE OF AN ENTRY-BASED DECISION RULE APPROPRIATE?

My original position

In my original statement I proposed an entry-based decision rule for defining the geographical scope of LCS/WLR exemption. I did this on the basis that competitive entry is evidence that an enduring access bottleneck does not exist and barriers to market entry are low. Where competitive entry has occurred based on infrastructure which can be used to provide downstream services similar to those provided by access seekers using LCS/WLR, it is apparent that commercially viable substitutes to LCS/WLR exist and there are not material barriers to their use. As a result, regulation of LCS/WLR is no longer required to promote the LTIE.

Position in submissions

The Optus submission endorses the use of an entry-based decision rule. The submissions by Frontier and AAPT broadly accept that an entry-based decision rule is appropriate, but submit that other considerations may also be relevant.

Frontier acknowledges that, in principle, entry-based decision rules can indicate the absence of enduring bottlenecks and hence scope for access regulation forbearance, and that this is consistent with the ACCC's view. Frontier goes on to say, however, that other factors are also relevant, including the percentage of lines that have been taken away from Telstra by competitors and the availability of alternative suppliers of LCS/WLR. In particular, Frontier expresses the concern that there 'will be either a quasi-monopoly in the provision of wholesale WLR and LCS services, or there may be no suppliers of these wholesale services'.⁶

AAPT does not oppose the principle of an entry-based decision rule, however concludes that there is insufficient information available to the Commission on competing infrastructure at this time. Further, like Frontier, AAPT submits that shifts in market shares are also relevant.

My view on points raised in submissions

1. Relevance of market shares and the percentage of lines taken from Telstra

In my view the use of market share tests in the context of LCS/WLR exemption is misguided, for two reasons: it can be a seriously misleading indicator of competitive conditions; and it is likely to adversely affect competitive incentives.

⁶ Frontier Economics, 'Telstra's applications for WLR and LCS exemptions: A report prepared for the Competitive Carriers Coalition', October 2007, paragraph 56

3 April 2008

Regulators have recognised the limited applicability of market share thresholds for determining competitive conditions. For example, the Commission states in its Fixed Services Review:⁷

High concentration levels do not necessarily mean that competition is ineffective. Even if the number of participants in a market is low, their ability to extract above normal economic profits from this market may be constrained by the threat of potential entry by new suppliers. Therefore, among other things, a careful consideration of the potential for competition developing... is critical... The converse is also relevant. A focus on possible increases in market shares of smaller competitors does not necessarily suggest that they would be in a position to effectively constrain the pricing and output decisions of larger firms.

Similarly, one cannot safely conclude that competitive constraints are ineffective simply because market shares have not shifted from some benchmark. Rather, a lack of movement in market shares may simply indicate that the incumbent has lifted its performance in the face of increased competition.

Furthermore, waiting for competition to emerge by seeking evidence that the incumbent's market share is being eroded creates a 'chicken and egg' problem. Regulation is not lifted until competition emerges, but competition is less likely to emerge while regulation is still in place. There are three reasons for this:

- Entrants may prefer to have several regulatory options for achieving access and/or more generally find the current regulated environment "comfortable", and accordingly may deliberately avoid engaging in competition sufficient to obtain a market share that would trigger deregulation;
- The incumbent's incentives to compete strongly are also harmed, since maintaining (or indeed increasing) market share will only delay any lifting of the regulatory burden; and
- Even putting incentives for regulatory gaming aside, continued regulation of LCS/WLR may, purely as a matter of mis-pricing, inefficiently distort firms' choices in favour LCS/WLR, perpetuating use of LCS/WLR and slowing or preventing attainment of an infrastructure-based market share trigger.

My opinion is that competition is promoted by lifting regulation when competitive conditions are evidently favourable. The test should not require that a regulator wait for competition to emerge before lifting regulation. At best, rather than *promoting* competition this would be simply *recognising* competition. Such an approach would likely delay effective competition, at worst permanently.

⁷ ACCC, 'Fixed service review: a second position paper', April 2007, p42.

3 April 2008

A number of regulators around the world have rejected such a reactive approach and instead adopted a proactive approach. This includes OFTA in Hong Kong, which holds the belief that where competitive conditions are favourable, lifting regulation is a way of promoting deeper competition since it discourages reliance on wholesale offerings. OFTA states:⁸

Withdrawing mandatory Type II interconnection [mandatory unbundling] from these buildings would send a clear signal to the carriers, encouraging them to roll out their networks to buildings if they are not to be left out. In addition, it would also encourage carriers to roll out ... because ... they would not face competition from carriers relying on Type II interconnection. ... The option of maintaining the status quo would be untenable as it would encourage some carriers to continue to rely on Type II interconnection to reach customers, thereby discouraging further investment in advanced telecommunications networks.

I note that the Commission has signaled a similarly proactive approach in its recent Fixed Services Review, stating:⁹

In its review of existing service declarations, the Commission will consider both the state of actual competition in the relevant markets and the potential for effective competition developing, in seeking to determine whether ongoing declaration of particular services is required to promote competition in the relevant markets.

2. Relevance of the availability of alternative suppliers of LCS/WLR

As I indicate in my original report, I do not consider the availability of LCS and WLR from Telstra or third parties to be directly relevant. Competition in the wholesale market is only relevant to the extent to which it affects competition in the relevant retail market. In this case, exemption of LCS/WLR is likely to promote *efficient competition*. This may occur through vertically integrated entrant self-supply, leading to a decline or even the absence of LCS/WLR offerings. However, this competition is likely to be substantially more effective than LCS/WLR-based supply, notably because it allows substantial product differentiation not possible through use of LCS/WLR.

⁸ OFTA (2004), 'Legislative Council Brief: Review of Type II Interconnection Policy', File Ref: CTB/T 56/2/1(04). See pars 10, 22.

⁹ ACCC, 'Fixed services review: a second position paper', April 2007, p.iv

3 April 2008

As I argued in my original report, the presence of DSLAM-based competitors as well as alternative infrastructure in exemption area ESAs is evidence that conditions are favourable to network level competitive entry and that such entry is occurring. This implies that, in the event of exemption, Telstra will continue to face a competitive constraint in relevant markets. Moreover, this constraint is likely to be stronger post-exemption since competition will penetrate further up the supply chain and competitors will benefit from any vertical integration economies.

Indeed Frontier concedes that competition in the retail market is likely to constrain Telstra post-exemption, but nonetheless argues that the number of competitors (rather than efficient competition) should be promoted by continued declaration. Frontier states: 'it is arguable that while there would be competitive constraint from the entrant, it could well limit the ability of other entrants to compete in the exchange area'.¹⁰ The implication that this will diminish competitive constraint on Telstra is flawed, for two reasons.

First, as discussed immediately above, the availability of actively traded LCS/WLR-like services is not necessarily required for strong competitive constraints to prevail and exit from the market of resale-based operators is not necessarily a signal of diminished competition.

Second, independent of whether LCS/WLR-like services are available or not, exit from the market of some operators could occur if the increased competitive dynamic from exemption drives down prices in the retail market, a development which could hardly be seen as a reduction in competition.¹¹

Competition is promoted if even one entrant serves to create a competitive constraint. That being said, evidence cited in my earlier reports on ULLS-based entry indicates there already are or soon will be two, and in many cases three or four, entrants in many ESAs (see section 4).

Conditioning exemption on the continued availability of certain wholesale products not only diverts the ultimate focus of exemption considerations from the relevant retail market to the wholesale market, it also assumes that the supply of such products is properly required for competition (and by implication, is efficient). It is my belief that such assumptions should not be made, particularly in this case where wholesale products have been artificially created by regulation as a stepping stone to deeper competition and close substitutes for them are now available.

10 Frontier Economics, 'Telstra's applications for WLR and LCS exemptions: A report prepared for the Competitive Carriers Coalition', October 2007, paragraph 56

11 The judgement by Finkelstein J in *ACCC v Boral* ([2001] FCA) brings this point out clearly in making the distinction between *structural* entry barriers (that should be a concern in competition considerations) and *dynamic barriers* (commercial factors that discourage entry). Where such a dynamic barrier arises out of the competitive process, rewarding the most efficient operators and thereby boosting productive and dynamic efficiency, it cannot be seen as detrimental to competition (assuming the dynamic barrier - here lower prices - is not the result of anticompetitive action by a party with market power, such as predatory or exclusionary pricing).

3 April 2008

Besides, if the supply of such products is efficient, such wholesale services will continue to be offered in the event of an exemption by both Telstra and its DSLAM-based competitors.¹² Alternatively, and in the absence of LCS/WLR regulation, the market may determine a more efficient form of wholesale supply. Indeed there is evidence that such alternative wholesale supply may be occurring already, with Optus using its DSLAM network to supply various wholesale products. In particular, Internode has recently announced that it is able to offer a naked DSL service, including IP-based telephony using a network agreement with Optus wholesale.¹³ The existence of such unregulated wholesale agreements is evidence that where there is competition at the network level, wholesale supply will occur to the extent that it is efficient.

3. Need for an infrastructure audit

In my opinion, the evidence on DSLAM-based infrastructure provided in support of Telstra's exemption application is sufficient for considering LCS/WLR exemption. It shows that infrastructure that can be used for self-supply of LCS/WLR has been deployed in the exemption area, and demonstrates that barriers to further deployment of such infrastructure are low. The availability of alternative means of providing local calls and basic access implies that competition will not be diminished in the relevant retail market. Hence, in the context of this current application, no further inquiry into the current state of competitive infrastructure is in my view strictly necessary.

In short, while a wider infrastructure audit would be interesting and of some value, and I believe likely to show extensive competition from wireless and alternative fixed networks in a large part of the exemption area, the absence of a wider audit is no reason for rejecting the principle of an entry-based decision rule.

My conclusions

On the basis of the preceding considerations I find no reason to change my original view that an entry-based decision rule is an effective approach in considering LCS/WLR exemption.

¹² I note that the FCC has come to the same conclusion in forbearing from regulation some elements of Qwest's network where there is competition from the cable operator, Cox. The Commission has stated (FCC memorandum opinion and order in the matter of 'Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area', FCC 05-170, September 16 2005):...*given Cox's ability to absorb customers without any reliance on Qwest's local exchange facilities, Qwest will be subject to very strong market incentives to ensure that its network is used to optimal capacity – irrespective of any legal mandate that it do so. Faced with aggressive "off-net" competition from Cox, we predict that Qwest will endeavor to maximize use of its existing local exchange network, providing service at retail and at wholesale, in order to minimize revenue losses resulting from customer defections to Cox's service. In short, Qwest will prefer that a customer be served by a wireline competitor using Qwest's facilities at wholesale rates above that customer's use of Cox's network, which offers Qwest no revenue whatsoever but only a miniscule reduction in its costs [emphasis added].*

¹³ 'Naked ADSL2+ broadband plans now available', Internode news, 12 March 2008

3 April 2008

4. IS THE 'ONE ENTRANT DSLAM' RULE THE RIGHT TRIGGER FOR EXEMPTION?

My original position

In my original report I advocate the use of the decision rule that exemption should be granted in ESAs in which one or more entrant DSLAM has been deployed. This proposal was based on the view that the presence of one DSLAM points to favourable underlying competitive conditions and low barriers to market entry. Such underlying competitive conditions may include demand characteristics such as population density or consumer preferences, and/or supply side factors such as costs associated with entry in that ESA. Whilst many of these factors are in themselves difficult to measure, the presence of one DSLAM is readily observable as an indicator of the competitive environment.

Position in submissions

Some submissions, whilst broadly accepting the applicability of a decision rule, suggest alternatives or additions to that proposed in my original report. The key proposals in this regard are made by Optus and in addressing these I effectively cover the proposals made in other submissions.

Optus' original submission argues that the presence of one competitor DSLAM is on its own not sufficient to draw a conclusion that barriers to entry are low and that competition will be effective. Based on minimum efficient scale modelling, their submission concludes:¹⁴

Optus submits that there are material barriers to competitive entry by ULLS-based operators and the existence of one ULLS-based competitor in an ESA is not necessarily sufficient to conclude that further entry will necessarily be forthcoming.

Optus' original submission further says that, because capacity decisions are not "fluid", market activity may be more like Cournot, rather than Bertrand, competition (i.e. that individual players believe they have some degree of market power based on the inability of competitors to quickly increase volumes, and therefore limit quantities they sell to maximise profits rather than competing vigorously on price). Optus suggests that, if this is the case, competition between just two players (i.e. Telstra plus a DSLAM-based competitor) is unlikely to yield competitive outcomes.¹⁵

14 "Optus submission to the Australian Competition and Consumer Commission on Telstra application for LCS and WLR exemptions", November 2007, p29.

15 "Optus submission to the Australian Competition and Consumer Commission on Telstra application for LCS and WLR exemptions", November 2007, p29.

3 April 2008

In a subsequent, supplementary submission to the LCS/WLR inquiry on 10 January 2008, Optus raised the issue of whether competition for large business and government customers will be affected by exemption, given the whole-of-business nature of these customers and their feature-rich service requirements.¹⁶

Optus suggests a number of changes to the one-DSLAM threshold rule. First, it is suggested that LSS DSLAMs should not be considered in counting competitor DSLAMs. Second, it is proposed that an additional threshold requiring 80% of 'any broadly defined geographic market' to be covered by a competitor be applied. Third, it is suggested that an objective threshold based on a conservative measure of viability of each ESA could be applied in conjunction with evidence of entry. Viability, it is said, could be determined through an analysis of cost structures, size of the addressable market and population density. Finally, Optus proposes that the Commission should exclude the lines used to service the corporate and government market segment from any exemptions granted, or set a clear expectation that Telstra will continue to provide the services required for competition in this segment on a commercial basis.

Optus, Frontier and AAPT all propose, in one form or another, that current regulatory and legal proceedings involving ULLS and LSS (including issues relating to TEBA space) should be resolved, and that more effective transfer from LSS to ULLS be facilitated by Telstra, before exemption is granted. These parties also argue that technical issues, namely the deployment of RIMs and large pair gain systems (LGPS) by Telstra in its access network, prohibit the use of ULLS on some individual customer lines and that this lessens the scope for competition in some ESAs and for the individual customers affected.

My view on points raised in submissions

1. Minimum efficient scale

I am not in a position to comment knowledgeably on the relative merits of the methodology or underlying assumptions of the minimum efficient scale modelling conducted by Telstra, Optus and Frontier, partly because the evidence presented by Optus and Frontier Economics is insufficient to allow such a judgement, and partly because I lack the relevant engineering expertise. However, I can make the following general points regarding the implications of this modelling.

¹⁶ Optus, 'Impact of WLR / LCS Exemptions in the Corporate and Government Market Segment', supplementary submission to the LCS/WLR inquiry, 10 January 2008

3 April 2008

In my view the most useful indicator of competitive conditions and the existence (or otherwise) of material barriers to market entry is the presence of competitor infrastructure.¹⁷ The simple fact that such infrastructure has been deployed in a particular ESA indicates that underlying conditions in that ESA are favourable to market entry. Such underlying conditions may include factors such as population density, demand characteristics, or ESA-specific cost structures.

While a model of minimum efficient scale is a useful of indicator of the customer base required to justify DSLAM-based entry in an *average* ESA (that is, one with average cost and revenue characteristics), it is at best supporting evidence and should not be used in place of reality.

It is apparent that scale in itself will not be determinative of competitive conditions and that the likelihood of market entry will depend on a number of other factors. A simple analysis of DSLAM deployment in band 2 ESAs that plots the number of DSLAM-based competitors in an ESA against the number of SIOs in an ESA (see Figure 1) indicates that scale will not always be the sole determinant of market entry. Whilst there is a broadly positive relationship between the size of the addressable market and the extent of DSLAM-based entry, there are a number of ESAs where either a large addressable market has not induced DSLAM-based entry or entry has occurred despite relatively low SIO numbers. Further, statistical (probit) analysis of the observed link between SIO numbers and the probability of DSLAM deployment in an ESA reveals that while this effect is statistically significant, it is relatively small in magnitude. For example, the probit analysis indicated that for band 2 ESAs, if SIO numbers are increased by 100 per cent (i.e. doubled), the probability of DSLAM deployment rises by just 40 per cent.¹⁸

Figure 1: [c-i-c]

The estimation of minimum efficient scale depends on how the average ESA is characterised and thus what costs and revenues are inputted. This is clear from the disparities between the modelling provided in the respective submissions. Recognising this sensitivity of the results to underlying assumptions and inputs, Telstra has conducted sensitivity analysis of its modelling to test whether estimation of minimum efficient scale varies significantly with changes to some of the inputs. In particular, this sensitivity analysis uses a lower DSLAM life than Telstra's previous modelling [c-i-c]. The results of this analysis are provided in Table 1 below.

17 I note that this method of assessing barriers to market entry has been adopted by courts both in Australia and overseas. For example in *ACCC v Boral* [2001] FCA 30, Merkel J stated that the entry of a competitor was sufficient to show that structural barriers to market entry were low. Such reasoning is consistent with Stigler's survival principle, which implies that observing market entry and behaviour is one way of assessing the extent of scale economies (See Stigler GJ, 'The Economies of Scale', *Journal of Law and Economics*, Vol.1, October 1958, pp. 54-71).

18 [c-i-c]

3 April 2008

Table 1: [c-i-c]

The lower DSLAM life and higher TEBA costs increase the costs per SIO only moderately and result in a minimum efficient scale estimate of [c-i-c].

In comparison, Frontier estimates minimum efficient scale to be around [c-i-c], while Optus estimates this to be [c-i-c]. As I indicate above, I have neither the information nor the expertise to comment on the relative merits of each estimate. However I do comment below on whether these affect in any way my original conclusions.

Despite the range of modelling results, none of the results persuade me to change my view that barriers to entry are low in the exemption area. Even the highest minimum efficient scale estimate of [c-i-c] in my view falls far short of an insurmountable barrier to entry given the average size of ESAs in the exemption area.¹⁹ The number SIOs in exemption area ESAs range from [c-i-c] to [c-i-c] and the average number of SIOs is nearly [c-i-c].²⁰ This implies that even if the highest estimate of minimum efficient scale is accepted, an entrant only needs to capture less than [c-i-c] of lines in an average sized ESA to justify entry.

It is also worth noting that claims made by Optus and Frontier that minimum efficient scale poses a material barrier to DSLAM-based entry are at odds with their own (or their clients') market behaviour. Both Optus and a number of members of the Competitive Carriers Coalition have deployed DSLAMs in a large number of exemption area ESAs and many of these deployments have been made within the past year. For example, Singtel Optus has deployed DSLAMs in more than [c-i-c] of the 371 proposed exemption area ESAs.²¹

From available market evidence, it would appear that DSLAM-based entrants have little trouble achieving scale far in excess of all of the minimum efficient scale estimates. For example in December 2007, Optus indicated that it had 265,000 ULLS voice customers (and growing) across its 338 ULLS exchanges – this implies an average of nearly 800 ULLS voice customers per exchange.²² While some smaller operators may not be able to replicate Optus' scale individually, this need not pose a material barrier to DSLAM-based supply. Indeed two smaller competitors have recently announced their intention to merge operations with a view to building scale.²³

19 [c-i-c]

20 [c-i-c]

21 [c-i-c]

22 Singtel Optus, 'Management discussion and analysis of financial condition, results of operations and cash flows for the third quarter and nine months ended 31 December 2007' at pp.46-47

23 'SP Telemedia to merge with TPG', ASX announcement, 7 February 2008

3 April 2008

2. Contestability of small voice-only customers

AAPT, whilst not asserting that scale is a significant barrier to market entry, does question the contestability of some small customers. In particular AAPT suggests that the loaded cost of ULLS-based supply approaches the current retail price of basic access for small customers and hence margins are insufficient to justify ULLS-based supply to these customers. As I note in my original report, I am of the view that the majority of voice-only customers are contestable using ULLS. This view is based on modelling of the viability of voice-only customers which indicates that around [c-i-c] of voice-only customers can be served using ULLS. While this might be taken to imply that there will be some [c-i-c] of voice-only customers susceptible to being exploited by Telstra, as I indicate in my original report, I do not believe this would likely be the case, for the following reasons:

- First, this small group of customers is unlikely to be attractive (or indeed economic) to Telstra's competitors using LCS/WLR if it is not economic to serve them using ULLS. This implies that exemption is unlikely to significantly alter competition with respect to this segment of the market. I come to this conclusion based on modeling of the costs of serving small voice-only customers over ULLS and LCS/WLR (see Appendix A). This modeling indicates that for small voice-only customers, the costs of ULLS-based supply are likely to be lower than the costs of supply using LCS/WLR. As I indicate in my original report, information provided to me by Telstra suggests that the cost of supplying voice-only customers using ULLS is around [c-i-c] per customer per month. Similar modeling of the cost of supplying the same customers using LCS/WLR indicates that this cost is over [c-i-c] per customer per month.²⁴ This implies that even if there are some small voice-only customers for which ULLS-based supply is not viable, these customers would also not be viable using LCS/WLR. Therefore LCS/WLR exemption will not have an impact on the contestability of these customers;
- Second, even if Telstra were able to charge higher prices to this group of customers post-exemption (although I do not believe this would be the case), this would change the viability analysis and ULLS-based competitors would begin contesting these customers.

²⁴ The relative viability of ULLS compared to LCS/WLR is likely to be contributing to the decline in LCS/WLR usage and increase in ULLS usage in the exemption area. [c-i-c]

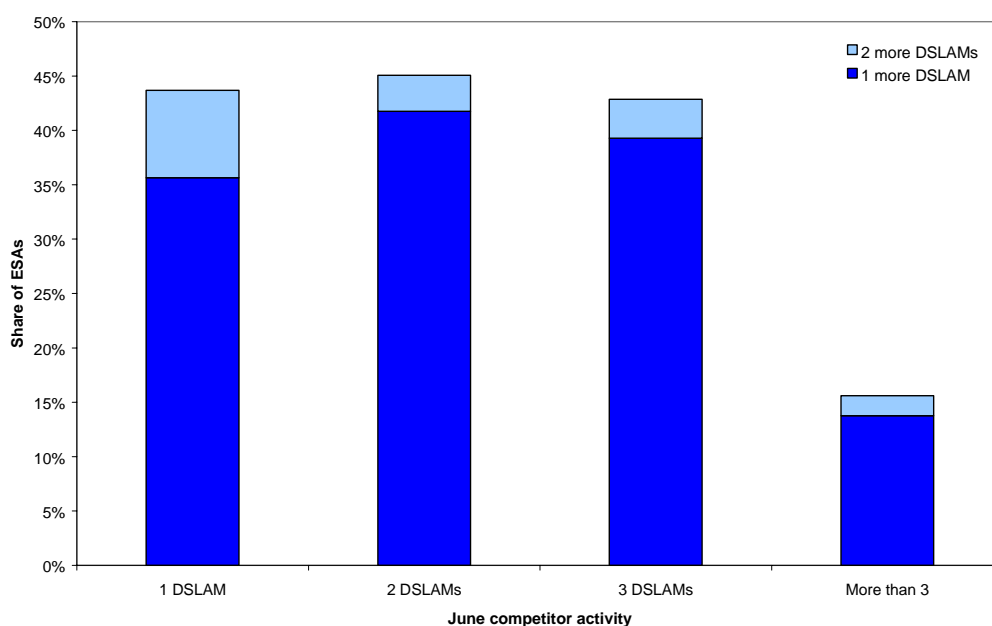
3 April 2008

3. Is one DSLAM a strong indicator of competitive conditions?

In my original report I expressed the view that the deployment of one competitor DSLAM is an appropriate threshold for exemption since it indicates that underlying conditions are favourable to competition. This implies that where one DSLAM has been deployed it is likely that more will be deployed in future due to favourable demand and supply characteristics reflected in the initial deployment. It is important to note that I do not claim that the presence of one DSLAM-based competitor is in itself sufficient to constrain Telstra's behaviour in the retail market (although it may be). Rather, the presence of one competitive DSLAM is taken to imply that barriers to market entry are low and that further entry is likely, particularly if Telstra attempts to extract monopoly rents.

Recent history of DSLAM deployment confirms that the presence of one DSLAM is indeed likely to be followed by the entry in that ESA of another DSLAM operator. For example, in my supplementary report I note that in the two months between June and August 2007, 44% of one-DSLAM ESAs in band 2 became two- or three-DSLAM ESAs.²⁵ Similarly, 45% of two-DSLAM ESAs and 43% of three-DSLAM ESAs saw further DSLAM deployment in this brief period (see Figure 2).

Figure 2: Increase in DSLAM-based competitor activity between June and August 2007



Source: [c-i-c]

3 April 2008

4. Will more competitors improve outcomes?

In its submission, Optus suggests that competition between one DSLAM-based operator and Telstra may be insufficient for effective competition and that end-user outcomes are likely to be enhanced by a greater number of DSLAM-based competitors. This argument is based on an application of the Cournot model to the post-exemption market.

Whilst I do not assert that two competitors operating in a market is necessarily enough, it is my view that it cannot be taken for granted that more competitors will produce better outcomes. In particular, I do not agree that market activity can be characterised as Cournot rather than Bertrand competition and that more competitors would necessarily produce a better competitive outcome.

In the context of competitive constraint and the number of market participants necessary to achieve this, the essential features of Cournot and Bertrand competition are as follows:

- Cournot competition arises where market participants compete by choosing the *quantity* they are going to supply to the market, based on their expectations of the quantity other service providers will supply. The outcome of this form of competition where there is a limited number of suppliers is that prices sit above the marginal cost of supply and firms may extract super-normal profits depending on the number of market participants. The greater the number of market participants, the closer price will be to marginal cost and the more competitive the outcome.
- Bertrand competition arises where market participants choose the *price* at which they are willing to supply the market. In this form of competition, price will be driven to cost and there will generally be a competitive outcome regardless of the number of competitors. However, where market interactions can be classified as a two-stage game in which competitors invest in capacity in the first period and compete on price in the second period, a Cournot outcome will result despite price (Bertrand) competition in the second period (the Kreps-Schienkman model).²⁶

Keeping this in mind, it is my view that interactions in the market for fixed voice services are not in line with the Cournot model for the following reasons:

- First, when a single ESA is considered, operators that have deployed DSLAM infrastructure will not face significant capacity constraints and will compete largely on price (and to some extent product differentiation) with a view to securing as many customers as possible in that ESA. This is because operators face relatively low incremental costs of serving additional customers in an ESA once a DSLAM is deployed.

²⁶ See Kreps DM and Schienkman J (1983), 'Quantity precommitment and Bertrand competition yield Cournot outcomes', *Bell Journal of Economics*, vol 14 no 2, pp326-327

3 April 2008

The absence of capacity constraints following DSLAM deployment suggests that the Kreps-Scheinkman two-stage model with capacity constrained competition in the second stage is not an accurate characterisation of the circumstances under consideration, and clearly inapplicable to analysis of interactions between operators with infrastructure already deployed in an ESA. In my view DSLAM deployment decisions are more accurately characterised as market entry decisions involving sunk entry costs rather than periodic investments in capacity. Once this perspective is taken, and the relatively low incremental costs of expanding capacity within an ESA are considered, it becomes apparent that competition is unlikely to yield Cournot outcomes.

- Second, recent market evidence supports this view that competitors are not capacity constrained and hence Cournot outcomes are unlikely. Not only has DSLAM deployment grown substantially in a very brief period (see Figure 1 above), but more significantly, the number of ULLS SIOs in the exemption area has also seen strong growth. For example, between March and September 2007 the number of ULLS SIOs in Band 2 exemption area ESAs grew by [c-i-c], ULLS-based supply to end customers commenced in [c-i-c] ESAs in the exemption area, and ULLS SIOs were added in over [c-i-c] of band 2 exemption area ESAs (see Figure 3 in Section 5 below).²⁷ This evidence of rapid growth in ULLS SIOs suggests that, where competitors have deployed DSLAMs, the incremental cost of expanding capacity is low.

Consequently, without relying on this argument to support the one-DSLAM decision rule, I believe that competitive outcomes may well prevail even if Telstra faces competition from only one DSLAM-based entrant. This is because I see Cournot outcomes as unlikely given the nature of market interactions and the absence of constraints on capacity following DSLAM deployment.

5. Is a distinction between ULLS and LSS DSLAMs necessary?

As discussed above, the focus of the one-DSLAM decision rule is on competitive conditions rather than present competition. Once this perspective is taken, the distinction between ULLS DSLAMs and LSS DSLAMs to my mind is not relevant, as it *demonstrates* that competitive DSLAM-based entry is possible.

This aside, however, there are an additional two reasons why LSS-based entry is relevant. First, supply-side substitution from LSS toward ULLS-based supply is in my view likely to be even easier than *de novo* ULLS-based entry, especially if these operators are already providing VoIP in addition to broadband. This leads to my second point. Increasingly, LSS itself can be used to supply the full bundle of telephony and broadband services, meaning that LSS-based providers would impose a material competitive constraint on Telstra's behaviour in the market for retail fixed voice services.

²⁷

[c-i-c]

3 April 2008

This constraint exists due to the increasing availability and substitutability of VoIP.²⁸ Optus submits that VoIP services do not have all the features of a PSTN-based STS and consequently, LSS-based supply cannot place an effective competitive constraint on Telstra's behaviour in the retail market for fixed voice services. However Optus has not provided evidence to support this assertion and the evidence available to me suggests that increasingly, LSS-based VoIP providers may constrain Telstra's pricing of fixed voice services. Whilst VoIP technology development and deployment is still in its infancy relative to PSTN services, a number of operators have begun offering VoIP to end-users on a significant scale and are seeing strong growth in their subscriber numbers.²⁹ This indicates that even if VoIP is not viewed as a fully substitutable service at present, it is likely to become so in the near future.

It could be argued that negative consumer perceptions of VoIP call quality are a barrier to this occurring. However, I do not see this as an enduring barrier, for two reasons:

- First, most end-users will not be aware of the technology being used to provide voice services by carriers. As a result these negative consumer perceptions, if they exist, will not limit substitution occurring.
- Second, these perceptions do not accord with technical realities and accordingly are likely to change over time. Whilst internet-based VoIP is indeed often of inferior quality, carrier-grade VoIP (now universally used in core network transmission) is typically indistinguishable from, and in fact can be superior to, traditional PSTN-based voice services.³⁰ Hence insofar as consumer perceptions are relevant, as consumer understanding of this distinction develops, resistance to VoIP is likely to fall away and ready substitution between traditional and IP-based voice services will occur.

That the increasing availability and uptake of VoIP has the potential to place some competitive constraint on traditional fixed line operators was acknowledged by the Commission in mid-2006:³¹

28 I note that this is increasingly VoBB or VoDSL

29 For example iiNet has recently started offering naked DSL and includes a free broadband phone plan with every naked DSL plan (see www.gonaked.com.au). Internode has also recently announced the launch of a naked DSL service which it plans to provide through a network agreement with Optus wholesale. Internode believes this product will be highly competitive since it allows customers to receive a (VoIP) telephony service without paying line rental (see <http://www.internode.on.net/news/2008/03/78.php>). iiNet reported 35,000 VoIP subscribers in June 2007, a 50% increase on a year earlier. Similarly, Engin reports that it now has over 60,000 VoIP subscribers, a threefold increase on its subscriber numbers of January 2006 (see <http://www.engin.com.au/about/about.aspx>).

30 [c-i-c]

31 ACCC, 'Declaration inquiry for the ULLS, PSTN OTA and CLLS: Final Determination', July 2006 pp34-35

3 April 2008

VoIP service offerings (through low cost or zero cost calls and value-added data services) have the potential to provide a competitive alternative to traditional fixed-line (circuit-switched) voice and data services and more access-based competition because they can be provided over existing broadband services without duplicating extensive access infrastructure networks. [...]

This has two key implications in the context of the exemption application. First, it implies that not only ULLS-based providers, but also LSS-based providers offering VoIP, are likely to increasingly constrain Telstra's behaviour in the retail market for voice services.³² Second, it means that where LSS-based providers are currently providing VoIP in addition to broadband, barriers to them switching to ULLS-based supply are particularly low.

Further to these reasons, a focus on general DSLAM-based entry (rather than a focus on ULLS-capable DSLAM deployment) is supported by recent data on ULLS SIO growth. In particular, there is strong evidence to suggest that ULLS-based entry and supply (and not just DSLAM deployment generally) is growing rapidly in the exemption area. For example, between March and September 2007 the number of ULLS SIOs in Band 2 exemption area ESAs grew by [c-i-c].³³ In this 6-month period, ULLS-based supply to end customers commenced in [c-i-c] ESAs in the exemption area, and ULLS SIOs were added in over [c-i-c] of band 2 exemption area ESAs (see Figure 3). This is further evidence that there are not material barriers to ULLS-based entry.

³² An LSS requires that the end customer purchase a basic access service provided over the same access line as LSS. At present this can be done by purchasing the basic access service from Telstra (the Home Line Part product comprises just basic access and local calls), or from an entrant that acquires WLR and LCS from Telstra.

If LCS and WLR are exempted and Telstra chooses not to supply these services, the use of LSS would require the end user to purchase retail basic access from Telstra. Telstra would not be able to refuse supply due to its universal service obligation, and is constrained in the price it can charge for this service by retail price cap requirements. Specifically, under its Universal Service Obligation, Telstra must provide basic access to a standard telephone service to all people in Australia on an equitable basis (see Part 2 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (Cth)). Under the retail price controls, the price of Telstra's basic line rental products can only increase (at most) by the rate of inflation (see http://archive.dcita.gov.au/2007/11/connect_australia/new_telstra_retail_price_controls).

I have argued in this and my original report that ULLS-based entry would constrain Telstra's retail prices. This would, of course, also mean Telstra could not gain wholesale or retail profit through exploitation of customers supplied using Home Line Part or WLR (even in the absence of Telstra universal service obligation and retail price constraints). However, the point being made here is that even in the absence of ULLS, since these constraints prevent Telstra from claiming profits from customers that rely on wholesale or retail line rental, LSS providers place an independent competitive constraint on Telstra.

³³ [c-i-c]

3 April 2008

Figure 3: [c-i-c]

Finally, it is worth noting that the DSLAM deployment of Telstra's largest competitor, Optus, appears to be almost exclusively focused on ULLS-based supply. In its most recent Financial Report, Optus states that it had 338 ULLS exchanges in December 2007, with plans for a total of 366.³⁴ Given that Optus reported [c-i-c] DSLAM exchanges in its November submission to this inquiry,³⁵ it appears likely that most, if not all, of the exchanges in which Optus has deployed DSLAMs, it is capable of ULLS-based supply.

6. Is an additional geographic threshold necessary?

Optus submits that, as the retail market for voice services is wider than individual ESAs and likely to be at least as wide as national metropolitan areas, an additional threshold for exemption should be applied. Under the Optus proposal, this would require that before exemption is rolled back 'in any broadly defined geographical market', it must be shown that Telstra faces effective competition across at least 80% of that market. In the current case, Optus proposes that regulation of LCS and WLR not be withdrawn unless Telstra faces ULLS-based competition from a single operator in at least 80% of Band 2 exchanges.³⁶

In my opinion this additional threshold is not necessary or desirable for the following two reasons:

- First, it is not proposed to exempt regulation of LCS/WLR throughout Band 2, but only in the Exemption Area. This means that, across Band 2, competition would occur in the downstream market either because economic conditions have proved right for facilities-based (DSLAM) entry, or current resale-based access regulation is retained. Optus itself, and a number of other carriers, use DSLAM-based supply in some Band 2 ESAs and resale-based supply in others,
- Second, a geographic coverage trigger creates the same perverse effects on incentives to compete robustly as market share triggers (see 3 above), and in fact may be more readily gamed as the number of potential permutations for avoiding the trigger is high.

34 Singtel Optus, 'Management discussion and analysis of financial condition, results of operations and cash flows for the third quarter and nine months ended 31 December 2007' at p47

35 "Optus Submission to the Australian Competition and Consumer Commission on Telstra Application for LCS and WLR Exemptions", November 2007

36 "Optus submission to the Australian Competition and Consumer Commission on Telstra application for LCS and WLR exemptions", November 2007, p30.

3 April 2008

7. Are additional objective thresholds necessary?

In my view, an additional threshold which takes into account ESA-specific factors such as population density, market size and cost structures is unnecessary, as its purpose is more effectively met through the one-DSLAM threshold used. Whilst these factors are directly relevant to an assessment of competitive conditions when reflecting on potential market developments such as a proposed M&A action, they are not necessary in circumstances where entry itself can be observed. Besides, this analysis at the ESA level would be extremely cumbersome and measurement and interpretation of such measures may be subject to significant error.

The entry-based threshold I propose in my original report is aimed at capturing the combined effect of these unobserved underlying factors. The entry of a DSLAM-based competitor in a particular ESA reflects the underlying cost and revenue structures in that ESA. Such entry simply would not occur if these structures were not conducive to competition.³⁷

To conclude, it is my view that any direct measurement of demand and supply characteristics is made redundant by the one-DSLAM decision rule. Further, any attempt to measure such factors is likely to be substantially affected by error.

8. Is it necessary that ULLS-related regulatory and legal proceedings be resolved before exemption is granted?

Optus, Frontier and AAPT variously propose that current ULLS regulatory and legal issues, including disputes around TEBA space, be resolved before any exemption relying on unfettered ULLS availability be entertained, as they stand in the way of the effective use of ULLS as a substitute for LCS/WLR.

While I understand there may be some initial attraction to the propositions proposed by Optus and others regarding ULLS regulatory and legal issues be resolved, on examination I see no compelling reason to favour this approach. Rather, the widespread deployment of DSLAMs while proceedings for both ULLS and LSS have been afoot demonstrates to me that they do not pose a material barrier to DSLAM-based entry.

³⁷

I note that the FCC also has concluded that a similar approach to this is appropriate, in inferring from current deployment the likelihood of future competitive deployment. In its 2005 Triennial Review Remand Order, the Commission states (FCC, 'Triennial Review Remand Order 2005', par 43):*...in lieu of triggers measuring actual deployment with fact-intensive, market by market potential deployment analyses,... we adopt ... a regime that accounts for actual and potential deployment by inferring from competitors' facilities deployment in one market the ability of a reasonably efficient competitor to enter another, similar market in an economic manner*

3 April 2008

9. Is it necessary that LSS-to-ULLS transfer be improved before exemption is granted?

Optus, Frontier and AAPT also variously propose that exemption should not be granted until transfer from LSS to ULLS becomes more streamlined, as present arrangements do not provide seamless customer movement from an LSS-based supply to ULLS-based supply.

I am not in a position to comment on the current transfer process, but do not consider such knowledge necessary for my deliberations on this matter. This is because competitive entry has occurred and is continuing to occur in a manner that seems unconstrained by current transfer issues. This may be illustrated by several examples:

- Most fundamentally, *de novo* ULLS entry is manifestly possible and economic, having already widely taken place and being ongoing. Such entry is not reliant on transfer from LSS to ULLS.
- Movement from LSS to ULLS-based supply occurs and there is no reason to think current transfer issues restrain such entry in a way that is harmful to effective competition.
- Existing LSS operators can use VoIP to compete in the retail voice market without moving to ULLS-based supply. Thus they can provide the full suite of voice services in the event of LCS/WLR exemption, as discussed earlier in this report (see section 4 above), without relying on Telstra's current migration process.
- *De novo* LSS entry is also possible and indeed widespread. Given such entrants can also supply VoIP, this too provides a source of competition that present transfer from LSS to ULLS does not effect.

The Commission may be concerned that end users currently being provided broadband services over LSS would suffer service disruption given current issues around the LSS-to-ULLS transfer, making these customers particularly contestable at this time and resulting in a temporary set-back in competitive conditions. In my view, however, this potential transitional issue would not constitute a material lessening of competition as a result of exemption. While an improvement in transfer procedures may make entry even easier, and more relevantly (since easier is not *per se* important) more efficient, such improvements are not necessary to promote competition and ultimately the LTIE.

10. Deployment of RIMs and large pair gains systems

In their submissions, Optus, Frontier and AAPT raise the issue of RIMs and large pair gain systems (LPGS). It is claimed that the deployment of RIMs and LPGS in some areas is an impediment to migration to ULLS-based supply and therefore limits the effectiveness of ULLS as a substitute to LCS/WLR in these areas.

Specifically, the submissions raise two main issues:

3 April 2008

- First, the non-availability of ULLS on some lines in a particular ESA may affect the entry decisions of competitors, thus affecting competition in the ESA as a whole; and
- Second, the non-availability of ULLS on some lines may mean that there is less potential for competition on these specific lines, with these customers potentially open to exploitation by Telstra.

Whilst I was not in a position to express a view on this issue in my original report, I can now do so in light of information provided by Telstra on the extent of RIMs/LPGS deployment in the exemption area. Below I present this information and indicate whether it affects my economic conclusions, assuming that RIMs/LPGS deployment does indeed inhibit migration to ULLS as is claimed in the submissions.

The information provided to me by Telstra indicates that, on the whole, deployment of RIMs/LPGS, and hence the number of customers that cannot be contested using ULLS, is quite limited in the exemption area. Across the 371 exemption area ESAs, the average share of customers affected by RIMs/LPGS deployment is less than [c-i-c].³⁸

However the data also show that there is a small number of exemption area ESAs in which RIMs/LPGS deployment is relatively widespread. [c-i-c] In most cases, these ESAs have either a large number of SIOs in new developments (retail complexes or residential estates) or a large number of SIOs that lie a relatively long distance from the exchange.

Figure 4: [c-i-c]

(a) Will RIMs/LPGS deployment impact competitive entry?

The deployment of RIMs/LPGS in exemption area ESAs has two main implications for competitive ULLS-based entry. First, it may reduce the *scale* of ULLS-based operations by limiting the potential customer base over which the fixed costs of entry can be spread (although customers on RIMs/LPGS lines that are a number of kilometres from the exchange may be excluded from a ULLS solution due to distance alone). Second, for potential ULLS-based entrants that have an existing customer base in the exemption area which they currently serve using LCS/WLR (and PSTN OA), the inability to provide ULLS-based service to them if exemption is granted may mean these customers need to be surrendered to another service provider, possibly Telstra.

In my view it is not apparent that, on the basis of scale considerations, deployment of RIMs/LPGS will materially affect competitive conditions in an exemption area ESA, for the following reasons:

- First, the number of customers affected is in most cases small, [c-i-c];

38

[c-i-c]

3 April 2008

- Second, the fact that exemption area ESAs are defined by entrant DSLAM deployment *demonstrates* that scale has not been a prohibitive entry issue in any of these ESAs, even those with a relatively large proportion of customers serviced by RIMs/LPGS lines.

Concerning the issue of potentially losing LCS/WLR-based customers, I am mindful that those entrants that have deployed DSLAMs in the exemption area have made this investment decision in an environment in which they could serve any legacy customers not accessible using ULLS by continued reliance on LCS/WLR (as well as pick up new LCS/WLR-based customers), and that if exemption was granted this option may no longer be available. This means that any economies of scale in the downstream servicing to these customers (e.g. marketing, billing, front-of-house inquiries etc) *that operate at the ESA level* would no longer be as fully available. However, the loss of scale economies is likely to be small (given the number of customers expected to be affected). Additionally, I am of the view that these downstream economies will in general operate at a wider geographic level than the ESA (as I indicated in my original report) and that limitations in any one ESA would therefore not distort post-exemption decisions on ULLS-based entry or business continuation.

(b) Will customers on lines serviced by RIMs/LPGS be open to exploitation by Telstra?

In my view it is unlikely that the small group of customers rendered incontestable using ULLS will be open to exploitation by Telstra. Rather, the effect of competition in the broader market on Telstra's pricing behaviour will be felt by all customers, not just those that are technically contestable using ULLS. Putting aside any competitive discipline that might be imposed by other substitutes for LCS/WLR discussed in my original report (e.g. wireless services and Optus' HFC network), this is due to the practical difficulties associated with pricing services differently for a small group of customers distinguishable only by the physical characteristics of their subscriber line.

Moreover, should there be individual customers that could not be served using ULLS, and Telstra refused an access seeker the means to serve that customer, such a refusal to supply, if it was seen to have an anti-competitive purpose or effect, would likely be caught by the anti-competitive conduct provisions of the TPA.

Having said this, I also acknowledge that in certain circumstances where RIMs/LPGS have been deployed, the Commission may consider access regulation to still be necessary to address what may be perceived as a residual customer access network bottleneck. For example, where the network architecture used to provide access to a new development is such that the copper wire running from the customer premise stops short of the exchange, it may be viewed that ULLS regulation is not sufficient to address the traditional customer access bottleneck and alternative regulation is required. I do not express a view as to how such regulation, if considered necessary, should be designed. That said, it is by no means apparent that a continuation of the mandated provision of regulated LCS/WLR on these lines is necessarily the appropriate remedy.

3 April 2008

To conclude, since competitive conditions and the likelihood of competitor entry are unlikely to be affected by RIMs/LPGS deployment, it follows that my conclusions as to post-exemption competition and outcomes for end-users are unaffected. Whilst the contestability of a small number of customers may be limited, competition in the relevant markets and outcomes for *all* end users (since the benefits of competition will necessarily flow to all end-users) will still be enhanced by exemption.

11. Large business and government customers

Optus has raised the issue of whether competition for large business and government customers will be affected by exemption, submitting that exemption will adversely affect the contestability of these customers and hence compromise competitive outcomes in this market segment. Optus' conclusions on this issue are based on three key points:

- First, large business and government customers tend to be served on a whole-of-business basis, meaning that inability to serve a firm's operations in one particular location may mean loss of that entire account;
- Second, these customers often require more sophisticated services which cannot be provided using the platforms currently deployed by entrants in conjunction with ULLS; and
- Third, strong customer inertia in this segment of the market means that any lost customers will be difficult to recover.

In my view none of the reasons outlined above justify continuing LCS/WLR regulation with respect to lines serving large business and government customers in the exemption area, for the reasons discussed below.

(a) Continuing service on a whole-of-business basis

I do not take issue with Optus on the necessity of being able to provide a whole-of-business service to corporate and government customers, assuming this to be correct for the purpose of my analysis. However, I do not believe it follows that the contestability of these customers will be materially impacted by LCS/WLR exemption for the following reasons.

First, I understand service on a whole-of-business basis to imply the provision of *all* telecommunications services required by a business at all of its sites. Further, I have been instructed to assume that large corporate and government customers will require (at a minimum) telephony and broadband services at all their sites and will not be satisfied with telephony and dial-up internet access.

3 April 2008

It follows that in the presence of a RIM/LPGS, the access seeker's ability to serve a corporate and government customer is unaffected by LCS/WLR exemption. There is no difference in the competitive environment for these customers with or without exemption – if the RIMs/LPGS are a barrier to the provision of broadband services by entrants, this will be the key barrier to competition rather than the absence or otherwise of a regulated LCS/WLR service.

That is, even if regulated LCS/WLR is available in the exemption area, competition for this customer cannot occur unless the access seeker can use an alternative access path for the provision of broadband. Furthermore, if an alternative broadband path is found, this can then also be used to provide voice services and regulated LCS/WLR access would not be required.

In other words, because broadband provision is integral to serving corporate and government customers, in the presence of RIMs/LPGS their contestability does not rely on the availability of PSTN services such as LCS/WLR – regulated LCS/WLR is neither a necessary nor a sufficient pre-condition for service of corporate and government customers in this situation. Rather, competition for this specific group of customers relies on the ability of operators to bypass the PSTN customer access network (CAN) and provide broadband by other means.

Second, notwithstanding the irrelevance of LCS/WLR access regulation for corporate and government customers that have some sites served by RIM/LPGS lines, in my view there is nothing to suggest that whole-of-business service by entrants cannot continue post-exemption, even in cases where ULLS-based supply to one or more business locations is precluded by the presence of RIMs/LPGS.

The obstacles to full service provision created by the presence of a RIM/LPGS can be avoided where the CAN is bypassed by an alternative access network – it is worth noting that this is the case for *all carriers*, including Telstra.

In many cases, CAN bypass for corporate and government customers is achieved through deployment of a fibre connection. Telstra states that such connections are used to reach the bulk of its business customers already:³⁹

Under its current business rules and in circumstances where a substantial number of services are to be provided to a single premises (which will often be the case with business customers), Telstra will generally employ a fibre connection to deliver business grade data services.

I note this is consistent with the evidence provided by Market Clarity of widespread fibre deployment in CBD and metropolitan areas, where large corporate and government customers are concentrated.⁴⁰

39

[c-i-c]

3 April 2008

Microwave links may also be used to bypass the PSTN where the presence of a RIM/LPGS hinders the provision of copper-based broadband services. As the Commission notes in its 2004 Infrastructure Report, microwave links are particularly useful for serving business subscribers in tall office buildings since they use 'line of sight' transmission and are a relatively cost-effective solution to smaller capacity requirements.⁴¹ Copper-equivalent voice and data services can be supplied using microwave technology.⁴²

Market Clarity reports that the deployment of microwave access links is relatively widespread in the exemption area, demonstrating that there are no material barriers to deployment of this type of infrastructure (Table 2). Market Clarity identifies [c-i-c] operators owning microwave base station infrastructure in the exemption area covering over [c-i-c] of ESAs and notes that once a base station is in place it can be used for transmission or customer access.⁴³

Table 2: [c-i-c]

[c-i-c]⁴⁴

[c-i-c]

[c-i-c],⁴⁵ entrants can themselves purchase wholesale DSL services from Telstra, which it is likely to face a legal imperative to supply if refusal to do so was seen to constitute anti-competitive effect or intent.

It follows that in the event of exemption, Optus or other corporate and government service providers would face no greater impediment to supplying services in *any* location. Exemption would mean that Optus and others could self-supply in areas where it is viable to do so (in the exemption area) and seek [c-i-c] wholesale supply in other areas. This mixed mode of supply is not seen as an impediment to competing vigorously, as in fact Optus states that it is already doing this:⁴⁶

40 [c-i-c]

41 ACCC, 'Telecommunications Infrastructure in Australia 2004', June 2005, p6, 42.

42 ACCC, 'Telecommunications Infrastructure in Australia 2004', June 2005, p6

43 [c-i-c]

44 [c-i-c]

45 [c-i-c]

46 Optus, 'Impact of WLR / LCS Exemptions in the Corporate and Government Market Segment', supplementary submission to the LCS/WLR inquiry, 10 January 2008 at p2

3 April 2008

Optus has been able to submit compliant tenders and make contractual commitments on the basis that coverage can be provided using a mix of Optus' own fixed and mobile network, and access to Telstra's network and services for locations outside of Optus' direct coverage.

(b) Continuing provision of sophisticated business-grade services

Optus submits that its currently deployed infrastructure (and in particular its DSLAM and associated platform infrastructure) is not capable of providing the more sophisticated services demanded by large business and government users. In particular it is claimed that features such as 'fax duet', 'huntgroups', Securitel and ISDN services are not supported by the ULL service.

Firstly, it is worth noting that a number of the business-grade value-added services listed by Optus are not affected by LCS/WLR exemption and are therefore not relevant to any consideration of exemption. For example ISDN services are covered by separate declaration of ISDN originating and terminating services.⁴⁷ Securitel, a PSTN-based alarm system, is being closed down (this was announced in November 2007).⁴⁸ Besides, the availability or otherwise of Securitel is unlikely to be critical in tendering for corporate and government contracts given the widespread availability of alternative security systems and the competitiveness of this market.

Furthermore, while not purporting to have engineering expertise, I am not convinced by any evidence provided that such services (or indeed more advanced services) could not be provided in conjunction with ULLS if entrants pursued the necessary hardware and systems upgrades. Optus has not demonstrated that there are inherent technical impediments to providing advanced value-added services, nor that any investments required to achieve this constitute material barriers to competition in this segment of the market. Rather Optus has simply asserted that their current systems are not capable.

In fact, in my view there is both technical and market evidence to the contrary. Telstra states that its copper-based business-grade services are typically provided using a business grade data service-specific DSLAM deployed in the local exchange.⁴⁹ Optus has not demonstrated that there are material barriers to replication of this DSLAM equipment or indeed any other infrastructure necessary to provide business-grade services.

47 Refer to the Commission's register of declared services at:
<http://www.accc.gov.au/content/index.php/ml/itemId/777921/fromItemId/323824>

48 Refer to <http://www.securitel.com.au/Securitel.htm>

49 [c-i-c]

3 April 2008

Moreover, market evidence suggests that ULLS is not only capable of providing business-grade services, but that it is in fact currently being used for this purpose. In CBD areas where regulated LCS/WLR is not available DSLAM deployment is widespread. This suggests that ULLS is currently being used by competitors to serve customers in CBD areas, at least some of whom could be expected to be large business and government customers. If DSLAM infrastructure were inadequate for serving business customers (as Optus claims), I believe DSLAM deployment in CBDs would not be as widespread as it is.

Finally, a search of entrant websites reveals the widespread offering of a range of PSTN value-added services. For example Optus' BusinessNet Elite product offers multi-site businesses an integrated solution through use of a VPN. Features of this service include reduced on-net call rates, private numbering and selective call restriction.⁵⁰ I am advised that provision of business-grade services such as these is largely reliant on the use of certain switching equipment. Switches such as those offered by Nortel allow DSLAM-based competitors to provide business-grade voice services, including value-added service features.⁵¹ Optus has not provided evidence to indicate that the cost of deploying these switches is a barrier to competition in this segment of the market, nor it is apparent to me that this is the case. Rather, it appears likely that Optus (as well as others) are in fact using such infrastructure to compete vigorously for corporate and government customers.

Besides, rather than showing a need for continued LCS/WLR regulation, Optus' submission is reflective of one of the key problems associated with resale-based access regulation. Despite deploying its own infrastructure, Optus' concern about this issue suggests a dependency on Telstra's wholesale business-grade offerings, with the result that the quality of their retail services would be tied that of Telstra. Rather than further deploying or upgrading its own infrastructure to compete with Telstra on non-price dimensions of the product, thus garnering one of the key benefits of competition (particularly for this sophisticated market segment), it suggests a business model whereby Optus relies on Telstra for wholesale supply and seeks competition on price alone. This form of competition, whilst possibly promoting static efficiency, is unlikely to be in the interests of dynamic efficiency.

50 Refer to <http://www1.optusbusiness.com.au/00/01/0001q.asp?segment=3&category=6&productservice=35>

51 http://www2.nortel.com/go/product_content.jsp?segId=0&catId=null&parId=0&prod_id=8789

3 April 2008

(c) Customer inertia in the corporate and government segment

Optus claims there is strong customer inertia in the choice of service provider in the corporate and government segment. However, this does not accord with my observation of this market segment. This market segment is in fact well-known for the vigor of competition, with very aggressive bidding consistent with the belief by service providers that these customers are genuinely contestable, as referenced in the following paragraph. Further, the lower market share held by Telstra in this segment relative to other market segments suggests there are not particular rigidities that lock in customers with one service provider.

Corporate and government customers are typically sophisticated purchasers demanding complex offerings and negotiating very large contracts. Often these customers will demand certain outcomes – be it fixed/mobile interoperability or VPN facilities - rather than specific features. As a result, operators compete largely on the basis of network quality and product offerings. In order to keep pace with the competition in this segment of the market, Telstra has recently undertaken a significant network upgrade, to NextIP.⁵² This is a strong indication that competition in this segment has moved beyond simple price competition based on traditional PSTN offerings.

The Commission periodically publishes reports on competition for C&G customers.⁵³ Each of these reports indicates that competition is stronger in this segment than for residential customers, particularly with regard to prices (in fact to the extent that concerns were raised as to whether pricing was anti-competitive). For example the Commission notes in a March 2005 report:⁵⁴

That this [corporate] market is very 'competitive' is borne out by strong price decreases shown in the ACCC's 2003–04 pricing report. While price decreases may be interpreted as a pro-competitive signal, it is not clear that it will necessarily result in sustainably competitive outcomes in the corporate sector and may be indicative of several factors. Taking a positive view, the decreases may indicate that greater facilities-based competition is leading to a strong competitive outcome. In this context it is possible that prices are falling faster than in residential markets because corporate consumers are more willing to adopt new, low-cost technologies such as VoIP. A more pessimistic observer may, however, consider that price falls indicate that Telstra is attempting to hold on to its dominant position in a high-value market.

52 'Telstra unveils Next IP network', *Sydney Morning Herald*, April 26 2007

53 Refer to <http://www.accc.gov.au/content/index.phtml/itemId/670232/fromItemId/670063>

54 ACCC 'Report to the Minister for Communications, Information Technology and the Arts on Telecommunications competitive safeguards for 2003–04', March 2005. Whilst a more recent review of C&G competition has not been conducted by the Commission, it seems likely that competition would only have intensified since 2005. The deployment of alternative access infrastructure by a number of operators has created the potential for even stronger network-based competition in the C&G segment.

3 April 2008

Furthermore, whilst concrete market share estimates for the corporate and government segment are not provided in these reports, it is clear that Telstra's market share is lower here than in other segments. For example, in the 2005 edition of this report the Commission notes that while Telstra's overall share of fixed network revenues was (for 2004-05) over 75%, it accounted for "between 61 and 75 per cent of corporate segment revenues in 2003, depending on which definition of 'corporate' is used".⁵⁵

My conclusions

On this basis I find no reason to change my original view that the use of the decision rule that exemption should be granted in ESA's in which one or more entrant DSLAM has been deployed is in itself and alone appropriate for considering LCS/WLR exemption.

⁵⁵ ACCC, 'Competition in the corporate customer segment of the telecommunications industry: January 2004 - December 2004', July 2005, at p10

3 April 2008

5. WILL EXEMPTION RESULT IN MORE EFFICIENT INVESTMENT IN AND USE OF INFRASTRUCTURE?

My original position

I take the position in my original report that efficient use of and investment in infrastructure would be advanced by the exemptions, as beneficial infrastructure-based competition would ensue and a number of distortions and costs inherent in regulation would be avoided or diminished.

Position in submissions

Frontier makes three main arguments in response:

- First, Frontier argues that LCS/WLR regulation is not detrimental to access seeker investment since regulated price setting for LCS/WLR and ULLS will encourage movement up the ladder of investment.
- Second, it is suggested that, by removing the requirement to supply LCS/WLR in the exemption area, barriers to market entry at the retail level will be increased and this will dampen upstream facilities investment.
- Third, Frontier argues that investment by Telstra in the customer access network ('CAN') is 'essentially capacity-maintaining, and allows continued production of already profitable and mature services'.⁵⁶ Accordingly, truncation of returns is likely to have only a limited impact.

My view on points raised in submissions

1. Do incentives for network investment by access seekers currently operate?

Frontier claims that, as LCS/WLR prices are set high relative to retail prices, and ULLS prices are on Telstra's account set below cost, these current price settings will promote ULLS-based network investment by entrants, Frontier states:⁵⁷

...the current structure of wholesale WLR and LCS prices favours moving up the ladder. Indeed, Telstra claims that ULLS prices are set below cost, and access seekers can only acquire WLR and LCS at higher prices than Telstra charges at retail for its most popular plans

⁵⁶ Frontier Economics, 'Telstra's applications for WLR and LCS exemptions: A report prepared for the Competitive Carriers Coalition', October 2007, paragraph 126

⁵⁷ Frontier Economics, "Telstra's applications for WLR and LCS exemptions: a report prepared for the Competitive Carriers Coalition", October 2007, p21-22.

3 April 2008

The Commission's accounting separation reports clearly set out the evidence in relation to retail-minus pricing of WLR and LCS, with the latest reports (June Qtr 2007) indicating that Telstra fails imputation tests on local call services (line rental and local calls combined) for both residential and business customers

Further, Frontier claims that 'pricing of WLR and LCS is likely in excess of Telstra's costs'.⁵⁸

I have two serious reservations about this argument. First, I am not convinced by Frontier's claim that current regulated prices for LCS/WLR are in some sense "high" and those for ULLS "low" and that this creates an incentive for access seekers to "move up the ladder". Second, even if this was the case, it seems to me unlikely that such investment would occur at efficient levels.

(a) Relative LCS/WLR and ULLS prices driving infrastructure investment

My initial concern is an evidentiary issue, namely that there is no clear and compelling evidence presented that supports the claim that LCS/WLR prices are above, and ULLS prices are below, cost. For example, Frontier has selectively accepted Telstra's claim that ULLS pricing is below cost while ignoring similar claims that LCS/WLR pricing is also below cost.⁵⁹

Similarly, in claiming that LCS/WLR prices are relatively high, Frontier has selectively drawn on imputation test results that suggest a negative margin for Telstra from using these services, whilst ignoring similar results for ULLS.⁶⁰ Furthermore, imputation test results clearly do not in themselves hold direct implications for whether wholesale prices are above or below cost.⁶¹

⁵⁸ Frontier Economics, "Telstra's applications for WLR and LCS exemptions: a report prepared for the Competitive Carriers Coalition", October 2007, p23. This claim is based on an unsupported statement by the Commission that costs of providing local calls and line rental have declined significantly and *may* now be below access prices.

⁵⁹ See for example 'Telstra's submission in response to the Australian Competition and Consumer Commission's final determination in the Declaration inquiry for the ULLS, PSTN OTA and CLLS, dated July 2006 and the Australian Competition and Consumer Commission's Final Decision in its Local Services Review dated July 2006', 11 September 2006.

⁶⁰ If Frontier were to similarly interpret the results of the ACCC's imputation tests in relation to the full bundle of voice and ADSL over ULLS, they would come to the conclusion that ULLS prices are also above cost (by Frontier's reasoning, the imputation test suggests losses from using ULLS to supply the bundle of voice and ADSL to residential customers – see: ACCC, "Imputation testing and non-price terms and conditions report relating to the accounting separation of Telstra for the June quarter 2007", September 2007).

⁶¹ In one sense the Frontier claim that LCS/WLR prices are above cost may be correct, since they are geographically averaged. If these average LCS/WLR prices reflect average costs of supply (which they may not, as they are determined by 'retail minus avoidable cost' methodology), they will be higher than de-averaged ULLS prices in Bands 1 and 2.

3 April 2008

(b) Would such investment be efficient?

My second concern is that, even if Frontier is correct and relative LCS/WLR and ULLS prices do create an incentive for access seekers to “move up the ladder” and invest in DSLAMs and alternative infrastructure, this investment may not be efficient. This concern is based on two related reasons, with both reasons predicated on the economic fact that the only way regulated prices will not result in inefficient distortions to investment patterns is if these prices accurately reflect the underlying costs of supply.

First, if LCS/WLR prices are in fact above cost and those for ULLS are below, as claimed by Frontier, then clearly this cannot result in an efficient level of investment by either Telstra or entrants. Where substitutable services such as these are both regulated, the incorrect setting of relative prices, which Frontier claims is occurring, is likely to result in two distortions:

- Production decisions will be distorted as entrants choose relatively under-priced inputs in preference to relatively over-priced inputs; and
- Full cost recovery will be prevented wherever the relatively under-priced alternative is priced below cost.⁶²

Furthermore, where entrants are faced with a choice between supplying the retail market using regulated access or making an investment in their own infrastructure for retail supply, investment in their own infrastructure will be less than it would be in the absence of the regulated option as the incremental benefit to them from making this investment will be less than otherwise.

Second, independent of the position taken by Frontier on under- and over-pricing, *any* error in the relative pricing of substitutes will distort efficient investment. In my view it is inevitable there will be regulatory error in at least some prices (for reasons I describe below), meaning there will always be an investment (i.e. dynamic) efficiency cost of regulation. This in turn means that where access regulation is no longer needed as an enduring bottleneck no longer exists, regulation will inevitably have a net negative effect.

Here three points are relevant:

- The existence of regulated close substitutes for LCS/WLR (in particular ULLS) creates a particular investment sensitivity to regulator pricing error;

I note, however, that Frontier does not rely on these differences in pricing methodologies to assert that current price relativities provide incentives for investment. Furthermore, I do not agree that this possibility justifies the continued regulation of LCS/WLR. Rather, the problematic relationship between averaged and de-averaged prices is grounds for addressing the wider regulatory framework rather than perpetuating it through continued LCS/WLR regulation in areas where competitive constraints exist.

⁶² In this regard I share the same views as expressed in H Ergas (2007), ‘Wrong Number: Australia’s Telecommunications Mess and How to Fix It’ at p105 (currently an unpublished manuscript).

3 April 2008

- The ACCC's approach to cost-based pricing of substitutes such as ULLS will inevitably lead to pricing error (i.e. prices that distort investment from efficient levels), as this approach hypothesises efficient costs rather than using the access provider's actual costs. Where pricing does not reflect actual costs, build-buy decisions will be distorted and efficient investment will not occur.⁶³ As noted by Ergas (2007) with whom I agree on this matter, where an access-seeker's cost of self supply is above the cost of regulated access but below the actual cost incurred by the access provider, regulated pricing will mean forgoing the productive and dynamic efficiencies flowing from self supply by the access seeker at below the access provider's actual cost of supply;⁶⁴ and
- In any event, LCS/WLR is not set on a cost basis, but "retail minus", implying that it is unlikely to reflect actual costs of supply.

2. Will removing the mandate to supply LCS/WLR in the exemption area increase barriers to market entry at the retail level which will dampen upstream facilities investment?

Frontier Economics argues that by limiting the ability of entrants to compete at the retail level and establish a customer base before embarking on further investment, exemption will limit efficient investment by them. Frontier states: ⁶⁵

We see the outcome of granting the exemption as more likely to limit efficient investment, as it will increase barriers to entry at the retail level.

I do not agree that exemption will limit efficient investment by increasing barriers to entry at the retail level, even for *de novo* entrants with no established customer base. Second, it assumes that inducing market entry through the availability of regulated LCS/WLR will lead to efficient investment by entrants.

The evidence of low barriers to DSLAM-based entry in the exemption area, even for those operators with no existing customer base, leads me to conclude that LCS/WLR regulation is no longer necessary (if it ever was) to act as a 'stepping stone' to further investment and deeper competition. As discussed in this and my original report, this evidence includes:

- Widespread and growing deployment of competitor DSLAMs in exemption area ESAs;

63 This general point is also made in H Ergas (2007), 'Wrong Number: Australia's Telecommunications Mess and How to Fix It' at p82

64 Ibid. Of course, the converse will also be true – where access prices are above the actual cost of supply, investment by operators less efficient than the access provider may occur.

65 Frontier Economics, "Telstra's applications for WLR and LCS exemptions: a report prepared for the Competitive Carriers Coalition", October 2007, p27

3 April 2008

- Strong growth in the number of ULLS SIOs in the exemption area;
- A relatively small number of SIOs required to justify DSLAM based entry. This implies that an access seeker need not establish a large customer base using LCS/WLR before deploying a DSLAM. Rather, such deployment can be made *de novo* since costs can be recouped upon the acquisition of a relatively small number of customers; and
- Relatively low incremental costs of adding customers once a DSLAM has been deployed.

In short, it has been demonstrated by access seekers that entry and competition based on DSLAM deployment is viable in the exemption area and that as a result, reliance on LCS/WLR is no longer necessary. This implies that direct entry based on ULLS is now evidently feasible in the exemption area and therefore 'stepping stones' that were previously designed to lead to it can be removed.

Further, it should not be assumed that inducing entry through regulation of LCS/WLR will lead to efficient levels of upstream investment by entrants. Once competitors have entered the market and taken up regulated LCS/WLR, it is far from certain that they will subsequently undertake efficient investment in DSLAMs and/or alternative infrastructure. The degree to which efficient investment occurs will depend on the relativities of regulated prices and how these relate to actual costs of the access provider. In short, efficient investment will not automatically flow from LCS/WLR-based entry. As I note in the previous section, it is my view that the continued regulation of LCS/WLR will in fact lead to inefficient levels of investment by entrants due to the risk of regulatory mis-pricing.

In short, whilst regulation of LCS/WLR may have once been necessary to facilitate retail market entry and subsequent investment in self-supply, in my view it is no longer necessary where barriers to self-supply are demonstrably low. Rather, now it is no longer necessary, continued regulation is likely to have a net negative effect.

3 April 2008

3. Will Telstra CAN investment be unaffected the truncation of returns by regulation?

As indicated above, Frontier argues that investment by Telstra in the customer access network ('CAN') is 'essentially capacity-maintaining, and allows continued production of already profitable and mature services',⁶⁶ and accordingly truncation of returns is likely to have only a limited impact.

This in my estimation is a narrow view of investment and the damaging distortions that can arise from ongoing access regulation where it is no longer needed. While it may be true that in the relatively short term (i.e. over the next 1-2 years) Telstra's CAN investment is largely predetermined by forward planning commitments and the presence of fairly stringent service standard requirements, beyond this time horizon truncation of returns through regulation is, in my view, likely to materially impact upon Telstra's investment.

As discussed in my original report, below cost pricing arises not only where network build and operating costs are underestimated, but also where returns on network investment are truncated, as the impact of truncation is generally not reflected in the regulated price. The capping of returns through regulation implies that prices for access (including LCS/WLR) that are set at or below the level of network costs must be risk-adjusted upwards to account for truncation of expected returns, whereby the 'downside' risk is placed entirely on the access provider, but the 'upside' risk is shared with access seekers. In these circumstances the incentives for the access provider to invest are diminished, to the detriment of the community as a whole if efficient investment is in this way deterred. That is, if such adjustments are not made, network investment may fall below economically efficient levels.⁶⁷

I do not accept Frontier's view that truncation of returns is of limited relevance in relation to investment in the CAN, since it is premised on a flawed assumption that technology is static, leaving no scope for investment in innovative products or network upgrades. In a dynamic sector such as telecommunications this is simply not the case. Telecommunications providers (including Telstra) are continually upgrading their networks to allow for more innovative product offerings. In the last decade alone we have seen network upgrades to facilitate the provision of products such as high speed broadband, VoIP, and IPTV despite the dampening effect of access regulation. I expect innovation to be greater if the exemptions are granted, including for voice services and in particular by entrants and not just Telstra.

⁶⁶ Frontier Economics, 'Telstra's applications for WLR and LCS exemptions: A report prepared for the Competitive Carriers Coalition', October 2007, paragraph 126

⁶⁷ This point is made in H Ergas (2007), 'Wrong Number: Australia's Telecommunications Mess and How to Fix It' at p138

3 April 2008

Whilst the regulation of LCS/WLR may only be a relatively small contributor to the overall truncation risk faced by Telstra (ULLS is likely to be the largest contributor), I still see it as a significant distortion from LCS/WLR regulation which would be removed by exemption. I do not agree that since the truncating effect of LCS/WLR is arguably less than other regulation this somehow justifies continuing LCS/WLR regulation. In my view any regulation that has this distorting effect should be removed wherever possible – that is, wherever the ‘enduring bottleneck’ no longer exists.

My conclusions

On the basis of the above I find no compelling reason to change my view that exemption will result in more efficient investment in and use of infrastructure than continued declaration in the exemption area.

3 April 2008

6. WHEN SHOULD EXEMPTION COMMENCE AND FINISH?

Telstra position

The Telstra exemption applications seek that the exemptions commence immediately the Commission determines in their favour, and that these exemptions run for the life of the declarations.

Position in submissions

Optus propose that, once the Commission determines the necessary pre-conditions for exemption exist, there should be a 12 month delay before the exemption takes effect, to allow market participants adequate time to adjust to the changed operating circumstances.

Optus also proposes that any exemption be limited to 3 years in duration, as by that time there may have been substantial changes to the predominant technology used to deliver telecommunications services in the exemption area and ongoing exemption may not be warranted.

My view on points raised in submissions

1. Commencement of exemptions

I am of the view that it would not be in the LTIE that the implementation of LCS/WLR exemptions should be delayed for 12 months for the following reasons:

- Circumstances in most ESAs are already effectively competitive and any adjustment period that may be required for current efficient users of LCS/WLR in the exemption area to make alternative arrangements (if required) does not constitute a threat to downstream competition. A number of carriers can now, or in the near future, supply relevant downstream services on this basis; and
- If there are on balance economic benefits from the immediate commencement of the exemptions (as I believe there are), there is a cost from delay in terms of benefits foregone.

It is evident that circumstances in most ESAs are already effectively competitive and any necessary adjustment period for some carriers will not impact this as:

- For most ESAs in the exemption area there already are at least two competitor DSLAMs deployed;
- For most of those in which there is only one competitor DSLAM deployed, there are published plans for deployment of additional entrant DSLAMs;

3 April 2008

- Many currently-deployed DSLAMs are used in conjunction with ULLS, and those that are LSS-capable only can be economically replaced with ULLS-capable ones;
- LSS-based operators can increasingly use VoIP to supply a full suite of voice and data services, meaning LSS-capable DSLAMs would often not be replaced (except where they would have been in any event). Rather, expansion would likely occur with ULLS DSLAMs instead of what otherwise would have been LSS DSLAMs;
- There do not appear to be material barriers to *de novo* ULLS-based entry, including (but not limited to) efficient market participants currently reliant on LCS/WLR to provide downstream services in the exemption area; and
- Given the above, the implications for individual market participants currently reliant on LCS/WLR who are unwilling or unable to quickly move to ULLS-based supply are not relevant to competition considerations.

Rather, LCS/WLR exemptions should be effective immediately should the Commission determine that exemptions be granted.

2. Length of time the exemptions should stand

Arbitrarily truncating the period for which the exemptions would stand would in my view lead to unnecessary regulatory uncertainty, with the likely impact of less efficient infrastructure investment and use, as:

- The changes to the competitive landscape that would be wrought by the widespread deployment of NGN access technology, including the ongoing value of ULLS-based supply, would likely be of such magnitude as to warrant review of a range of service declarations, including ULLS;
- It is highly uncertain that an automatic reversion to regulation of resale-based competition for voice services would result in an efficient regulatory framework in the future.

Rather, the exemptions should run for as long as the service remains declared.

My conclusions

I conclude that it is unlikely there would be a no net economic merit from delaying the introduction of exemptions, or from truncating their life.

3 April 2008

7. CONCLUSIONS: IS THERE A SOUND ECONOMIC BASIS FOR GRANTING THE EXEMPTIONS?

I have carefully considered the economic issues raised, and evidence submitted, in the submissions by Optus, Frontier and AAPT. This examination has not led me to change my view that:

- An entry-based decision rule is an appropriate approach to defining the scope and considering the competition merits of the LCS/WLR exemptions sought by Telstra;
- The rule that exemptions should be granted in an ESA if there is currently one or more entrant DSLAMs deployed in that exchange would result in pro-competitive outcomes;
- Granting such exemption would not compromise, but rather enhance, efficient use of and investment in infrastructure; and
- These exemptions should be granted now, and run for as long as the service remains declared.

In short, I am not dissuaded in my view that, given the LTIE focus required of the Commission, there are sound economic grounds for granting the LCS/WLR exemptions sought by Telstra.

3 April 2008

APPENDIX A: COMPARATIVE VIABILITY MODELING

[c-i-c]

3 April 2008

APPENDIX B: INSTRUCTION FROM MSJ

[c-i-c]

3 April 2008

APPENDIX C: CURRICULUM VITAE

DR PAUL PATERSON

Bachelor of Agricultural Economics
(First Class Honours)
University of New England

Master of Economics
Australian National University

Ph D (Economics)
Australian National University

Paul Paterson is Executive Director, Operations and Head of Telecommunications Consulting at Concept Economics, an Australian-based consulting firm with particular expertise in competition economics. Paul has been with Concept Economics and its predecessor CRA International since 2004, bringing commercial and government experience in industry analysis, corporate strategies, regulation and policy development. Paul has senior executive experience in the telecommunications industry. Prior to commencing consulting in 2004, he was with Telstra Corporation Ltd and occupied the position of Director Regulatory from 2001.

Prior to his appointment as Director Regulatory at Telstra, Paul was the Group Manager Competition, Regulatory and External Affairs for Telstra from 1998 to 2001. Until leaving Telstra he was on the Board of the Australian Communications Industry Forum. Paul has authored numerous economic reports and publications since 1978.

As a founding member of the Regulated Industries Forum in 2003, and subsequent convener, Paul also has insights into regulatory issues in the utilities and transport sectors.

EXPERIENCE

Advice on regulatory, competition, commercial, strategic and government policy matters to major corporations and government agencies in telecommunications and other network industries. Jurisdictional experience spans Australia, New Zealand, Singapore, Hong Kong, Japan, United Kingdom, Ireland, Italy and the USA.

PROFESSIONAL HISTORY

March 2008 – present	Executive Director, Operations and Head of Telecommunications Consulting, Concept economics
2004 - 2008	Vice President, CRA International, Australia
2004	Principal, NECG, Australia
2001 – 2004	Director Regulatory, Telstra
1998 – 2001	Group Manager Competition, Regulatory and External Affairs, Telstra

3 April 2008

1992 – 1998	Executive Director, Policy & Resources, Department of State and Regional Development (previously Chief Business Economist, Office of Economic Development, New South Wales Premier's Department), Sydney
1988 – 1992	Chief Economist, OTC Limited (now Telstra), Sydney
1987	Visiting Economist, Department of the Treasury, Canberra
1986	Special Advisor, Department of Trade, Canberra
1985 – 1986	Assistant Director, Bureau of Labour Market Research, Canberra
1983 – 1984	Administrator, Organisation for Economic Co-Operation and Development, Paris
1980 – 1983	Senior Project Manager, Bureau of Labour Market Research
1977 – 1980	Project Manager, Bureau of Agricultural Economics

SELECTED PUBLICATIONS, PRESENTATIONS AND REPORTS

H Ergas & P Paterson (1990) **The Joint Provision of International Telecommunications services: An Economic Analysis of Alternative Settlement Arrangements** 8th International Telecommunications Society Conference, Venice, March 1990.

D Shiff & P Paterson (1990) **Regulatory Issues for International Telecommunications in the New Environment: How do Overseas Arrangements Inform the Australian Situation?** Paper presented to the International Telecommunications Law and Policy Conference, Sydney, December 1990.

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3 April 2008

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